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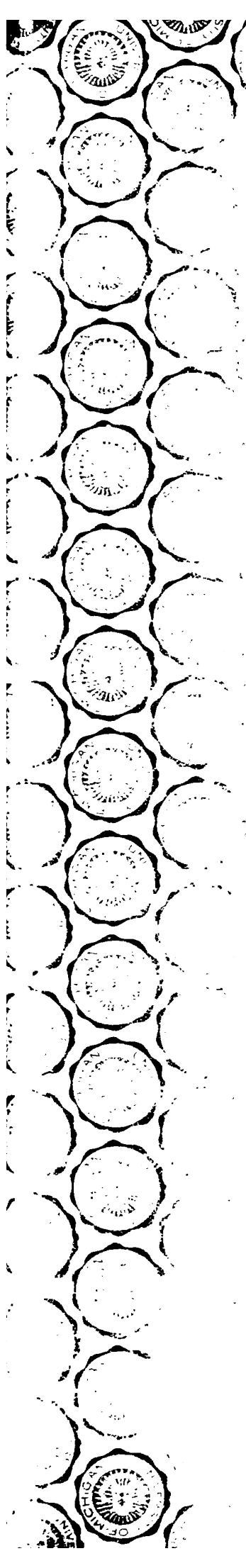
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# THE Motor-Car Journal.

VOL. VIII.]

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## COMMENTS.



ELSEWHERE we give the main rules and conditions of the Scottish Reliability Trials for motor-cars, which will be held in June, with Glasgow as the starting and finishing point. The route of the 1906 trial will prove a severer test of the vehicles than that of last year, owing chiefly to the alteration in the course of the final day's run. We well remember that journey taken inadvertently on a "free lance" car accompanying the competitors, and would assure prospective motorists that cars succeeding in the trial may safely be recommended to endure any conditions likely to be met with in Great Britain. The principle underlying the rules is that the trial is a test of reliability, and its object is to demonstrate to the public the suitability and capability of the modern motor-vehicle for touring purposes. No advantage, from the point of view of marks, will be obtained by a vehicle which travels in less than the maximum times for the respective classes of vehicles set forth in the annexed schedule. Speed in excess thereof will therefore be useless. An important variation between the conditions of this and the former trial is that an absolutely non-stop performance is not now essential to eligibility for a medal award. This has been decided after very careful deliberation, and in view of the fact that a hardship was apparent as regards several cars which lost their non-stop certificates through "driving stops" or other minor causes.

### The Forthcoming Motor Show.

THROUGHOUT the country the walls of garages and motor depots are being made gay with the new poster prepared to give publicity to the Motor Car Exhibition to be held at the Agricultural Hall, London, at the end of the present month. Agents and manufacturers who have not received a copy of this artistic production, and who will be willing to give it a prominent place on their premises, are invited to send a postcard to that effect to Messrs. Cordingley and Co., 27-33, Charing Cross Road, London. The references which have been made to the Show in the Press during the last few days demonstrate the interest with which it is regarded by the public. It is very clear that a good attendance of the buying public is certain to result.

### Prospective Legislation.

FROM his seat in the Upper House Lord Montagu is still keeping watch over the interests of automobilists, and in the Commons Mr. J. H. Dalziel has somewhat anticipated the question he intends to ask next Tuesday, as to the course of the legislation to be introduced with regard to automobiles. The Motor Car Commission has not yet reported, so that anticipations as to the nature of its conclusions are, of course, only prophetic, and consequently, liable to lead folks astray. But the Motor Union must be prepared to act the moment they are issued, and then proceed to the education of M.P.'s. Now that the Chancellor of the Exchequer has promised that the national maintenance of roads must be considered by the present Parliament, it is im-

portant to keep the financial contributions of motorists to the county and national funds, in the shape of registration and licensing fees, well to the front. And with that is associated the idea that fines on motorists should be utilised for the improvement of roads, instead of being made to swell the contributions to local exchequers.

### Roads a National Charge.

LATE on Monday evening, in the House of Commons, Colonel Lockwood moved an amendment to the Address regretting that no mention was made of any arrangement for making the maintenance of public roads a charge on the Imperial Exchequer. Colonel Legge seconded the amendment, which was withdrawn after Mr. Asquith had promised to consider the matter when the general question of local taxation was discussed. We trust that the subject will not get into the rut of party controversy, but will be considered with a view to the national welfare. In the present state of local indebtedness the maintenance of main highways becomes a serious charge on the resources of the particular district—all the more irksome to bear when it is remembered that the advantages of such thoroughfares are enjoyed by people not associated with the locality as well as by residents. There are many borough and county areas where roads need re-making rather than repairing, but, owing to heavy rates, such work is scarcely likely to be undertaken by the authorities directly concerned. The whole question of roadways needs consideration in the widest sense, and we trust that the House of Commons will have regard to the national importance of the subject.

### The A.C.G.B.I. Trials.

ON Monday the cars, tyres, speedometers and lamps in the trials which commenced on Thursday under the auspices of the A.C.G.B.I. were assembled in the garage at Niagara, Westminster. Road tests will now be continued daily, excepting Sundays, till March 31st, when the 4,000 miles will have been completed and the work of the judges will commence.

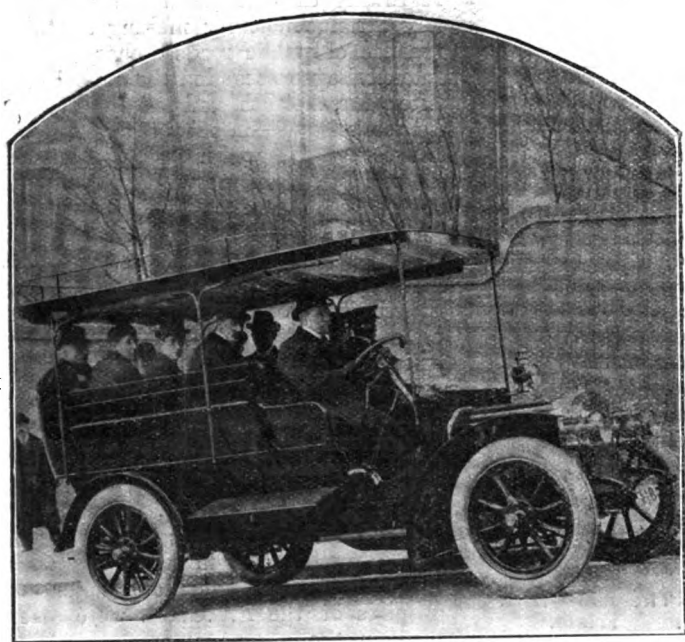
### The Motor-Boat Season.

WITH the annual meeting of the Motor-Yacht Club, and the re-union that the British Motor-Boat Club will hold at the forthcoming Automobile Exhibition, the season for the motor-boat may be said to have commenced. The Motor-Yacht Club was founded by the A.C.G.B.I. in June, 1905, to take over the duties of the Marine Motor Committee elected by that body in December, 1902, to promote the interest of motoring in the water. The membership of the club is now 150, and the club has received a challenge from America for the international cup, won by Lord Montagu with Napier II., owned by Lord Montagu and Mr. Lionel de Rothschild, in the contest for motor-boats in September last at Arcachon (S.W. France). Through the good offices of the rear-commandore, Commander Mansfield Cumming, the ex-Admiralty yacht Enchantress, 1,000 tons, has been chartered for a number of years, and is now undergoing a thorough reconstruction prior to her being taken over as a floating club-house. The Enchantress will, besides

affording the usual club-house accommodation, comfortably berth thirty members. She will be moored off Netley, communication with Southampton being maintained by means of a fast motor-launch.

#### A New Motor-car Service in India.

A MOTOR-CAR service which will entirely revolutionise the journey to the principal hill station in the Bombay Presidency is being inaugurated by the Western India Motor Company, of Bombay. Mahabaleshwar is the station in question, and has hitherto been reached from Bombay only by a most trying journey. The train has to be taken to Poona, next a light railway to Whattar, and thence by "tonga" twenty-one miles to the ancient town of Wai, which is famous as being the centre of Brahminism, and is happy in the possession of no less than twenty-five temples, to which pilgrimages are made from all parts of India by the devotees of this religion. From here the tonga is again taken, and the journey continued by stages to Mahabaleshwar. When it is stated that the last eighteen miles of the run has a mean gradient of 1 in 10, and that the horses employed by no means represent the highest class of animal, the dreary slow rate of travel will be easily realised. A total rise of about 7,000 ft. has to be negotiated



The Beaufort 18-22-h.p. Brake ascending Netherall Gardens, N.W.

during the journey. Under the new regime a fleet of thirteen Beaufort brakes and lorries will take care of the traffic. The brakes will meet travellers at Poona Station, conveying them the seventy-four miles to Mahabaleshwar in about four hours, handbags and other small luggage being carried on the roof of the canopy, while the lorries will bring up the heavy luggage; it is anticipated that a saving of seven to eight hours will be effected. One day last week the Beaufort Motor Company afforded us an opportunity of testing one of the brakes, which, by the time these lines are published, will be on its way to India. The vehicle, of which an illustration is given above, has accommodation for about nine passengers. It is fitted with a Beaufort standard 18-22-h.p. four-cylinder engine, having low-tension magneto ignition, supplemented by accumulator and trembler coil for starting purposes. An important point in securing the order was the ability of the motor to keep cool under continuous heavy loads and gradients. On the trial run referred to the car showed not only a good turn of speed on the level but on the various hills in Hampstead now so largely used for trial purposes. Netherhall Gardens was included in the journey, and on the steep part of this well-known gradient the car was brought to a stand and started away again without the least difficulty.

#### Inquiry at Guildford.

ON Friday of last week Mr. F. J. Willis held an inquiry on behalf of the Local Government Board into the application of the Corporation of Guildford for the issue of a regulation with regard to the speed of motor-cars within several important thoroughfares. Mr. C. G. Mason, the Borough Surveyor, outlined the proposed areas of restriction, and gave evidence as to the lengths, widths and gradients of the scheduled roads. The total length of the main road through the town, which included part of London Road, the whole of High Street and Portsmouth Road, was nearly two and a half miles, of which it was proposed to limit the speed limit over a distance of 2,530 yards, or nearly 1½ miles. In his opinion, the following places were exceedingly dangerous for fast driving: The intersection of York and Waterden roads with London Road; the upper part of High Street; the Ram Corner, where the width was only 13 ft. 6 in. between the kerbs; the remainder of the High Street, on account of its steep gradient and busy traffic; the Portsmouth Road, at the junction with the High Street; and owing to the fact that at St. Catherine's Valley there was a falling gradient of 1 in 26 from the town, and 1 in 16 from St. Catherine's Hill. Owing to the excessive speed of cars, warning boards and signs had been erected, without any good results. Macadam roads and busy thoroughfares, such as these in question, were quite unsuitable for fast traffic, especially in wet weather, when cars were continually skidding into the side walks. In reply to the inspector, Mr. Mason said it was really the side-slipping, in his opinion, that constituted the great danger in Guildford, especially in High Street.

#### The Opposition.

THE chief constable, Mr. W. A. Worlock, said he regarded the fixing of danger signals as a failure. At the same time, he was opposed to the laying of traps for motorists, despite the fact that probably 50,000 motorists passed along the High Street during the year. On behalf of the opposition Mr. Rees Jeffreys contended there were no exceptional features in Guildford that called for a restricted limit, and argued that the chief thing at the back of the application was to facilitate convictions against motorists. The people the regulation would hit were the considerate drivers, who would be liable, even when driving considerably, to prosecution for a technical offence. Mr. R. W. Buttemer, hon. secretary of the West Surrey Automobile Club, said he had driven over 60,000 miles in motor-cars. The proposed regulation was not desirable in the least; it was an entirely wrong principle. Dr. Fennings, of Farncombe, thought the proposed limit was quite unnecessary, and Dr. Mitchell, of Guildford, said it was perfectly safe to ride on an average fifteen or sixteen miles an hour in the borough. Mr. E. E. Pullman, Guildford, Colonel Fairtlough, chairman of the West Surrey Automobile Club, and Mr. A. King, Guildford, also gave evidence in support of the opposition, and the inquiry then closed, the sitting having lasted over five hours.

#### After-dinner Oratory.

THOSE familiar with the trend of after-dinner oratory on laudatory occasions are not disposed to cavil at the effusive speeches of their hosts, nor need they accept their conclusions as the Omega of the matter in question. Judging from correspondence received this week—some of which is couched in terms too strong for publication—it would appear that a gentleman connected with the motor trade has been enlightening the public as to the proportion of business done by British and foreign firms. Figures relating to the latter branch are easily obtainable; statistics concerning the former are absolutely unreliable. Thus, one firm was approached to supply particulars of the output to a rival manufacturer; in return, information as to the workpeople was given. Of course some makers gave certain details concerning their output, but, after the aggregate result has been obtained, it is clear that they

should be accepted with much reserve. One of our correspondents, delighting in the *nom-de-plume* of "Janus," asks whether any real advantage can accrue to the British industry from the agitation thus aroused, and wonder whether consistency of opinion would qualify for impartial association with the British Empire Motor Trades' Alliance, Limited, and the Importers' Association. Such conundrums must be reserved for festive occasions; they are not problems for newspaper solution.

#### Motor Progress in Egypt.

ACCORDING to a recent report there are now 170 motor-cars in Egypt, 56 of which are in Alexandria, and 110 in Cairo. These figures would be much higher were there more facilities for motoring available, there being a great want of good roads in the country. In fact, beyond the Ramleh road in Alexandria and the Pyramids road in Cairo, measuring together less than twenty miles, there are nothing but agricul-

leading hotels on all the main roads—preferably on the country outskirts of the great towns. Where necessity requires motor-houses are to be provided, so that motoring members will never be stranded for want of combined automobile garaging and personal accommodation. The scheme is somewhat ambitious; but of its utility there is no doubt.

#### A Warning to the Police.

NONE too soon the authorities have issued a warning to the police reminding them that the object of the witness-box is not to secure convictions, but to enable the magistrate or judge to ascertain the truth. That such has been a difficult question every motorist knows full well; and the new order should prove a useful deterrent to those constables who have been inclined to exaggerate when giving evidence. The suppression of material facts which are known to the police is, in future, to "constitute misconduct of a grave nature"; and the



The River Nile, near Cairo, on which Motor Launch Trips may shortly be popular.

tural roads, which are practically impossible for motor traffic. The construction of a road which would join Cairo to Alexandria is projected, and the Government is to be approached in the matter. If such a road were made it would not only facilitate communication between the different parts of Egypt, but would afford tourists a good run between the two cities. As regards motor-buses the Société des Omnibus du Caire has recently imported two De Dietrich vehicles, with which trial runs are at present being made. It is also reported that a company has been formed to introduce a service of motor-launches on the Nile.

#### The Road Club.

ELSEWHERE we record the formation of the Road Club, which has been started to include motorists, hunting, and coaching people and others willing to assist in "a revival of the glories of the road, and to pursue the delightful pastime of road touring under more favourable conditions than have hitherto been available." Private club rooms will be secured at the

extension of facts until they become fiction should be equally a misdemeanour. Now that the authorities have told the police to be truthful, they might go further and advise the magistrates to be impartial when dealing with motor cases.

#### Motor-Buses in London.

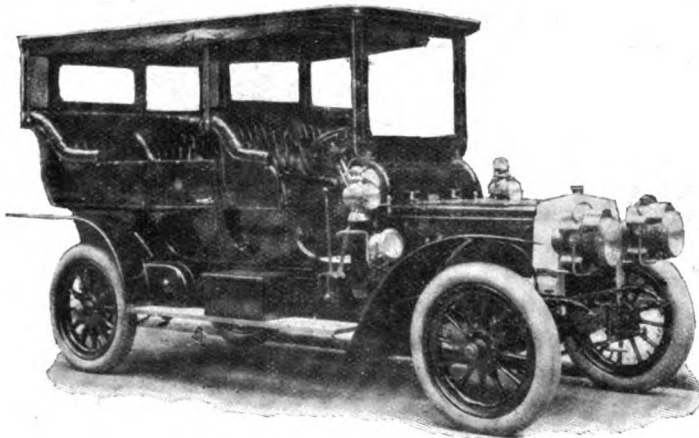
THE inaugural luncheon of the London Power Omnibus Company, Limited, at the depot in Langton Road, Cricklewood, was a notable affair. As Captain Deasy remarked, the building in which the guests were assembled was the largest of the kind in the world, and accommodation for 150 motor-buses is provided under cover. The facilities for filling the petrol tanks are such that a dozen omnibuses can be loaded simultaneously, and as many more batteries can be charged at the same time. An acre and a-half of land is covered by the depot, and the Willesden Urban District Council naturally welcomes the coming into their area of a motor-bus company that promises to do much for the development of the district.



In giving his benediction to the enterprise the Hon. Arthur Stanley, M.P., said he regarded the motor-omnibus as the solution of the traffic problem. Unlike the electric tramcar, which not only interfered with everything else on the road by claiming the middle of the track, but also interfered with itself, for when one went wrong every car following it had to stop too, the motor-omnibus interferes with nobody. People preferred motor-omnibuses to any other mode of conveyance, and it would not be long before the motor-omnibus had supplanted every other public means of rapid transit in the streets of London. He strongly urged the necessity of every driver passing an examination for the Automobile Club certificate, which would ensure not only competence, but also reliability.

#### Car for the King of Siam.

UNDER the rule of King Somdeth Phrea Paraminda Maha Chulalongkorn Siam is making good progress. Bangkok, the capital, has good roads, and although an electric tramway has given the natives a new method of reaching the outer suburbs, they are kindly disposed towards vehicles of a mechanical kind that do not run on tracks. His Majesty King Chulalongkorn is particularly partial to the motor-car, and we have just witnessed the despatch of a fine vehicle from London to his dominions, where it will doubtless be regarded much in the light of a State car. On a 28-36-h.p. Daimler chassis the



Lacre Motor Car Company (Limited) have fitted a seven-seated Roi des Belges body with a canopy of the three-screen type, each window being made to slide into the roof when not required for use. The car has an eleven feet wheelbase, and, finished in a Royal red, is a really noteworthy example of British carriage work.

#### Prosperity Sharing.

SEVERAL firms in the automobile industry have successfully introduced the idea of prosperity sharing so generally adopted in the larger works of the United States. Others are doing all they can for the convenience and comfort of their people while at work. The idea has found expression in the Argyll Works at Alexandra, where the leisure hours of the employees are provided for, as well as the working day. It is usual for large industrial companies having factories situated in the country to set aside a special messroom for the use of their employees at meal times. At the Crayford (Kent) Works of the Wolseley Company this idea has, by the energy of Mr. L. Silverman, the works manager, been extended, so that the opportunities which the possession of such a room affords for social evenings are taken full advantage of. The whole of the necessary fittings and furniture have been purchased with the proceeds from the small nominal charges made for attendance and cooking the staff dinners, at the same time leaving a good balance at the bank sufficient to meet all expenses in the organisation of any special functions. The hall,

which is now splendidly furnished, is the headquarters of a gymnasium and sports club, while a works' orchestra provides musical selections at the dances and social evenings which are a regular feature of the winter programme. The idea is worthy of emulation throughout the country, and news of other firms which have adopted the notion will be welcomed.

#### Motor Car Lamps.

THE proposal of the Motor Union that special trials should be held of motor-car headlights, so as to discover the make or makes which, while effective for the requirements of automobilists, are yet free from the brilliancy and glare of which the public complain, has had the effect of stimulating both lamp manufacturers and inventors, and we understand the Union have already received intimations of a desire to enter for any special trials that may be arranged. It is earnestly to be hoped that, should trials be really proposed, some effort will be made to secure an adequate entry, so that the experiences in connection with recent trials organised by the Club may not be repeated. In fact, we are not quite sure that makers of lamps, who, after all, are the people who will decide the matter, would welcome such contests. Experience gives the best clue to the conditions required to be fulfilled, and motorists will extend their patronage to the manufacturers of those lamps which most suit their purpose. Of course, if the Motor Union can be assured of the possible entry of all the leading firms, its efforts will be valuable, otherwise there is considerable doubt.

#### Motor Parcels Delivery Schemes.

THE registration of the London Motor Parcel Express, Limited, and the London and Provincial Motor Dispatch Company, Limited, as limited liability companies, each with a capital of £10,000, is a matter of interest to those who have long predicted the use of the motor-van in connection with the delivery of goods. It seems to make the failure of the van trials projected by the A.C.G.B.I. all the more regrettable, for private enterprise will have to buy the experience that it was hoped would be freely available as the result of official competitions. The objects of these companies are to carry on the business of carriers, railway and forwarding agents, bonded and common carmen, and, of course, the automobile will bulk very largely in the actual operations. The directors are all directors of Messrs. Carter, Paterson and Co., Limited—a fact which adds to the significance of the development, which we chronicle as an indication of the inroads that the mechanical vehicle is making into the prejudices of commercial men, who are not likely to risk profits with horses unless they see a likelihood of their recurrence with motor vehicles. In the strictly utilitarian vehicle for business and commercial purposes our own makers have had a long success, and may be expected to share in the manufacturing expansion that the formation of such companies as the London Motor Parcel Express, Limited, foreshadows.

#### Automobile Education.

THE movement for the extension of technical education in automobile matters is developing on right lines. We have already recorded the new equipment at the Bradford Technical College. Now comes news of the purchase of a chassis by the authorities of the Battersea Polytechnic and the presentation of a motor to the Glasgow University College for experimental purposes in connection with Professor Barr's lectures. Such indications of the growth of public favour are encouraging.

At his premises in Bridgeland Street, Bideford, Mr. W. H. Elliott has facilities for general motor-car repairs.

THE Automobile Club of Hawaii has recently been formed at Honolulu with a membership of about seventy.

MR. C. H. E. RUSH, of 199, Piccadilly, W., is acting as consulting motor-car engineer to the Duke of Sutherland. He is also acting as licensed valuer to the automobile trade.

## THE SCOTTISH RELIABILITY TRIAL.

ONE of the most arduous motor-car trials ever carried out under official supervision was that of the Scottish Automobile Club in May of last year. It has been decided to repeat the contest on June 13th, 14th, 15th and 16th next, and the rules have just been issued by Mr. R. J. Smith, the hon. secretary of the Club, whose association with the trial is one guarantee of success. The principal rules and conditions provide that the trial is open to motor vehicles driven by persons registered with the Scottish club or the A.C.G.B.I. Only one car of any specific make and horse-power will be accepted, and no cars will be considered of different horse-power unless the cylinder capacities vary by at least fifteen per cent. The vehicles entered will be classified as follows:—

- A. Petrol vehicles, the selling price of the chassis of which does not exceed £200.
- B. Petrol vehicles, the selling price of the chassis of which exceeds £200 but does not exceed £350.
- C. Petrol vehicles, the selling price of the chassis of which exceeds £350 but does not exceed £500.
- D. Petrol vehicles, the selling price of the chassis of which exceeds £500 but does not exceed £650.

E. Petrol vehicles, the selling price of the chassis of which exceeds £650.

F. Steam cars.

No petrol car showing more than 12-h.p. on the basis of the following formula will be allowed to have a seating capacity of less than four:—

$$\frac{\text{Cylinder diameter in inches}^2 \times \text{number of cylinders.}}{3}$$

The trial will form practically a non-stop run, as the only stops not causing loss of marks are compulsory ones, and stops for tyre troubles under one hour in all. During these no repairs or adjustments to the car, other than adjustment of brakes (for which five minutes will be allowed on each of the second, third, and fourth days without penalty) will be permitted. No marks will be given for speed in excess of the minimum fixed.

There will be a maximum number of marks for the run, deductions being possible on the lines usually observed in such events. Stops for tyre troubles will not be reckoned in determining the title of a competing vehicle to a non-stop certificate or its eligibility for a medal award.

All vehicles will have to be fitted with recognised touring bodies, and the fuel and water tanks will have to be of the ordinary size and capacity as usually sold to the public.

The club will offer an efficiency gold medal in each class. The award of the medal in each class will be made to the car making the best performance on the following basis:—

800 marks will be the maximum for reliability.

100 marks will be allotted to the vehicle in each class making the best time in each hill-climbing test adopted, and the others will be allotted a percentage equivalent to their respective performances, and the average of the marks so gained will be taken, 100 being consequently the maximum possible.

100 marks will be allotted to the vehicle in each class showing the lowest fuel consumption per ton mile over the whole trial, and the others will be allotted a percentage equivalent to their respective consumption per ton mile.

The medal will be awarded to the vehicle in each class obtaining the highest aggregate marks, expressed in the following formula:—

$$\frac{\text{Marks gained for reliability} + \frac{\text{Total marks gained in hill-climbing tests}}{\text{Number of hill-climbing tests}} + \frac{\text{Lowest petrol consumption per ton mile in class} \times 100}{\text{Fuel consumption per ton mile}}}{3}$$

The proposed itinerary is over a course of 673 miles. On the first day the run will be from Glasgow to Edinburgh by way of Ayr, Dumfries and Peebles; the second day's run will be to



Photo by)

The Sarthe Circuit, on which the Race for the Grand Prix will be held. The Village of Connerre.

[Bariller, Le Mans.

Aberdeen over the route made familiar last year; then will follow a severe test from Aberdeen by Tomintoul and Kingussie to Pitlochry, finishing on the fourth day in Glasgow, a deviation from last year's course being made by avoiding Aberfeldy and going through the picturesque village of Killin—an alternative route described in the *M.C.J.* last May.

WITH this issue the *M.C.J.* commences a new volume.

MESSRS. G. T. RICHES AND CO. are removing from Gray's Inn Road to 19, Store Street, London, W.C., where they will commence business on the 12th inst.

THE 14-h.p. Star car built by the Star Engineering Company to the order of the A.C.G.B.I. has been delivered this week. The vehicle is to be used for instruction purposes, and a novel feature is the provision of a third pedal, by means of which the tutor can control the clutch and foot brake independently of the pupil.

A STRANGE sight was witnessed on the Thames Embankment, London, on Wednesday morning. An electrical motor brougham was travelling speedily along when suddenly the back axle snapped clean in half, allowing the two motors to fall on the road. Fortunately, the car did not overturn, nor were the passenger and driver seriously hurt.

## SOME CURRENT TOPICS.

### Which Brakes should be mostly used on Live Axle Cars?

In our Correspondence columns this week Mr. F. F. Wellington makes reference to a point in motor-car operation which is deserving of close attention. His suggestion practically amounts to a recommendation that in cardan shaft live axle cars the brakes most generally used should be those acting on the hubs on the rear wheels, that on the gear or propeller shaft being reserved for emergency purposes. Something may, of course, be said for the other side of the question, but the reasons advanced by Mr. Wellington seem to be sound. In any case, we shall be glad to have the opinions of motorists on the matter, especially of those whose automobile experience includes both chain-driven and chainless cars.

### Improving Compression in Old Cars.

In the more modern petrol motor a marked increase in compression over that in the older patterns is noticeable. It is not surprising, therefore, that many of the earlier vehicles will not develop the power they should. In many cases the compression can be raised with beneficial results by applying a plate of cast iron to either the top of the piston or to the inner side of the cylinder head. The latter method is to be preferred, because any weight added to the piston will destroy the balance of the motor, unless the other moving parts are altered to correspond. The proper thickness of plate to give the best results is largely a matter of conjecture, and if one of the later models of the engine to be altered can be secured, and a comparison of the compression spaces made, this will be the better way. Otherwise the original percentage of compression space should be secured, and the desired percentage subtracted from it, when it will be a simple matter to make a wooden pattern containing the number of cubic inches necessary. The compression plate should not, under any circumstances, obstruct the port openings to the valves, and in many motors this will necessitate chamfering away the pattern at the part adjacent to the ports.



A Group of Peugeot Cars outside the Garage of the Caledonian Motor-Car Company, Ltd., Aberdeen.

### The Object of Compression.

It may not be clear to everyone why the gaseous charge in the cylinders of a petrol motor is compressed before ignition, especially since the compression absorbs power. By compressing the charge before ignition a proportionally higher explosion pressure is obtained, and also a much higher mean pressure during the explosion stroke. Much greater power is therefore obtained from the same engine, and the thermal efficiency—i.e., the relative amount of power obtained from a certain amount of fuel—is also increased. Generally speaking, the higher the compression the greater the power of an engine of given dimensions and the greater the fuel economy; but there is, of course, a limit beyond which it is not advisable to go, which is fixed by the conditions that when the compression is too high the charge is liable to ignite spontaneously at a too early period—a phenomenon known as pre-ignition—that the motor is hard to start (for the first explosion the charge must be compressed by hand), and that if the piston and valves are not a perfect fit a considerable part of the charge is likely to leak out.

### Ascertaining Compression Space.

A well-known engineer has suggested the following method of readily ascertaining the original percentage of compression space in an internal compression engine. Have the inlet and exhaust valves closed and the piston at its innermost position. Now through the ignition plug opening, the cylinder being placed so that this is uppermost, fill the compression space with water from a rectangular vessel, the cubical contents of which may be readily computed. Find the displacement in cubic inches of the piston, and with these two factors the clearance percentage of any motor, no matter how irregular its port passages, may be readily calculated.

THE capital of the Deasy Motor Car Manufacturing Company, Limited, is £150,000.

MESSRS. C. J. RICHARDS AND Co., of Pontypridd, are specialising in motor repair work.

DEPOTS for the Arrol-Johnston cars are about to be established in important towns by the Arrol-Johnston Agencies, Limited.



## THE DE DIETRICH 60-H.P. CAR.

WE are able this week to give illustrations and some particulars of the new 60-h.p. De Dietrich car, the first of which has just been received by Messrs. Jarrott and Letts, Limited, the British agents, and which is the property of Mr. R. Douglas Croall, of Edinburgh. The motor, which comprises four cylinders of 150 mm. bore by 175 mm. stroke, has been considerably simplified, there being only one

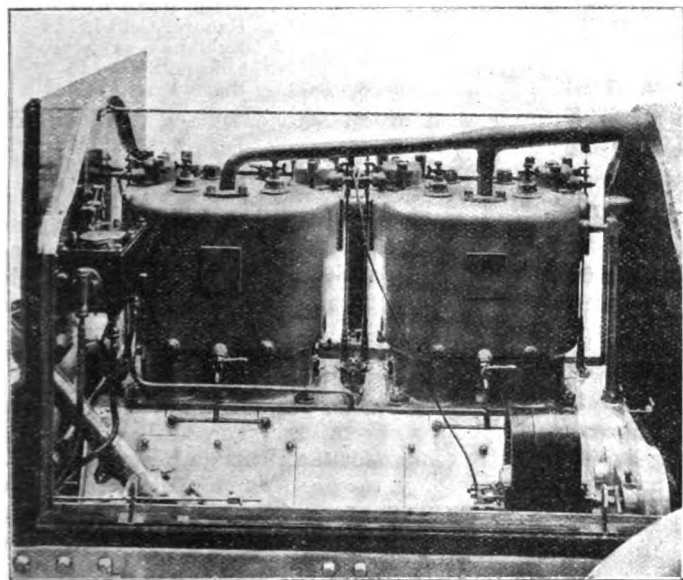


Fig. 1.—View of De Dietrich 60-h.p. Motor.

cam shaft, which operates both inlet and exhaust valves, in addition to the tappet rods of the low tension magneto ignition. The inlet and exhaust valves are interchangeable in all their parts—springs, pins, etc. To examine the valves all that is necessary is to loosen the bolts holding down the covers of the same, an operation which can be performed very quickly. The covers over the inlet valves form the ignition plates, and are arranged to receive the ignition plugs, which in the 1905 models were fitted at the side of the cylinders. On the motor itself is fixed the pump, carburettor and rods controlling the throttle. Inspection doors of such a size as to allow the heads of the connecting rods to be easily examined are provided in the base chamber. The carburettor, which is of the float feed spray type, has an auxiliary air inlet, which is automatically worked by the throttle plunger, giving the engine its full amount of air when the throttle is opened fully, thus securing a great variation of speed, light consumption, and quietness of running. The mechanical lubricator is of the improved Dubrulle type, having the oil pump driven by an eccentric off the cam shaft. There is also a large auxiliary oil tank fitted to the side of the frame, which automatically feeds the main lubricator on the dash board. The pipe providing the release for the air in the base chamber is arranged to serve as the spindle for the bracket carrying the air-inducing fan behind the radiator, which is of the framed ribbed-tube variety. The bracket is free to slide on the pipe and is held up by a spring, so that the fan driving-belt is always kept at the right tension. The flywheel is also provided with arms arranged to act as a fan. The arrangement of the throttle has been much simplified, and the tubing of the motor is also arranged in a neater form, so that access to the engine is facilitated. The water circulation is secured by a gear-driven pump. No advance and retard mechanism is now provided in connection with the ignition, the starting of the engine being facilitated by the aid of a half-compression device, by means of which part of the compression is released. An accelerator pedal

is provided, and the clutch pedal is connected up with the throttle to prevent racing when the clutch is withdrawn.

The clutch, which is of the leather-faced cone type, is centred on the crankshaft of the motor itself, and can be easily detached and entirely dismantled if required. The pivot of the clutch is fitted with ball bearings, and is connected with the gear-box by means of a strong shaft fitted with two universal joints, thus making it very easy to take down and put together, and giving extreme suppleness to the transmission. Similar joints are also introduced in the differential shaft. The change-speed gear is of an entirely new pattern. It is of the sliding sleeve type, with gate motion for the speed lever. The locking arrangement is contained in a separate box from the change-speed portion of the gear. All the shafts run on ball bearings, including the steering gear and the axles. The control of the car is on the same system as that so successfully employed on the 1905 cars, with the exception that the accelerator pedal is placed a little farther back between the clutch and brake pedals, in a more convenient position.

Three double acting metal-to-metal brakes are fitted, a wide one on the differential shaft and one on each of the rear road wheels. The foot brake is actuated by means of a push pedal; the side brakes are internal expanding, and are operated by a pull-on hand lever placed on the off side of the change-speed lever. The brakes on the back wheels are exceedingly powerful, and, owing to the compensating arrangement fitted, gradual in their movements. The friction is obtained by expandable segments, not directly connected with the controlling lever, inside a steel drum entirely closed and fixed by bolts to the road wheel sprockets. The action of the lever is transmitted to both wheels equally by means of an exceedingly simple compensating arrangement which prevents unequal friction being put on the wheels. The adjustment for taking up wear in the steering is of a practical character, making it possible to take up the slightest

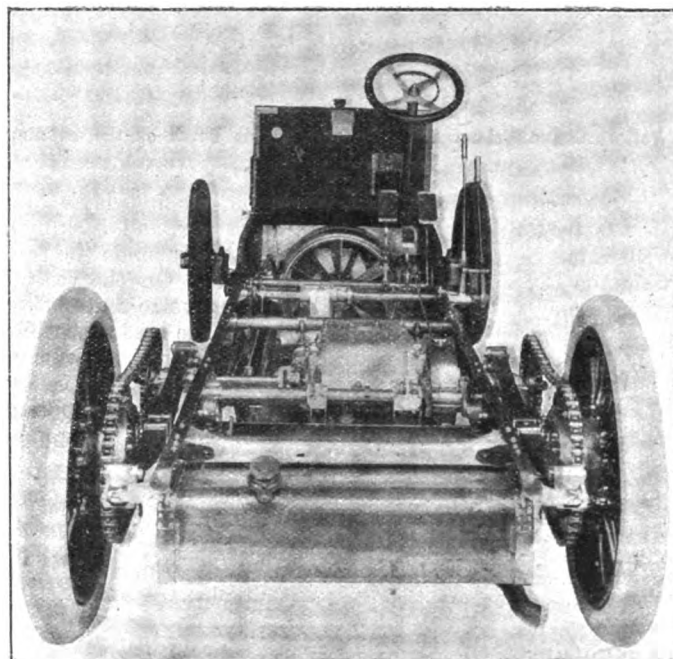


Fig. 2.—Rear View of De Dietrich 60-h.p. Chassis.

play whenever it may occur. The small petrol tank on the dash-board, previously fitted to the 1904 and 1905 models, has been done away with, and pressure to the petrol tank for starting the motor is obtained by means of a small hand pump fixed on the dashboard. The chassis is arranged for the fitting of comfortable and roomy side-entrance carriage bodies, the weight having been distributed over the four wheels, in order to minimise the danger from side-slip. Altogether the new car is an excellent specimen of modern motor engineering.

## CONTINENTAL NOTES.

### The Voiturette and Tri-car "Criterium."

The six days' reliability contest for voiturettes and tri-cars, known as "Le Petit Criterium," and organised by "Les Sports," has been held during the past week. Eight entries had been received in each section, but of these only five tri-cars—a Griffon, a Quentin, a Bruneau and two Australs—and three voiturettes



The Voiturette and Tri-car Trials.—M. Civelli de Bosch on the winning Gregoire Car.

—a Vulpes and two Gregoires—started on the first day's run, which was from Suresnes, near Paris, to Evreux, and back by a different route. All the competitors successfully made the run, Barriaux on the Vulpes being the first home. On the second day the journey was to Evreux and back, the reverse route being taken. Bucquet on the Griffon tri-car made the best run, while the Quentin and one of the Australs gave up. On the third and fourth days, six competitors set out for Gaillon, all safely returning to Suresnes in the evening, a similar remark applying to the runs to Chartres on the fifth and sixth days. The final awards are as follows:—

VOITURETTES.			TRI-CARS.		
Driver.	Car.	Penalty Marks.	Driver.	Tri-car.	Penalty Marks.
1. C. De Bosch...	Gregoire...	233	1. Bucquet...	Griffon...	787
2. Barriaux.....	Vulpes.....	457	2. Foulon.....	Bruneau..	1298
3. Cornil.....	Gregoire...	1570	3. Guitard...	Austral...	1414

### The Circuit European.

An important meeting of delegates of the French, German, Austrian, Italian, and Belgian clubs was held in Paris on Sunday to settle the details of the International Touring Contest to be known as the Circuit European. It has been decided that there shall be four classes for petrol cars:—No. 1, cars in which the total piston area is under 86½ square centimetres, and which will be required to maintain an average speed of 19 miles per hour; Class 2, cars having total piston area of not more than 226 square centimetres, 22 miles per hour; Class 3, ditto, 346 square centimetres, 25 miles per hour; and Class 4, ditto, 531 square centimetres, 28 miles per hour. Steam cars will be admitted to the contest, they being classified on a basis

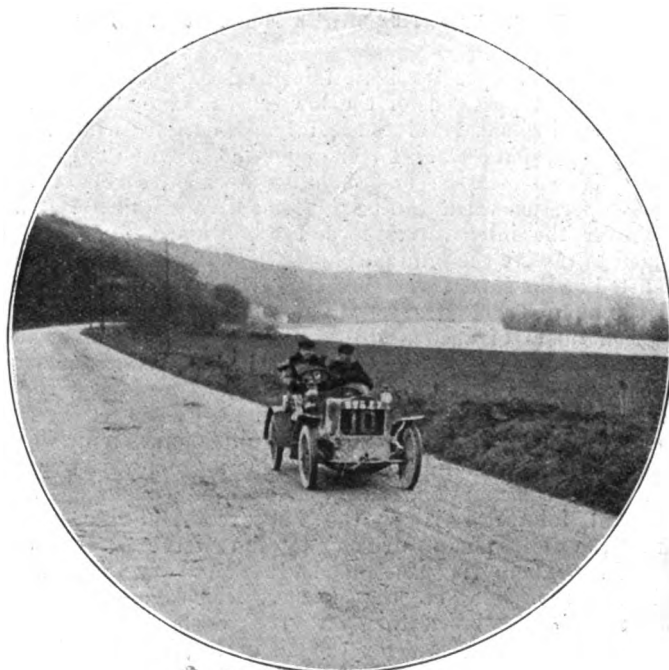
which takes into account the heating surface of the boiler. It has also been resolved that observers are not to be carried on the cars, the order of the competitors being based on the records taken by official timekeepers at the start and finish of the morning and afternoon sections on each day's run. The following itinerary and programme was decided upon:—

July 26.	Paris-Limoges.	Aug. 5.	Klagenfurth-Vienna.
" 27.	Limoges-Toulouse.	" 6.	Exhibition at Vienna.
" 28.	Exhibition at Toulouse.	" 7.	Vienna-Prague.
" 29.	Toulouse-Nîmes.	" 8.	Prague-Breslau.
" 30.	Nîmes-Grenoble.	" 9.	Breslau-Berlin.
" 31.	Exhibition at Grenoble.	" 10.	Exhibition at Berlin.
Aug. 1.	Grenoble-Milan, via Chambery.	" 11.	Berlin-Hanover.
" 2.	Exhibition at Milan.	" 12.	Hanover-Cologne.
" 3.	Milan-Treviso.	" 13.	Exhibition at Cologne
" 4.	Treviso-Klagenfurth.	" 14.	Cologne-Reims.
		" 15.	Reims-Paris.

The test will thus extend over twenty-one days, of which six will be devoted to exhibitions.

### The Nice Automobile Week.

Judging from the programme which has been drawn up, the 1906 automobile week at Nice promises to be of a more interesting character than last year. The event will open on March 25th with a flower fete; on March 27th a tyre changing competition for drivers is to be held, and on March 28th an elegance competition at Monte Carlo. The speed trials will commence on March 29th by the mile events on the extension of the Promenade des Anglais, Nice. Only cars weighing between 650 and 1,000 kilogs. will be allowed to compete. These will be followed by the flying kilometre contest for the Henri de Rothschild cup. The programme on Saturday, the 31st March, will consist of a hill climb on La Turbie road, over a distance of 9 kilometres, and a 500 metre climb from a standing start, for the De Caters cup.



The Voiturette and Tri-car Trials.—M. Barriaux on the Vulpes Car.

### French Exports of Motor-Cars.

According to returns just issued the exports of automobiles from France last year attained a value of no less than £4,016,000, as compared with £2,852,080 in 1904, and only £376,680 in 1900. Of last year's total it is estimated that England is responsible for £1,702,880; Germany, £488,000; Belgium, £416,440; America, £265,880; Italy, £193,360; Algeria, £146,560; Argentina, £125,000; Spain, £101,200; and Switzerland £76,680.

## My Way of Tinkering.

WE have been favoured with the following practical notes and advice from an individual who on a memo. head describes himself as a motor repairer and expert. From independent inquiries we learn that up to recently he followed the calling of a plumber and house decorator, and that the staff comprises the expert and an erstwhile plumber's mate. Our readers may, therefore, estimate his notes accordingly.

### Curing a Slipping Clutch.

Nothing is more annoying to a motorist than a slipping clutch. If paraffin won't cure it, there are several other methods. My firm not long ago had a car to attend to for this cause. It was effectually cured as follows: Two coatings of the best quick drying varnish was applied to the leather with a brush. It was given half a day to set. The clutch never slipped again. We are now fitting new gears, and have informed the owner that we expect to have the car completed by about Easter.

### Repairing a Cracked Chassis.

This is an extremely difficult job that should only be entrusted to a most competent repairer. My firm recently had a 25-h.p. car in for repair. The motorist said it was difficult to steer, and that there was a harsh, metallic noise when travelling over rough roads, as though something had broken. It was thought that the wheel axle bearings had worn or that the teeth of the cog wheels had broken. We spent three days in removing the body and enlarging the garage, after which we found that the chassis plate had cracked. A repair was effected as follows:—A plate was soldered over the split and firmly secured with boiler rivets, and after being painted over was not noticeable. We charged £12 6s. 8d. for the week's job, which was exceptionally cheap under the circumstances. We have since heard that the car has been badly damaged as a result of a smash, and are estimating for the repair.

### A Tube Repair.

A passing motorist called and said his cover and tube had burst. We suggested that he leave it at the garage for a few hours. After packing the cover with tarpaulin we removed the inner tube and fitted a patch. Then the tube was put in the enamelling oven for sixty minutes. When removed it was hard and brittle and the patch had curled off, due to the tube being of inferior manufacture. We accordingly recommended a new tube (from a customer's car), which was eventually fitted. We explained that the bulge in the cover would subside after a little running on the road.

### Fitting a New Bush.

We were recently perplexed over a certain car that was brought in for repair. The motorist said that his engine knocked badly on hills, and we suggested in all probability the cylinder needed hammering down, but as the bolts were found tight it was proved that internal troubles were responsible. After examination, it was seen that the connecting rod bush had worn oval, so I turned up a new bearing out of the solid brass, and as it slipped in rather easily, I sweated it in place to avoid any possible trouble. After several other new bearings were made and fitted, we put the motor together again, but in starting she kicked so badly as to break the piston rod clean in half, besides nearly breaking my arm off. The owner, who knew nothing about it, said that I had upset the timing. Three days' time in fitting new piston rod £3 19s., plus 45 hours' work in overhauling, £12. Another exceptionally cheap job!

### Broken Valve Repair.

A motorist in distress called and said that he had been obliged to leave his car half a mile down the road, as his exhaust valve had broken. I said that, although pressed with work, I would undertake the repair, so went to the car and extracted the two broken bits of valve and told him that in a couple or so hours I would return with the valve repaired and as good as new. It was an extremely difficult job, but practical repairers ought to be able to cope with any repair. The broken ends were dovetailed and pinned, and afterwards the valve was tinned over so that it appeared to be a new one. I returned to the car and fitted the valve, but the motorist said it was too short. I explained that it would expand with the heat, but he said it was useless to attempt to try and get the engine to run with a short valve. I returned to the works and sweated on a piece of solid metal so as to make the valve longer. After fitting the valve the engine started first turn. Charge:—Half-day's time, 18s. 6d. N.B.—The following day I received a most abusive letter from the motorist saying that I had botched the valve and it broke again. He threatened to report me to the Automobile Club, but I replied that I would supply and fit a new valve at a reasonable cost. To this he did not have the courtesy to answer.

### Shaping and Fitting new Exhaust Pipe.

There was a considerable noise outside our garage a few mornings ago, and a gentleman entered and said his car was creating such a noise that he already had been stopped three times by the police that morning, besides sending several horses out of control. To the practised ear it was at once evident that the motor exhaust was faulty, and on examination I found that the exhaust pipe had dented and split. Under the circumstances I advised him that it would be unsafe to venture any further on the car until a repair was effected. The broken pipe was then removed and a length of standard bore gas pipe obtained from the store room. This after being cut and bent to shape was provided with the necessary unions, and when fitted up the car ran silently. The charge for this repair was not excessive, and the motorist expressed himself satisfied with the job. The following morning we were surprised when he called in a towering rage and handled a large heavy stick menacingly. For safety's sake I thought it prudent to lay hold of the largest shop hammer, after which I asked him to state his business. Considerably subdued, he impertinently said that his car was not a water cistern, and if we wanted the gas pipe back we could go with the melting pot and pick it up in the road. I quite lost my temper then and ordered him out of the premises. N.B.—A summons arrived this morning.

Owing to growth of business we have found it imperative to remove at once to larger and more suitable premises.

THE new National 50-70-h.p. six-cylinder car will be shown by Messrs. Lamb Brothers and Garnett for the first time at the forthcoming Show at the Agricultural Hall, London, N.

MESSRS. FRISWELL, LIMITED, have just issued a very useful pamphlet, giving detail instructions as to the driving and upkeep of the Peugeot two and four-cylinder cars. It is a translation by Mr. J. H. Paterson, President of the Scottish Motor Trades Association, of a similar work issued by the Peugeot Company, and should prove of valuable assistance to users of Peugeot cars.

## THE "E.I.C." GENERATIVE SYSTEM FOR IGNITION AND LIGHTING.

THE Electrical Ignition Company, Limited, Birmingham, have lately brought out an interesting generative system for ignition and lighting purposes on petrol cars, of which the following are among the most salient features. A generator (Fig. 1) is fixed on to the car in the same manner as a magneto, the size and weight being somewhere about the same

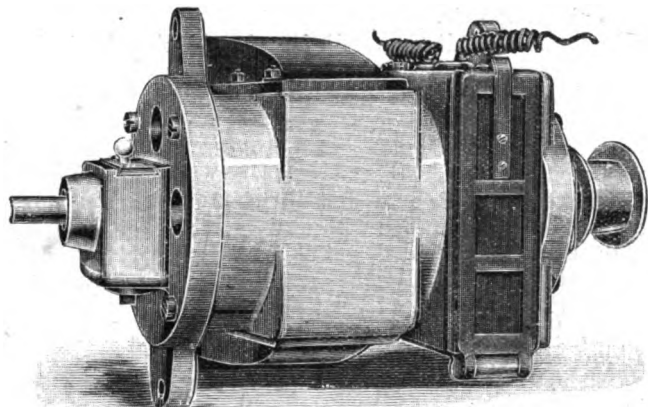


Fig. 1.—General View of Generator.

as that of the latter. The machine, which absorbs about one-third horse power, is of the low speed class; it commences to generate current at about 500 to 600 revolutions per minute, and at that speed it automatically cuts into circuit with the accumulators and commences charging them. At any lower speed the dynamo automatically cuts out of circuit, and the tendency of back E.M.F. or reverse current accentuates this function and makes the same positive. The generator gives eight to twelve volts and about four amperes, and no matter how the speed may advance by the increased speed of the motor the windings are so arranged that the output practically remains constant, this result being achieved by the special method of compound winding adopted, by which any excess current demagnetises the fields and so automatically causes the output to drop to normal without any outside mechanical appliances. The old trouble experienced in dynamos previously introduced for this purpose

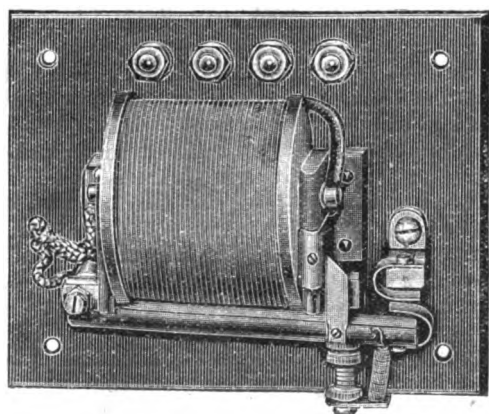


Fig. 2.—The Automatic Cut-out.

of a sudden acceleration of speed by the motor resulting in a great excess of current being generated, which broke down ignition, is in this way claimed to be avoided. The pressure developed by the generator is from 8 to 12 volts, which enables two 4-volt accumulators to be charged in series, and, moreover, always kept fully charged. In conjunction with the generator a patent cut-out is fitted (Fig. 2), which automatically puts the generator in circuit when the voltage of the dynamo rises above that of the accumulators, the dynamo energising the coil at 4 volts, so

completing the circuit. When the speed is reduced to a point when the voltage of the accumulators predominates, the reverse current operates the coil and cuts the dynamo out. The accumulators are therefore always maintained at 4 volts, so that it is an impossibility for the car ever to be stranded by want of current, as, even if the dynamo stopped, there is always a reserve of current which will run the engine for a very long period. The two accumulators used in connection with the system are of the new E.I.C. solid type; these are made without plates, the positive elements being inside the porous pots, which form the negatives, and which are made of a special material, quite different from anything else on the market. The cell is claimed to be practically indestructible, and cannot be damaged by overcharge or excessive discharge. The current of these accumulators is used at 8 volts in series for lighting, and at 4 volts alternately for ignition purposes. The coil (Fig. 3) employed in connection with the arrangement is a special one, known as the E.I.C. double spark coil, which is so arranged that each trembler will cause a spark to jump across the terminals of two plugs in each cylinder. The makers claim that this double ignition not only makes a breakdown from plug troubles practically an impossibility, but increases the power of the engine, a quicker and more powerful explosion resulting from the charge being fired at two points. By keeping the accumulators fully charged not only is the ignition

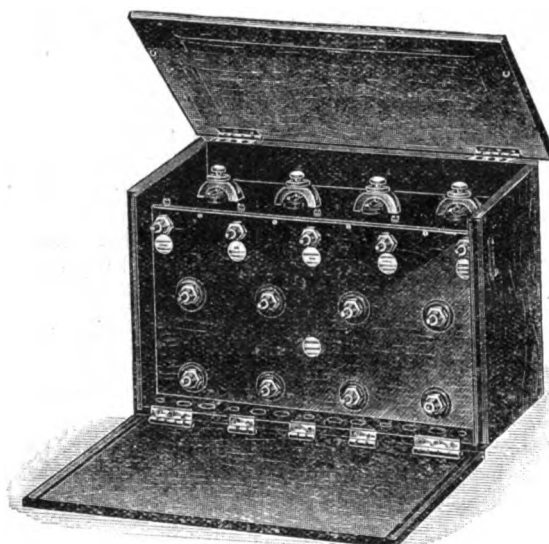


Fig. 3.—The "E.I.C." Double Spark Coil.

made reliable, but it is possible to light the tail and side lamps on the car electrically. In conjunction with the tail light a small safety lamp is fitted on the dashboard, which automatically lights up if the rear light goes out from any cause. For motor-bus work the E. I. Company supply a larger size generator which enables a greater number of accumulators to be used, thus providing for the electric lighting of all the lamps on the vehicle. We understand that the company have had the system running for some time with perfect results, and owing to the reliability it provides in the way of ignition, together with the great advantages for lighting purposes, it is worthy of attention from all interested in motor-cars, and especially from those in the public service branch of the industry.

MESSRS. MANN, EGERTON AND CO., LIMITED, send a new catalogue of the cars in which they deal, which comprise all the leading types.

A CATALOGUE of "Scout" cars comes to hand from Messrs. Dean and Burden Bros., of Salisbury. It includes a complete description of the firm's 14-17-h.p. car, which made a creditable showing in last year's Tourist Trophy race, running upwards of 180 miles on 9½ gallons of petrol. The illustrations of working parts are very well done, and the catalogue should be extremely useful to motorists favouring British-made vehicles.



## ENGINE SPEED CONTROL.

### AN EXPERT OPINION IN FAVOUR OF THE VARIABLE LIFT INLET VALVE.

**R**EFINEMENT of finish and control of the petrol motor, and the constant endeavour to make the engine flexible in the strictest sense of the word, has been the means of makers adopting a variety of methods to secure this end. Amongst the different systems used the variable lift to the inlet valves has been most satisfactorily exploited, and during the past year this has been brought forcibly before the notice of the public. Whatever the means employed to accomplish the variable lift—and from an engineer's point of view there is a right and wrong way to do it—the result is what we are dealing with.

Looking at the matter on general lines the principle is decidedly good, and forms a perfect throttle, as by it the control of the amount of vapour admitted to the cylinder approaches that of a steam-engine in effect, and it is possible to drive very slowly on "top gear" and accelerate by opening the valves to full lift and glide off very gently as the lift is increased and the full power developed. It also obviates the necessity of controlling the mixture, as by this form of throttle the carburettor ought to have an automatic air supply permitting a greater proportion of air according to the speed of the engine. The throttling takes place in exactly the right place, and has an instant effect, both when being closed or opened, and there is always a supply of mixture ready to draw upon stored up in the inlet pipe on the valves being opened again; whereas in the ordinary throttle valve of the plunger or butterfly type the operation of throttling has a tendency to altogether upset the working of the carburettor, and the vapour is exhausted as far as the throttle valve. When accelerating, moreover, the sudden suction on the carburettor causes a rush of petrol and naturally some moments elapse before the mixture assumes the right proportions again. This is a wasteful way of control, not experienced with the variable inlet valves, for the reason that there is vapour to supply the engine still in the pipes, as in a reservoir. The suction on the carburettor is much more gentle, and on accelerating the carburation accommodates itself better to the speed of the engine, due to the fact of the difference in position of the throttle and the effects therefrom. A variable inlet will allow the engine to run at a much lower number of revolutions per minute, and the car can be kept and run on the high gear at slower speeds, even to crawling pace. The makers I have discussed the matter with seem to generally acknowledge the most effectual method of securing flexibility of the engine is best obtained by the use of variable lift inlet valves; and this form of throttle is now very common, seeming to prove the undoubted practical advantage of so controlling an engine. An additional throttle, I feel confident, is a superfluity, and, without improving matters, only complicates and defeats the simplicity admittedly obtained. Chauffeurs say that with the variable inlet there is hardly any need to alter the ignition, except a slight retardation on hills; therefore the engine is kept to a certain extent cooler.

Some of the foremost firms use this type of control, and it will be found that a variable petrol jet, in addition to the variable valves, as a means of economising consumption, has also undoubtedly a great effect in securing silence and flexibility, and the advantages gained from this refinement of control are worthy of discussion later on. It is well known that such means of controlling the petrol supply have long been used in the finest-made cars.

Flexibility is not to be secured by using carburettors having air and gas adjustments, needing continual alteration of the position of the levers for every variation of the speed of the engine. This interesting subject is of great importance; those mostly concerned are the makers, and their views and reasons would enlighten the motoring public, but it certainly seems that the principle of controlling by means of the variable lift has the advantage.

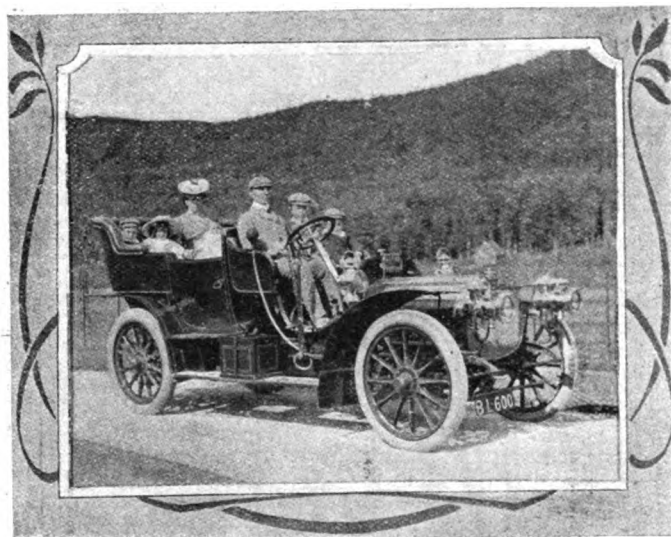
R. S. G.

## USEFUL NOTES.

**MOTORISTS** are sometimes puzzled by a sudden loss of power apparent in their cars, so a few words concerning this may not be out of place. In the case of atmospheric valves, the inlet valves are very frequently the source of loss of power, and it must be remembered that the temper of the valve springs is not a certain quantity, as it is liable to be affected by the heat. The inlet valves should be looked at first of all.

A **SHAFT** which has a little play owing to a slightly worn bearing acts as a hammer to increase the play. Moral, take up looseness as often as it appears, without waiting for it to get serious.

A **TYRE** valve should not be allowed to go without its cap, or at least a substitute for a cap. Dust is sure to work in and interfere with the seating of the valve, and the result will be a slow, steady and most annoying loss of air from the tyre. If the cap is lost tie a scrap of rag over the end of the valve stem to keep the dust out, and get a new cap at the first opportunity. A couple of extra caps occupy practically no space in the tool-box, and should be carried at all times.



Mr. and Mrs. Leicester Barwell and Family, of Ascot, on their Leon Bollee Car.

**UNLESS** certain that there is no vehicle close behind you, never make a sudden reduction of speed or come to a quick stop without giving a warning signal. The customary way of announcing the intention of slowing or stopping is to raise one hand in the air, so that those following may see it readily. Rear end collisions are undesirable, to say the least, and there are frequently occasions when they may easily occur if this simple method of signalling is neglected.

**HIGH-TENSION** current is very difficult to insulate, and will leak away through the most unlikely channels. If the ignition acts strangely and the trouble cannot be located in the usual ways, look for a high-tension leak. The elusive current will frequently follow oily wood or cloth, if given an opportunity, causing the most mysterious short-circuits and sometimes "shocking" the driver most unexpectedly.

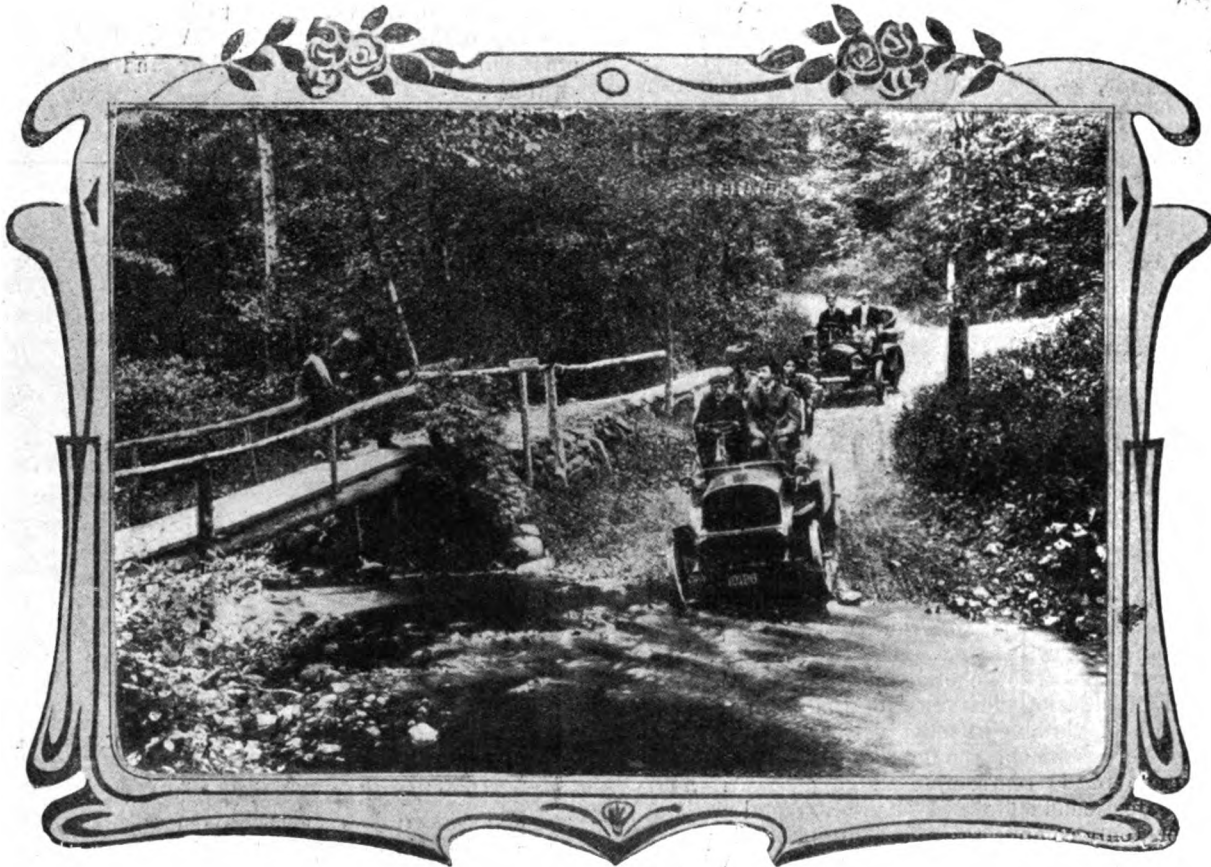
If the front tyres of the car are wearing more rapidly than they should, it is well to examine whether the wheels are parallel. The least departure from parallelism causes a certain amount of sliding friction between the tyres and the road, with disastrous results to the covers.

## AN ITALIAN RELIABILITY TRIAL.

—•—

IN connection with the forthcoming International Exhibition in Milan the Automobile Club of Milan is organising an important reliability trial, to be held from the 15th to the 25th May next. The event, which is to be known as the "Coppa d'Oro," will be open to all types of cars, divided into three classes, as follows:— (1) Cars the chassis of which cost more than £320; they must carry a body having accommodation for four passengers, and which must not weigh less than 440 lbs.; two seats at least must be occupied. (2) Light cars, chassis price of which is between £160 and £320. (3) Voiturettes costing not more than £160 complete. The vehicles in the different classes will be required to run each day over the allotted distance at the following average speeds:—Class 1, not less than nineteen and not more than twenty-five miles per hour; Class 2, not less than fifteen and not more than twenty-one miles per hour; Class 3, not less than 12½ and not more than 16½ miles per hour. The mean speed

miles, the majority of the daily runs being over 250 miles. In Classes 2 and 3 the itinerary will be reduced to nine days, the circuit being from Milan *via* Bologna, Lucca, Florence, Genoa, Turin, Milan, Como, Brescia, Verona, Mantua, Lodi and Milan. Cars in the second class will start on May 16th, and in the third class on May 18th. There are no less than ten prizes offered in Class 1, ranging from £1,000 and a gold cup—the Coppa d'Ora—to £20 each for the eighth, ninth and tenth cars. In Class 2 there are four prizes, ranging from £120 and a members' cup, of the Milan Club to a gold medal, and similar awards are made in the third class. A team prize will be offered in connection with Class 1, which will be known as the Grand Prize of the Milan Municipality. A prize of £200 and the President's cup will be also awarded to the lowest-priced car in Class 1 to run successfully through the whole of the trial. A prize, to be known as the Grand Prize of Industry and Commerce, subscribed for by manufacturers and dealers in Italy, will be divided among the owning drivers who win in their respective classes. All entries should be sent to the Sports Secretary of the Automobile Club



A Pretty Snapshot from the Orange Mountains District, twenty miles from New York.

will be calculated from the hour of the departure to the hour of arrival of each day's run. Any excess of the maximum speed will count double points against the competitor. If the maximum is exceeded by fifteen minutes on any one day's stage the competitor will be disqualified. The winner in each class will be the car that approaches most nearly the maximum speed throughout the entire trial for its class. In the case of a tie the award will go to the car of the lowest chassis price. The course to be covered runs through all the most beautiful and historic parts of Italy from Milan to Naples. The cars in Class 1 will be required to make eleven daily runs as follows:—First day: Milan, Brescia, Treviso, Bologna; second day: Bologna, Perugia, Rome; third day: Rome, Naples; fourth day: Naples, Rome; fifth day: Rome, Siena, Florence; sixth day: Florence, Parma, Genoa; seventh day: Genoa, Piacenza, Turin; eighth day: Turin, Arona, Milan; ninth day: Milan, Mantua, Verona, Udine; tenth day: Udine, Vicenza, Brescia; eleventh day: Brescia, Cremona, Milan. The total distance is about 2,500

of Milan. The list closes on April 1st, but cars may be entered up to the 20th of that month by payment of a fifty per cent. increased entry fee.

COLONEL FOX, of the London Salvage Corps, has just perfected an important invention in connection with motor-car axles. By the new method the axle is built up of a thin steel rod, around which are fitted numerous steel tubes until the required thickness is obtained. These are then welded by heating processes until the whole is, to all intents and purposes, one solid bar of steel, which can then be treated in every way as if it had been made in one piece. The advantage of the construction will be obvious, for, even assuming there is a flaw in each of the tubes, no breakage can occur unless all the flaws happen to be in exactly the same place, an extremely unlikely possibility. The Farman Automobile Company have secured the entire rights in the new invention, and their "Mascot" cars will in future all be fitted with the patent unbreakable axle.

A 30-FT. motor launch is being built at Dumbarton for a mission station at Calabar, in the Niger Protectorate.

THE Duke of Westminster has placed an order with the London and Parisian Motor Company, Limited, for a 30-35h.p. Hotchkiss car to be fitted with a Hooper limousine body.

At 6, Royal Exchange Square, Glasgow, the Palmer Tyre Company, Limited, has opened a depot.

MR. W. R. BELL has been lecturing before the Dundee Institute of Engineers on motor traction.

MESSRS. L. G. BALE AND CO. are proprietors of the Barnstaple Motor Works, Newport Road, Barnstaple.

THE Roads Improvement Association intends to re-introduce its Bill for the improvement of roads during this session of Parliament.

THE Highways Committee of the Westminster City Council are recommending the purchase of a motor-wagon, with interchangeable water-tank body, from the Lancashire Steam Motor Company, Limited.

THE Osaka Automobile Company has five motor-wagonettes in daily operation in Japan. They have accommodation for a dozen passengers; the chassis were supplied by the makers of the White steam car.

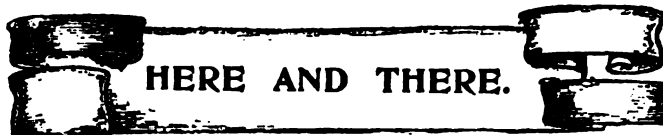
THE Liverpool Motor House, Limited, is opening a garage at 6, Atherton Street, South Castle Street, Liverpool, under the management of Mr. John Wilson. They will act as sole district agents for the Arrol-Johnston cars.

THE Motor Union have prepared a statement of hints and suggestions for the conduct of motor-car gymkhanas. These suggestions have been circulated to the various clubs included in the membership of the Union for their information and guidance.

MESSRS. THOMPSON, MCKAY AND CO., carriers to the Great Central Railway Company, have been making experiments with a five-ton Hercules steam motor-wagon. A further order has just been given and delivery made by the Hercules Motor Wagon Company, Levenshulme. The Hercules Company will shortly place a motor-omnibus on the market with engine of 40-h.p., having a specially designed gear-box for heavy work and change speed on the locking gate principle.

THE Maudslay Motor Company, Limited, have sent us copies of the new catalogues they have just issued. They deal respectively with the Maudslay pleasure cars, heavy vehicles, and marine motors, and, in addition to full particulars, contain a large number of well-executed illustrations.

MESSRS. PERCIVAL, MARSHALL, AND CO. have just published a handy little Engineers' French-English Technical Dictionary. It has been compiled by M. Lvoff, who, himself a practical engineer, has devoted special attention to the principal terms used in connection with mechanical engineering, electricity, motor-cars, and cycles. The book is of a useful pocket size, and the work has, on the whole, been well done. A few of the motor-car terms might, however, be revised; for instance, we do not think a contact-breaker is known as an *allumeur* and *manivelle*, while certainly a crank is, in motor parlance, the starting handle. The word *chassis*, too, has a wider meaning than that given by M. Lvoff.



THE motor-house of the A.C.G.B.I. has been provided with an Adams jack.

THE equipment of the new laboratory in connection with the motor-car department of the Bradford Technical College will

include an engine specially built by Messrs. White and Poppe, of Coventry.

MESSRS. BINGHAM AND STEVENS are opening business at 20, Store Street, Tottenham Court Road, London, W., as dealers in motor accessories.

MUCH attention is being given by practical motorists to the vulcanising specialities of the County Chemical Company, Limited, of Birmingham.

THE New Ellis Motor and Cycle Company, Limited, has been registered with a capital of £1,000, to acquire the business of Mr. R. Ellis, at 120, High Street, Watford.

FROM the North British Rubber Company, Limited, comes the Motorists' Vade Mecum for 1906, in which much useful information with regard to the speed of cars and the main roads of England is given in addition to some valuable hints on the care and repair of motor tyres.

THE Reo Motor Car Co., of Lansing, Mich., U.S.A., have issued a little novelty in the shape of a mutoscope thumb book illustrating in a clear but simple manner the action of a four-cycle petrol motor.

THE Midland Counties Motor Garage Company, of Granby Street, Leicester, have issued an excellent catalogue illustrating their facilities for the repairs of cars, recharging of accumulators, etc., as well as cars for which the firm act as agents.

CREABE is the cognomen of a new soap introduced from 10, East Parade Chambers, Leeds, which can be effectively employed with cold water. At the same time it is sufficiently moist to be used without water in the event of none being obtainable. It is, therefore, invaluable for motorists.

THERE are three motor-car firms at Rotorua (New Zealand), and when the mail left all were unable to cope with the large

demand for cars in that district caused by the tourists preferring to hire motor-cars rather than make the various sightseeing trips in coaches. This is easily understood, for while the drive to Taupo takes nine hours behind four horses, it is easily accomplished in a motor-vehicle in four hours.

OF the many forms of speed indicators, the Veeder Tachometer, or speed indicator, has become well known since put upon the market by Messrs. Markt and Co. The principle adopted is that of centrifugal force acting on a coloured liquid contained in a reservoir. A small force pump is geared down against the car wheel (for convenience on one of the steering wheels), and is connected by metal or rubber tubes to the reservoir and indicating scale on the dashboard. The fluid acted on by the pump as it rotates under the influence of the car wheel is drawn down from the reservoir into the pump, and forced up the indicating scale, each speed being exactly determined by careful experiments. It is claimed that when once this instrument is fitted, and the liquid sealed up, the machine is practically in calibration for all time, or until the car is worn out, because the manufacturers claim that this instrument, having nothing to wear, will outlive the car itself.



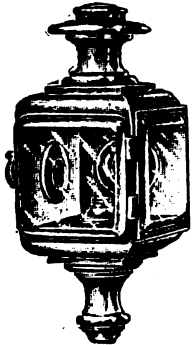
MESSRS. D. M. WEIGEL, LIMITED, have taken offices in Goswell Road, E.C.

MOTOR JOBSTERS, LIMITED, is the title of a company registered with offices at 79 and 80, York Street, Westminster.

MESSRS. STRANSOM AND SONS are making an interesting show of motor-car accessories at their showrooms in Market Place, Reading.

THE Wallsend Council is making application to the Local Government Board for regulations to limit the speed of motor-cars in certain streets of the borough.

AMONGST the latest patterns of lamps introduced by Messrs. Weldhen and Bleriot, Limited, the British manufacturers of the Bleriot lamps, is a very interesting one in the shape of a square side lamp, fitted with a petrol burner. It is really a smaller type than that sold by the firm during the last few months, and is finding much favour amongst all those who are buying new side lamps. The new type gives a bright light, and as it burns petrol is always as clean as an electric lamp. The construction of the burner ensures safety, and we are pleased to be able to give an illustration of a lamp which is likely to be a great favourite for use on broughams or landaulets.



THE University Motor Garage, opposite the Victoria University, Manchester, has been opened with accommodation for a hundred cars.

MESSRS. HARTENFELD, SON AND CO., LIMITED, have a fully equipped motor garage in Sykes Street, Manchester, which is open day and night.

A THORNYCROFT 24-h.p. double-deck 'bus has recently been put in service in Bombay by the Western India Motor Company. We understand that several additional vehicles are on order.

MESSRS. BALFOUR AND SONS, of Jedburgh, N.B., have an Albion motor-van in use for general delivery work. It is fitted with a 16-h.p. two-cylinder engine. In the last nine months it has run 5,000 miles, the upkeep working out at 1½d. per mile.

THE International Motor Insurance Company, Limited, has been formed with a capital of £100,000 to undertake motor-car insurance, to which operations it is to be confined. Mr. W. S. Hartley is the general manager, and offices have been taken at 207, Deansgate, Manchester.

THE Continental Tyre and Rubber Company have brought out a motor tyre accessory box suitable for private garages and motor-car owners, and containing large quantities of all repair material necessary in connection with the upkeep of motor tyres, also repair outfits in different sizes, puttees, tyre levers, etc.

THE Young Street Motor Garage Company, of Young Street, High Street, Kensington, W., has issued an attractive tariff of their terms for the hire of motor-cars either by time or distance. Their garage is always open, and a special feature is made of Darracq cars, for which the firm acts as agents.

MESSRS. J. HUTTON, SONS, AND CO., of Dublin, referring to a rumour that they proposed opening the motor section of their business on Sundays, say that they have never entertained the idea, and were they "to adopt Sunday trading in any form it would be entirely against the principles which have guided this firm for close on two centuries."

THE Turner's Motor Manufacturing Company, Limited, are just completing large extensions to their works at Wolverhampton, to enable them to take up the construction of commercial steam cars. The first lot of vehicles to be laid down will be suitable for loads up to about 30 cwt., or to carry from sixteen to twenty passengers. The engines are similar to those fitted in the Turner-Miesse pleasure cars, but, of course, of greater strength and power; they are of the single-acting, three-cylinder type without any glands or packing, and, apart from lubrication, will require no attention. The chassis will be provided with an improved form of generator and paraffin burner which have been subjected to a lengthy test.

THE Sheffield Motor Company are exhibiting a collection of Argyll cars at the Sheffield Show.

MESSRS. KELL AND DELOTZ are commencing business at 38, East Street, Farnham, as motor-car engineers.

WE hear that a writ has been issued in respect of infringement of the patent covering the "gate" method of change-speed gear control.

A MOTOR-CAR company is being formed at Crieff (Perthshire), with the object of letting cars out on hire during the summer months.

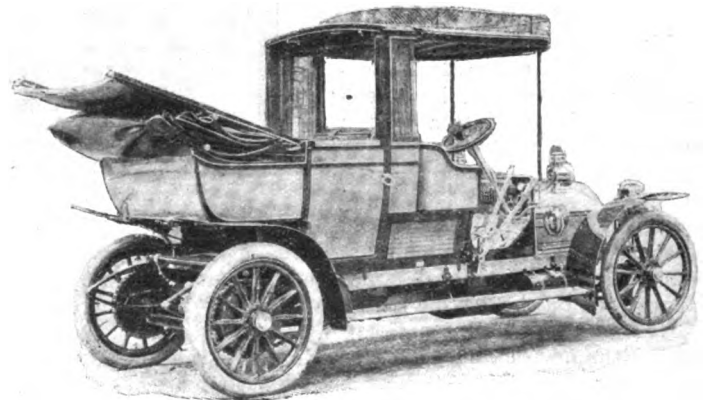
THE Imperial Tyre and Rubber Company, Limited, of Brooke Street, have enlarged their works at Clerkenwell, and are giving special attention to the repair of old covers.

THE Coventry Chain Company, Limited, have issued an effective picture postcard, drawing attention to an important contract for the Daimler Company for the coming season.

FROM the Adams Manufacturing Company, Limited, we have received a copy of the new catalogue of the Adams-Hewitt car they have just issued. In addition to a full description of the vehicle, illustrations are given of several of the principal component parts.

THE Service Company (London), Limited, which is the new name of the Civil Service Motor and Cycle Agency, Limited, has issued a pamphlet giving a comparative statement of the cost of motor-cars. This will be of service to prospective motorists, and useful for reference throughout the motor trade.

SOME trials of a new petrol-electric car, known as the Auto-Mixte, were carried out at Charlton last week. The leading details of the vehicle, which is of Belgian construction, were given in our report of the Paris Salon, but it may be mentioned that a 24-h.p. petrol motor is directly connected up to a dynamo, and thence through a magnetic clutch, cardan shaft, and bevel gear to the rear live axle. The dynamo is arranged to act both as a generator and as a motor, and in circuit with it is a small battery of twenty-six Tudor accumulators. By an ingeniously-arranged controller the full power of the engine can be employed to drive the car, or, on an easy road, any excess can be utilised in causing the dynamo to charge the accumulators; while, thirdly, when it is desired to increase the speed of the car or assist the engine on a hilly road, the accumulator can be called upon to increase the power by converting the dynamo into an electric motor.



The above illustration depicts the first of the 1906 type 20-25-h.p. Mercedes landaulets to come into this country. Messrs. Duncro-Mercedes, Ltd., inform us that the chassis in question is specially built to take landaulet and side entrance coachwork, and will permit of a body being fitted to seat four or five persons inside and two outside.

UNDER the title of "County of Gloucester Garage," Messrs. H. E. Steel, Limited, have opened their new premises in the High Street, Cheltenham. Although the large workshops and garage which they are building at the rear of their showrooms, and which will have an auxiliary entrance on a side street, are not quite completed, they are perfectly competent to undertake any repairs at their existing garage in Regent Street. The directors of the company are Messrs. H. Ripley, J.P. (chairman), H. E. Steel, and H. E. Ripley.



## CORRESPONDENCE

(Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, W.C.)

### THREE-CYLINDER ENGINES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Mr. Mawdsley Brooke's letter in your last issue, re three-cylinder engines, was especially interesting to me, as I have recently patented a three-cylinder engine, which I think will correct about all the faults Mr. Brooke finds with the three-cylinder, four-stroke cycle engine. My motor is of the three-cylinder, two stroke cycle type, with cranks at 120 degrees, giving a torque equal to a six-cylinder, four-stroke cycle engine, and having some other advantages besides the great reduction in the number of parts, weight, and space occupied. For instance, all crankshaft and connecting rod bearings will be in constant thrust, in which respect it is comparable to the Willans high-speed steam engine with air buffer, making a silent running engine even after considerable wear has taken place in the bearings. The exhaust is swept out very completely and positively, each stroke, and the

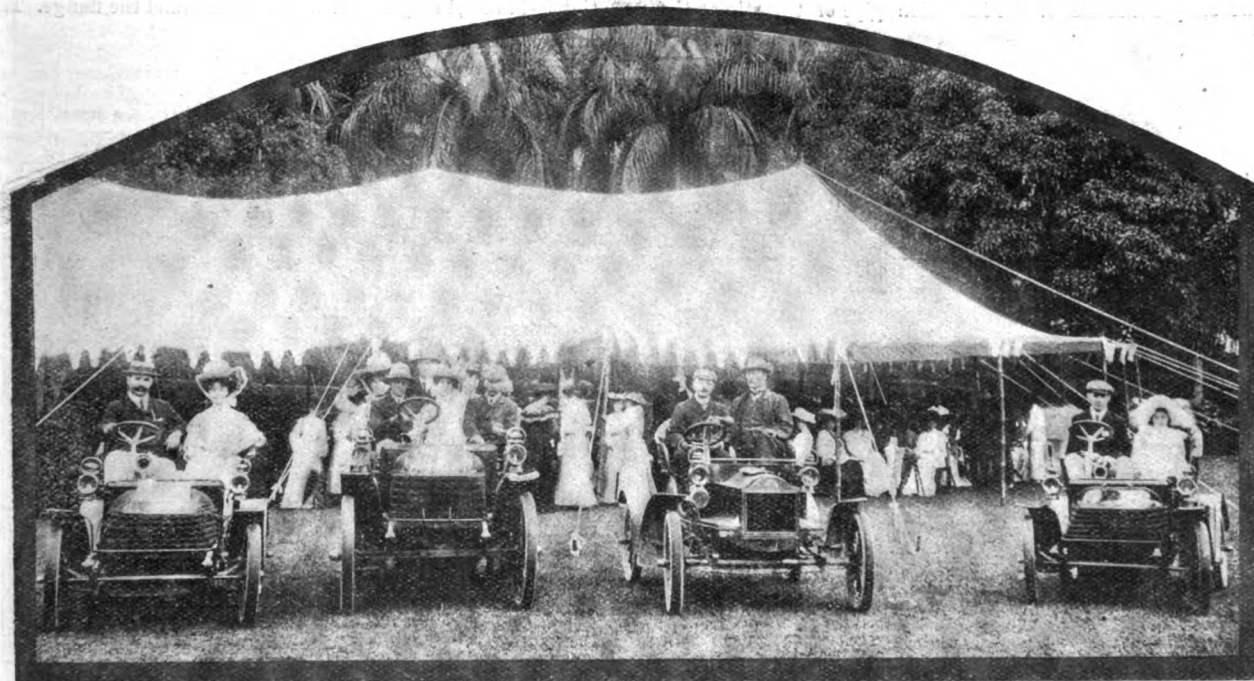
has taught me a lesson that in future I must not only see that the lever is in its lowest position, but that the action has been continuous throughout the system. The point is one which it may also be worth the while of other motorists whose cars are fitted with the Bowden control to take notice of.—Yours truly,

FUNNEL SWITCH.

### WHICH BRAKE SHOULD BE MOSTLY USED ON LIVE AXLE CARS?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I think it would not be amiss to call the attention of your readers to the advisability of paying special attention to the methods now universal in driving motor-cars with cardan shafts. It has frequently come to my notice of late that drivers and owners are ignorant of the fact that to use a foot brake that is connected to the propeller shaft, or to the projecting shaft from the gear-box, is disastrous, and destroys more quickly than anything else the life of the small pinion. As the cardan shaft is now almost universally used, it is the more necessary that this explanation should be given, as it will be of help to those motorists who have studied and learnt mostly from the chain-driven cars. When riding with notable drivers, I have been surprised to see how severely they have used their foot brake, without considering the effect on the life, and the wear and tear of the back axle; whereas if the side brakes were used when de-clutching, the strain is only dis-



A Motor Meet at Colombo, Ceylon. The illustration depicts a 7-h.p. Oldsmobile and three Wolseley cars.

cylinders filled with fresh air at slightly above atmospheric pressure, no pressure in crank chamber. The fuel is introduced during the compression stroke, without the use of a carburettor or vaporiser, and fired electrically in the usual way.—Yours truly,

T. W. KINGS.

### A HINT RE BACK FIRING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I recently wrote you with regard to the trick the engine of my car paid me by continuing to run after the current had been switched off, owing to the circuit having been completed by a funnel which had been jolted against the two terminals of the switch. Now I have to tell you of another little act of bad behaviour on the part of my motor, which resulted in an injury to the little finger of my right hand; fortunately it was no worse. The air throttle and ignition control on the engine is by means of Bowden wires, the levers actuating the same being located on the steering pillar just below the wheel. The other day, when about to take the car out, I took the usual precaution to see that the ignition lever was fully retarded. To my surprise, however, the engine gave a nasty back-kick, which resulted in the injury mentioned. On inquiring into the cause I found that although the lever was fully down, the contact maker itself had not been correspondingly retarded, the wire, instead of passing down its sleeve, having curled up just below the lever. While I attribute this more to the weakening of the spring attached to the contact maker, by which the latter is retarded, than to any fault in the Bowden wire mechanism, it

tributed on the road wheels, and, generally speaking, the purchase of a hind brake is a third greater than the foot operated one; not only so, but the fact must not be overlooked that when the foot brake is used, it is the means of causing a back lash, and a great strain on the differential and the small bevel pinion, which is generally keyed on to the cone of the propeller shaft.—Yours truly,

F. F. WELLINGTON.

### AN ENGINE QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a four-cylinder 24-30-h.p. car which I have now been driving for nearly six months, but am sorry to say it has very seldom run right; it is very little used on account of trouble when mostly starting away with the car. It runs very well for the first mile or so and then one cylinder will miss fire and then another will do the same. Then the car will be running on two cylinders—first one cylinder and then another will miss fire. Next engine commences to knock and then in a few minutes all four cylinders will fire correctly and the car will go splendidly, but on coming to a small hill knocking will commence again, and it seems as if the engine has not enough power, but that I put down to the misfiring; the carburettor is correct, as there is a good flow of petrol and all seems clean. The four tremblers on the coil seem to all have a nice buzzing sound as I have them nicely adjusted, but I may say that one cylinder misses fire more than the other, and has done so ever since the car was bought, nearly six months ago. I have wondered if it could be the fault of the coil, as everything else seems right. I have

even put a new high tension wire and new plug to the cylinder that misses most, but it does not make it any better. The carriage drive to the house is very steep. The car never comes up under four minutes, while the horse can pull a brougham up in seven minutes. I think it is ridiculous for a car of such a power to take so long a time.—Yours truly,  
ANOTHER CONSTANT READER.

[The misfiring complained of by our correspondent may be due to many causes. This kind of misfiring generally occurs when the contact breaker is dirty, or perhaps coils are adjusted too tightly. If these are not the causes, we should recommend that the aid of a competent man be obtained to thoroughly inspect and locate the difficulty, as nothing is so annoying as electrical troubles.]

### THROTTLE VALVE OR VARIABLE LIFT ?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We notice a correspondence is now taking place in your journal on the above subject, and as the original introducers both of throttle control (1893), and of variable lift inlet valves (1895), our views on the subject may perhaps be not without weight. We have used both systems, and there can be no doubt whatever that control by the variable lift of the inlet valve is more correct than the other. It is the most perfect system possible. It controls the admission of the mixture at the nearest point to the engine, and secures a more constant mixture in the supply passages, ready for use as the valves open, and in practice we have found that a higher degree of flexibility is obtainable by this method than with the simple throttle on the induction pipe or throttle at the

system of the two. I would, however, point out that by using the variable lift in conjunction with the auto-mechanical valve an entirely different condition of things is arrived at, which places the variable lift far in advance of the throttle system. By this combination the time of opening is constant and the time of closing variable, thus giving a more uniform action on the jet of the carburettor.—Yours truly,

ROBERT E. PHILLIPS.

### THE INSURANCE OF DRIVERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—May I beg two lines of your valuable space to make a personal statement that the insurance company which treated me so badly was not the General Accident Corporation, of whose Motor Board I am chairman? I find this statement necessary owing to misunderstandings which have been brought before me.—Yours truly,

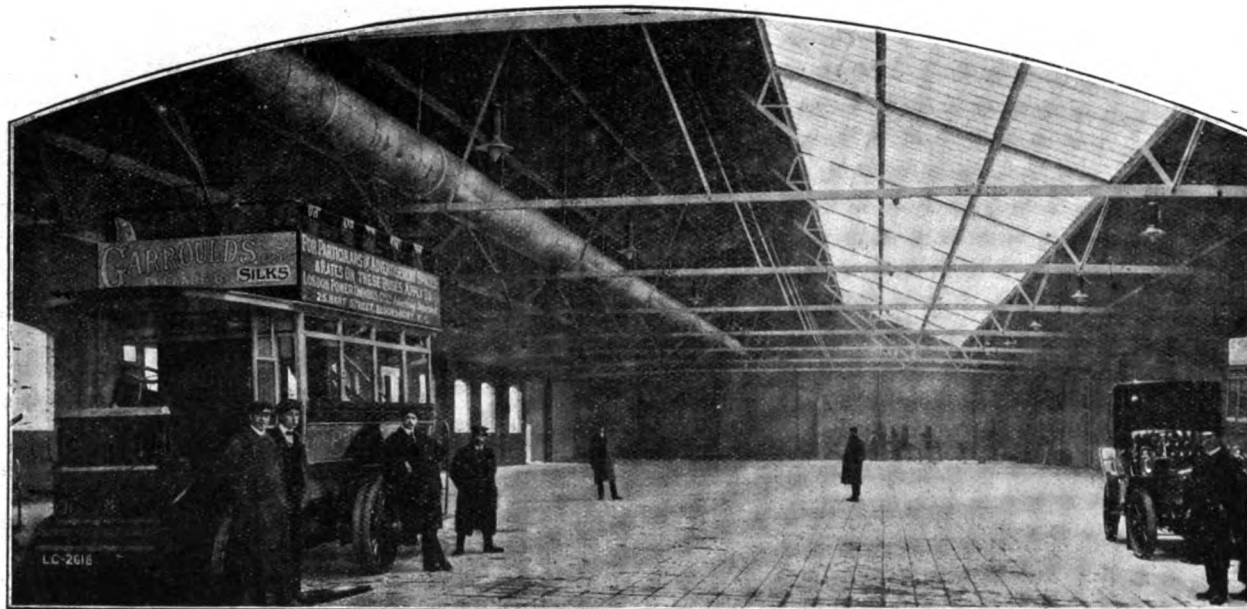
MARK MAYHEW.

[This has reference to the letter from Lieutenant Mark Mayhew which appeared in our issue of the 3rd ult.]

### MISFIRING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In answer to "Anxious One's" query re misfiring in the back cylinder, last year I was troubled in the same way, and found that it was owing to the joint between the cylinder and the inlet pipe not being tight—in fact, in my case it was cracked round the flange. The reason for



A General View of the London Power Omnibus Co.'s new Garage at Cricklewood. (See page 3.)

carburettor, as is usually the case. An engine will run steadily at a less number of revolutions with variable lift valves than it will if fitted with throttle inlet pipe only. We have tried both methods on the same engine and have further used them both together with a still further increase in flexibility. As fitted to our American cars, using automatic induction valves, the method of controlling the lift is exceedingly simple, and we only discontinued its use in our British-built cars because of the demand for the mechanically-operated valves, with which, although it is not impossible to secure the variable lift, it adds quite a little complication to get it. As throughout our system we give simplicity first place as against complication, and as we are able to obtain with the throttled inlet pipe a sufficient amount of flexibility for practical purposes, we decided that the advantages to the user were probably more fully met by the simpler construction, though, had we been able to combine the variable lift valve with its mechanical operation, without adding more parts than those required with automatic valves, we should certainly have preferred to do so.—Yours truly,

THE DURYEA MOTOR COMPANY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Whichever of these methods is used to control the running of internal combustion engines having mechanically-operated valves and employing a jet carburettor, the effect is to produce a constantly varying action on the jet of the carburettor, which even the best of the "automatics" fails to entirely minimise. As Mr. Percy Richardson says, there are many points that affect the question as to which is the better

misfiring is that when the throttle is closed it is much easier for the cylinder to suck air through a bad joint than mixture through a length of pipe and an almost closed throttle.—Yours truly,

CONSTANT READER.

### TOURING IN ENGLAND.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am going for a month's tour through England, and should be grateful for any hints upon obtaining comfort at night without the excessive hotel bills specially prepared for motorists. What is the usual course adopted as to driver's food and lodging?—Yours truly,

NOVICE.

### THE COST OF OPERATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The letter from "W. A. W." in the *M.C.J.* of February 10th was most interesting, but I hardly think it fair for him to include such items as registration, licence, club subscriptions and insurance under the above heading. But, even with these items removed, the cost of running in his case is excessive, being nearly 6½d. per mile. I have had my car, a 10-h.p. Turner Miesse steamer, five months, and have run just over 1,300 miles, and so far have only had to pay for fuel and lubricating oil. I have had nothing to repair and have never had a breakdown of any sort. I have not even had to look at the engine nor have I ground in a valve, either in the engine or pumps. I have not cleaned out the furnace tubes yet, but shall do so shortly.

The car is most simple to drive, and will fly up any hill in my locality with a full load. I always have four people in the car, and frequently have had five. I had my first puncture last week, caused by a sharp and thick nail. It kept the air in until I reached home, and then the tyre went flat all at once. The tyres, which are 810 by 90 Continentals, are in excellent condition, although they have been over any amount of new road metal recently. I hardly know what to put their depreciation down at, but, apart from them, my cost of running is as follows:—

140 gallons paraffin at 5½d. ...	£	s.	d.
9 " lubricating oil at 2s. 6d. ...	3	4	2
4 " petrol at 1s. 3d. ...	1	2	6
Thick motor grease, about ...	0	5	0
	0	1	6

Total ... £4 13 2

Equal to nearly 1d. per mile.—Yours truly,

W. HILL.

#### TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have pleasure in sending you particulars of the cost of running a Phoenix tri-car for comparison with that of a car:—  
Time, 78 weeks. Distance, 12,000 miles. Average length of run, 51 miles.

Petrol ...	£	s.	d.
Oil and carbide ...	9	11	7
Ignition ...	4	3	0
Tyres ...	0	8	0
Repairs and replacements ...	7	14	0
Garage and cleaning ...	12	4	4
Taxes and licences ...	2	13	6
Insurance (complete) ...	2	0	0
	6	6	0

£45 0 5

Total expenses per mile ... 9 penny.

Total expenses for week ... 11s. 6d.

Tyres, Palmers', number of punctures ... 1

Three tyres renewed and one retreaded.—Yours truly,

K. B.

#### READY FOR DEMAND.

##### TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Before Mr. Edge poses as a leader in the "Ready for Demand" movement, he might tell your readers how many British cars he is turning out per week. My concern turns out ten cars per week, and we have inserted a liquidated damages clause in all our sale agreements since Olympia. Mr. Edge has evidently overlooked the fact that a penalty is not enforceable at law, and therefore can be of no use whatever to those to whom he offers it.—Yours truly,

A BRITISH MANUFACTURER.

#### THE VALUE OF ESTIMATES.

##### TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Mr. S. F. Edge made a public statement on the evening of February 24th in respect to the present value of cars manufactured in Great Britain.

While thoroughly in accord with Mr. Edge's endeavour to demonstrate the fact that our home manufacture of motor-cars to-day exceeds in value the imports of foreign made cars, we are entirely unable to understand how Mr. Edge has arrived at his figures. We may say for ourselves that, when approached on this subject, we declined positively to state the value of our monthly output, but nevertheless gave certain information as to the number of work-people employed and the amount of our weekly wages bill. At the time of asking for this information, Mr. Edge sent us certain particulars with regard to the output of various other companies, and we can only say that if Mr. Edge's statement has been based on an assumption from the figures as submitted to us we think—while making every possible allowance from a patriotic point of view—it would be best to accept these figures with a good deal of reserve.—Yours truly,

J. D. SIDDELEY.

#### VALVE SPRINGS.

##### TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In examining the illustrations you gave in a recent issue of the *M.C.J.* of the new 40-h.p. Crossley motor, I notice that the valve springs are of helical form instead of being spiral, as usual. At the Palace Show an attendant at one of the stands also drew my attention to the fact that the valve springs on the engine of the car he represented were helical. In this case, however, the position of the springs was reversed to that in the Crossley, the apex of the helix being at the top, whereas in the Crossley it is at the bottom. It would be interesting to know the advantages claimed for the helical valve spring over the spiral

form. Perhaps Mr. Critchley, the designer of the Crossley engine, would favour you with a few lines on the subject.—Yours truly,  
R. MOORHOUSE.

#### CHARGING ACCUMULATORS FROM SMALL DYNAMOS.

##### TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice that you are answering queries with regard to the charging of accumulators, and therefore venture to write you on the subject. I have a dynamo generating current at 100 volts, and have got my two wires (having ascertained which is + and —). How many candle-power must I have in the one circuit to charge my four-volt accumulator, which, according to instruction, should be charged at the rate of one ampere for ten hours?—Yours truly,

S. J. ROBINSON.

[To charge a four-volt accumulator which requires one ampere for the charging rate, it will be necessary to put two 16 c.p. lamps in the circuit. At 100 volt pressure a 16 c.p. lamp takes 6 amperes, and therefore two of these will give a trifle over one ampere when the 4-volt accumulator is in circuit. If 16 c.p. lamps are not available, three lamps of 8 c.p. will do; these take about 4 amperes each; or if it is preferable to charge for a long time at a slow rate, two 8 c.p. lamps will be sufficient.]

#### PISTON CLEARANCE.

##### TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you would kindly give me some information as to what is considered the best practice in the clearance between the body of the piston and the cylinder walls of a petrol engine. In other words, what should be the difference in diameter in thousandths



The 20-h.p. "Brotherhood" Car, with Limousine Body by Hooper, built for the Right Honourable Earl of Mar and Kellie.

of the piston body and the cylinder of a motor having a bore and stroke of respectively 3½ inches by 4 inches. I have been told that some manufacturers make this 4/1000 and others recommend making the piston 2/1000 smaller at the top than at the bottom on account of the higher temperature reached by the top of the piston.—Yours truly,

T. H. HALLIDAY.

[The usual amount of piston clearance is from 2/1000 to 4/1000 of an inch; some manufacturers allowing more, some less, this depending greatly on the cooling surface. The clearance on a cylinder 3½ inch bore with average cooling surface would be approximately 3/1000. The principle of the piston being larger on the one end than the other is very seldom used, most being perfectly parallel.]

HEAVY OIL.—"Steamer" writes re Lieut. Col. R. E. Crompton's lecture mentioned in the *M.C.J.* of February 24th:—"I see heavy oil mentioned at 2d., 3d., and 4d. per gallon. I would be obliged if any reader could inform me if it would be suitable for using with a Serpollet burner (old type); also where it can be bought and the smallest quantities, as I think it would interest steam users."

TYRE VULCANISING.—Mr. A. C. Duckworth writes:—"I should be glad to hear from any of your readers as to their experience with the 'Stitch-in-time' or 'Ara' portable vulcanisers."

A BRIGHTON ADVERTISER writes:—"Having had 150 answers to the advertisement you inserted last week, will you kindly say that Box 113 is now suited, and begs to thank applicants for their letters, which he has been unable to reply to individually."

AUTOMATIC ATTACHMENT FOR CARBURETTORS.—In answer to several correspondents, the address of the maker of the automatic attachment for Longuemare carburettors, illustrated in the last issue of the *M.C.J.*, is Mr. H. A. Clutterham, 19, Poplar Street, Bolton.

THE TOURIST TROPHY RACE.—Replying to J. G., St. Etienne, France, full particulars of this event can be obtained from the secretary of the Automobile Club of G.B.I., 119, Piccadilly, London, W.

## THE MANCHESTER MOTOR-CAR SHOW.

THE second of the motor-car shows with which Manchester has this season been favoured was opened in St. James's Hall on Friday of last week. It has been organised under the auspices of the Manchester Motor Trades Association, and a representative collection of the latest models of the leading makes of cars has been got together. On the stand of the Belsize Motor Car Company, Limited, Manchester, pride of place is given to a handsome Belsize 30-40-h.p. six-cylinder car, with side-entrance body. Other cars exhibited include a 12-h.p. two-cylinder and 18-24-h.p. and 30-40-h.p. four-cylinder, the principal features of which have already been dealt with in these pages. The Wolseley Tool and Motor Car Company's exhibit comprises the 6-h.p. and 12-h.p. Wolseley cars, and the 6-h.p., 12-h.p., 15-h.p. and 18-h.p. Siddeleys. The Road Carrying Company, Limited, Liverpool, are present with examples of "Unic" two and four cylinder cars and also of the 15-25-h.p. Brasier vehicle, which are attracting considerable attention. A good display of Horbick cars is made by Messrs. Horsfall and Bickham, including a 10-12-h.p. three-cylinder vehicle, a 12-16-h.p. four-cylinder landaulet, a 15-20-h.p. chassis and a 20-24-h.p. double phaeton. The Daimler Motor Company, Limited, whose new showroom and repair garage at 293, Deansgate, Manchester, is expected to be opened by the end of the present month, are showing amongst other vehicles a fine 28-36-h.p. five-seated limousine and a 30-40-h.p. "Nottingham" phaeton. The stand of Messrs. McNeil, Hutchison and Co., Limited, Manchester, is attracting considerable attention, as on it is to be seen the most powerful car in the Exhibition—the 160-h.p. Cottureau six-cylinder racer—reference to which was made in our report of the Paris Salon. Examples of the Cottureau 8-h.p. single-cylinder, 9-h.p. and 12-h.p. double-cylinder, 14-h.p. and 18-h.p. three-cylinder, and 18-h.p. and 25-h.p. four-cylinder vehicles are also shown. The Cottureau cars enjoy considerable popularity in the North, where a considerable number are in use. One of the 14-h.p. vehicles exhibited is fitted with an ambulance van body. Messrs. Newton, Bennett, and Carlisle, Limited, is another concern with a large stand, on which are shown quite a variety of makes, including Argyll, Fiat, Rover, Minerva, Enfield, Clement and Napier. Of the Argylls, the exhibit includes the 10-12-h.p., 12-14-h.p., 14-16-h.p., and 16-20-h.p. models, while the Fiats include a 24-40-h.p. chassis and a shooting brake of similar power.

Two excellent examples of the Whitlock-Aster cars are displayed by the Whitlock Automobile Company, Limited; one is an 18-22-h.p. chassis fitted with Aster four-cylinder engine and the other a 12-14-h.p. car with a well-designed double landaulet body. Both cars are of the chain-driven type. The Hollingdrake Automobile Company, Limited, Stockport, show for the first time one of the cars of the Etablissements de la Buire, for which they have secured the British agency; reference to the Buire cars, which are built at Lyons, was made in our report of the Paris Show; they are made in three sizes—15-20-h.p., 24-30-h.p., and 35-50-h.p.—the chassis on view being of 24-30-h.p. The engine has the four cylinders cast in pairs, with the valves arranged on opposite sides; the high tension magneto is advanced and retarded by means of the change-speed lever, so that the ignition is always retarded when the lever is in the neutral position. The cars are chain-driven, the differential shaft being fitted with double brakes. Ball bearings are used throughout except in the engine. Several Clement-Talbot cars are also shown by the Hollingdrake Company. Three types of Rothwell cars—16-12-h.p. double-cylinder and 12-14-h.p. and 20-24-h.p. four-cylinder—are exhibited by the Eclipse Machine Company, Limited, Oldham. Messrs. Bell Bros., of Ravensthorpe, show a well-finished 24-30-h.p. chain-driven chassis. The four-cylinder engine is provided with both accumulator and magneto ignition, both controlled by one lever on the steering wheel. A Hele-Shaw disc clutch transmits the power to the gear-box, which gives four speeds and a reverse. Ball bearings are employed throughout except on the engine. A 16-20-h.p. side entrance car, a 16-h.p. chassis, and an 8-10-h.p. two-seated car are also shown. The exhibit of the Bolton Motor Company, Limited, comprises an 8-h.p. Wolseley, a 6-h.p. Siddeley, and a 15-18-h.p. Siddeley, the latter being fitted with a handsome landaulet body. Two examples of the Coventry-Humber 10-12-h.p. four-cylinder cars are also shown. Messrs. Joseph Cockshott and Company, Limited, have a large stand, on which are to be seen the chassis of the latest Crossley 40-45-h.p. car, a 20-30-h.p. Renault, an 8-h.p. Panhard landaulet, and examples of the Clement-Talbot 8-10-h.p., 12-16-h.p. and 24-30-h.p. cars. Mr. F. Garner, Manchester, is showing specimens of the 15-h.p., 20-h.p., and 20-32-h.p. Darracqs, and of the 16-20-h.p. and 10-12-h.p. Humber, two of the latter having been built to the order of local doctors. A full range of the Humber cars is also staged by Humber, Limited. Messrs. Brown, Bros., Limited, in addition to a large display of accessories, have on view examples of the "Brown" 20-22-h.p., 18-20-h.p., and 8-10-h.p. cars. Other exhibitors of cars include Mr. R. Ramsbottom, Manchester, (Manchester); Mr. W. King Perrens, Manchester (Simms-Welbeck); Messrs. J. A. Lawton and Company (Panhard, Mercedes, Berliet and Napier); the Manchester Motor Car Company (Pipe, C.G.V. and Thames); the Northern Supply Company (Singer); Mr. F. Wilkinson (Stanley steam cars); and Mr. J. Robertson, of Rusholme (Robertson cars).

In the accessory department the exhibitors include Price's Patent Candle Company, Limited, oils and greases; Messrs. R. and J. Pullman,

Limited (non-skids); Messrs. Chas. MacIntosh and Company, Manchester (tyres); Messrs. J. Marshall and Company, Mossley (lubricants); Mr. W. Hawksley, Lytham, a new pneumatic road wheel; the Seddon Tyre Company, Manchester; Messrs. J. S. Morris and Son, Salford (lubricants); the Manchester Motor Supply Company (Michelin tyres, Parsons non-skids, and a large display of motor clothing, etc.); Messrs. David Moseley and Sons, Limited (the Moseley motor tyre); Messrs. Alfred Dunhill, Limited (everything but the motor); the London Rubber Company, Manchester (motor clothing); and the Shrewsbury and Challiner Tyre Company, Limited. The last-named concern make a large display of wheels and tyres for motor-cars and omnibuses, including the "Giant," "World," and "Road" tyres, and Challiner's patent interlocking spoke wheel. The show closes to-day (Saturday).

## A TRY FOR THE HERKOMER TROPHY.\*

By MRS. EDWARD MANVILLE.

My husband and I went in for the Trophy just for fun; we had decided to take our holiday in a motor-car in Southern Germany and the Austrian Tyrol in August of last year, and so when we heard that the Trophy was to be competed for in that very district at the very time we should be there we thought it would be fun to compete. Some friends heard, we were going, and decided to join us, so that in all we were five cars, strangely enough all Daimlers. The other four were entered by husbands of our members—Mr. Dawson, Mr. Rendle, Mr. Herdman Ash, and my husband. We only got to Munich two or three days before the competition, and we had all we could do to get our cars cleaned up and thoroughly examined before the Exhibition. We were most kindly received by Professor von Herkomer and the representatives of the Bavarian Club, who did their best to explain the tremendous number of rules of the competition to us.

We found that we must, of course, each carry a controller, that only one person would be allowed to touch the engine during the three days of reliability, and that a second man might be carried for tyres; so that filled the car, the driver, the controller, and two men. Our cars were kept in the Exhibition till six on the Friday night, and then we found we had to go forty miles to the scene of the hill climb. This was rather a nasty knock, because it meant that we should have no chance of trying the hill, and we had heard that several of the professionals had been practising on it for weeks. However, we had to trust to luck. We did not get to Kochel, the village at the foot of the hill, till nine that night, when it was raining cats and dogs, and therefore impossible to try a strange hill. We heard, however, that we might do so between six and seven the next morning, so we all turned out, but we found it impossible to really get up any speed on the hill because all the other seventy-nine competitors were trying it too, and there seemed to be an unending stream of wagons with German beer and char-a-bancs with people who were going to drink the beer going up to take their positions for the day. Of course, we saw what it was like, found that the gradient was really nothing, but the bends appalling and very frequent, and seeing that it was still pouring with rain, or rather a sort of wet mist which makes the roads worse than anything else, the going was likely to be as bad and as skiddy as it possibly could be. Everyone was searching for non-skids, the racing cars had one on each wheel. The men of our party all took upon themselves to warn me most seriously about not taking any risks. There was no necessity to go fast or tear round the corners, as, after all, the hill climb meant very little. It seemed ages going up the hill. I felt I had been driving up it for years, although it was only 3½ miles long, and only took just over seven minutes. After our climb we had to run down the hill the other side, where the cars were all collected by the Walchensee. Next morning we found that my car was fifth of all the cars, my husband's second, Mr. Rendle's third.

On Monday morning, at 3.30, we had to be in our places for the Reliability Trial. I was beginning to feel that the most delightful thing in the world was a reliability trial, when suddenly I had my first tyre trouble, and that meant I was absolutely out of the trophy. The penalty for punctures was very severe, and, besides that, there were sure to be lots of cars that would go through without any, so that it was quite certain that one loss of marks such as I had would put me out. We ran about 30 miles between controls, and had to do the distance in about an hour and a quarter or an hour and a half. The fact was that everybody went pretty fast at first, and then had to wile away time just outside the controls.

When the Trophy was run for and won, we were at liberty to explore the beautiful country lying south, which, as a matter of fact, happens to be part of the road for this year's course. The roads were most picturesque, very good surface, and beautifully engineered. Being free lances in our motor-cars, we were able to dodge about the country as we liked, and, hearing the play was on at Oberammergau, we decided to go there. We made a most romantic entry to the little village. We did not get here until about midnight. The road is very winding and mountainous, and every time we turned a corner it seemed as if the mountains shut up behind us as we went into the heart of the world, where no one could follow us.

\* From a paper read at the Ladies' A.C. on the 22nd ult.



## CLUBS AND ASSOCIATIONS.

### AERO.

THE Aero Club balloon, in charge of the Hon. C. S. Rolls, with some members of the Aero Club aboard, including the Hon. Mrs. Burrell, the fourth lady to make a balloon voyage this year, on Saturday afternoon crossed the centre of London. The party were favoured by a wind which took them directly over Westminster, St. Paul's, and the City. A maximum altitude of 4,000 feet was attained. The earth was completely lost to view, and thick snow falling, the valve was opened and the balloon brought down till the trail rope touched the ground. The journey was thus continued until the final descent in the grounds of Riven Hall, near Witham, in Essex, the residence of Mr. Bott, who, with his family, entertained the party most hospitably until their return to London by the 7.45 p.m. train. The average speed of the balloon was sixteen miles per hour.

The following have been elected to the Meteorological Committee of the Aero Club:—Sir Norman Lockyer, the Hon. C. S. Rolls, Professor Huntington, Messrs. Roger Wallace, Pollock, Dines, F.R.S., and Alexander. This committee has arranged to work in conjunction with the Royal Meteorological Society with a view to carrying on a series of balloon ascents for the purpose of the scientific research of the higher atmosphere, by means of observations and experiments, and continuous, in fact, of the work done by the late Mr. Jas. Glaisher, F.R.S., in Coxwell's balloon in the latter part of the last century.

### THE ROAD CLUB.

YET another organisation which intends to draw support from motorists is being formed. From the fact that some of the leaders of the A.C.G.B.I. are among its supporters it is not anticipated that its work will clash with any of the present societies, while it enters almost a new avenue of usefulness. The Road Club is intended to look after motorists on the road and concern itself with the ways of hotel-keepers as well as other allied matters of importance.

### YORKSHIRE.

THE committee of the Yorkshire Automobile Club has arranged for its members, and those of the affiliated branches, viz., Huddersfield, Cleveland, and Bradford, free garage upon production of their membership cards, when casually visiting Leeds, at the following garages, which are open day and night:—Mr. Rowland Winn, Albion Street; St. George's Motor Garage, Great George Street; North Street Garage, North Street; Yorkshire Mutual Garage, Woodhouse Lane; Bridge Garage, Briggate. The following are open during the day:—Mr. Atkinson, Aire Street; George and Jobling, Trinity Street; J. Wales Smith, Woodhouse. A like privilege is extended at Huddersfield, at the garage of Netherwood Bros., Albion Street.

### THE MOTOR UNION.

THE annual meeting of the Motor Union of Great Britain and Ireland will be held on Wednesday, March 28th. The Union has accepted the invitation of Messrs. Cordingley and Co. to hold the meeting at the Agricultural Hall, London, during the progress of the Exhibition. It has also been arranged that members of the Union shall be admitted free of charge to the Motor Car Exhibition on the above date, and also on the opening day of the Show, namely, Saturday, March 24th. Tickets of membership of the Union, admitting to the Exhibition and the annual meeting, can be obtained on application to the secretary, Mr. Rees Jeffereys, 1, Albemarle Street, Piccadilly, London, W., on payment of the annual subscription, which is one guinea.

### BURNLEY.

THE Burnley and District Automobile Club held their annual dinner at the Empress Hotel, Burnley. After dinner a paper was given by Mr. Douglas Mackenzie, of London, on "Transmission in Motor-cars," illustrated by photographs and diagrams.

During the course of the evening the secretary (Mr. Smith Lawson) announced the receipt of a communication from the North East Lancs. Automobile Club suggesting the advisability of an amalgamation of the two clubs. Speaking for himself, he thought that amalgamation would benefit the cause in the district. He also pointed out the possibilities there were of one united club holding sporting events, such as hill climbing competitions, non-stop runs, etc., and in addition he thought there were greater possibilities from a social aspect. Mr. Atkinson thought that there was a danger of the club losing its individuality by such amalgamation. It was ultimately decided to call a general meeting of the members to decide the

question. The proceedings terminated with a vote of thanks to Mr. Mackenzie and to Mr. T. G. Parkinson, who generously supplied the lantern for the occasion.

### BRITISH MOTOR-BOAT CLUB.

AT the forthcoming Motor-car Show at the Agricultural Hall a reception will be held on Friday, March 30th, by the British Motor-boat Club, in the Reception Hall (kindly placed at the disposal of the club by Messrs. Cordingley). The club will also have a stand in the gallery. It is expected that a large number of ladies and gentlemen will attend the reception.

The club is now appointing at various ports on the coast, and in various districts on the Thames and other rivers and estuaries, official repairers and water garages. In doing this, the aim is to endeavour to get a uniform scale of charges for members of the club, which of course would be a reduction to that charged to the public at large. Under this scheme the firms appointed should also greatly



Sir David Salomons, a Pioneer of the Automobile Movement.  
From a Caricature [in *Le Chauffeur*.]

benefit, as all members would naturally, when in the district, go to the firm appointed by the club for their supplies, housing the boat, etc. The same system is also being carried out with regard to hotels at various seaports on the Thames. Applications for appointments should be made to the secretary, British Motor-boat Club, Craven Hotel Charing Cross, London, W.C.

### BLACKHEATH.

THE Blackheath Automobile Club has now a membership of fifty-six, and the annual report is a record of good work done in the locality as well as in collecting evidence for the Commission. Several social gatherings were held, and a joint meet with the Kent Club was most successful.

The annual general meeting and dinner was held at the Art Club, Blackheath, on Friday, the 23rd ult. Col. Holden, R.A., in the chair. Fifty members and guests were present, including Professor Carlton J. Lambert, M.A., Messrs. R. W. Annison, L. Beadle, H. Beadle, P. Beadle, J. H. Bowden, Tom Browne, W. F. Butcher, H. A. Cunis, A. W. Dover, H. J. Fisher, O. V. Flather, A. G. Fraser, E. Fraser, J. Strickland Goodall, M.B., A. Jackson, W. H. Kendall, Leslie, C. Lambert, Ralph Lucas, T. Marshall, F. G. Nichols, Septimus Nickells, F. Palmer, J. T. Prestige, junr., T. E. Quick, J. Horace Reeves, A. Roberts, Clarence Souhes, E. W. Stabb-Johnson, Fred. Thorne, W. L. Veitch, A. W. Warmsley, W. Whiteway, and G. Willis. The following officers were elected:—President, Lord Hugh Cecil; vice-presidents, Col. H. C. L. Holden, R.A., F.R.S., Prof. Carlton J. Lambert, M.A., Hon. Arthur Stanley, M.P.; committee, Messrs. H. Cunis, J. Strickland Goodall, M.B., Arthur Jackson, W. Stabb-Johnson, Ralph Lucas, T. Marshall, J. T. Prestige, junr., Fred Thorne; hon.

treasurer, Mr. H. J. Fisher; captain, Mr. Leonard Beadle; auditors, Messrs. Ralph Lucas and J. T. Prestige, jun.; delegates to Motor Union, Messrs. H. A. Cunis and hon. sec.; hon. sec., Mr. Alfred Roberts.

A vote of thanks was passed to the retiring officers, Messrs. Leslie C. Lambert, Harold Norfolk, and Stanley Norfolk, which was suitably acknowledged by Mr. Leslie C. Lambert; and a vote of thanks was passed to the officers who acted last year, which Mr. H. A. Cunis, chairman of committee, acknowledged.

Following the business a musical programme was much enjoyed. The *bonne bouche* of the evening was the lightning sketches which Mr. Tom Browne, B.I. (member of the club), made, depicting the features of "The Man who does not like Motor-Cars"; "Keep on his right side" (head of a constable), and "The Motor Race," which were extremely clever character studies, and their rapid delineation causing great interest to the onlookers.

### ABERDEEN MECHANICAL SOCIETY.

At a meeting of the Aberdeen Mechanical Society, held in Gordon's College, Aberdeen, on the 23rd ult., Mr. P. N. Shinnie delivered an interesting lecture on "Automobiles—Petrol Motors." There was a very large audience, and the chair was occupied by Mr. Samuel Milne, president of the society. Mr. Shinnie described the mechanism of the petrol motor, entering in detail into a discussion of the methods of constructing the various parts. He also described and commented upon the various types of automobiles on the market, showing where they differed from each other, and pointing out the specialities of construction which characterise the different makes. The lecturer also gave some interesting information as to the cost of running automobiles. His address was listened to with great attention and interest, and at its close a cordial vote of thanks was awarded to the lecturer.

### LIVERPOOL ENGINEERING SOCIETY.

At a meeting of this society, Mr. E. A. Rosenheim, B.Sc., has read a paper on "Motor-car Practice in 1905," which will be discussed at a meeting to be held at the Royal Institution, Liverpool, on Wednesday next. In his paper the writer gave a comprehensive review of the industry and the leading principles of modern practice.

FOR the Auto Cycle Club's run from Land's End to John o' Groats one quad-car, two tri-cars and six motor-cycles have been entered.

THE Automobile Association's scouts will, in future, confine their protection only to members of that body.

THE discussion on Col. Crompton's paper on "Some Unsolved Problems in Motor-engineering" will be resumed at the United Service Institution, Whitehall, on the 7th inst.

A SUGGESTION is being made for an automobile club for Kensington, and resident motorists likely to be interested in such a development are invited to communicate with Mr. J. H. Reeves, 2, Penywern Road, Earl's Court, S.W.

MR. G. A. GIBBS, M.P., and Sir Herbert Ashman, J.P., have been elected vice-presidents of the Bristol and Gloucestershire Automobile Club, which has now a membership of 100.

THE Earl of Caledon and Sir Frederick Harrison have been elected to membership of the A.C.G.B.I.

ON June 16th the annual hill climb of the Midland Automobile Club will be held at Shelsley Walsh.

MR. H. A. COOKE, 274, High Street, Cheltenham, is the honorary secretary of the newly-formed motor-cycle club for that town and district.

THE Essex Motor Club will have an Easter tour to Bournemouth.

THE local honorary secretaries for the Lincolnshire Automobile Club, to look after the interests of the organisation in their respective neighbourhoods, are Dr. Passmore, Gainsborough; Mr. C. G. Parker, Grantham; Dr. Miller, Boston; Dr. Gilpin, Bourne, and Mr. Spencer, Grimsby.

A CIRCULAR of "the advantages enjoyed by members of the Sheffield Automobile Club" has been issued. It might be usefully imitated by other provincial organisations.

THE British Motor Boat Club held at its headquarters, Craven Hotel, Charing Cross, on Thursday of last week, a successful informal dinner, after which Lieut. Windham, R.N., read an interesting paper on the "Practical Handling of Motor Boats," which was illustrated by some lantern slides. Amongst those present were:—Capt. Hamilton (Chief of the Metropolitan Fire Brigade), Lieut. Windham, Capt. W. E. Owen, Messrs. N. B. Kenealy, J. M. Gorham, R. S. Fraser, O. B. Colls, Mackworth B. Praed, L. Appleton, J. T. Virgo-Vincent, S. Cutler, F. B. East, G. Tagg, Seaton Edge, W. E. Hearman, K. O. Searle, Rev. A. C. Hervey, T. F. Woodfine, J. Wood, F. C. Blake, A. Harden, A. G. Fentiman, and the secretary, R. B. Robinson.

THE general committee of the Motor Union of Great Britain and Ireland has added the following members to its list of vice-presidents:—The Duke of Beaufort, Earl Cairns, Lord Wenlock, Lord Langattock, Sir Charles Seely, Bart., M.P., Sir George Livesey, and Mr. N. Micklem, K.C., M.P.

### ROAD REPORTS.

LONDON TO FOLKESTONE.—The road from London to Folkestone is to be clearly indicated by a system of finger posts erected by the Roads Improvement Association, assisted by Mr. H. P. Maybury, county surveyor for Kent.

HALE.—Dr. Rothwell, medical officer of health for Hale (Cheshire) states that during the summer months an experiment with regard to dust prevention was made on Ashley Road, the road over which most traffic passes. This experiment consisted in distributing over the surface a thin layer of hot liquid tar, and scattering over this a mixture of sand and lime. There is no doubt that much benefit was derived by this means and even to-day the surface of the road is drier and cleaner than that of the adjoining roads. This, or other satisfactory methods, ought to be carried out on all roads over which there is any quantity of traffic, for doubtless much disease must be dependent on the dissemination of dust.

UTTOKETER.—Several of the roads about Uttoketer have been under repair, including portions of the highway to Newcastle and Ellastone.

COUNTRY ROADS.—Speaking on Tuesday at the Institution of Civil Engineers on "Country Roads for Modern Traffic," Mr. J. E. Blackwall suggested the gradual alteration of existing main roads into twin roads, one for heavy traffic and one for light, separated by a fence and a footpath, which would most probably result in a saving in regard to the cost of maintenance in the long run. The minimum width of the two roads and footpath together should be at least 46 ft. between fences, 21 ft. for each road and 4 ft. for the footpath. The two roads would converge into one at the entrance of a village or any confined space. The cost of conversion of a road from 30 ft. to 46 ft. wide, providing that the extra land required was given by the adjoining farmer for the good of the public, would be about £1 1s. 7d. per lineal yard, or about £1,900 per mile.

### MOTOR PUBLIC SERVICES.

THE Silsden Motor Omnibus Company, Limited, has been registered with a capital of £2,500.

THE British Motor Omnibus Company, Limited, has been registered with a capital of £100.

THE directors of the Blackpool and Fleetwood Tramroad Company have formed a company to take over the motor-car service of the old Fleetwood Motor Passenger Carrying Company, Limited. Motor launches are also to be provided for passengers from Knott End to Fleetwood.

THE London and Counties Motor Omnibus Company, Limited, has been registered with a capital of £100.

PROFESSOR SKEAT suggests the name of "Buzzer" for the motor-omnibus.

THE "Arrow" motor-omnibuses which have been running between Putney and Brondesbury have been taken off that route, in order to swell the number running between Putney and Waterloo, where the supply is unequal to the demand.

### CASES AGAINST MOTORISTS.

Place.	Summoned for	Result.
Cleckheaton ...	No licence	£5, etc.
Halstead ...	Reckless driving	Dismissed.
Bow Street ...	Exceeding ten miles an hour in St. James's Park	£5, etc.
Croydon ...	Excessive speed	£10, etc.
Kingston ...	Exceeding regulation speed	£5, etc.
Halstead ...	Reckless driving	Dismissed.
Warwick ...	Dangerous speed	£5, etc.
Wokingham ...	Dangerous driving	£1, etc.

### TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

# THE Motor-Car Journal.

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## COMMENTS.

### Unwarrantable Interference with the Subject.

AGREEMENTS in restraint of trade have never been popular in this country, nor have efforts to prevent individuals or associations carrying out policies which are in accordance with British ideas of equity. Such schemes have been tried in various industries with failure at the end; and there is little doubt that attempts now in progress to place a ring around the automobile business, so that it shall revolve in a very small circle, are doomed to ultimate discomfiture. Whether any section of men are likely to submit to the dictation of a few for long is not a matter of doubt—it is impossible. Hence, at the present juncture, when movements and counter-movements seem to be the order of the day, everyone in the industry will do wisely to hold aloof from complications that are likely to ultimately prove restrictive, irksome, and unprofitable. Fair play all round is the motto of many of the leading firms in the automobile industry, and this is an attitude that the general motoring community will appreciate.

### Motor-Car Legislation.

It is now generally accepted that there will be no fresh legislation with regard to automobiles this year, and that the Act under which motorists live and move will be included in the Expiring Laws Continuance Bill at the end of the Parliamentary session of 1906, thus averting any change till the end of 1907. Even if the Royal Commissioners were prepared with their recommendations, it is doubtful if they would have a chance of consideration. Already the Government have expressed their intention of fulfilling the programme indicated in the King's Speech, so that the work to be done is sufficiently heavy to prevent the inclusion of further measures. But delay will probably be to the advantage of the motorist and, consequently, the public.

### Sheffield Common Sense.

THE opening of the motor-car show at Sheffield was made interesting by a thoughtful speech from the Lord Mayor of the town, who, referring to the private use of automobiles, said that he had been driven about a good deal in cars belonging to friends. In the experience he had had he did not see that it mattered a great deal if they ran at thirty or even forty miles an hour where there was little traffic, and where no harm could be done by getting over the ground quickly. The feeling, which he was glad to say was now dying away, but which had certainly been displayed, against the motor-car was due more than anything else to the action of drivers who paid no attention to traffic when they were passing along the roads. He had seen a chauffeur drive past restive horses without any slackening of speed. This was the kind of thing which had brought about the blame upon automobile driving, and his impression was that if drivers of cars did have regard for traffic as they were passing, and did not drive too quickly, or even up to

the legalised standard, when passing horses, then there would be little reproach against them. He did not think there ought to be police interference where there was little traffic, and the attention should be paid to those places where interference with traffic was caused if the speed of cars was too great. There was no reason why they should not run over twenty miles an hour on certain roads, and at the same time there were places where twenty miles an hour was much too great a speed.

### London Motor-'Buses.

It may be of service to designers of motor-'buses to know that worry and possible loss may be saved (so far as the use of vehicles on London streets is concerned) by taking the Commissioner of Police into confidence before the actual work of construction is begun. The officials of Scotland Yard are particularly solicitous as to the comfort of householders in streets through which such vehicles are intended to travel; hence their refusal to licence several 'buses recently submitted on account of excessive weight and consequent vibration. Under these circumstances makers of 'buses of higher power than those now running would do well to deposit with the Commissioner drawings of suggested chassis for his consideration, together with the approximate weight. Then the question of horse-power, weight, and design, with a view to freedom from vibration, will be taken into account in considering the chassis both for weight and horse-power. Some decision would be come to enabling them to go on with the construction of the 'buses, without fearing that at the last moment the vehicles would be thrown back on the hands of the designers.

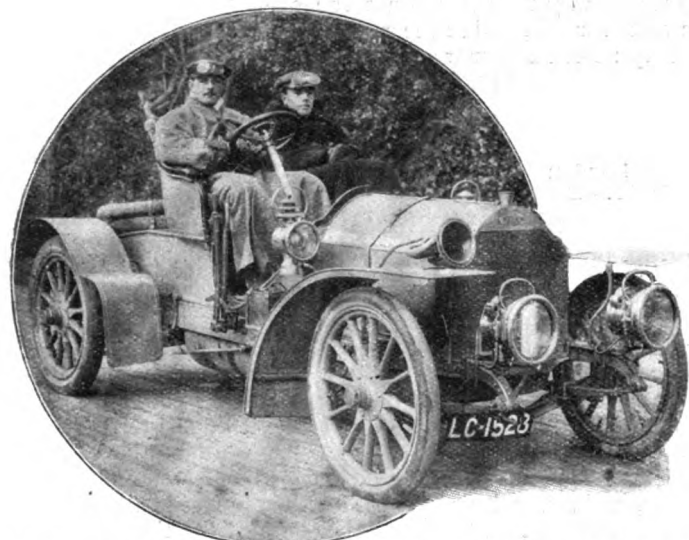
### The Scottish Trial.

FROM all we hear, the Scottish Reliability Trials will be an even greater success than was the case last year. The season at which they will be held is more conducive to the attendance of spectators than the month of May, when snow lingers on the hills in the Highlands, and the air is distinctly chilly. With reference to the route proposed, we understand that the north bank of Loch Tay will probably be selected, the road on the south side being regarded as out of the question—a piece of comfort to competitors.

### The Tyre Trials.

THURSDAY of last week saw the first road run of these trials, when the three cars fitted, two of them with standard Collier tyres, and the third with an experimental beaded edge tyre, entered by the Collier Tyre Company, made the journey to Northleach and back *via* High Wycombe and Oxford. There was promise of rain when the start was made in the early morning, but nothing much came of it. The roads were, however, for the most part wet, and in places rather greasy. Parsons non-skids were therefore put on the 28-h.p. Daimler and the 20-h.p. Dennis. The ascent of Dashwood Hill presented no difficulties, and the journey was made without interruptions to Northleach and back to Witney, where the cars halted

while their passengers lunched. The afternoon was also only remarkable for the way everything ran. There were no tyre troubles. The Dennis car which is under observation was unlucky to lose its "non-stop" record for the day because of a choked petrol filter; the Vulcan speedometer had to be disconnected through a weak bracket; and the Metallic Mirrors, Limited, tail light ceased to burn owing to deficient air supply. On the following day the run was to Dunchurch and back. This was marked by no untoward incidents to the various entries; tyres, lamps, speedometers and car all did their work correctly, with the exception of the Worsnop tail light, which went out owing to vibration, and one of the Worsnop head lights, which got its feed pipe choked in some way. On Saturday the road was to Peterborough, when again tyres, car, speedometers and lamps came through successfully, with the exception that the Warner speedometer driving gear required adjustment on the road. The distance covered up to Saturday night was 495½ miles, and on Monday the longest and hardest route undertaken thus far was traversed, viz., to the foot of Sunrising Hill, *via* Tring, Aylesbury and Banbury.



The Hon. H. L. Bruce and Mr. Colin Defries on the former's 40-h.p. De Dietrich. Mr. Bruce has already covered several thousand miles on the car without a single involuntary stop, except for a few punctures.

Photo by)

(Hazel, Bournemouth.

### The Motor Exhibition.

THE fact that nearly 300 individual firms will be exhibiting at Cordingley's Motor Car Exhibition at the Agricultural Hall, London, which opens on the 24th inst., proves the advance made by the automobile industry during the last few years. It also shows the position which this annual event has attained in the motor-car world. In an analysis of the Agricultural Hall Exhibition last year Mr. H. Hewitt Griffin said, "Mr. Cordingley is to be congratulated, as he beat the powerful combination in the number of firms showing cars, and was thirty-eight ahead on the exhibitors supporting him." This year many new vehicles will be on view, and from the preliminary list of exhibitors it is evident that success is assured. A notable feature of the 1906 display is the support accorded by several of the leading automobile associations. The Ladies' Automobile Club will have a reception; the Motor Union will hold its annual meeting; a reunion of the Automobile Association will take place; the Cycle and Allied Trades Association has convened a gathering of members; the Automobile Mutual Protection Association, the Motor Van and Wagon Users' Association, the Aero Club, and the British Motor Boat Club are also arranging conferences and meetings, thus making the Agricultural Hall the centre of a really important Motor Week, from the 24th to the 31st inst. This list of societies practically

comprehends the whole of the automobile world, the Motor Union alone having a membership approaching 10,000.

### Attacks on Motorists.

NOT often do we hear nowadays of the attacks on motorists such as were common four or five years ago. But an instance has just occurred in Scotland, where in the Elgin Sheriff Court a farmer has been charged with assaulting a motor-car driver in the employment of a solicitor. It appeared that the accused, while passing the motor-car in his trap, lashed his whip and struck the driver. He was convicted on evidence, and fined 20s., with the alternative of seven days' imprisonment. We recently commented on an almost identical instance occurring in Ireland, and would congratulate the motorists on the results of their proceedings in both cases.

### Northern 'Bus Advance.

ENTERPRISE with regard to the motor-'bus is not to be limited to the southern counties, and in many of the popular holiday resorts its advent during the coming summer will divert the course of things. Lumbering coaches, ancient brakes, and char-a-bancs of antiquated appearance have had their day and will shortly be consigned to the memories of the past. At Manchester there are indications of the newer order of loco motion on common roads, some experimental motor-'bus trips having been made to Cheadle, Hale, Flixton, and other places. A scheme is developing for running fifty motor-'buses to residential centres in Lancashire, Derbyshire, and Cheshire, working from Cottonopolis as a base, and the network of routes radiating as far afield as Wigan, Chester, Knutsford, Crewe, and Buxton. Should the weather prove reasonable and seasonable during the summer, financial success should follow good organisation.

### Competing with Petrol.

WHILE not prepared to join in the cry that has been raised in some circles as to the possibility of a rise in the price of petrol to a point beyond profit to the user, we would encourage any movement to make possible the utilisation of some other fuel, such as alcohol, in connection with automobiles. Colonel Crompton has been advocating a study of the possibilities of the steam motor, partly with a view to preventing a monopoly for petrol, and Mr. W. E. Scarritt, the ex-president of the Automobile Club of America, has been urging that motorists should make appeals to their congressional representatives to take steps to remove the tax from alcohol used for power or for manufacturing purposes. He estimates that there are, approximately, 70,000 motor-cars in use in the United States, and that the increased demand for gasoline during the last five years has led to its price being doubled. Hence the point of the agitation he is inciting.

### The Press and Motorism.

ONE of the most remarkable developments in daily journalism has been the attention bestowed upon motoring, and hardly a journal of repute now ignores the motor-car. Practically all the great dailies have their motoring column—of varied interest and utility. The halfpenny journals were the first to recognise the possibilities of motoring in interesting readers. Now the more staid organs of opinion have both their literary and advertising motor columns. Once a month the "Times" deals with motoring in a notable way, while its engineering supplement is open for the discussion of problems of a more technical nature connected with the industry. The "Morning Post" continues its valuable resumé every week, dealing conscientiously and thoroughly with all branches of the movement. In the "Standard" we have a daily note-book of current interest; the "Daily Telegraph" frequently has useful comments; the "Morning Leader" writes fearlessly on matters of trade importance; the new "Tribune" recognised the motor-car



from the start ; and now the "Daily Chronicle" has fallen into line, and last Saturday commenced a series of motor notes that promise well. All this is comforting in comparison with the record of accidents and mishaps in which the London press was wont to delight not so many years ago.

**Lt.-Col.  
Mark Mayhew.**

LT.-COL. MARK MAYHEW has been so long and prominently associated with the automobile movement that many of our readers will at once recognise his features in the photograph reproduced herewith. Not only was he concerned

with the early work of the Automobile Club, but as the head of a leading industrial firm in the south of London did much to

that those concerned in this form of sport must be a little more active in forwarding their interests. In any case individual motor-cyclists will be well advised in joining existing clubs which have been formed to bring them together for technical knowledge as well as social intercourse.

**L'Entente  
Cordiale.**

FURTHER evidence of the fraternal feeling now existing between France and England is afforded by the acceptance by the Automobile Club de France of an invitation for members to visit the Exhibition at the Agricultural Hall, London.

It has been the case at the previous Exhibitions of the series, that the attendance of Continental visitors is as much a feature of



Lieut.-Col. and Mrs. Mark Mayhew on their 22-28-h.p. Crossley Car.

further the popularity of heavy motor traffic in days when commercial houses were somewhat dilatory in realising the advantages of the new locomotion over ordinary. Latterly Lt.-Col. Mayhew has become identified with the Motor Volunteer Corps, of which he was the founder.

**Motor Cycling.**

MOTOR-CYCLISTS are preparing for the summer delights, and already some of the northern organisations are inciting others to activity. At the annual dinner of the Sheffield and Hallamshire Motor-Cycle Club, Mr. J. R. Kelley, the president of the Leeds Motor-Cycle Club, urged the formation of a Northern Union of Motor Cycle Clubs, and there is a feeling

Cordingley's Show as are the English visitors at the Paris Salon. This fact is of special interest to the many British firms who thus secure the opportunity of extending their influence among automobilists abroad.

**An Efficient  
Road Service.**

It will be of general interest to motorists, particularly those using the southern roads, to know of an important development of the work of the Automobile Association. Their patrols are now being trained in vulcanizing work, and will carry spare patches, etc., so as to be able to assist members of the Association who may be stranded on the road "miles from anywhere." In addition, all the men are to be

instructed as to the location of the garages, repair works, doctors, etc., so that in the event of mishap information of real utility will be readily available. The new departure in no way affects the declared policy of the Association, inasmuch as the necessary restraint will still be exercised upon all and sundry offenders in respect of dangerous or inconsiderate speeding. In this programme of practical road supervision no encroachment is made upon the work of any existing organisation. The A.A. patrol will be an adjunct to and not a substitute for the local repair shops, and in addition to the experiments now being made with a device by which members of the Association will be known to its scouts, arrangements are being made that firms in the motor-car industry will enjoy the benefits of the work as freely as they are assisting the movement.

#### Police Nescience.

It might be well if the police throughout the country were instructed in the elementary clauses of the law which they are called upon to enforce. A correspondent calls attention to an amusing instance of the nescience of the police in a southern district. Motoring in Portsmouth, a reader was asked by a constable why the front number was not illuminated. This particular ornament of the force had apparently been so engrossed in watching rear numbers that he had an idea those on the front of the car should be equally illuminated. Fortunately nothing serious happened, but the incident is illustrative of the ignorance of those who are responsible for the administration of the law in many parts of the country.

#### A Practical Judge.

The novel spectacle of a judge, accompanied by counsel in wigs and gowns, and a jury critically watching a slowly-travelling steam-lorry was seen outside Brompton County Court the other day. It arose through the practical suggestion of Judge Selfe that the jury might form their own opinion as to whether the vehicle, which belonged to a firm of brewers, was a nuisance and likely to frighten horses in the street. In the end the jury found for the defendant brewers. The suggestion implied in the incident is one that might well be adopted by magistrates elsewhere, especially in testing the ability of policemen to estimate the speed of motor-cars.

#### Excessive Road Watering.

UTTERLY regardless of the comfort, or the safety, of some of those who constitute the lighter classes of traffic, some of the local authorities incline to the excessive watering of streets. Last year a cyclist on the road from Upper Branksome to Branksome had a side-slip on a stretch of road which had been excessively watered with salt water. He slipped and sustained injury. Reporting the matter to the C.T.C., they took the opinion of Earl Russell on the point as to whether a local authority is justified in excessively watering a road to the danger of the cycling public, and obtained from him a decided reply that a local authority has no power to exercise its rights so as to create an obstruction. Meanwhile the cyclist had claimed compensation to the extent of £2 2s. from the Branksome Urban District Council, which claim they declined to entertain. Subsequently the Council area became merged in that of the Poole Town Council, against which a summons was taken out. Ten days before the case was to have been heard the Poole Town Council paid the amount claimed, with costs. The resolve of the defendants to dispose of the claim made against them without going into court is in a sense disappointing, for it would have been interesting to have seen the matter fought to a finish. As it is, however, the principle that local authorities may not flood their roads with water in such a way as to endanger the life and limbs of any class of road users has been established—a point of value to motorists in common with all users of the roads.

#### Canadian Prospects.

EITHER automobile makers are too busy on immediate work, or they have yet to thoroughly realise the advice of the Prince of Wales to "Wake up, England!" for when Mr. E. H. Turnbull promised to give the members of the Automobile Club the benefit of his experience in Canada only a comparatively few of those engaged in business went forth to hear him. Possibly more might have been said as to the requirements of the Dominion with regard to cars and the types likely to prove acceptable. The main point of the lecture was with regard to the exhibitions to be held in Canada this year, at which the Daimler, Argyll, Humber, Rex, and other British vehicles will be represented. We trust that the events to take place at Toronto and Montreal next month will do something for the motor trades of Canada and also of this country.

#### The Weather.

At length the promise of fair weather has come and the genial conditions prevailing last week-end promise to give an impetus to the selling season. The outlook is all the more hopeful as no violent changes had occurred up to the time of going to press. In such a business as that associated with the automobile pleasant weather is a necessary factor in success, and the early coming of genial conditions should encourage exhibitors at the forthcoming Show.

MESSRS. A. DARRACQ AND CO., LIMITED, have removed their headquarters to Walnut Tree Walk, Kennington Road, S.E., where all communications should now be addressed.

To the Beaufort brake for India illustrated in our last issue heavy section Palmer cord tyres are fitted, the local agents regarding these as eminently suitable for the severe conditions obtaining there.

ON Wednesday morning a four-wheel cab coming out of Jermyn Street into Regent Street, London, was knocked over by a motor-bus. The driver was severely injured, and taken to the hospital unconscious.

THE Great Eastern Railway Company have commenced their motor-omnibus services between Chelmsford and Writtle, Great Baddow and Great Waltham. On Monday next they will begin a service of motor-buses between Colchester and West Mersea, leaving the former place at 8.10 a.m., 10.55 a.m., and 5.40 p.m. every day.

THE Gratz Patent and Engineering Syndicate, Limited, have brought out a new current distributor, which will be among the novelties shown by the company at the Motor Car Show at the Agricultural Hall, where they will also exhibit their new accumulator and the Gratz speed indicator, which has done well in the trials now proceeding under the auspices of the A.C.G.B.I.

WHILE Sir Thomas Lipton was at Castelsarsasin, France, recently, a dog-cart ran into his motor-car. The gendarmes who appeared on the scene seized the car and escorted Sir Thomas and his companions to the police station. Sir Thomas was detained for over two hours while a charge was formulated, and was interrogated by the Prefect. In the end, however, the prosecutor was propitiated with a present of money, and the matter was amicably settled.

THE Enfield Autocar Company, Limited, offers for subscription at par 100,000 shares of £1 each. The company has been formed for the purpose of purchasing, carrying on, and extending the business of the motor-car department of the Enfield Cycle Company, Limited. The capital is £150,000 divided into £1 shares. The price to be paid to the vendor company is £31,162, and the directors are Mr. A. Eadie (chairman), Lord Ernest Seymour, Messrs. G. H. Cartland, T. Evans, R. W. Smith, and E. H. Lancaster. M. W. Guillon, late works manager of the Fabrique Nationale of Liege, will be the works' manager.

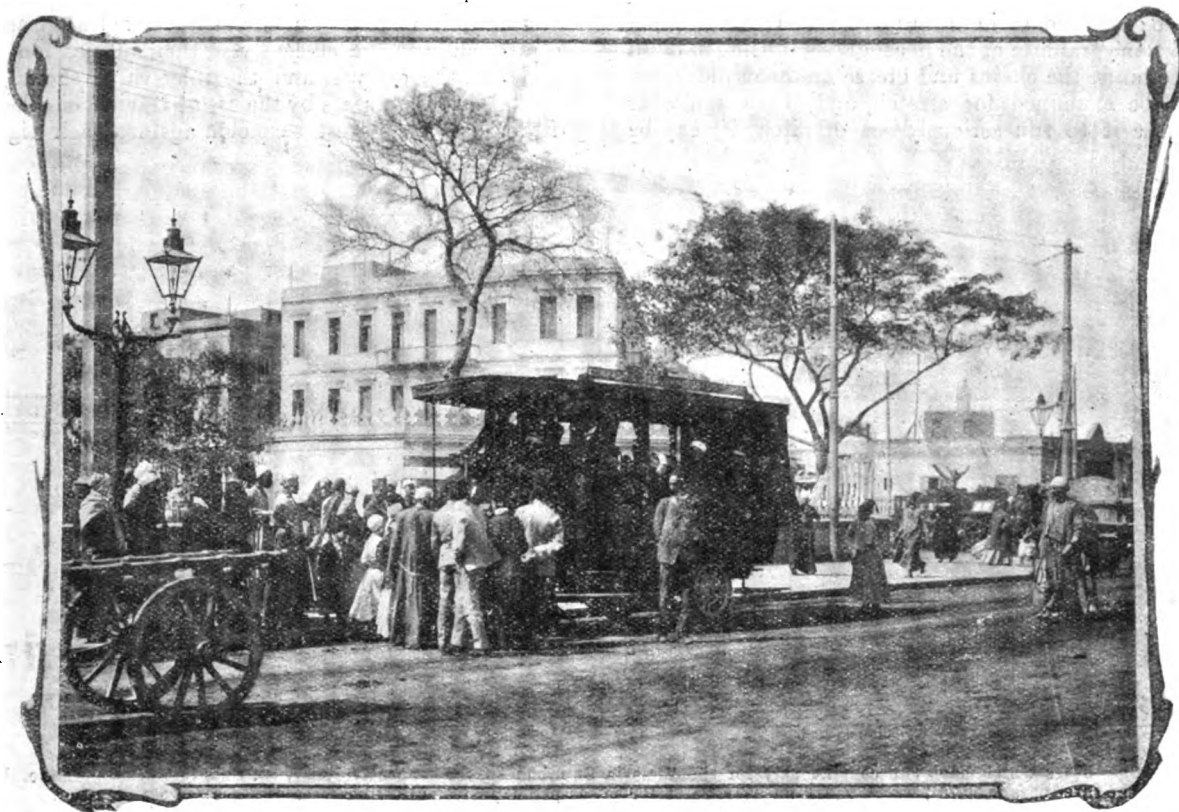
## THE MOTORIST'S SPRING CLEANING.

THE approach of spring, which is the signal for a burst of unappreciated activity upon the part of our friends the poets, and which means to them a return of the flowers and the birds, is none the less interesting, though of less romantic concern, to the motorist. To him the year is divided into two parts, namely, the season when one can use his vehicle with pleasure and the season when one cannot, although there are motorists to whom a long drive in winter is a source of joy; and the significance of spring to him is that it ushers in the former long-sighed-for period. Just as spring cleaning is now the order of the day in domestic circles, the motorist may well indulge in a complete overhauling of his car at the present time preparatory to its season's work.

There are usually quite a number of minor defects about a motor-vehicle, which are tolerated as long as they do not materially

look about for room to locate a multiple oiler and its necessary piping. If water circulation has proved unsatisfactory in past seasons one may be led to seek relief, in this direction, by adding a new circulating pump and radiator. And then there is the matter of painting. If the vehicle has seen hard service during the past season, the probability is that it is needed. One should be sure to wait until every bit of mechanical work about the carriage is completed, beyond any possibility of resumption, before any painting or varnishing is done. It requires only a few slips of the mechanic's wrench to chip off the shining new coat to a state of shabbiness, and the prints of black hands upon fresh paint are not ornamental.

In case there are no special repairs needed or improvements to be added, the spring cleaning resolves itself into a thorough course of inspection, cleaning and readjustment covering all parts of the vehicle. One is always interested to see in what condition tyres will prove to be, as it is a matter that affects the pocket-book



A Public Motor-Car Service in Cairo.

In our last issue we mentioned that the Compagnie des Omnibus du Caire had recently inaugurated some trials with motor-omnibuses. The above illustration shows one of the vehicles loading up for a run to the Pyramids, a distance of about nine miles.

interfere with its operation, and which are not serious enough to warrant the loss of use which their cure, in the busy season, would entail. Now is the proper time to look after these with such a degree of thoroughness that their recurrence during the coming season may be next to impossible. If the car has shown any bad habits, it is a favourable opportunity to institute an investigation for the purpose of locating the trouble and applying a suitable remedy. It may be, too, that it will be found upon inquiry that the manufacturers have brought out some useful improvement or attachment, which it may be practicable to instal upon the vehicle, and thus, to a certain extent, bring it up to date. The better class of manufacturers will be found ready to give an old customer the benefit of any such new "wrinkle" at a reasonable price, to the end he may remain upon the satisfied list.

It may be found that the manufacturers have improved their carburettor to such an extent that a change may be warranted. Perchance the owner is weary of filling and regulating the feed of a half-dozen or more separate oil cups, in which case he may

most deeply. The tyres should, of course, have been relieved of the weight of the vehicle during the period of disuse. They should now be pumped up, and, if any one does not hold air properly and the fault is not in a leaky valve, it should be taken off and examined, while any holes in the outer covers should be filled up. The bearings of the wheels should be thoroughly cleaned, readjusted if there is need, and packed with grease or heavy lubricant. It is well to bear in mind that the steering gear and brakes are the two special parts of an automobile upon the integrity of which human life depends, and these portions should be given a special inspection. Backlash or lost motion in the steering gear is a most annoying thing, and one which inevitably results from long usage. If there has been any nut or screw upon any part of the steering gear that has shown a tendency to work loose, do not tolerate it a moment longer, and do not trust any nut without a split pin to hold it. The brakes, too, are entitled to a really painstaking examination. There will be a certain amount of stretch of the pull rods and wear of the

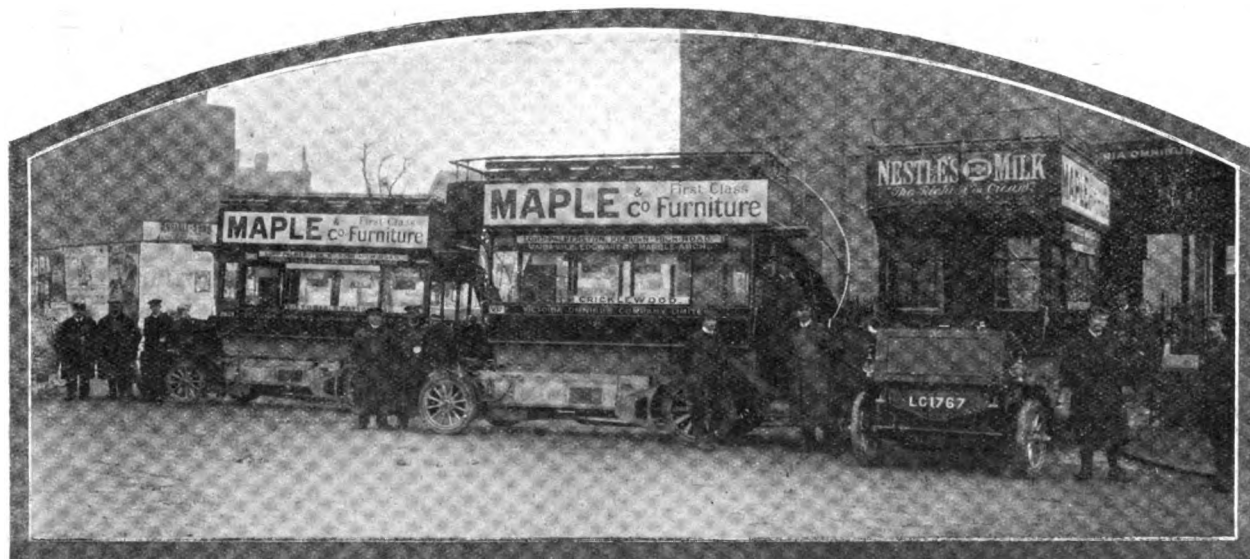
braking surfaces to be attended to at the end of a season's use. There should be no "drag" of the brake shoes or straps allowed when the brakes are supposed to be out of action. The utmost care as to the security of all nuts will be well expended here.

Upon almost every car there are usually one or more nuts which seem to have a congenital tendency to work loose, as they are found in that condition at almost every inspection of the vehicle. It is a favourable time to deal finally with these bad nuts so that they may never again figure in the trouble account. One can deal with such nuts either by providing split pins, lock nuts or set screws, or even by the brutal recourse of heading over the end of the stud. For large nuts that are otherwise incorrigible the application of a set-screw will prove a certain cure. If the car is chain driven, it is well to take off the chains and soak them in paraffin in order to clean them thoroughly. If soaked in a pan having a false bottom of wire netting and the liquid is agitated from time to time, the dirt will collect below the false bottom and leave the chains quite free from grit. The paraffin may then be drained off and the chain given a bath in warm melted tallow, with which has been mixed some graphite of the finest grade, it being allowed to remain in this until the chains and grease are one solid mass. A chain should be examined for stretch, and, if enough wear is found to cause it to run seriously out of pitch, it may be

particle of sediment should be washed out with petrol in order to make a fresh start. The rubber connections of the cooling-system may need renewal, as they deteriorate under the action of hot water, and tanks or radiators may have developed slight leaks which demand treatment.

If the engine has been addicted to any bad habits now is the time to try and reform them. There may have been an annoying knock, which can be disposed of, or perhaps the compression, which is the very life and spirit of a petrol motor, may have become weak. The old oil should be drawn off from the engine crank-case and the reciprocating parts given a bath of paraffin. The bearing of the connecting rod on the crank-shaft should be carefully examined to see if there is any backlash which might give rise to a "knock." If so, it should be taken up by an adjustment of the brasses, at the same time assuring oneself that the brasses are left in a perfectly secure condition; for a loose connecting rod is a very destructive thing. The crank-shaft bearings and the bearing of the connecting rod in the piston should be looked after as regards their adjustment and the efficiency of their lubrication.

Both the exhaust and the inlet valve should be carefully ground into their seats by the use of D. 'vies' or other good emery, if there is the slightest suspicion against their tightness. Care



A trio of Orion Omnibuses which have run continuously for the Victoria Omnibus Co. for respectively 27, 25, and 13 weeks. The total mileage for the three cars is 50,751, which gives an average of 109 miles per day after allowing for stoppages for overhauling.

good policy to discard it, and invest in a new one. If the chain is very much worn the probabilities are that the outlines of the sprocket teeth are badly out of shape, in which case it may be best to secure new sprockets, for it is just as bad judgment to put new chains on old sprockets as "new wine in old bottles." If sprockets are to be changed, it is well to consider whether any other "gear" would be preferable. Automobiles are generally geared to meet average conditions, but if a particular car is to be used in a very hilly country, where the roads are bad, it may be good policy, when a change is to be made, to add a tooth or two to the rear sprocket and thus secure a gear better adapted to the conditions; while, if the car is operated in a level country, and a little more speed is desired, a tooth or two may be dropped from the rear sprocket.

Despite the utmost precautions, a considerable amount of dirt and moisture may have collected in the carburettor and the petrol tank. If any trouble on this account is feared, the carburettor should be disconnected and taken entirely to pieces, and all parts and passages should be thoroughly cleaned. If the needle valve which is operated by the float does not shut off properly it should be ground into its seat until tight. Every drop of liquid should be drained out of the tank and every

should be taken to see that the jacket water does not leak into the cylinder on account of the cylinder head joint, if such exists, having given out. A general examination as to the lubrication of all parts should be made. Oil cups should be removed and cleaned, so that their sight feeds may be visible, and all oil-ways should be demonstrated to be clear. The ignition mechanism deserves its share of attention. If any trouble has ever been experienced from broken wires or short circuits this is a good opportunity to re-wire the car. In the general overhauling the friction-clutch should not be overlooked, but should be adjusted carefully.

If the automobilist's spring cleaning and renovating is well done, it will bear abundant and satisfactory fruit in a smoothness of operation and a comparative freedom from trouble during the coming season, and will save many fold the time and trouble spent on it.

THE registered office of the Milano Motors, Limited, is at 92, Gloucester Road, S.W. One object of this company is to acquire the sole agency in this country for the Orel car. The first directors are Messrs. C. Manuel, J. A. Wild and F. H. Baker.



## SOME CURRENT TOPICS.

### The Tendency of Motor-Car Design in Germany.

An interesting statistical record of the details of the cars exhibited at the recent motor-car exhibition in Berlin has been prepared by the "Allgemeine Automobil Zeitung," from which it would seem that the tendency towards the adoption of separately-cast cylinders is not as yet very marked in Germany, as only 18.6 per cent. of the cars on view were so arranged. On the other hand, 80.4 per cent. had engines with the cylinders cast in pairs, the odd 1 per cent. being a motor with all four cylinders in one casting. The mechanically-actuated valve has almost entirely superseded the suction type, which has only 6.2 per cent. to its credit, as against 93.8 per cent. to that of the M.O.V. As regards the great question of transmission, chain drive still holds the leading position with 51 per cent., as against 49 per cent. for the cardan shaft variety. The popularity of the internal expanding type of brake for the rear road wheels is shown by the fact that these were found on 95 per cent. of the cars, only 5 per cent. having contracting brakes. As in France and this country, magneto ignition, especially the high tension, is making rapid progress in Germany, the proportion of this system to that by accumulators and coils being 61 per cent. to 39 per cent.

### Future Developments in Motor Design.

It is always hazardous to touch upon the developments which the future may bring forth. Although the four-cycle petrol motor is supreme in the field to-day, it is by no means certain that the last word has been said in regard to internal combustion engines. The two-stroke cycle offers so great advantages in point of simplicity that it would be by no means surprising if a valveless type of engine for automobile use, operating on the two-stroke cycle, should become widely adopted in the future. Already several cars fitted with this type of motor have been brought out, notably by the Oldsmobile Company in America, and by the Valveless Motor Company in this country; and although these may perhaps be looked upon in the light of experiments, yet it clearly shows that finality has not yet been reached. Another change which it is not unlikely will be effected in the near future is that of the use of other fuel than petroleum spirit. One hesitates, too, in accepting the present methods of ignition as final, especially as during the operation of an internal combustion engine there is a large quantity of waste heat which may later be utilised in some way to cause ignition without the use of external electrical apparatus. Then, again, the question of engine cylinder cooling is one which is at present far from being settled. The present system necessitates water-jackets, tanks, pumps, radiators, and other fittings, all of which either take up space or absorb power. In America the air-cooling principle is making steady headway, and the progress in that direction is well worthy of careful attention, especially as it is one which tends towards simplicity, a desiderata which should be the object of all automobile engineers.

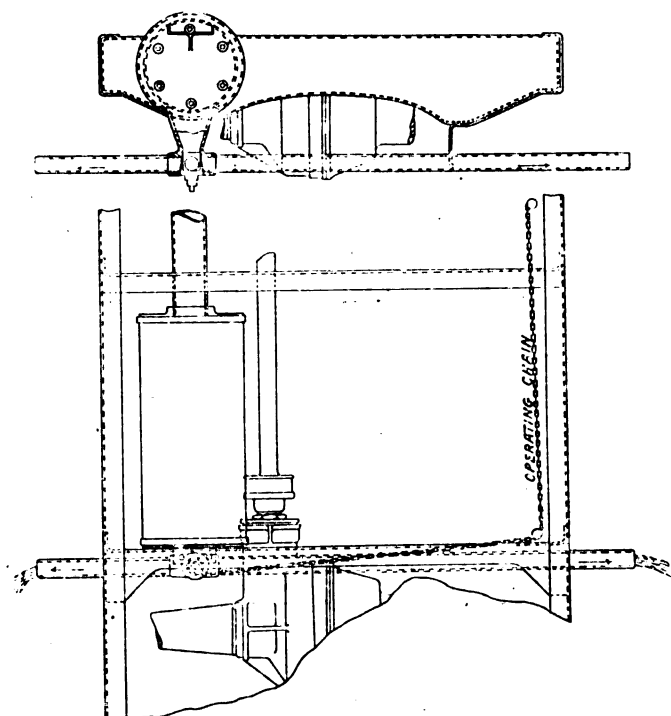
### Magneto Ignition.

In connection with the increasing popularity of magneto ignition on petrol cars rather widely different views appear to be held by manufacturers as to the desirability or otherwise of making provision for advancing and retarding the sparking. It is a phenomenon well known to those having experience in dynamos and magnetos that the intensity of the current and the moment of maximum intensity advances as the speed of the armature increases. Basing their action on this fact, several makers claim that the timing of the spark does not need to be altered by the motorist, and as a consequence the magneto armature and distributors or the make and break cams are rigidly keyed to their respective shafts, and no timing variations

are possible. In some others, on the contrary, the magneto armature, or the cams, or both, can be altered in their position at any time during the running of the engine, exactly as in the accumulator and coil system of ignition. Others, and among them notably the Brasier Company, hold still different views. The time of sparking is normally set at a certain angle of advance and cannot be altered from the seat, yet, by simply pushing the starting handle into place, the ignition is retarded to a predetermined extent, permitting the engine to be started with absolute safety and without any fear of a back-fire, the apparatus resuming the advanced position as soon as the handle is released.

### Exhaust Troubles.

To remove the objection so often raised against the exhaust on a petrol car being led out behind, the Austin Motor Company have designed and patented an arrangement which is worthy of notice. The accompanying illustration shows very clearly the arrangement, which briefly comprises a two or three-way valve fitted to the exit of the silencer, so that the exhaust gases may be led to the near or off side of the car, or, if preferred, to both sides and the rear. The valve is operated from the



Elevation and Plan of Austin Exhaust Outlet Control.

driver's seat, and it is assumed that when drawing up to the near or off side of the road the driver will turn the valve so that the gases may be led into the middle of the road, where they would be least objectionable. The device, which is to be fitted to all Austin cars, will be particularly advantageous when the vehicle is standing in queue, waiting at crossings or at the theatre, or when proceeding at a slow pace in crowded thoroughfares, as at these times especially the motor is running as slow as possible, and the gases are, consequently, more pungent than usual, causing annoyance to the occupants of following cars or carriages.

ON Tuesday a 22-36-h.p. Fiat car, with the Pradeau wheel attached, was started on an A.C.G.B.I. trial. The wheel consists of two rims. At the outer ends of the spokes cylinders are provided, which are fixed to the inner rim. Each cylinder contains a spring. Engaging in these cylinders are forked plungers which are attached by links to bearing pieces which are fixed to the outer rim, by which means the weight is always distributed on one half of the springs, and these links and bearings also allow lateral movement. Solid rubber tyres are used, and a run of 4,000 miles is contemplated.

## CONTINENTAL NOTES.

### The Ostend Automobile Week.

The Antwerp Automobile Club has provisionally fixed July 14th as the start of this year's automobile week at Ostend. The programme will probably include a 600-kilometre reliability contest, mile and kilometre speed trials, and five and ten kilometre races for touring cars.

### A Motor 'Bus Competition in Italy.

A trial of motor-buses is to be organised in connection with the forthcoming international exhibition in Milan. The competing

### A Dutch Motor-Car Exhibition.

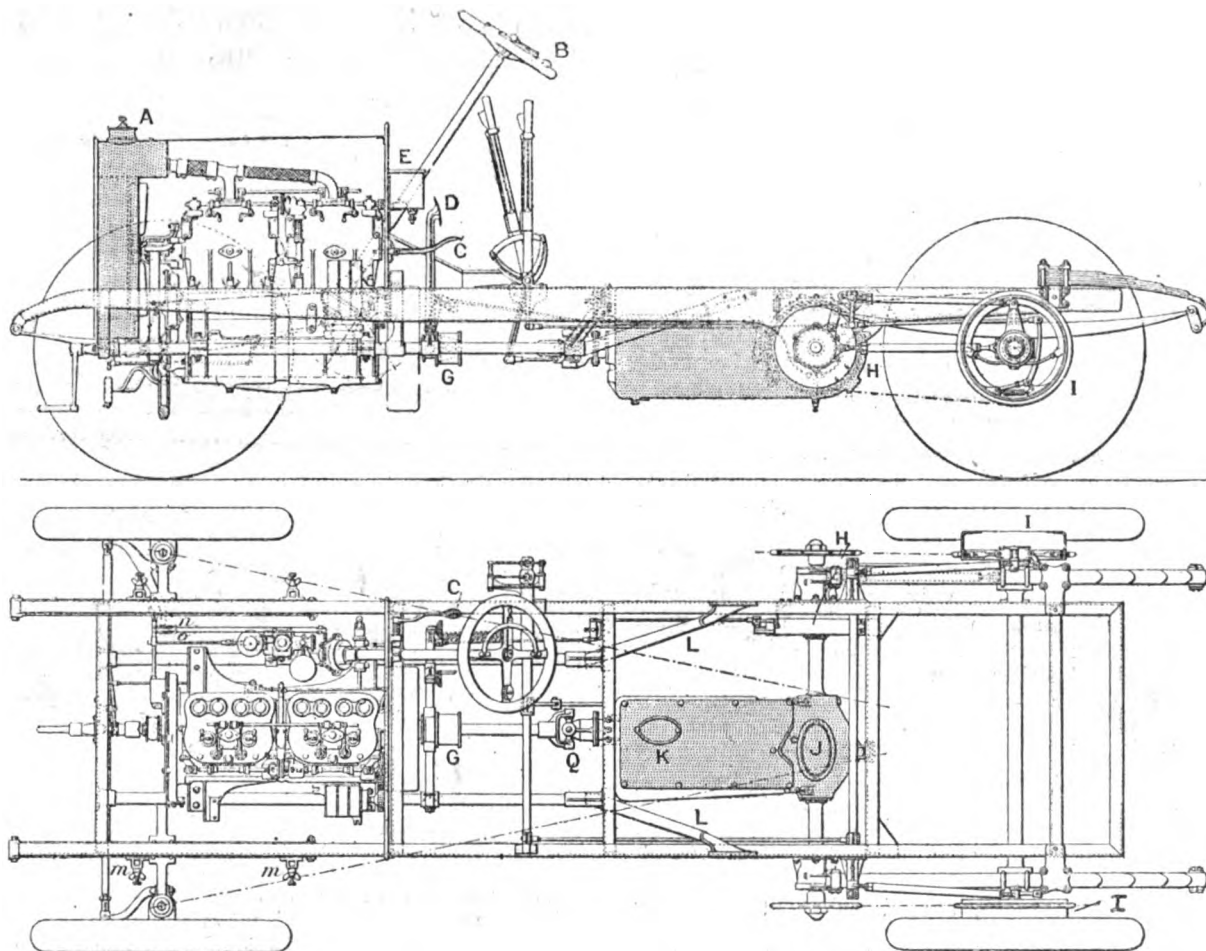
A motor-car and cycle exhibition was opened in Amsterdam on Friday last week. There are about sixty-five exhibitors, who are showing examples of all the leading French, Belgian and German cars. England is represented by the Humber and Rover vehicles.

### Motor-Cars for Military Purposes.

A mobilisation order has been received by all the owners of motor-cars in Munich. The order holds good until April 1st, and commands the appearance of all motor-cars at the Bavarian Ministry of War on the second day of any said mobilisation. The cars must be in the hands of efficient drivers, and be equipped with fuel sufficient for at least 150 kilometres.

### Motor-Car Accidents in Germany.

The German Ministry of the Interior has given instructions that as from April 1st next a record of all motor-car accidents in



Figs. 1 and 2.—Elevation and Plan of Chassis of Brasier 25-36-h.p. Car. (See page 29.)

A. Water inlet.  
B. Throttle lever.  
C. Accelerator pedal.

D. Clutch and brake pedals.  
E. Mechanical lubricator.

G. G. Clutch shaft joints.  
H. Countershaft brake.

I. Rear wheel brakes.  
J. Inspection hole in differential case.  
K. Inspection hole in gear-box.

vehicles must be capable of carrying at least ten passengers, and will be required to cover a daily distance of  $37\frac{1}{2}$  miles during the course of the show. A long-distance run from Milan to Como, Erba, and back, at a minimum speed of  $12\frac{1}{2}$  miles per hour, will also be included in the programme.

### A German Touring Competition.

Under the auspices of the Automobile Clubs of Bielefeld, Frankfort, Hanover, Cologne, Coblenz, and Wiesbaden, a three-days' touring competition is to be held in July next. The first day's run will be from Bielefeld to Hanover over a zigzag course, the second from Hanover to Frankfort-on-Maine, via Gottingen and Fulda, and the third from Frankfort to Cologne, via Wiesbaden and Coblenz, the total distance being about 1,000 kilometres.

Germany, together with particulars of the injuries, etc., sustained, shall be kept, to enable an official return to be compiled by the Imperial Statistics Office.

### Miscellaneous Items.

A service of motor-buses is shortly to be started in Paris between Saint-Maur-les-Fosses and the Porte de Vincennes. —The Touring Committee of the A.C.F. is considering a proposal to draw up a series of instructions regarding motor-car traffic which teachers in elementary schools may convey to their scholars. —The kilometre race for the Sneden cup, organised by the Algerian Automobile Club, is to be run off on Sunday next. —A public motor-car service has just been started between Lille and Halluin, France.

## The 1906 Brasier Cars.

THE vehicles which have hitherto borne the name Richard-Brasier are, in order to avoid confusion, in future to be known as the Brasier. Some particulars of the 1906 models were given in our report of the Paris *Salon*; the cars, however, contain a number of interesting features, a more complete account of which will, no doubt, prove acceptable, especially as some, if not all, the changes that have been made

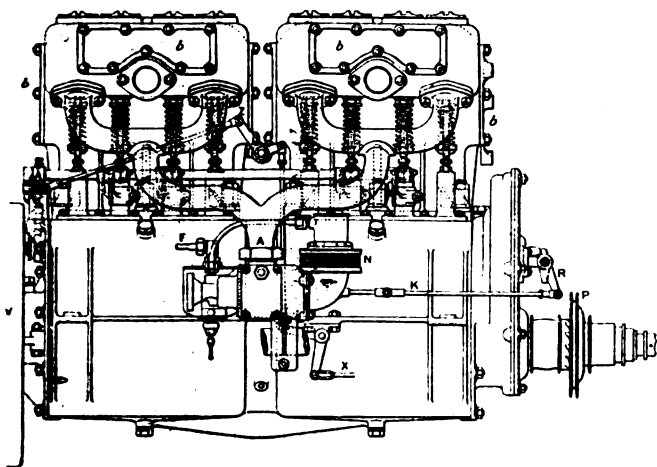


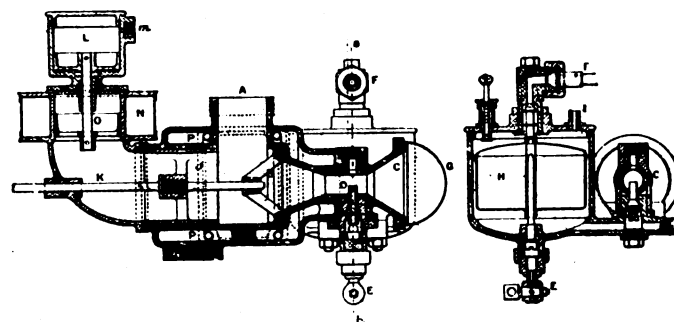
Fig. 3.—View of Valve Side of Brasier Engine.

- |   |                             |
|---|-----------------------------|
| A. Inlet pipe.                                | N. Supplementary air inlet. |
| B. Covers to core holes of cylinder castings. | K. Governor rod.            |
| F. Petrol pipe.                               | R. Governor.                |
|   | V. Flywheel.                |

are the result of M. Brasier's experience in turning out cars which proved successful in winning the Gordon Bennett race two years in succession. The 1906 models are three in number, viz., 15-24-h.p., 25-36-h.p., and 50-60-h.p. The first is, as usual, provided with cardan shaft transmission, while the other two have side chain drive, this being a new and notable departure with the Brasier Company, who are represented in this country by Messrs. Mann and Overtons, Limited. The frames are rectangular in shape, and are of pressed steel, the motor and gear-box being carried on a tubular under frame, which extends almost to the rear of the car. All three types are fitted with four-cylinder engines, which are very clearly illustrated herewith, Fig. 3 above giving a view of the valve-side of the motor, Fig. 7, page 30, a general view of the ignition side, and Fig. 6 a front end view with the cover of the half-time gear wheels removed in order to clearly show the latter. As will be seen, the cylinders are cast in two pairs; a noteworthy feature, which has already been pointed out, is that the crank-shaft is *desaxe*, that is to say, its centre is slightly out of line with that of the cylinders, as shown in Fig. 6. The advantage of this method of construction has so recently been dealt with in these columns that it is unnecessary to refer to them on the present occasion. In order to further reduce the frictional losses against the cylinder wall, M. Brasier has also increased the lengths of the connecting rods. As there is a smaller angle of thrust for a given stroke, there is also a reduced lateral pressure against the cylinder, and a consequent gain in efficiency, friction being reduced, and the general balancing of the engine much improved. Another feature is that very

long pistons are employed, the three piston rings being above the gudgeon pin; the wear is in this way distributed over a larger area, and oil is prevented from reaching the combustion chamber. The cylinder dimensions of the 15-24-h.p. engine are 90 mm. by 120 mm.; of the 25-36-h.p., 112 mm. by 130 mm., and of the 50-60-h.p. 130 mm. by 140 mm. The interchangeable inlet and exhaust valves are mechanically operated off a single cam shaft, instead of being located on opposite sides of the cylinders. The cam shafts are made stouter in diameter than formerly, and are cut from the bar with the cams formed integral. The profile of the cams is such that it gives a flow of gases proportional to the speed of the piston during the different portions of the stroke, the effect of the momentum of the charge and other factors of disturbance having been carefully calculated and taken into consideration. The half-speed gears are made stronger than on the previous models; they are mounted on the tapered ends of their shafts and keyed, a nut drawing the whole together. The gases coming from all four exhaust valves are led into a single longitudinal casting which is water-jacketed, this leading in turn to the silencer. The object of this construction is to reduce the tendency of the exhaust valves to overheat, to increase the silent running of the engine, and to reduce the back pressure at the silencer, by contracting the charge.

The ignition is by low-tension magneto, a most interesting change having been made in the system, which should overcome many of the objections that are often raised to the make-and-break method. All the usual array of rods, springs, levers, etc., is done away with, and is replaced by a special camshaft horizontally mounted on top of the cylinders and running on ball



Figs. 4 and 5.—Sectional views of Carburettor. The right-hand drawing is a cross section through line a-b.

- |                              |                          |  |
|------------------------------|--------------------------|--|
| A. Induction Pipe to Engine. | F. Petrol pipe.          | L. Piston controlling supplementary air valve O. |
| B. Guide rod of Piston J.    | G. Gauze over air inlet. | P. Carburettor Heating Jacket.                   |
| C. Air inlet.                | H. Float chamber.        |  |
| D. Spraying nozzle.          | J. Piston throttle.      |  |
| E. Draw off cock.            | K. Rod of piston.        |  |

bearings (Fig. 7). The cams carried on this shaft directly actuate the outside end of the internal strikers of the ignition plugs. The vertical shaft, which drives the ignition cam-shaft through bevel gearing, is itself similarly driven off a horizontal half-speed shaft; it carries an automatic dog-clutch coupling, which has for its purpose to cut out the drive to the upper shaft in case of a back fire in the engine. The magneto, which is gear driven, is fastened to one of the carrying lugs of the crank-case, and is held by hinged bolts and finger screws, which make

its removal an easy matter. The point of ignition is fixed, except at starting, when it is automatically retarded.

The carburettor, of which two views are given, Figs. 4 and 5, is of the automatic regulation type, the delivery of the gas to the induction pipe being determined as to quantity by the position of the sliding piston throttle valve J, which is controlled by the governor or by hand from the steering wheel. The automatic valve rises and falls in accordance with the amount of vacuum in the jet chamber. It will be seen from Fig. 4 that provision is made for the connection of a pipe from above the jet chamber to the side of the automatic valve chamber *m*. By this tubular connection the depression produced in the jet chamber by the suction of the motor also occurs in the space above the piston L, and causes the same to rise or fall proportionately. The valve O and the piston having, however, a common spindle, the former rises and falls in consonance with the piston, and opens or closes an aperture in N, thus admitting extra air to form a correct mixture, which passes along the inlet pipe A, the neat, symmetrical arrangement of which is seen in Fig. 3, to the engine. The governor is arranged to act directly upon the horizontal piston valve in the carburettor,

## USEFUL NOTES.

ONE of the evil effects of using too much lubricating oil in the cylinder is the clogging up of the silencer. This, if carried far enough, results in excessive back pressure and consequent loss of power.

It cannot too often be pointed out that novices in motor matters should be very careful to see that the ignition lever of their cars is retarded before they attempt to start the engine. Otherwise the nasty blow of a "back-fire" may be experienced.

LEATHER-FACED cone friction clutches are sometimes troublesome, but the trouble may usually be traced either to the fact that the driver does not thoroughly understand how to use and adjust his clutch, or that the clutch is of inferior design and construction. Generally speaking, the driver is at fault, and makes matters worse by treating the clutch with various compounds, all of which are more or less detrimental to its life and wearing, though they may remedy the trouble for a short time.

IN nearly every instance it will be found that the trouble is either—(a) The clutch is very fierce and engages with a

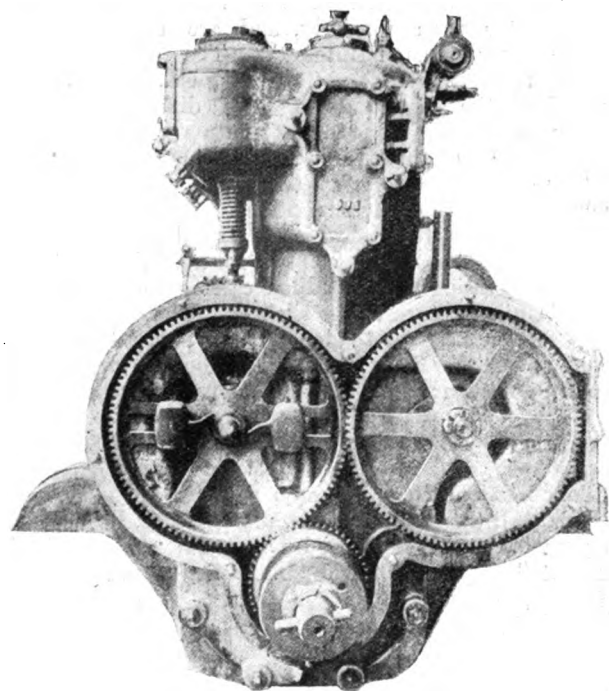


Fig. 6.—End view of Brasler Motor with Cover enclosing Cam Shaft Driving Pinions Detached.

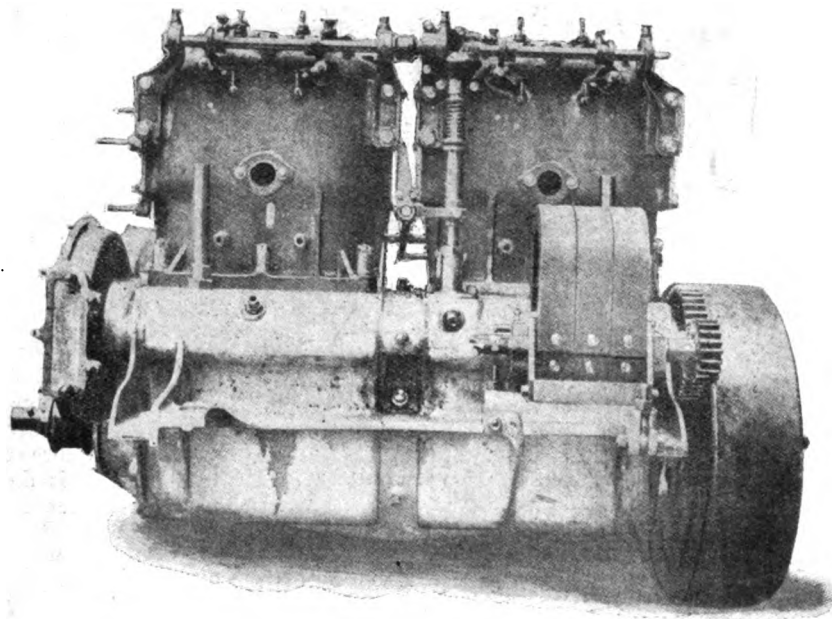


Fig. 7.—View of Magneto Side of Brasler Motor.

throttling the feed of gas to all four cylinders, and giving a very gradual increase or decrease of engine speed, which can be varied from 200 to 1,200 revolutions per minute.

In the 25-36-h.p. and 50-60-h.p. motors a half compression device is provided to facilitate starting, this being controlled from the front of the engine and acting on the exhaust valves. The water cooling is by natural circulation for the two smaller sizes, but an unusually powerful pump is used on the 50-60-h.p. car. The radiators are of the framed ribbed-tube type, as in 1905, but larger, a fan only being fitted in the case of the 15-24-h.p. and 25-36-h.p. cars. Forced lubrication of the engine is achieved by a mechanical oiler driven off the horizontal ignition shaft. The lubricator is provided with a device whereby when driving through towns the delivery of oil to the cylinders can be arrested from the dashboard, the splash lubrication providing all that is necessary when the engine is running at slow speeds. The crank chamber, it will be noticed, is of somewhat unusual section, the comparative narrowness, coupled with the perpendicular sides, having been adopted to obviate too profuse splash distribution of the oil on the cylinder walls while at the same time allowing for a large reserve in the base chamber.

*To be concluded.*

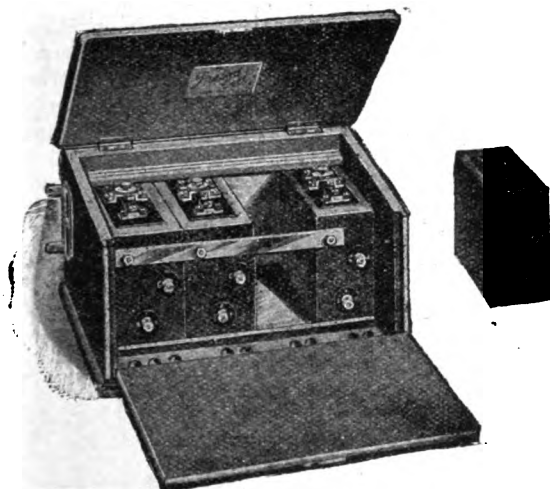
violent shock, or (b) the clutch slips badly and at times refuses to drive the car. A fierce clutch is generally due to very new leather, which has not been treated with castor oil to make the leather pliable, as all new clutch leathers should be; or, again, it may be due to the fact that the male cone does not engage truly with the female—that is, the leather only bites in certain places. As above stated, the first trouble may be remedied by castor oil. The clutch pedal should be depressed and the oil laid on lightly with a small brush; it will be found that the fierceness will very soon disappear, owing to the leather becoming pliable, and as soon as the fierceness has worn off it will be advisable to slightly tighten up the clutch spring. As regards the clutch which does not engage truly, this is a more difficult matter to deal with, as it means taking the clutch right down and trueing up the leather; if, however, the latter is only very slightly out of truth, the cure may be effected without taking the clutch right down: the connections must be undone, the spring removed, and the male cone pulled back; then, by turning the male cone round in the female portion, it can be seen where the leather touches; by gently rasping the spots where the leather touches the surface can be made even so that the leather will touch evenly all round.



MESSRS. MORGAN AND CO., the carriage builders, of Long Acre, W.C., are building a factory at Leighton Buzzard.

THE desirability or otherwise of organising a race for steam cars this year is being considered by the Competitions Committee—the new name of the Races' Committee—with a view to a full report to the A.C.G.B.I.

THE Prested Miners' Gas Indicating Electric Lamp Company, Limited, who are already well known from the success of their accumulator, the Prested battery, and the different motor accessories which they manufacture at their works at Holloway, London, have issued a new list of induction coils for ignition purposes, containing several new patterns which show departures from ordinary types of coils. We show one of these in the accompanying illustration, which represents the new Prested multi-



cylinder coil, built up of separate interchangeable units, each unit being capable of being withdrawn when necessary for the purpose of change or repair, so that it is not necessary to send the whole coil away for repair if anything should go wrong with it, the faulty portion being simply removed and replaced with a new one while the defective part is repaired. The coils shown in the Prested list include types for engines of various sizes, including those for motor-bicycles and also for special work outside motoring.

THE London and South Western Railway Company's new motor-omnibuses and the new motor-vehicles of the Great Eastern Railway Company are fitted with Royal Sirdar-Buffer tyres.

THE Beaconsfield District Council have asked the Bucks County Council to petition the Local Government Board to limit the speed of motor-cars passing through that township to four miles per hour.

SIR P. A. MUNTZ, M.P., speaking at the annual meeting of the Shire Horse Society, said that the demand for horses increased when the railways came into existence, so the horse would maintain its position in spite of the motor-car.

SUBSEQUENT to our visit to the motor-car show in Manchester last week, a new chain-driven car, known as the "Lacoba," put in an appearance. It is being placed on the market by Mr. E. J. Chambers, of Swinton, Manchester, and is fitted with a Sigma 12-16-h.p. four-cylinder engine.

Two minutes 30 2-5 sec. is the record time for tyre fitting which has just been accomplished by the winner of the competition held by the Continental Tyre Company at the recent motor exhibition in Berlin. The previous record for taking off and replacing a tyre cover and tube was 5 min. 48 2-5 sec.

MESSRS. LEGROS AND KNOWLES, LIMITED, have sent us a copy of the 1906 catalogue of Iris cars they have just issued. Two sizes are being made—25-30-h.p. and 35-40-h.p.—and of these not only are full particulars given, but illustrations of all the principal parts as well as of the different types of complete vehicles.

## HERE AND THERE.

MR. H. J. DOUGHTY has opened a motor garage opposite the Stockwell electric railway station in the Clapham Rd., S.W.

BETWEEN June last and the present time Mr. Rougham, the inspector of Royal park-keepers in London, has cautioned fifty motor-car drivers for allowing their vehicles to emit offensive smoke in the parks.

THE magistrate at the Stratford police court has declared his opinion that every one who gets drunk while in charge of horses should be sent to prison.

COMPLAINT has been made to the directors of the Leith Chamber of Commerce with regard to the noise of the motor lorries now employed in the local traffic.

THE T. section of the catalogue of Messrs. Alfred Herbert, Limited, deals with gear cutting appliances, including an automatic spur gear cutting machine and semi-automatic bevel gear shaper.

MOTOR-CAR repairs are now being executed by Messrs. Fletcher and Phillipson at their works in Pembroke Street, Dublin, which have been extended to meet the needs of the new department.

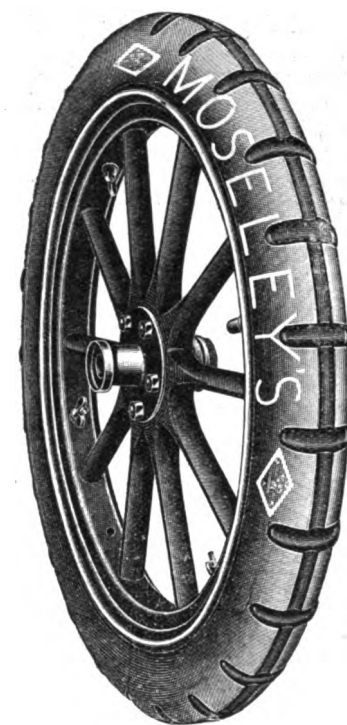
TELEPHONIC communication with the north was temporarily suspended on Monday owing to a motor-car crashing into and breaking a post near Preston. The unfortunate motorists had a remarkable escape.

ACCORDING to a estimate made by Mr. J. H. Mann at a meeting of the Leeds Association of Engineers, there are 100,000 motor-cars and motor-cycles in use in Great Britain, representing a value of £15,000,000.

THE next London examination for the A.C.G.B.I. driving and mechanical proficiency certificates is to be held at 119, Piccadilly, W., on Wednesday, March 14th. This date has been fixed in addition to the 21st, previously announced.

It is generally understood nowadays that there are two forms of skid, or slip, viz., the skid of the tyre in a circum-

ferential direction on the back wheels of a car when the tyre is being driven forward by the engine, or being retarded by the brake; and the side-slip in a lateral direction which occurs on both front and hind wheels, particularly on the latter, as this movement is generally initiated through the circumferential skid. The new design of rubber tread, which Messrs. D. Moseley and Sons have introduced, is applicable to almost any make of tyre which requires retreading. We understand that with the exception of this new design the retreading work is precisely the same as that which has been so popular during the last two years, and it is said that many covers which have been retreaded by the firm have actually given a greater mileage of work without puncture or mishap than the original new tyres have given. The cost of upkeep of tyres on the average motor-car

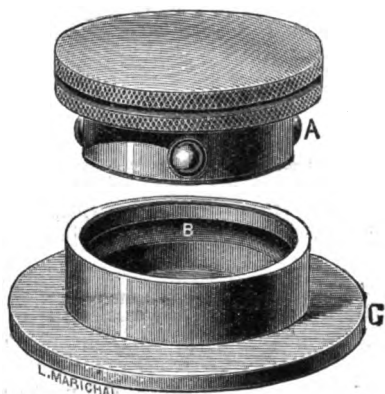


is so heavy that retreading work may be recommended, when scientifically done, as shown in the accompanying illustration.

A.C.G.B.I. examinations for driving certificates will be held at Dublin on April 2nd, Waterford on the following day, Cork on the 4th, Dundalk on the 5th, and Belfast on the 6th prox. Intending entrants should communicate with the Irish Automobile Club, Ann's Lane, Dublin.

AN order for a 24-40-h.p. Itala car has been placed by Mr. W. K. Vanderbilt, Jun., with the Fabry Automobile Company, Limited.

WE illustrate herewith an ingenious cap for petrol and water tanks, and for radiators, which has lately been introduced into this country by the United Motor Industries, Ltd. The feature of the cap, which is known as the "Express," is the facility with which it can be put on and taken off, even in the



dark. From the illustration it will be seen that a number of steel balls A are set in the body of the cap, which has simply to be pushed into the filling hole of the tank, the cap being held in position by the balls pressing under the action of springs behind them against the neck B. The cap is instantaneously removed by a slight upward pull. The idea is also being applied to axle caps.

MESSRS. SEYMOURS, LIMITED, are opening a School of Motoring on the first floor of 18, Brompton Road, S.W.

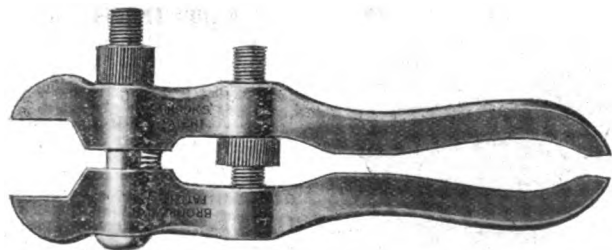
MESSRS. CHALMERS AND Co., of Redhill, and Messrs. Stannard, of Reigate, have been appointed repairers to the East Surrey Automobile Club.

MESSRS. J. C. MOUNT AND Co., 136, Grosvenor Road, Westminster, have started a special department for packing motor-cars and *chassis* for export.

MESSRS. JACKSON AND HEARD are arranging for lessons in automobile driving and management at their demonstration rooms, 14, Dover Street, Piccadilly, W.

FROM Mr. E. H. Wait, Leicester, comes a copy of the 1906 catalogue of Clyde motor-cars and cycles he has just issued. Illustrations and particulars of the various types are given in the list, which concludes with a number of testimonials from users of the Clyde cars.

THE accompanying illustration depicts the patent locking adjustable spanner recently put on the market by Messrs. J. B. Brooks and Co., Limited, Birmingham. As will be seen, the two main parts are adjustable to embrace nuts of different sizes by the upper member sliding up or down the two threaded bolts. The mill-edged nut outside tightens the spanner upon the nut, and a similar nut inside the shorter bolt fixes the jaws



immovably, a spring between the members drawing the jaws apart as the upper milled nut is unscrewed. Unlike other adjustable spanners, this possesses the advantage that when the jaws become worn the central milled nut forces the members apart so as to bring the jaws into perfect parallelism, thus ensuring a tight grip of the nut to be turned. The tool is 6½ in. long and the range of opening of the jaws is from ½ in. to 1½ in.

THE East Herts Automobile Works have opened a garage and repair shop in Ware.

THE Premier Motor Company, Limited, has been registered with a capital of £5,000, and offices at 34, Waterloo Street, Birmingham.

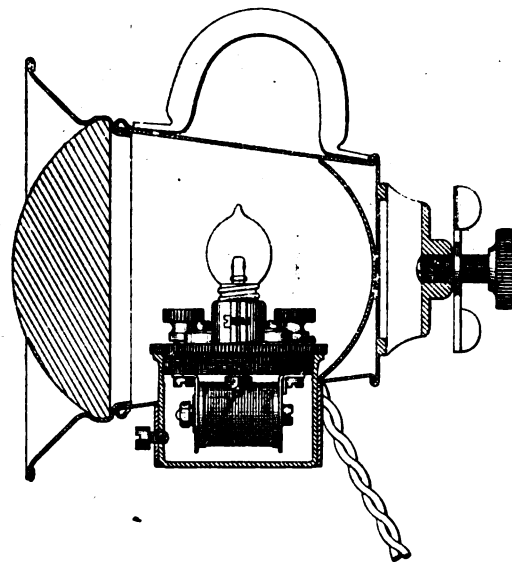
MESSRS. J. T. IRELAND AND CO., LIMITED, is the title of a limited liability company, formed to carry on business in the motor trade at Piper's Row, Wolverhampton.

WITH offices at 144, Lionel Street, Birmingham, the Crusader Cycle Company, Limited, has been registered, to deal in motor-cycles as well as those of the ordinary type.

AT the annual meeting of the Royal National Lifeboat Institution, the committee's report foreshadowed the greater efficiency of the service as a result of the adoption of motors in the lifeboats.

ON Saturday the inaugural dinner of the Pilgrims' Way Motor Company, Limited, whose works are at Weydon Hill was held at Farnham, Mr. F. Leigh Martineau, managing director, presiding.

WE illustrate herewith a new electric tail lamp known as the "Safety," which has lately been put on the market by Mr. J. W. Greenwood, Halifax. Although the illustration, which is a sectional view, only shows one electric lamp, two are arranged side by side fitted in separate holders on an ebonite base. One of the lamp-holders is enamelled red and the other white; underneath the base is a simple device for only allowing the lamp in the white holder to burn, but should anything happen to it, such as filament breaking, etc., the other lamp



immediately lights up and removes any possibilities of a motorist travelling without a tail light. Two set screws are provided on the holders to prevent any chance of the lamps unscrewing with vibration, and these must be slackened before trying to remove the lamps. It is recommended by the maker that, to make sure that the accumulator does not run down, and also to ensure that the lamp is burning, the latter should be connected up to the ignition accumulator and a spare battery. In this way, if the light goes out, the engine stops also, it being then only necessary to switch on to the spare accumulator. The lamp itself is fitted with a powerful bull's-eye lens and silver reflector, together with stout brass body.

THE British Bariquand and Marre Engine Company, Limited, has been registered, with offices at 18, Leadenhall Street, E.C., to acquire the sole agency for Great Britain for the sale of the Bariquand and Marre motors.

WE have received from Messrs. Smith, Parfrey and Co. their new catalogue of all kinds of wheels for automobiles. This is fully comprehensive and also includes their specialities in coach and carriage work, bent timber and the like. They have a welding plant at the new works at Hammersmith, and can undertake every description of work coming under that heading

## CORRESPONDENCE

Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, W.C.]

### THE TWO-CYLINDER ENGINE.

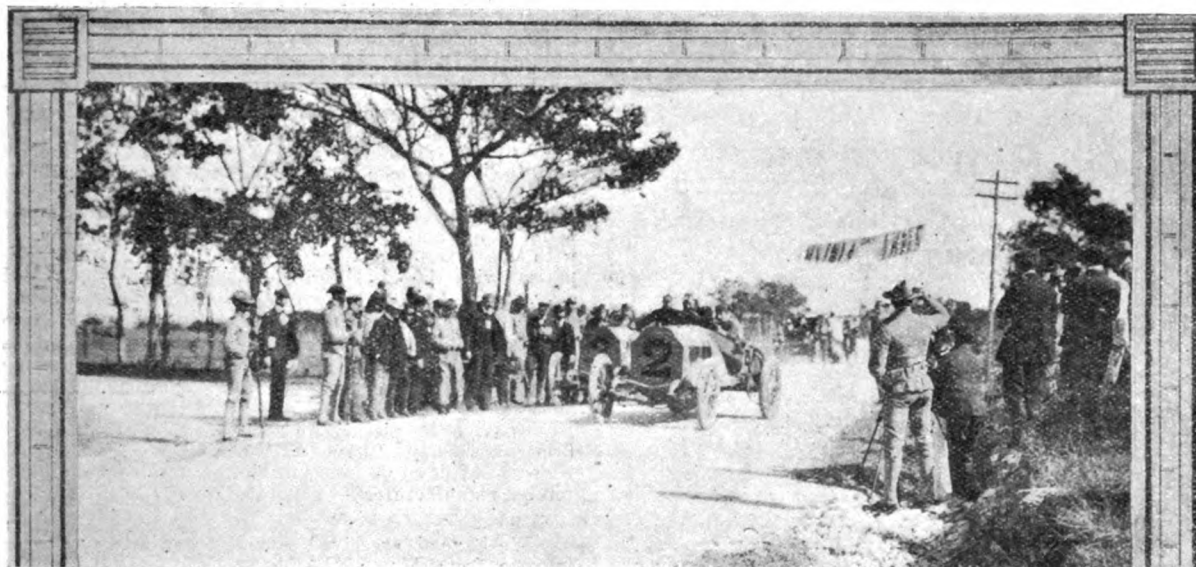
TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In the technical and general press for months past the question of four-cylinders versus six or eight has been hotly debated. Doubtless there is something to be said for the larger number, but the advantages are not all on one side. The fewer cylinders employed the smaller is the number of working parts, and consequently the greater the simplicity. And this brings out a point that has been overlooked in the discussions on the number of cylinders. Where does the two-cylinder car come in? It will probably surprise many readers to be told that not much less than 50 per cent. of all the cars one meets on the roads are two-cylinder cars. Now, if every second car is a two-cylinder, and if two-cylinders were not quite good enough for a large class of motorists, we ought to hear a great deal about their shortcomings. As a matter of fact, such complaints, which would be in evidence on every hand if the two-cylinder car were inherently unsatisfactory, are non-existent. Many hundreds of two-cylinder cars

from one having two or three times the number of cylinders. The best makers do not usually differentiate in the finish and appointments of their various models, the number of cylinders and the consequent horsepower being practically the only difference between the one and the other.

Another feature of the case is that a four-cylinder engine is not necessarily better or more reliable in any way than a two-cylinder. There are cars on the market to-day with four-cylinder engines that are little better than toys—engines of small diameter, bore and stroke, and of frail construction, that are bound to develop trouble sooner or later. These engines are adopted because they are cheap, but it is questionable if cars fitted with them can be considered cheap at any price. One is far better off in every respect with a good two-cylinder engine of scientific design and substantial construction than with a four-cylinder motor that is being urged, in the most favourable circumstances, up to the top of its power, and that is seriously strained when hills are met. In point of speed, too, the two-cylinder car is fully equal to all requirements. Every motorist knows that the real speed limit in this country is not the restriction imposed by law, but that necessitated by the sinuosities of the roads and the exigencies of traffic. It is well within the mark to say that any well made two-cylinder car will yield, without being strained, all the speed that can be used with any degree of safety on quite 75 per cent. of our roads.

It is to be feared that the drift of the recent discussions has been to produce an impression that a two-cylinder car is not a vehicle capable of giving satisfaction in everyday use, but nothing could be further from the fact; and if anybody has been deterred from taking up the pastime of motoring by such considerations, he is depriving



The Motor-Car Race in Cuba. Lancia starting on the Flat.

are in daily use in all parts of the world, giving great enjoyment to their owners, whose only reminder of the fewness of their cylinders is their freedom from trouble. There was a time, not long ago, when owners of single and double-cylinder cars were to be sympathised with, and in those days the advertising pages of the motor press bore eloquent testimony, in their many columns of second-hands for sale, to the dissatisfaction existing with the 6 and 8-h.p. vehicles with which many made their entrance into motoring. Those small cars were sadly deficient in power, and had an awkward habit of giving out on hills of even moderate gradient. But great strides have been made since then towards the perfection of the machinery and the distribution of the weight of car and occupants, and it would be a task of considerable difficulty to find a hill that could not be surmounted by any modern two-cylinder car with a full load of passengers.

From the point of view of simplicity, the claims of the two-cylinder engine are irresistible. Every additional cylinder means added complication, extra pistons and piston rings, gudgeon pins, valves and valve springs, and extra sparking plugs and connections. None of these things now cause the worry they did in days past, but in none of them has perfection yet been reached, and defects are not unknown. The two-cylinder engine has only half as many of these parts as the four, and consequently only half the liability to derangement. This is a point of great importance. Then there is the question of cost. The two-cylinder car costs less to run and less to maintain, and, provided it is by a reputable maker, it will more than meet all reasonable requirements in regard to speed, hill-climbing, and carrying accommodation. Indeed, in this last respect there is little to choose between the best of the two-cylinder cars and the higher powered ones, several different makes of the former class being designed to carry five persons comfortably. In appearance the two-cylinder is generally indistinguishable

himself of the great pleasures that are to be derived from the use of a good two-cylinder car. In a word, the two-cylinder car is cheaper to run, and cheaper and easier to maintain, than one with four, six or eight cylinders, while for everybody except those with an abnormal craze for horse-power, it provides all the speed and all the power that can be desired.—Yours truly,

DUOMOTOR.

### WHICH BRAKES SHOULD BE MOSTLY USED ON LIVE AXLE CARS?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I quite agree with the important point raised by Mr. F. F. Wellington. The system he advocates has been used on the Owen-Arrow cars always. I designed the brakes with the express purpose of doing away with the necessity of fitting one on the propeller shaft. My cars were the first, I believe, to have four brakes, and they are so arranged that both an internal and external brake is fitted to each driving wheel. By this means I provide one extra brake and dispense with that usually found on the cardan shaft or behind the gearbox in other cars.—Yours truly,

E. H. OWEN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I agree with Mr. Wellington that it is most important the foot brake should be used with great care, as every other portion of the mechanism of a car should be used, but I cannot agree that the purchase on the back brake is one-third greater as a rule than the pressure on the foot brake, in so much as the foot brake works through a reducing gear

o an average of about 5 $\frac{1}{2}$  or 4 to 1, and, of course, increases the holding power of the foot brake in direct proportion. The increase, of course, in a live axle car is obtained in the bevels, and in the chain-driven cars in the sprocket wheels.—Yours truly,

MAWDSLEY BROOKE.

### STEAM v. PETROL

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Having just completed the purchase of my first car (steam) you will understand that I read all I can on the subject of the respective merits of steam v. petrol. After having perused the latest issue of the *M.C.J.*, the idea has occurred to me as to whether it would be possible to estimate the number of miles which could be relatively covered by steam or petrol cars (ordinary touring cars) of the same b.h.p. at the road wheels, in return for the expenditure for any named sum, say £20–50.

This must be a question of supreme interest to any prospective purchaser, and a most satisfactory way of deciding it would be by having a trial on the basis of so much cost per mile at an average speed of say, eighteen miles per hour or over.—Yours truly,

J. H. BROOKES SMITH.



From a caricature]

Baron Henri de Rothschild.

[in *Le Chauffeur*.

### THE CLUB TRIALS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The way in which the Automobile Club has lately managed its trials should lead the new committee to pause before sanctioning further enterprises of the kind. Compared with the organisation that was something to admire in the days of the 1,000 miles trial and of that to which we were accustomed when the Crystal Palace was the venue, the arrangements now in vogue are amateurish and wanting in decision. After the van trial fiasco there were hopes that efforts would be made to retrieve the lowered reputation of the Club; but, so far as I can learn, the way in which the tests now taking place have been dealt with leaves much to be desired on that account.

The recent efforts of the Club to prevent makers having runs on their own account is a policy of the dog in the manger when we remember that the vaunted Tourist Trophy contest has been retarded till the autumn. Fortunately the Scottish Club has given manufacturers an opportunity of demonstrating their prowess, and they can rely on the organisation of the event being reliable and perfect. But surely it is time the A.C.G.B.I. gave up such vain efforts.—Yours truly,

A. B. ENGLAND.

### THE COST OF CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Mr. S. F. Edge, with his usual ability for making himself prominent, has been suggesting that the British motor-car trade, for the purposes of combating the foreign industry, should give a three years' guarantee, and suggests that his brother British manufacturers should do the same. In view of the difference in price charged by Mr. Edge for his goods, and those charged by other of his British and foreign competitors, I would suggest that the proposition is a bad one coming from him; and I would equally suggest that, before he makes such propositions, he should first consider the advisability for the benefit of the British industry of bringing his prices down to the level of other makers and in proportion thereto.

To make my letter as short as possible, I give you hereunder a list of cars with their respective bores and strokes, their cubical contents, their brake horse power calculated at ten cubic inches for 1-h.p., which is a good maximum efficiency, the price of each vehicle, and the price per b.h.p. :—

- 40-h.p. Napier, 4 in. by 4 in. (6 cylinders) = 300 cubic in. contents or 30-b.h.p. Price £1,250 = £41.50 per b.h.p.
- 30-h.p. Maudslay, 4 $\frac{1}{2}$  in. by 4 in. (6 cylinders) = 380 cubic in. contents or 38-b.h.p. Price £825 = £22.75 per b.h.p.
- 24-h.p. Fiat, 125 mm. by 150 mm. (4 cylinders) = 450 cubic in. contents or 45-b.h.p. Price £720 = £16 per b.h.p.
- 32-h.p. Siddeley, 5 $\frac{1}{2}$  in. by 5 in. (4 cylinders) = 430 cubic in. contents or 43-b.h.p. Price £775 = £18 per b.h.p.
- 35-h.p. Daimler, 134 mm. by 150 mm. (4 cylinders) = 520 cubic in. contents or 52-b.h.p. Price £990 = £19 per b.h.p.
- 24-h.p. Itala, 130 mm. by 140 mm. (4 cylinders) = 460 cubic in. contents or 46-b.h.p. Price £850 = £18.40 per b.h.p.
- 40-h.p. De Dietrich, 130 mm. by 160 mm. (4 cylinders) = 510 cubic in. contents, 51-b.h.p. Price £1,110 = £21.50 per b.h.p.

In comparison with each and every of the makers above quoted, Mr. Edge's car works out as follows:—In comparison with the Maudslay, he should charge £680 for his chassis, or in comparison he is £570 too dear. In comparison with the Fiat, he should charge £480 for his chassis, or he is £770 too dear. In comparison with the Siddeley, he should charge £540, or he is £710 too dear. In comparison with the Daimler, he should charge £770, or he is £480 too dear. In comparison with the Itala, he should charge £550, or he is £700 too dear. In comparison with the De Dietrich, he should charge £645, or he is £805 too dear.

Further comment is needless. Mr. Edge can give three, four and five years' guarantee, and even then he is dearer than his competitors, and I repeat it does not come well from him to suggest that his competitors, who are so much cheaper, should give such lengthy guarantees.

I have every pleasure in sending a copy of this letter to each of the firms whose names I have taken the liberty of mentioning, and trust that you will find space for my letter in defence of both British and foreign manufacturers.—Yours truly,

D. M. WEIGEL.

We have also received several other letters on the subject, including one from Mr. S. F. Edge. Unfortunately, the tone of some renders them unsuitable for our correspondence columns.

### THREE-CYLINDER ENGINES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We see that Mr. Mawdsley Brooke is somewhat altering the opinions expressed by him a few years since when he was making three-cylinder engines, though we notice he still is of the opinion, which is what we have always contended for, that a well made three-cylinder motor will run more sweetly than a badly made four-cylinder one, and that with the best construction of both in practical use there is little, if anything, to choose between them, with the advantage of 30 per cent. of simplicity in favour of the lesser number. We confess we cannot follow Mr. Brooke's "pendulum motion." Certainly we have never noticed anything of the kind, nor can we see what difference it can possibly make whether the engines are fired 3, 1, 2, or 1, 2, 3, in either case giving the same practical continuity of torque to the crank shaft. The main point of our contention is that the needs of the public in steadiness of running are, for all practical purposes, as fully met with the three-cylinder engine as with the four, and that with a considerable decrease in the number of parts used.

THE DURYEA MOTOR CO.

### POLICE NESCIENCE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It may interest fellow readers of the *M.C.J.* to hear of an interesting case of police ignorance experienced by myself last Sunday in Portsmouth. It was about 7 p.m. and I had driven my car to the ferry to try and get across when the constable on duty there asked me why my head lamps were not alight, in order that he could see in y



front number. I called his attention to my side lamps and rear lamp, which were alight, but this failed to convince him I was in the law, and he persisted in his original idea that my front number should be illuminated, although, when requested to summon me on that count, he considerably declined.—Your truly,

ARCHIBALD GRAY.

### DRIVING CERTIFICATES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Might I complain through your valuable paper against the attitude of the Automobile Club in their endeavours to make it the universal custom for owners, etc., to employ only holders of the Club's efficiency certificates?

I think this is putting a very unfair tax on drivers. Of course, there are several members of the Automobile Club who are willing to pay the fees to have their drivers examined, but at the same time there are a great many drivers—especially those who are employed by firms—who will have to stand the expense themselves, and I must say I think drivers have enough responsibilities to stand already without having additional taxes put on their shoulders.

its way to adopt the price basis for the fuel, yet we consider this is an improvement on the former regulations.—Yours truly,

JOHN E. GIBBS AND CO.

### A WARNING.

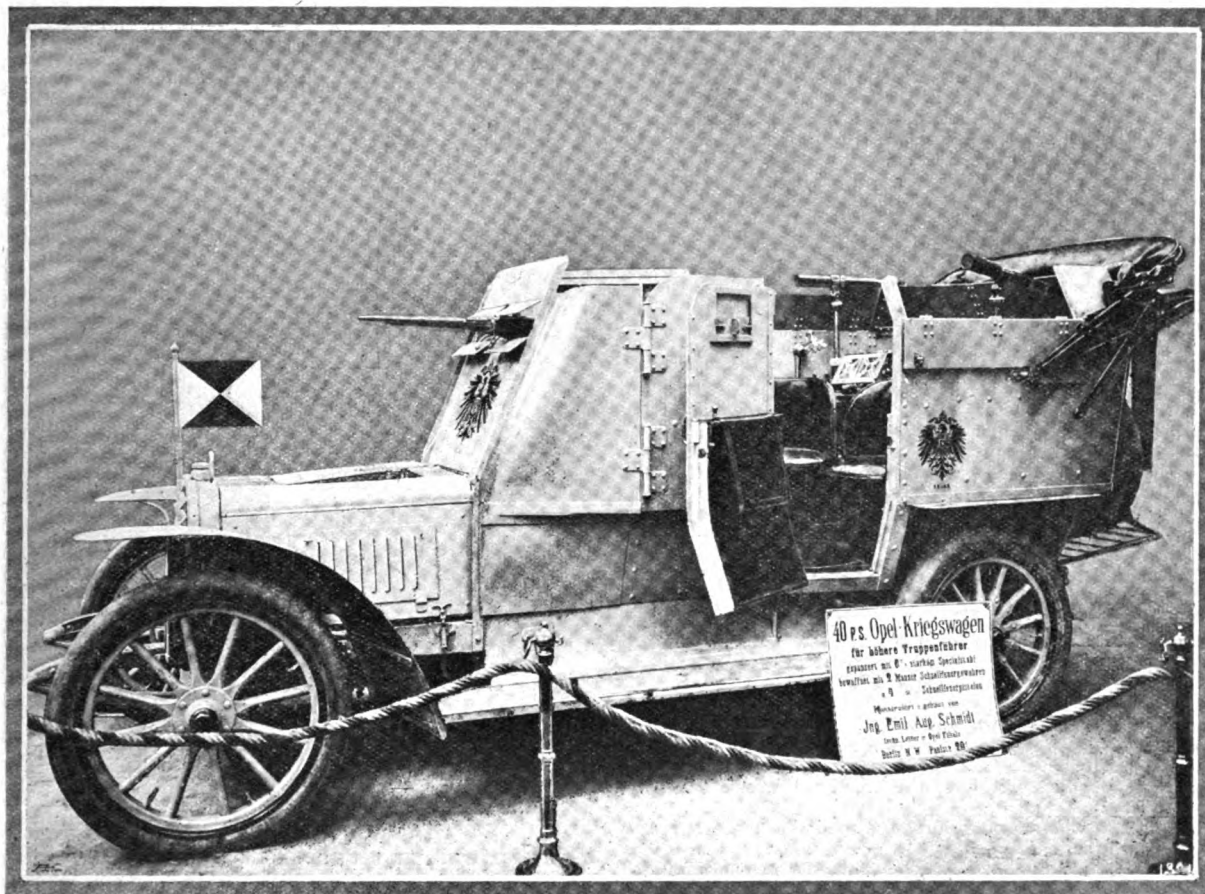
TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have been the victim of a trick that it is well you should know about. A young man called on me from an imaginary garage. He nominally came from one at Kilburn, and said he was sent to see my references, finishing by wanting me to call on the manager on a morning later, promising me a job to drive a motor-car. Needless to say no such place existed.

Before leaving he said he had had to leave his car elsewhere, having fallen short of petrol, and borrowed 2s. 6d. When I went to Kilburn I heard that several had been asking for the same garage, so probably I am not the only victim. I daresay you will warn the public who advertise in your paper of this trick.—Yours truly,

A VICTIM.

[We would certainly warn our readers against lending money to strangers, and say, with Polonius, "Neither a borrower nor a lender be."]



The 35-40-h.p. Opel Darracq Military Motor-Car exhibited at the recent Berlin Exhibition.

The vehicle, which has been built to the designs of Herr E. A. Schmidt, is equipped with two quick-firing guns and four Mauser pistols, the body being encased in armour plate 6 mm. thick. [Allgemeine Automobil Zeitung.]

888: In any case I do not think the examinations should be held by the Automobile Club but by the Board of Trade, as 'marine engineers', etc., examinations are held.—Yours truly,

F. C. M.

### THE TOURIST TROPHY RACE REGULATIONS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We are very pleased to learn that an assurance has been given by the A.C.G.B.I. that "any car may enter for the Tourist Trophy Race with the exception of electrically propelled vehicles, and that each competitor is asked to state which fuel he prefers, when it will be supplied accordingly." This statement is, of course, of the greatest importance to those who wish to enter cars which use fuel other than petrol for the Tourist Trophy Race. We are all the more pleased to hear that any fuel will be supplied according to the wish of the competitor, because we had received a communication from the A.C.G.B.I., stating that "petroleum spirit will be the only fuel supplied for the race of 1906." This rule, we take it, must now have been altered. Although we regret that the A.C.G.B.I. has not seen

AUTOMATIC TYRE PUMPS OR INFLATORS.—The Heron Motor Company, Birmingham, writes:—"Referring to 'Western's' letter in the *M.C.J.* of 24th February, we are shortly putting on the market a new power inflator which will be adaptable to any car. It has points of advantage over anything hitherto designed for this work, and we shall be pleased to forward particulars as soon as the necessary protection is secured."

MOTORS ON HIRE.—We have an inquiry as to the name of a firm letting motors on hire to haul trucks or vans in the London district.

FROM ST. AUSTELL a doctor writes:—"Recently I put an advertisement, wanting a car, in the *M.C.J.* This appeared only once. From that I received 117 replies. It has been impossible to answer all these letters, but it speaks highly of your journal as an advertising medium."

MR. GEORGE HURST writes with reference to the advertisement of one of his chassis for sale as a new one at £220. The lowest trade price is above that figure; hence the chassis in question is not a new one.

SOLARINE POLISH.—E. W. is anxious to know where he can obtain "Solarine" polish on wholesale terms.

## SPRING SUSPENSION.

Of all the problems which vex the automobile designer one of the most important is that of flexibly mounting the vehicle. It is also much more complex than the simplicity of the resulting mechanism would seem to indicate to the lay mind. The chassis must be so flexible as to accommodate itself to the inequalities of the road without straining the working parts; it must be sufficiently substantial to withstand all shocks, incalculable in their possible magnitude, to which it will be subjected; it must be sufficiently sensitive to cradle the weight of a child, yet strong enough to endure tremendous impacts. It is the framework of the car, moreover, which is most apt to be slighted in the daily round of attention after a car has been in service for some little time, because of its very simplicity. Nuts are allowed to work loose, axles to get out of line, and shackles and springs to go without oil, and finally to rust—yet any mishap in that quarter is looked on with surprise.

While some important changes have been wrought in chassis construction during the past two or three years, there have been no strikingly radical or unexpected innovations, and there does not seem much room for further development of this part so long as the methods of production and application of power remain unchanged. But the tyre problem and the spring problem, co-related as they are, yet offer great opportunities to inventive genius. A decrease in the resiliency of the tyre demands an increase in the elasticity of the springs and vice versa, so that a balance must be struck between the two. The exact relation between them remains yet to be fully established, but it is not at all unlikely that ultimately tyres of a less effective and more dependable nature than the pneumatic will be used largely, and the springs will be called upon to furnish the greater part of the cushioning effect. Present indications would seem to point to such a possibility, at all events. This will certainly lead to considerable improvement in the methods of suspension. At present the cushioning work is divided between the tyres and the springs, the former absorbing the minor shocks and vibration, while the latter take care of the heavy jars.

The chief difficulty hitherto has been to so design the springs that they will yield sufficiently under normal load to deaden all shocks, yet not oscillate excessively under unfavourable conditions. In order to secure this desirable result not only must the springs be flexible but their supports must also be yieldable to a certain extent. The use of long spring arms, particularly those turning outwardly, which are used where the rear springs are offset, very materially aid in securing this result. Advancement in spring suspension has been marked by steady though not too rapid progress. From year to year certain changes have been evident, but they have on the whole been of minor importance, and to-day the springs and their methods of attachment are much like those of three and four years ago. The general lowering of the centre of gravity and the increase of the stability of the machine have been brought about chiefly by changes in the method of shackling.

The practice of offsetting the springs, instead of placing them directly beneath the frame, has increased in popularity to a surprising degree, considering the small number of cars which exhibited this feature a year or so ago. The great advantage in this usage lies not only in the increased stability resulting from the wider base but in that the load on the axles is brought nearer the wheels, and the liability of the axle to spring is therefore greatly reduced. Again, a consideration which probably has even greater weight than this in influencing designers, is that the frame may be swung closer to the axle than is possible where the older method is used, and hence the centre of gravity lowered and the body made more accessible, without the road clearance being affected.

The generally increased length of spring has already been referred to. It is particularly noticeable in several European cars, which a year ago were using thirty-five to forty-five inch springs, and now use springs of forty-five and even fifty-five inches in the rear. This involves several changes in the mode of attachment to the frame. The rear dumb-irons are made much longer, which insures that they yield slightly to sudden shock and thereby assist the work of the spring, and where the side chain drive is used the forward end of the spring is often carried over the sprocket shaft and linked to the front side of the bearing. A particular advantage of the long spring is that, its period of oscillation being longer, the easy riding quality of the machine is enhanced greatly. A few of the springs are, considers a writer in the "Horseless Age," set rather high, their ends coming even with or, in one or two instances, above the level of the frame. In such a case the dumb-irons are inverted, in order to keep the frame down low. In general, however, the height of the springs would appear to be about the same as was customary a year ago, the increased length giving the effect of lower set. The front springs are set directly beneath the frame, and are bolted in front to a rigid arm, often an integral part of the frame, while in the rear they are either suspended from a curved dumb-iron or shackled directly to the frame by a link in compression. A unique method of front suspension is to be seen in one well-known car, which has only a single spring, placed crosswise and shackled to the steering forks on the axle, while it is bolted to the frame beneath the radiator.

The three point support idea as applied in the platform spring is gaining in favour. By the use of this form of spring not only is the ease of riding improved but the general construction is simplified, because the rear spring arms are done away with, the cross spring being clamped directly to the rear cross bar of the frame, or, in a few cases, to an extension of the frame. Illustrations of this latter method are found in the Renault, and in another car in which a tubular extension of the

frame is riveted to the channels at the two rear corners and extends backward a foot or so, the cross spring being clamped to it at the centre.

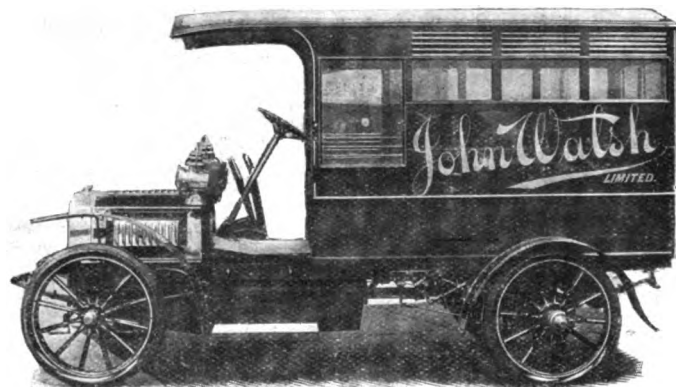
## MOTOR-CAR MISHAPS.

A MOTOR-CAR proceeding from Sheffield to Dore has met with a serious mishap. Just after turning a corner the car skidded, and before it could be pulled up it collided with the kerbstone at the foot of one of the electric standards. The impact was such as to tear off one of the wheels of the car and to throw one of the passengers out. He was rendered unconscious and was removed to the hospital.

ON Monday evening a motor-car belonging to Mr. Alex. Spencer, of Blackheath, was being driven up Blackheath Hill by the driver, Frederick Cribb, when an eight-year-old lad, named Knight, ran out of a side street and got under the wheels before the driver could pull up. The boy died on the way to the hospital.

## THE SHEFFIELD MOTOR-CAR SHOW.

UNDER the patronage of the Sheffield and District Automobile Club, a motor-car show is this week being held in the Artillery Drill Hall, Sheffield. Although not so large or as important as those lately organised in Liverpool and Manchester, the range of cars which has been got together reflects the progress which is being made in the automobile industry in this important Yorkshire industrial centre. Messrs. Durham, Churchill and Co., whose works are at Grimesthorpe, are of course amongst the exhibitors; they are showing a handsome 24-30-h.p. Hallamshire car with side-entrance body, a 12-14-h.p. vehicle, and the neat, 10 cwt. delivery van illustrated herewith. Various sizes of the Champion friction clutch and Aster engines are also displayed. Messrs. Joseph Tomlinson and Sons, Limited, Sheffield, show the National and Alldays cars; Messrs. Vayson, Easterbrook and Company,



The Churchill 14-h.p. Delivery Van.

the Spyker; Messrs. Thos. Haigh and Company, in conjunction with Messrs. Burdon and Ball, the Wolseley, Brotherhood, Belsize, Vulcan, Darracq, Clement-Talbot, Arrol-Johnston, and an 8-10-h.p. La Plata car fitted with Aster engine; Messrs. Brook, Shaw and Co., Aster and Napier; Mr. A. Farnell, Bradford, Daimlers; the Sheffield Motor Company, Argylls, Humbers, and Cavendish (9-h.p. and 8-10-h.p.); and Messrs. Thompson and Sons, Rex. In the tyre section we noticed the Shrewsbury and Challiner Tyre Company, Limited, and the India Rubber and Gutta-percha and Telegraph Works Company. The show closes to-day (Saturday).

## ROAD REPORTS.

ROCHDALE.—The bridge spanning the Rochdale Canal, and forming the boundary between Rochdale and Milnrow, is to be widened from 13 ft. to 42 ft.—a convenience to all the traffic passing that way.

UCKFIELD.—The Highways Committee of the Uckfield Urban Council is making a thorough investigation of the roads within its area, with the view of improvement for the benefit of those who have occasion to use them.

COMPLAINTS IN KENT.—During last summer various local authorities recommended the coating of the roads with a preparation of which tar was the main ingredient, in order to prevent the creation of dust by motor and other vehicular traffic. The Hythe Town Council was one of the first to adopt the system, a good proportion of the roads of the Cinque Port being treated in this way. The question has now been raised whether the tar is not injurious to horses, and at a meeting of Hythe Corporation, on Tuesday, a letter was received from Mr. Cloke, the proprietor of omnibuses plying between Hythe and Folkestone, who stated that several of his horses were suffering from acute inflammation of the fetlock and the heel, and the veterinary surgeon called in was of opinion that the malady was caused by the tar on the road.

## CLUBS AND ASSOCIATIONS.

### AERO.

THE Aero Club balloon is in constant requisition, and three new members—Captain Corbet, Mr. J. Lyons Sampson, M.I.M.E., and Mr. Harry Brittain—ascended at Wandsworth on Saturday last with the Hon. C. S. Rolls, whose motor-car, with a party of friends, gave chase to the aeronauts across London. By varying the altitude slight changes of direction could be obtained with the balloon, and this made the motorists' task very perplexing. The river was crossed several times, once by ferry, and the balloon was lost sight of for a considerable period. Relying for their route chiefly upon the direction in which smoke was blowing, and the information of those who had seen the balloon, the motorists persisted in the chase, and the balloon was eventually run to earth in a field near Rainham, in Essex.

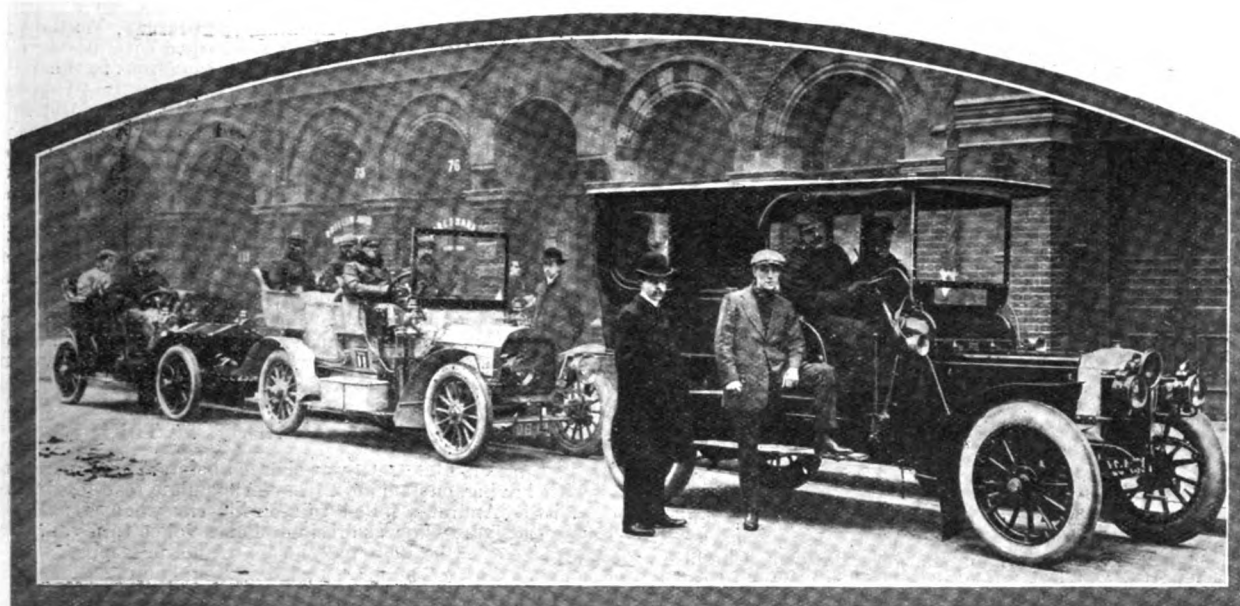
### WEST SURREY.

THE second annual luncheon of the Club was held at the Angel Hotel, Guildford, on Saturday, when members and guests to the number of fifty-six were present.

Rear-Commodore, Mr. W. Miall Green. The committee consists of the following gentlemen:—Viscount Royston, Lt. W. Windham, R.N., Lt. H. G. Vereker, R.N., Messrs. R. Haden Tebb, R. Denys Dundas, W. Lawrence, E. Owers, L. Stroud, A. G. Fentiman, F. Sims, S. Edge, C. Jarrott, Mawdsley Brooke, L. Miles, A. Kenealy, C. Cordingley, G. de H. Stone, E. Kenealy, A. Harden, H. T. Arnott, G. Neill, J. S. Holmes, F. C. Blake, N. B. Kenealy, F. B. East, Oswald B. Colls, and A. Lee Guinness. It was decided to form branches and affiliated branches in various parts of the United Kingdom. The statement of accounts showed the club to be in a very healthy condition. Racing will be held at Oulton Broad in June; Liverpool (in conjunction with Liverpool Bay Yacht Club), June 8th, 9th; in July a highly interesting event will take place, which will attract a deal of attention from both private owners, the trade and the public. In August races will be given at Cowes and on the Solent, when the Entente Cordiale Challenge Cup will be raced for and also most probably the Motorist and Traveller Challenge Cup. In September another three days' meeting will be held.

### EAST SURREY.

THE East Surrey Automobile Club held its annual general meeting at its headquarters, the White Hart Hotel, Reigate. Major Kingsley O. Foster, J.P., C.C. (president), was in the chair, the other members including Mr. A. Gunning Keen, Mr. H. Rosling, Mr. W. F. Garside, Mr. H. Hughes, Mr. G. H. Bowden, and Mr. D. J. Barry (hon. secretary). The annual report referred to much good work done during the year as well as to the social entertainments provided. The members



The Tyre Trials. The Three Cars Starting From Westminster. (See page 21.)

Colonel Fairtlough, chairman, presided, and a short toast list concluded the proceedings, the loyal toasts being followed by "The A.C.G.B.I. and Motor Union," proposed by Mr. Buttemer, hon. sec., and responded to by Messrs. Rees Jeffreys and Orde; "The West Surrey Club," proposed by Mr. Orde and responded to by Colonel Fairtlough; "The Guests," proposed by Mr. Pullman and responded to by Mr. Sparkes, and "The Chairman," proposed by Mr. Jeffreys.

The annual general meeting was held subsequently in the club room, those present including Colonel Fairtlough, Colonel Rawstorne, Messrs. Bryan Hook, J. Fletcher, Dr. Henderson, Dr. Fennings, E. G. Williams, R. Vogan, J. F. Ponsford, A. C. Tessier, F. Alder, J. F. Ochs, E. E. Pullman, A. King, St. J. Bashall, and R. W. Buttemer. The chairman gave a *resumé* of the club's work during the year, stating that it now numbered 71 members. The election of the committee for 1906 was then proceeded with, the nominations being Col. Fairtlough, Messrs. W. G. Crothers, J. F. Ponsford, A. C. Tessier, J. F. Ochs, E. E. Pullman, Dr. Mitchell, and R. W. Buttemer, all of whom were duly elected, the chairman, treasurer, and secretary being re-elected to their respective offices. It was also announced that the Hon. St. John Brodrick had been elected to, and had accepted, the presidency of the club.

### BRITISH MOTOR-BOAT CLUB.

THE annual general meeting of this club was held at the headquarters, Craven Hotel, Charing Cross, London, last week. The officers for the ensuing year were appointed as follows:—Commodore, Admiral Sir William Kennedy, K.C.B., Vice-Commodore, the Marquis of Ailsa,

now number fifty-three. The summary of accounts, which showed a balance of £30 15s. 8d. on the right side, was also presented and adopted.

On the motion of the Chairman, Captain Rawson was elected president, and the following were elected as vice-presidents for the ensuing year:—Sir A. Rendel, Sir G. Livesay, C.E., Major Kingsley O. Foster, J.P., C.C., Mr. H. Bell, Mr. H. N. Correllis, and Mr. J. B. Purchase. Mr. D. J. Barry was re-elected as hon. secretary and treasurer. The following were elected to serve as the committee for the ensuing term:—Messrs. G. H. Bowden, N. Colman, W. F. Garside, H. Hughes, A. Gunning Keen, H. Rosling, J. Underhill, C. H. Whittington, and J. Whittington.

At the conclusion of the ordinary business, Mr. Keen rose and said that the East Surrey Automobile Club was started with the idea of looking after the interests of motorists generally in that part of the country, and not so much as a social club or for arranging runs. They had communicated with the County Council and with the Local Borough Council with regard to dangerous places, and the former body had put up triangular boards at such spots. These boards were a great help to motorists, particularly to those who were strangers to the district. In that borough, however, there was not one that was of any use, and when they had asked to have them put up their request had been ignored. If one was to be put up it was to be erected at their expense. They had a certain amount in hand, but if the club did put up a triangle at its own expense the Borough Council would come down and ask why they had dug a hole in the side of the bank, and placed a board without rhyme or reason? A triangle was especially wanted at Buckland Corner, and one was also needed at the Angel, Woodhatch,

and at the top of the mill near St. John's Church. It was nonsense for their Borough Council to say they were to do it at their own expense, which they would be happy to do if the Council was willing to maintain them; and he, personally (if the club would not) would supply the triangles if the Council consented to supply the poles.

### SHEFFIELD AND HALLAMSHIRE MOTOR CYCLE CLUB.

THE second annual dinner of the Sheffield and Hallamshire Motor Cycle Club proved a successful meeting. The president, Mr. J. H. Hall, presided, and amongst others present were Mr. J. R. Kelley (president of the Leeds Motor Cycle Club). After the loyal toasts Mr. Kelley gave "The Sheffield and Hallamshire Motor Cycle Club," and pointed out that one of the main objects of the formation of clubs was to get rid of many of the penalties and restrictions whereby the law affected motorists. He congratulated the Hallamshire members upon their programme of last year, and spoke in favour of competitions giving members some incentive to excel as a great means of making their club a success. Motor-cycling he regarded as the most attractive of all sports, requiring skill, strength and intelligence by its devotee, and possessing that spice of danger which all Britishers love. He suggested the formation of a Northern Union of Motor Cycle Clubs. The London Union did not, he thought, pay sufficient attention to that part of the country. Mr. Kelley went on to urge instruction classes, lectures, and papers on matters connected with motors. He would also like to see inter-club runs between Sheffield and Leeds, and concluded with a few words of advice as to the way of increasing club membership.

Mr. J. Haslam, in responding, mentioned that when the club was formed eighteen months ago they had only six members. They had now sixty-five. He thought it likely that inter-club runs would be instituted. During the coming season they would have four competitions.

The President then made a presentation to Mr. J. Haslam as an acknowledgment of the appreciation of the members for his services as hon. secretary. Mr. Haslam suitably replied.

Dr. A. Forbes proposed the health of the president. Mr. J. H. Hall replied, and spoke of the necessity of an increase of members, which he thought ought easily to be forthcoming, seeing that there were over 400 motor-cyclists in Sheffield. He advocated the abolition of the speed limit, and favoured the institution of more competitions, as being to the advantage of sport. He also thought that there should be some sort of competition for ladies. He thanked them for drinking his health.

### ESSEX.

THIS club held its first annual supper and prize distribution, with Mr. W. H. Bishop in the chair, at the Crown Hotel, Ongar. The members went down by road, meeting at the Castle, Woodford. Thence they proceeded via Chigwell and Abridge to Ongar.

### THE MOTOR UNION.

THE General Committee of the Motor Union has elected the following automobilists to life membership of the Union:—Messrs. Charles H. Sample, Corbridge-on-Tyne; Norman Barker, Bowden, Cheshire; Edward T. King, Pulborough; R. Jackson, St. Helens; James Cooper, Scarborough; John Kennedy, J.P., D.L., London.

### SOUTHERN.

THE Southern Motor Club are organising an open event, which will take the form of a hill-climbing contest to be held on April 7th. This club has been most successful in all its club events, and the forthcoming contest will be of great interest to all motorists. Mr. H. Jones is the hon. secretary of the Sports Committee.

THE North-East Lancashire Automobile Club is arranging to establish a club-room for its members in Blackburn.

THE Essex Motor Club have had a most interesting lecture by Mr. H. Wyatt on "Magneto Ignition."

OWNERS of motor-cars as well as motor-cyclists are admitted to membership of the Sheffield and Hallamshire Motor Cycle Club, of which Mr. J. Haslam, 271, South Road, Sheffield, is the hon. secretary.

### MOTOR-CYCLING.

THE Motor Cycle Union of Ireland will hold the first of a series of speed trials at Portmarnock early next month.

Mr. J. van Hooydonk is now the trials hon. secretary of the Motor Cycling Club.

Motor-cycles will not be included in the annual hill climb of the Catford Club at Westerdam.

Mr. C. J. Eames, 97A, Caversham Road, Reading, is forming a motor-cycling club for the district; a similar organisation is in contemplation at Walthamstow. Mr. G. S. Blackledge, 17, Pretoria Avenue, Walthamstow, is the hon. secretary.

A committee of the Auto Cycle Club has been formed with a view to drawing up rules for a silencer competition.

### PUBLIC MOTOR SERVICES.

THE directors of the Isle of Wight Railway have under consideration the running of motor-omnibuses between outlying districts and rail-motors on the line. They are watching the experience of other people in that direction before embarking on experiment.

AT the statutory meeting of the Motor Bus Company, Limited, on Monday, Mr. Samuel Wheeler, the chairman, said with regard to their friendly alliance with the Vanguard and Arrow companies, a committee of the managing directors of the three companies had already met.

A SERVICE from Aberystwyth to St. David's, Haverfordwest and Tenby is about to be established by the West Wales Motor Company.

WITHIN three years the directors of the London General Omnibus Company expect to complete the substitution of motor-vehicles for horse-drawn buses on the main roads.

THE receipts from the motor-bus service at Eastbourne during January were £438, the passengers numbering 84,637.

THE Manchester District Motor Omnibus Company, Limited, has been registered with a capital of £300,000, and offices at 55, Bishopsgate Street Within, London, E.C. Mr. Daniel Boyle is the managing director.

IN consequence of the petition by the householders of Warwick Street, South Belgravia, against the use of that thoroughfare by motor-omnibuses, the General Purposes Committee of the Westminster City Council is recommending that a letter be addressed to the Commissioner of Police pointing out that the cars are a noisy nuisance and that the property on either side of the street is being damaged.

### CASE DISMISSED.

AT the Police Court, Dorking, on Saturday, William Rainforth, of 49, Grafton Road, West Acton, was charged with driving a motor-car at Mickleham at a speed or in a manner dangerous to the public. According to the evidence of four constables it was said that the defendant proceeded down a hill in Mickleham at the rate of thirty miles per hour. Two of the constables had stop watches by which they timed the defendant. One of the police officers asserted that three pedestrians had to swerve out of the road of the car and that a trap which was proceeding in the same direction had also to pull in to the near side of the road owing to the very furious rate it was alleged the defendant was proceeding down the hill. For the defence Messrs. Kenneth Brown and Co. called evidence to the effect that the police were wrong, that the car was proceeding at quite a normal pace down the hill, that instead of there being three pedestrians there were only two, and they had no occasion to get out of the road, or in the least to divert the course they were on, that the pedestrians took no notice. The Bench dismissed the summons, stating that they were satisfied that there was no danger to the public.

### CASES AGAINST MOTORISTS.

FRANCIS BRENNAN was charged before Sheriff Armour, at Cupar, with having, on January 27th, on the public road leading between Crail and St. Andrews, failed to stop his car when signalled to do so by James Clyde, who was driving a horse yoked to a van. After hearing evidence the sheriff found the charge not proven.

A VICAR's chauffeur, named Ernest Thorn, was severely punished by the Chipping Sodbury (Gloucestershire) magistrates on Saturday for driving at what one witness called the speed of an express train. The motor-car, in which were three ladies, collided with a farmer's cart, breaking the axle and pitching out the occupant, who, as he lay unconscious in the road, was told by Thorn, "It's no good to stop there being sulky." Having been previously fined at Bristol for reckless driving, Thorn was committed for three months' imprisonment with hard labour and without the option of a fine. He did not appear in court, and a warrant was issued for his arrest.

Place.	Summoned for	Result.
Chiswick ... ..	Dangerous driving	£5, etc.
" ... ..	Failing to stop car after accident	£5.
Lambeth ... ..	No light	£5, etc.
Brierley Hill ... ..	Dangerous speed	Pay costs—no conviction.
Chertsey ... ..	Two cases of reckless driving	£5 and £3 respectively.
Hailsham ... ..	No rear light	2s. 6d., etc.
Bow Street, London	Allowing visible vapour to escape from motor-car in St. James's Park	£3, etc.
Newcastle ... ..	Driving recklessly	£2, etc.
Guildford ... ..	No identification plate on motor-bicycle	10s., etc.
Edinburgh ... ..	Reckless driving	Not proven.
Cardiff ... ..	Excessive speed	Dismissed.
Newcastle ... ..	Dangerous speed	£2, etc.
Liverpool ... ..	Furious driving	Dismissed.



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## COMMENTS.



ON Saturday, the 24th, the doors of the Agricultural Hall, London, will swing open upon a most representative display of all that appertains to automobilism on land and water as well as in the air. From the list of exhibitors on another page it will be seen that all the great engineering centres will be represented, while fifty leading firms will testify to the progress which the British industry has made in the direction of supplying motor-vehicles for heavy traction, public services, commercial work and the like. The collection of pleasure and touring cars will be equally exhaustive. A very notable feature of the Continental section of the display will be the position attained by Italy, from whence will come half-a-dozen new types of cars that will reveal a workmanship and design surprising to those who have not previously recognised the development that is taking place in that country. Motor-boats, airships, etc., will add to the popular character of the Exhibition, while the meetings and conferences which have been arranged by the Motor Union and other associations will add to the importance of the Motor Week at the Agricultural Hall from the 24th to the 31st inst.

### The Stands.

FROM all we can learn the stands will be designed with more general excellence than in previous years. The scheme of lighting the Hall has been thoroughly reorganised and with the decorations will give quite a distinction to the building eclipsing earlier efforts in this direction. Now that the selling season is about to begin the opportunity of seeing the best cars on exhibition will be generally accepted, and a good attendance of the public is assured. Fortunately exhibitors at Cordingley's Show recognise the importance of being ready in good time, and it is expected that everything will be in order by 10 a.m. on the first day.

### Petrol Dangers in London.

THE London County Council is urging upon the Home Secretary the importance of giving effect to the recommendations of the Select Committee on Petroleum which appeared in the report issued in 1898. The Council draws special attention to an accident which occurred in Cornhill in October last, when a fire broke out on a steam motor-wagon containing a quantity of petrol, and points out that should such a fire occur in a narrow and crowded thoroughfare the result to life and property might be most serious. At the inquest into the cause of the fire which was held by the City coroner, the jury found that the accident was due to the ignition of spirit leaking from defective cans, and they added a rider to the effect that the carriage of petroleum through the streets should be further regulated. "The findings of the Select Committee above referred to," says the London County Council, "and the fires and accidents that have occurred from time to time, clearly

indicate that the powers conferred upon local authorities by the present Petroleum Acts are quite inadequate to enable them efficiently to protect life and property from danger arising from the use of petroleum and other substances of a like nature, and the Government is urged to introduce a measure for giving effect to the recommendations of the Select Committee, and for further regulating the conveyance of petroleum and other dangerous substances."

### Why be Bondsmen?

THE development of the automobile industry has rendered futile all efforts to make a ring around a section of the industry. Further, the division of the November exhibition into two sections has removed all necessity for The Bond which has again come in the spring time—an annual visitant to showrooms and offices. There will now be so much space available that the system of balloting will give no advantage, and will, in fact, not be necessary to the selection of those who may, and may not, show. Thus has the whirligig of time brought confirmation of the view of those who have held that in exhibition matters the equitable policy was the old British one of "first come first served." At the same time the small firms are being taxed unduly to provide the whole of the payment of spaces and Bonds when making application. This is an easy matter for wealthy men, but will operate harshly upon smaller firms engaged on experimental work and in the perfection of their product.

### Candidates and Motor-Cars.

AT the opening of the Glasgow Motor-car Exhibition the Marquis of Graham has been suggesting a new complaint with regard to the coming of the automobile. It appears to have made the work of Parliamentary candidates fourfold what it was in the good old days. In the times of the mail coach he was supposed to address one meeting on the hustings in the day; now he was expected to address four meetings a night for six nights a week, and then perhaps receive a first-rate thrashing at the end. This is an aspect of the matter that has not been put in quite that way before. But surely there are compensating advantages; and the outcome will ultimately be that motor-cars become recognised as such ordinary means of locomotion that voters will prefer to walk to the poll—by way of change.

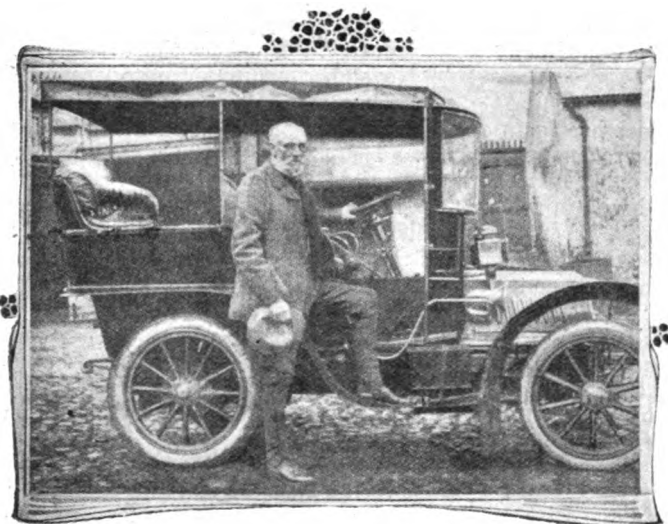
### The Internal Combustion Engine.

ON the last two Thursdays in March and the first Thursday in April Professor Bertram Hopkinson, of Cambridge University, will give a course of lectures at the Royal Institution, on "Internal Combustion Engines," the interest of which will be enhanced by a series of experimental illustrations. The syllabus suggests some improvement in instruction at certain institutes where automobile instruction has been attempted. Starting with a discussion of the conditions of economical working in engines generally, Professor Hopkinson will proceed to the necessity of high initial pressure, and specifically deal

with the Lenoir engine and its defects. The second discourse will be concerned with practical methods of compression and expansion, stratification, the Otto and other cycles, throttling, pre-ignition, etc. We look forward to the third of the series, where possible developments with regard to gaseous fuel, petrol, and other oil fuels, and similar matters of commercial as well as engineering importance will be discussed.

#### A Prominent Irish Motorist.

AMONGST the many enthusiastic motorists in the South of Ireland is Mr. Richard Barter, J.P., of Cork, who is seen in the accompanying illustration at the side of his 12-h.p. Darracq. A noteworthy feature of the vehicle is the wind shield and canopy with which it is fitted, built in accordance with Mr. Barter's patented design. The shield or screen is of semi-circular shape, and consists of a narrow bent-wood frame, to which a large sheet of celluloid is fixed. The latter follows the curve of the frame, which is attached to the dashboard in such a way that it can be removed or replaced in one minute. The canopy is built up of short lengths of light copper tubing, which occupy a very small space in the car when packed, and which extend from each of the upper corners of the wind shield to the corresponding corner at the back of the tonneau, where they are met by upright supports of similar design. A roll of



waterproof canvas is carried on the car, ready to be quickly attached when desired to the top of the screen and extended over the supporting rods to the back of the car; curtains of the same material can also be fixed, thus converting the vehicle into a comfortable closed carriage. Another addition to the car is a foot warmer, connected to a simple coil of light copper tubing encircling the silencer, which gives the necessary amount of heat. Mr. Barter uses his car almost daily, and has made several extended tours on it in various parts of Ireland. He invariably drives himself, and he informs us that the vehicle is looked after entirely by a boy he has trained to the work.

#### The Motor Union and the Speed Inquiries.

THE report of the Motor Union to be presented at the annual meeting to be held at the Motor Car Exhibition at the Agricultural Hall, London, on the 28th inst., will be a record of increasing good work. The membership of the society is now 11,265. There are now 64 clubs and organisations included in its ranks, and the record of the speed limit inquiries during the year is proof of its value to the movement. Applications for restriction of the speed limit have been refused at Leeds, St. Albans, and Ealing. Suggestions for prohibition have been declined by the Local Government Board at Whitehaven, Torquay, and Horsham. A decision is still awaited with regard to East Retford, and the only places where limitations of speed,

other than those that are universal, can be enforced are the Anstey's Cove Road, Torquay; Middle Street, Horsham, and on certain roads in Kingston.

#### The "Vanguard" in France.

A REVIVAL of the glories of the coaching days is promised by the forthcoming thirty days' tour of the Vanguard motor-coach to the south of France. The vehicle will be specially fitted up for the tour, which will start from London on the 4th prox., proceeding to Newhaven, *via* Brighton, lunch being served at the old coaching inn the "George" at Crawley. Arriving at Dieppe the interesting run will be continued to Rouen, Chartres, Orleans, Bourges, Lyons, Valence, Avignon, Arles, Marseilles, Toulon, St. Raphael, to Nice. A week will be spent at Nice and Monte Carlo, the motor-coach being available for the service of passengers during the stay. From Nice the homeward journey will be taken through Nimes, Le Puy, Moulins, Nevers, Montairs, to Paris and Dieppe, arriving in London on May 3rd—altogether a picturesque trip.

#### Balloon v. Motors.

A LARGE number of motor-cars assembled at Wandsworth Gasworks on Saturday afternoon in connection with a balloon ascent. At three o'clock the Aero Club balloon, Vivienne III., soared aloft, carrying Mr. J. Moore-Brabazon, Mr. Warwick Wright, Mr. Howard Wright (who was making his first ascent), and the Hon. C. S. Rolls. Despite the inclement weather several of the cars started in pursuit of the balloon, which moved away slowly in a north-north-easterly direction, passing over the Serpentine and Marble Arch. At this point the balloon entered the clouds and was lost to sight, some of the motorists giving up the chase as hopeless. Two of the cars, however, kept on, and had the satisfaction of seeing the balloon appearing out of the clouds just above them, in the neighbourhood of Tottenham. Signalling commenced between the occupants of the car and the balloon, which was then only 1,000 ft. high. It being about half-past four, hopes were entertained by the motorists that the balloon would make its descent, and that they might still have a chance of effecting a "capture," but the country being too closely populated for the aeronauts, the balloon rose again and remained in the clouds for half an hour, thus completely baffling the motorists, who gave up the chase at Waltham Cross, and returned disappointed to town. Had they gone a little further they would have "found," for the aeronauts descended at Hoddesdon, four miles from Hertford, in the grounds of High Leigh, the seat of Mr. Barclay, who kindly invited the balloon party to tea. The maximum height attained during the journey was 3,700 ft., at which altitude snow was falling very heavily, while at the lower level rain fell continuously, but the aeronauts themselves were able to keep perfectly dry and comfortable throughout the trip, the balloon forming, as it were, a huge umbrella above them. The average speed attained was ten miles an hour.

#### Churches as Garages.

SEVERAL buildings, formerly devoted to the purposes of religion, are now being used as motor garages. At Towcester, Mr. Victor Ashby stores the motor-cars of visitors in what was once a church; now a church at St. Albans has been converted into a motor garage and has been opened by Messrs. Giffen and Tilley as the City Motor and Electrical Works. So far as alterations to the old building are concerned, the front has been remodelled. A spacious double-fronted window has been inserted. The wall above the window has a cement dressing, which throws into bright relief the smartness of the shop underneath. Inside, nothing but the floor remains of the old parts. The ground floor serves as both a show-room and garage, and, with the exception of a small piece at the back, used for office purposes, extends the whole length of the building. The whole extent of the lower floor, which is the

old schoolroom, is the other "stable," and in this are also erected the work benches. Perhaps some of our readers when on tour may be able to discover other instances of the changes wrought by the whirligig of time.

#### Automobile Club Trials.

THESE trials of speedometers, tyres, lamps, etc., have been proceeding during the past week, but comment on the performances may fairly be left over till the official records of the judges have been obtained and compared. What would ordinarily have been a dull day in connection with the Automobile Club trials on Monday was enlivened with a scene upon the Oxford road in which the motorists played the part of spectators, while horse folk acted the comedy. The day's run was from London to North Leach and back (165½ miles), and when six miles from the turning point the occupants of one of the cars came across a two-horsed market cart left unattended outside an inn. In the near vicinity also was a countryman mounted on a horse. On the approach of the car all the horses bolted, the draught horses making diagonally across the road, and very nearly colliding with the motor. The-

the sins of the motor-car, and we trust his assurance that the question will be fairly dealt with when the general question of local taxation is considered may be regarded as indicating a readjustment of taxation on equitable lines. In view of the advantages secured by the automobile and the convenience it is proving to many public interests, there must be no imposition of new taxes on those who own cars.

#### "No Lights."

A CURIOUS point in connection with the Motor Car Act has arisen at the North London Police Court, where a motorist was summoned for (1) having no lights on his vehicle, and (2) for not illuminating the identification plate in the rear of his car. Evidence proved that the defendant had made a call and had left the car for twenty minutes in a well-lighted spot, where the absence of lights on the car itself could not become a public danger. Before proceeding on his way he relighted the lamps—the lights had been put out when the car was stopped. But a constable issued a summons, which, as the magistrate rightly said, should not have been taken out. Such a case, if brought before the courts at all, ought to have been regarded as a



Photo by]

The Tyre Trials. The Cars at Daventry.

[Agent Archer.

driver of the car immediately pulled up, while the horses continued to career along the road. In a couple of hundred yards the girth of the single horse broke, and the rider was precipitated into the mud. The car then drove up, and took the rider on the footboard to give chase to the runaway team. They were all but overtaken, and the horseman thought he would dismount to effect their capture, but having only a rare acquaintance with motor-cars, misjudged the pace, and was again brought headlong to the mud-smeared mother earth. Not to be beaten, he took a short cut across some fields, and heading off the unruly animals, took them safely back to their owner. No serious damage was done, and everyone took the whole affair in good part.

#### The Upkeep of the Roads.

SEVERAL M.P.'s are determined to press the Government with regard to throwing the whole or some part of the upkeep of main roads on the Imperial Exchequer, instead of, as at present, on the local rates. Mr. Ashley, the representative of Blackpool, has founded a question on this point calling attention to the increase in both light and heavy motor-car traffic. Fortunately Mr. Asquith, who is himself a motorist, is not likely to wholly ascribe the wear and tear of the roads to

case of obstruction. Fortunately the motorist was able to plead before a magistrate with a sense of equity.

#### Flying Machines.

IN view of the interest that attaches to aeronautics we would refer to the paper by Mr. F. W. H. Hutchinson, read before the Cambridge University Engineering Society, on the experimental flying machine model made by himself in conjunction with Mr. E. P. Frost and Mr. C. R. D'Esterre. This was based upon the principles involved in the flight of birds, and a systematic continuation of their line of work would be of much scientific value. As Mr. C. G. Lamb, M.A., the University lecturer in Electrical Engineering, has pointed out, the apparatus which has been designed seems well adapted for further experiments. With but little improvement it should be capable of being used to discover many of the required data to bring the matter to a successful issue. We understand that the experiments are now at a standstill pending the co-operation of other gentlemen interested in the subject who would be disposed to render financial as well as practical aid. Mr. Hutchinson has devoted considerable time and study, and he is to be congratulated on the unique character of his work.

**Looking after Motorists.**

WITH the strange name of the Shropshire Motor Protection Association a society exists in the Midlands with the avowed object of prosecuting motorists who exceed the limit of speed in that region. The annual meeting was held at Shrewsbury on Saturday. Mr. John Hill, of Church Stretton, the president, said at the appeal of the association the County Council had put up warning signals at some of the most dangerous corners on the main roads, and these had added considerably to the safety of people who used the roads. There was room, however, for further development in that direction. One accident, at least, might have been avoided had there been a signal post at the spot. He impressed the fact that the association was not antagonistic to motorists generally, but only to those who declined to consider the safety of the public and to obey the recognised rules of the road.

**Motor-Car Imports and Exports.**

THE importation of foreign motor-cars into this country continues on an exceedingly large scale, the returns for February showing a total of 530 vehicles of a value of £211,824. To this have to be added parts to the extent of £184,598, giving an aggregate of £396,422, a total which has only once been exceeded, and which compares with £311,990 in the previous month and £252,751 in February, 1905. A slight gain is also noticeable in the exports of British motor cars and parts, last month's total—which comprised seventy-two cars and £19,838 of parts—being returned at £39,331, as against only £26,544 in the corresponding month of last year.

**The Infallible Police.**

EVIDENTLY the authorities are recognising that the police are not infallible, and the new Order to the Metropolitan Police (already dealt with in these columns) is not the only significant sign of the shadow of doubt which is passing over their evidence. The Chairman of the Northumberland Quarter Sessions and the Chairman of the Lancashire Main Roads Committee have been giving sage advice to the police of their respective areas, and pointing out that their duties are not primarily concerned with the capture of motorists in traps. They are the guardians of property and the person; the searchers after criminal ill-doers, and the guardians of law and order. Such work can be performed without showing vindictiveness to those who use the highway—a fact which seems to be dawning into the intelligence of some of the rural police stations.

**Traffic in London.**

ATTENTION is being bestowed upon London traffic, the magnitude of which is brought clearly before the authorities by the further reports of the Traffic Commission, which have been issued recently. Some idea of the extent of this may be gleaned from the fact that within a radius of ten miles from the office of the *M.C.J.* there is a population of 4,880,460 persons, while a circle of twenty miles diameter with the same centre would include 6,696,284 persons. The internal passenger traffic of Greater London has increased to nearly 140 journeys per head of population. It is calculated that the omnibuses of Greater London carry as many passengers as all the local railways put together, and the tramways 50 per cent. more. The omnibuses of London carry numerically in one year the whole population of the United Kingdom seven times over. If the various motor and horse-drawn 'buses engaged in the streets of London could be placed end to end they would reach sixteen miles—from Charing Cross to Staines. There are twenty-nine different omnibus routes through Oxford Street to different parts of London. From the Strand the Londoner can get to twenty-three points of the City, from Whitehall to twenty-two, and from Piccadilly to eighteen. Motor-'buses hold thirty-four persons, as against the horse 'bus's load of twenty-six, so that when horse 'buses in London are replaced by motor-'buses,

the streets will be relieved of one-quarter of their existing omnibus traffic.

**Police v. Council.**

BECAUSE the police authorities of the town of Retford did not see their way to join with the Council in a war against motorists a worthy alderman of that town has thought well to denounce their attitude at a Council meeting. There was recently a Local Government Board inquiry as to the speed of motor-cars in the town, and, according to Alderman Bescoby, the Chief Inspector of Weights and Measures for Notts. thought it necessary to leave his important duties to give evidence against the Retford Corporation. He (the speaker) should like to know whether he came with the consent of his authority or out of "sheer cussedness." They contributed a fair quota to the salaries of men like the Chief Inspector and the Chief of Police, and were entitled to the assistance of the police whether it was asked for or not. He thought it was the duty of the police to attend to the regulation of the street traffic just as they looked after thieves and poachers. Certainly; and at Retford they can do that without aldermanic assistance.

**Cycling and Motoring.**

THE decreasing membership of the Cyclists' Touring Club is perturbing the minds of the leading officers of that organisation, who recognise that the growth of motoring has had much to do with the changed order of things. At the same time, cyclists and motorists have much in common; both are interested in obtaining good hotel accommodation on reasonable terms, in improving the surface of the roads, in the warnings as to dangerous corners, and such like matters. Apparently the desire to extend the scope of the club, and include all interested in travel, will find expression in the postal vote now being taken on the subject.

MR. N. D. MACDONALD will read a paper on motor services in relation to tramways, at the Society of Arts, on the 27th inst.

THE chassis driven by Mr. Frederic Coleman in the Tourist Trophy race has been sold to Messrs. Liberty and Co. fitted with a van body, to which further reference will be made next week.

THE Aero Club of the United Kingdom have provisionally selected Professor Huntington, of King's College, Mr. Frank Butler, and the Hon. C. S. Rolls to compete as the representatives of this country in the race for the Gordon Bennett (Aeronautical) Cup.

MESSRS. MOSS AND WOODD inform us that their lawsuit with the London General Omnibus Company, which has been dragging on since last June, and in which they were the plaintiffs, has been satisfactorily terminated without going into Court by the London General Company withdrawing all imputations made against the "Orion" chassis.

WE hear that one of our leading motor experts is building a gearless car—that is, a vehicle in which change-speed gearing is entirely dispensed with. It may be remembered that Messrs. Charron, Girardot and Voigt built such a car, with an eight cylinder engine, and that the same was exhibited at the Cordingley Show at the Agricultural Hall in March, 1903.

A NEW depot and show room has been opened by Messrs. Frank Little and Co. in the Westgate Road, Newcastle. The Mayor of Newcastle, Alderman J. Baxter Ellis, was present at the formal ceremony, and expressed the opinion that the time had arrived when tradesmen who wished to be up-to-date must have something a good deal faster than horse traction. After reference to Mr. Little's business tact and courtesy, his Worship proceeded to say that there was one thing which extremely delighted him, and that was this, that although the motors were not being manufactured in Newcastle, the bodies were being made by coachbuilders in the city, and he believed the day was not far distant when everything in connection with the motors, both for pleasure and business, would be made in Newcastle, which was the birthplace of engineering.



## THE EMISSION OF SMOKE.

### SOME SUGGESTIONS FOR ITS PREVENTION.

By A. E. S. CRAIG.

SO important do I consider the question of lubrication in connection with smoke abatement, that I would first like to briefly summarise the gist of what I have already tried to point out when recapitulating, in some articles entitled "The Trail of the Unconsumed," the *pros* and *cons* of the various systems. My argument in chief is that the ideal method of lubricating a motor is one that shall be, as far as possible, fool-proof. It must automatically start and stop, and feed in ratio to the speed of the engine. Once properly regulated, it must deliver measured doses of oil to the parts requiring lubrication as directly as possible. The splash system alone is too crude to allow of that nicety of regulation which can be obtained by other methods. Sight feeds by gravity and pressure require too much continual and intelligent attention to attain and keep any approach to perfection in the hands of the average motor-omnibus driver. This leaves us with the choice of various systems of mechanically-worked and measured feeds, such as pumps and dredgers of different pattern, and here lies the direct and only road to true economy and efficiency, and the reduction to the smallest limits of error—*i.e.*, that fatal margin, which results in clouds of filthy smoke on the one hand, and serene inoffensiveness on the other.

A few words on the question of explosive mixture. There is some degree of truth in a remark I read in an article on carburettors to the effect that "an automatic carburettor is one which gives an imperfect mixture at all speeds." Now, as air does not yet have to be purchased from the London County Council in two-gallon cans, it seems a pity not to burn as much of it as we are able, and there should be no real objection to having, in addition to the most automatic of carburettors, a supplementary hand air control. With this control placed conveniently to the driver, and a bonus paid to him weekly in proportion to the economy of petrol as against his way bill, we should hear no more about too rich mixtures or of the emission of smoke. The occasional annoyance caused by oil getting on to the exhaust pipe is sufficiently rare, and the remedy so obvious and simple, that the drivers should have no difficulty in dealing with it.

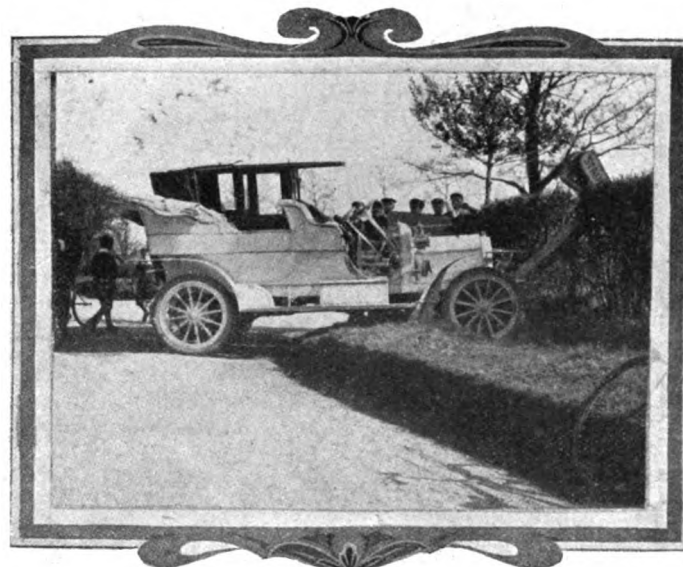
But, assuming that all this is correct—lubrication well regulated and the mixture suitably adjusted—I regret that I do not share the sanguine opinions which are constantly vouchsafed to the effect that all that can be necessary is thereby attained. Unprejudiced people must allow that, although invisible to the eye, and although to a great extent the public may become habituated to the odour, it is still there; every motor sends out its hot, pungent gases, and I predict that, in the no distant future, even this will have to be stopped, or at any rate modified, till "the man in the street" enjoys a much greater degree of olfactory tranquillity than at present.

Take the ordinary exhaust box; it deadens the sound more or less efficiently, but the smoke that goes in runs its little obstacle race, and running out again, meanders down the street, whilst the pungent titillating odours are not checked in the smallest degree. The question of how to modify this state of things may not be so complicated after all; but I hold that the difficulty must be taken in hand at both ends. We must, by proper systems of lubrication, as opposed to oil drenching, and by the consumption of more oxygen, minimise the amount of nuisance to be dealt with as much as possible. For it is obvious that the smaller in quantity the unconsumed products we have to deal with, the smaller and less complicated will be the apparatus required to arrest and absorb them.

In a small and spasmodic way I have conducted some experiments to see how simple such apparatus can be. For this purpose cylinders were made with inverted V troughs running from end to end, their serrated edges dipping into a solution of chemicals. An engine purposely over-lubricated, and further smoke evolved by injecting oil into the hottest part of the exhaust pipe, was coupled up to the contrivance. There was very little

back pressure, as the level of the liquid was kept practically at the height of the trough's edges. The exhaust came out absolutely cold, the pungent irritating odour was killed, and a great deal of the smoke absorbed. Another pattern, consisting of super-imposed trays of wire netting, about five mesh, was next tried. Each tray was covered with small pieces of coke; the smoke was caused to enter at the bottom and percolate upwards whilst liquid was sprayed from the top. This pattern also gave fairly encouraging results, the exhaust being quite inoffensive and in the nature of a cold fog, which did not rise.

As on a car only a limited amount of water and space is at disposal, several difficulties present themselves. The liquid must be kept cool, and its bulk must be no more than absolutely necessary. To keep down the temperature, of course, circulation and radiation are indicated, and to reduce the size of the apparatus the scrubbers must be so designed as to allow the greatest quantity of gases to pass without back pressure through only as much liquid as is sufficient to achieve the object. And, in order to deal with occasional clouds of heavy smoke more thoroughly, it might be advisable to first pass the exhaust into a dry filter chamber containing charcoal or other suitable absorbent. The final exit of the gases, moreover, which will



A Motor-Car Accident at Fulwell.

A peculiar motor-car accident occurred at Fulwell, near Bushey Park, on Tuesday last week. Two cars, owned respectively by Col. Fowle, of Hounslow, and Mr. H. O. Mack, of London, S.W., were proceeding along the road in the direction of Hampton Court and Staines respectively; they both reached the point where the main roads cross one another simultaneously, and in trying to avoid a collision they dashed into the ditch side by side, smashing down the signpost and hedge. The only occupants of the cars were the drivers, neither of whom was injured. The cars were considerably damaged, and had to be removed on lorries.

probably leave the scrubbers in a steamy fog, might be further condensed by being made to travel along gilled pipes. Of course, an entirely different remedy may be sought by killing some of the products by intense heat, causing the exhaust to be passed over highly incandescent fuel, or material, and injecting air to aid the complete combustion of any unconsumed hydrocarbons.

MESSRS. R. MORTON AND SONS, LIMITED, of Wishaw, N.B., the makers of the "Morton" commercial vehicles, are opening a depot and repair works at 42-50, Bridge Street, Glasgow.

THE motor-cycle section of the Austrian Automobile Club proposes to alter the date of the international motor-bicycle race from June 29th to July 8th. Germany is stated to have already agreed to the change.

At the Grove Hill, Harrow, a little comedy is being played between the police and an unknown humorist who, objecting to the presence of the sign warning motorists to moderate their speed, has broken the top portion and substituted a dummy officer.

## SOME CURRENT TOPICS.

### The Word "Cardan" and Its Origin

The phrase "cardan shaft" is now a familiar one in motoring circles, but there are few, we imagine, who know the origin of the word "cardan," and it has been left for M. Baudry de Saunier to give the information in the new French automobile journal, "L'Omnia." "Cardan," it transpires, is the French equivalent of Cardano, the name of an Italian engineer who invented a shaft with universal joints early in the sixteenth century. Such shafts have become known in France as *arbres a la Cardan*, from which the translation cardan shaft is an easy step. While dealing with the question of the origin of words, reference may be made to the word "carter," now commonly used

line, of the department of electrical engineering. The first will comprise a comprehensive study of the various forms and makes of ignition apparatus now on the market, such as high and low-tension magneto systems, sparking plugs, coils, batteries, and the like. In conjunction with this there will be carried on an investigation comprising a series of tests to determine the limitations of, and, if possible, the ideal conditions for ignition. Variations of capacity, inductance, current, potential, compression, and quality of the mixture will be made, and the effect of these variables studied. If possible, a comparison will be made with the ideal conditions in order to demonstrate clearly in what elements the shortcomings of present systems are centred.

### Instruction Books.

A noticeable improvement in the automobile movement, which will conduce to the mutual advantage of user and manufacturer, is the helpful instruction books which are being furnished to purchasers of modern cars. Until a year or so ago



The Difficulties of Motoring in Russia. Count Potocki's Mercedes on a Bad Road at Schepetowka.

[Allgemeine Automobil Zeitung.]

in France with the meaning of gear case. It is not generally known that it is derived from the name of Mr. Harrison Carter, the inventor many years ago of the gear case to enclose the driving chain of a bicycle. Thus France has converted the names of both an Italian and an English engineer into common nouns to designate the articles they invented.

### Experiments with Ignition Apparatus.

Having completed the installation of its motor-car testing plant and put it to work, the authorities of the Purdue University, at Lafayette, Ind., U.S.A., are about to undertake another branch of investigation in connection with the automobile, which should be productive of great practical results. There has long been a real need of some experimental knowledge of the requirements for igniting the fuel in the cylinders of the internal combustion engine, and it is interesting to learn that two series of investigations are about to be undertaken at the University, both of which will be in charge of Prof. J. W. Ester-

there was a lack of definite information furnished the owners of vehicles relative to the lubrication of their cars, the adjustment of parts, and the derangements to which the various portions of the mechanism are likely to be subject, and their remedies. Some of the larger and older manufacturers have long furnished books of directions which were valuable in that they contained matter which was the result of the experience of a great many users, and thus laid due stress upon the points which service had demonstrated to specially require elucidation; but many of the smaller and newer concerns have naturally been unable to furnish as satisfactory and useful directions to their patrons, on account of the somewhat untried character of their product and the experience necessary to demonstrate what particular matters the instructions should include. The tendency which formerly seemed to exist to allow the user to find out through experience what might better have been told him in the beginning appears to have passed away with the growth of the spirit of candour in the industry, and now the instruction books generally contain

particular advice as to the peculiarities of the cars to which they refer, and are written in a lucid and comprehensive way with diagrammatic illustrations which cannot fail to lead to a more intelligent use of the car by its owner and a better *entente* between the manufacturer and his patron.

#### Silent Cars.

Times have changed since the days when the average owner of a petrol car did not seriously object to the noise it made. Now he demands a silent vehicle—silent, that is, by comparison with the thunderous, nerve-racking machines which a few years ago were the rule rather than the exception. The motorist who gauges his pleasure by the volume of noise emitted from his silencer has, however, not wholly passed away. Some extremists of this type will even cut out their silencers in order to give the public the full benefit of the exhaust from the engine, with the result that may readily be imagined. But they are in a decided minority, a minority which steadily decreases. It does not take any abnormal amount of discernment to see that the time is likely to come when people of this class will execute a *volte face* and go in for silence quite as strenuously as they formerly did for noise. At the present time nearly all cars have undergone improvement in this respect. Designers and makers have been quick to see that the public wanted quieter vehicles, and as they know full well that quiet cars mean efficient cars, and that in following the present fashion they are pursuing the logical line of development, the progress made in this direction is not surprising. In minimising noise power is conserved and used in propelling the vehicle, instead of being wasted; for it has become an axiom that noise is power diverted from its proper use. Sensitive people like neither noise nor its concomitant, vibration. With them the highest possible praise of a petrol car is to say that it is as quiet as a steam or an electric vehicle, and motorists who have once experienced these qualities are never content to take a backward step and return to the old order of things.

#### Calculating the Horse-power of Petrol Engines.

Glancing through the recently-issued catalogue of the "Scout" cars built by Messrs. Dean and Burden Bros., Limited, Salisbury, we came across a simple and handy method of calculating the horse power of petrol motors, which we deem worthy of reproduction in our columns, as the firm inform us that it can be relied upon to give the power within a small limit of error, at any bore, stroke, or reasonable speed, provided the compression before firing is somewhere in the vicinity of 70 lb. to the square inch. The method is as follows:—If the bore and stroke of the cylinder is given in inches, multiply the bore by the bore by the stroke by the number of explosions or impulses per minute and divide by 6,500; this will give the horse power. Taking a four-cylinder motor running at 1,200 revolutions per minute, the number of impulses would be 2,400. A two-cylinder motor at 1,200 revolutions would give 1,200 impulses, and a single cylinder at 1,200 revolutions would give 600 impulses. If the bore and stroke is given in millimetres, multiply the bore by the bore by the stroke by the number of impulses per minute and divide by 110,000,000. Take for example the "Scout 17-20-h.p. four-cylinder motor bore and stroke—90 by 115 millimetres running 1,200 revolutions per minute equals 2,400 impulses. Bore 90 by 90 by stroke 115 by explosions 2,400 divided by 110,000,000 equals 20½-h.p. Take again an engine having two cylinders 4 in. by 4 in. at 1,200 revolutions per minute—bore 4 by 4 by stroke 4 by explosions 1,200 divided by 6,500 equals roundly 11½-h.p.

WITH a capital of £1,000 Auto-Mixte, Limited, has been registered.

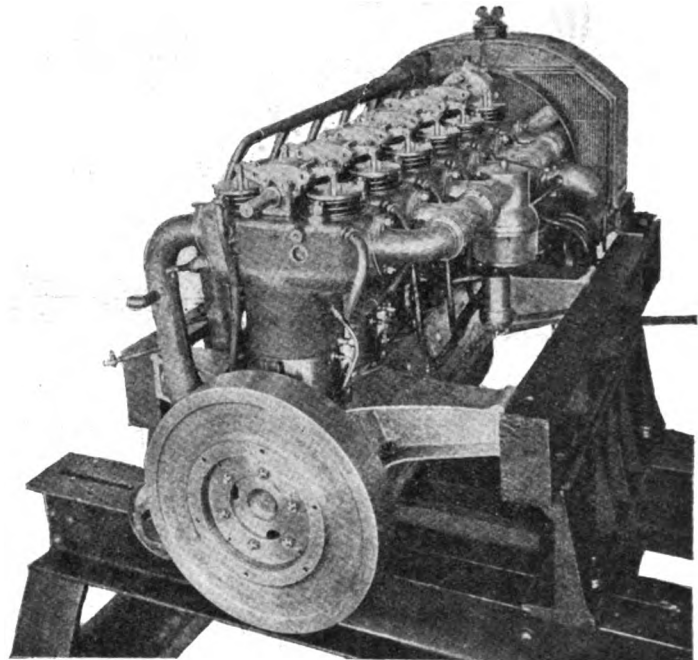
MR. G. W. BURNELL is closing his motor garage in Albion Street, Rugeley, and intends to devote his whole time to the cycle trade in future.

THE Victoria Cycle Company, Limited, have taken depots in the Royal Exchange Place, Glasgow, and Bridge Street, Aberdeen, where they will set up considerable garage accommodation and extensive repair works.

## THE MERCEDES SIX-CYLINDER ENGINE.

—1—

IT has already been hinted in the *M.C.J.* that the 1906 Mercedes racing cars would be fitted with six-cylinder engines, so that the news that such a motor is now in existence will not come altogether as a surprise. We are indebted to the "Allgemeine Automobil Zeitung" of Vienna for the accompanying illustration and details of the new engine, which, it is stated, has only been adopted by the Daimler Motoren Gesellschaft of Unterturkheim, Germany, for its 1906 racing cars, on account of the saving of time it affords owing to it being unnecessary to change the gear so frequently. The engine, which is normally rated at 120-h.p., is entirely a new departure for the Mercedes designers, the cylinders being separately turned from steel, with water jackets of similar metal. The valves, both inlet and exhaust, are operated by means of rocking levers actuated by an overhead cam shaft, the latter being driven off the engine shaft through a vertical spindle and bevel gearing at the front end of the motor. To prevent any chance of leakage the inlet pipes are provided with expansion joints, while each cylinder has a separate exhaust



View of Inlet Valve S.de of Mercedes Six Cylinder Engine.

pipe, which is connected up to a collector, from whence the burnt gases pass to the silencer proper. Another new departure is the adoption of high-tension magneto ignition with sparking plugs in place of the low-tension make-and-break type.

A TWO-CYLINDER 10-12-h.p. Argyll car in the service of Messrs. Hardy, Robson and Co., of Newcastle-on-Tyne, has accomplished 40,000 miles, and is still in a most serviceable and reliable condition.

SHOCK absorbing devices have lately been brought out in America at an astonishing rate; in fact, there would now appear to be as many different forms as there are makes of cars. It is therefore not surprising to learn that actions for alleged infringements of patents are already in the air.

MR. R. M. WRIGHT, of Lincoln, who recently completed a 5,000 miles reliability trial on a 10-12-h.p. Coventry Humber car, has acquired a spacious building adjoining his present depot and workshops for the purpose of opening an up-to-date motor garage. It is Mr. Wright's intention to have the garage ready by the end of the month or the early part of April, and when completed it will be one of the largest in the county of Lincolnshire.

## CONTINENTAL NOTES.

### Public Services in Germany.

A company has just been formed in Blumenthal (Hanover) to establish a motor-bus service between Vegesack and Vorbruch. Two 32-h.p. twenty-four seated vehicles have already been ordered from the Sud-Deutschen Automobilfabrik, of Gaggenau. Arrangements are in hand for the inauguration of a service between Rottweil and Schramberg. In Munich a company has been organised to place a number of motor-cabs in service in the town.

### The Swedish Reliability Trial.

As mentioned in a recent issue, the 500 mile reliability run from Gothenburg to Stockholm, recently held by the Swedish Automobile Club, resulted in a victory for the 24-h.p. Fiat,

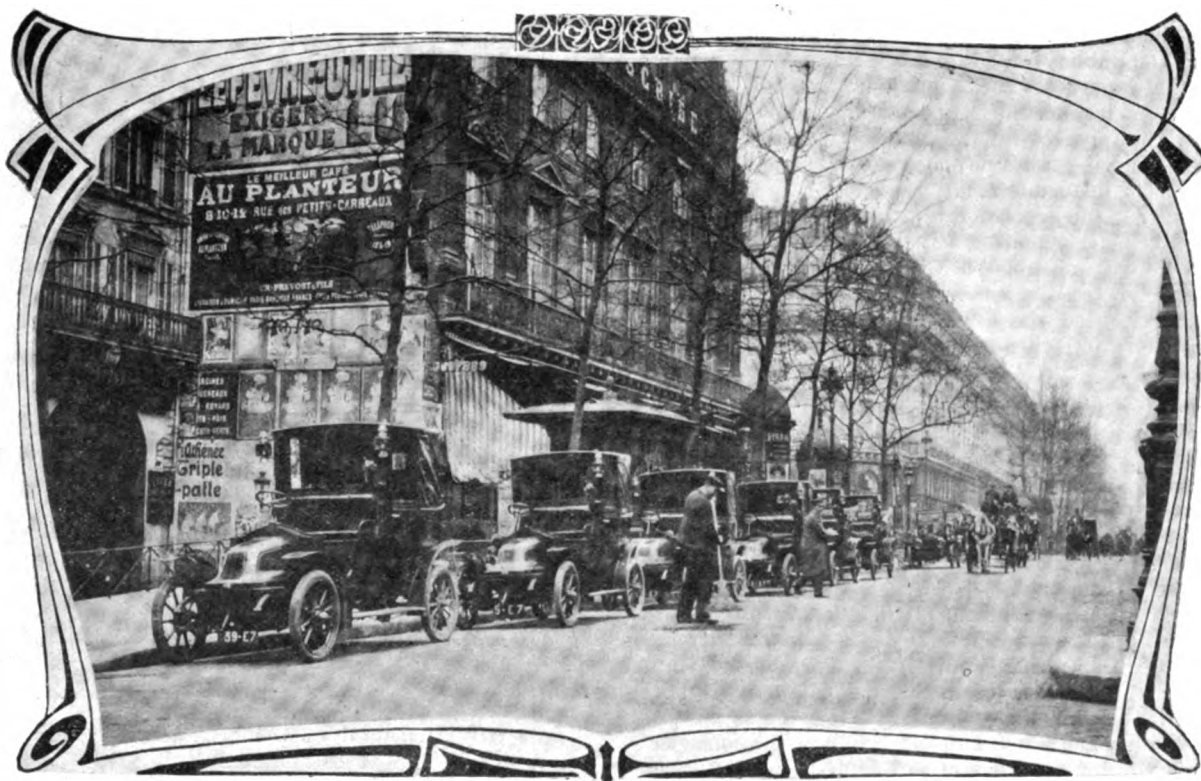
tively slow, but forty kilometres were completed in record time, the pace being kept up till the end, with the following results:—

	New Record.	Old Record.
One hour ... ..	59 3-16 miles.	56 7-16 miles.
100 kilometres ... ..	1 h. 3 min. 52 1-5 sec.	1 h. 6 min. 36 2-5 sec.

Later in the day Anzani, on another Alcyon machine, endeavoured to create a new record for the over 50 kilog. class. Unfortunately rain fell and rendered the track somewhat dangerous, with the result that, after covering several laps at the rate of 106 kilometres per hour, his machine skidded, bringing the rider to the ground with a thud. Fortunately he escaped without serious injury.

### The Prunel Motor 'Bus.

A 24-h.p. thirty-six seated motor-bus, which has just been completed by the Usines Prunel, of Puteaux, was subjected to a trial run from Paris to Rouen and back one day last week. The new vehicle is being despatched to London for exhibition at the Agricultural Hall Show.



A Motor-Cab Stand on the Grand Boulevard, Paris. The vehicles, which were built by the Renault Company, belong to the Compagnie Generale des Petits Voitures, and are fitted with Taximeters.

driven by Mr. G. Salmson. Mr. H. Dahn, on a 12-h.p. Darracq, was second; M. Bagge, on a 7-h.p. Star, third; and Mr. P. Bjorkman, on a 7-h.p. Oldsmobile, fourth.

### New Motor-Bicycle Records.

A series of record-breaking trials were carried out on the Parc des Princes track in Paris last week end. Thomas, riding an Alcyon motor-bicycle fitted with Buchet 76 mm. by 73 mm. engine and chain drive, first attacked Cissac's (Peugeot) record for third of a litre machines, and succeeded in setting up new times as follows:—

	New Record.	Old Record.
One hour ... ..	57 1/4 miles.	56 1/4 miles.
100 kilometres (62 1/4 miles)	1 h. 5 min. 27 1-5 sec.	1 h. 6 min. 46 4-5 sec.

Thomas got inside the record at ten kilometres, and held his position to the end. Next a rider named Pernet, using an Alcyon machine with Buchet 90 mm. by 90 mm. motor, attempted to lower the record for the under 50 kilog. class held by Giuppone (Peugeot). The first thirty kilometres were rela-

### A Smoke Prevention Competition.

At the last meeting of the Touring Committee of the French Automobile Club the question of the emission of smoke from the silencers of petrol cars was considered, and it was decided to organise a competition of apparatus to prevent the same.

### The "Elastic" Wheel Competition.

The competition of "elastic" wheels for motor-cars, which is being organised by "L'Auto," is fixed to take place from the 17th to the 26th April. The contest will be divided into two classes, each of which will be subdivided into two categories. Class 1 will comprise wheels in which the tyre is of elastic material, the part of the wheel between the hub and the felloe not being elastic. Class 2 is for spring wheels—that is to say, wheels in which the part between the hub and the felloe is elastic. In each section the two categories are:—(a) for cars the engines of which have a maximum piston surface area of 314 sq. centimetres, and category (b) for cars the engines of



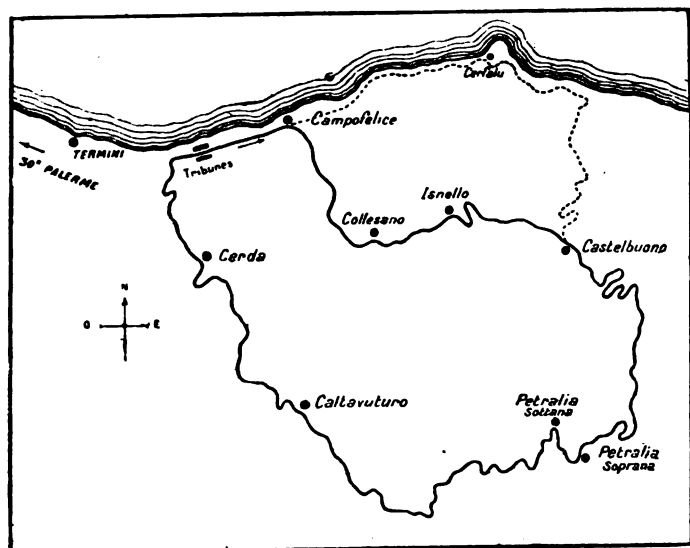
which have a maximum piston surface area of 490 sq. centimetres, the maximum weight of the car and its load being respectively 1,500 kilogs and 1,800 kilogs. The trial will consist of a run from Paris to Nice and back, the total distance—2,128 kilometres—being divided into eight daily stages ranging from 220 to 316 kilometres. The entry list will close on the 31st inst.

#### The Nice Week.

Owing to the bad state of the roads and the paucity of entries, the mile speed trials fixed for the 29th inst., and La Turbie hill-climbing competition, which was to have been held on the 31st inst., have been cancelled.

#### The Targa Florio.

The race for the Targa Florio, to be held in Sicily on May 6th, promises to be a great success, numerous entries having already been received. The event is confined to touring vehicles of a chassis cost of less than £800, and of types of which a series of not less than ten must have been constructed before the date of the closing of the entry list. The contest is to be held over the 100-mile circuit, to be covered three times, shown on the accompanying map. The Chevalier Vincenzo Florio, who has recently



The Targa Florio Circuit on the Island of Sicily.

been over the route, reports that from Cerdà to Caltavuturo the road is excellent, but soon after passing the latter place, notably between Petralia and Castellbuono, where the road attains an elevation of 4,600 ft. above sea level, the surface becomes bad. From Castellbuono to Campofelice it is fairly good, but poor between the last-named place and Cerdà.

#### A Hill-Climbing Competition near Marseilles.

The "Provence Sportive," of Marseilles, is organising a 500 metre hill-climbing competition, to be held on the Platrières Hill, near Aix-en-Provence, on May 20th next. The contest is open for all classes of touring motor vehicles.

#### Miscellaneous Items.

A Renard road train, consisting of a Serpollet steam tractor, two fifty-seated passenger cars, and a 3½-ton lorry, has just been completed for a service in Persia.—It is reported that a French motor-car company is about to establish a branch factory near Madrid.—Four machines, three Adlers and a Progress, have been entered for the German team for the International Motor Bicycle race.—It is reported that Madame du Gast, the well-known French sportswoman, has been captured by brigands in Morocco.—The "Auto" is organising an automobile excursion from Paris to the Sarthe Circuit for the 17th and 18th inst.

## USEFUL NOTES.

MOVING the steering wheel while the car is at rest tends to unduly strain the joints between the wheel and the front wheels. Of course, there may be cases when it is difficult to avoid moving the steering while the car is at rest, especially when turning in narrow roads; but as far as possible the rule should be adhered to of never forcing round the steering until the wheels are moving.

AFTER using a car for a long time a motorist becomes very sensitive to any change in its running conditions, both as to variations in the sound of its operation and its motion. A squeak, due to some unlubricated part, is very sure to be detected, and the sensation due to the car running on a flat tyre is not likely to elude the driver's attention for any great distance. He will also very quickly notice if any one of the feeds of the sight feed lubricator ceases to work and will be quick to detect any change in the working of the water circulation indicator, if one is used, and no conscious attention, practically, is required to attend to these matters, the care which is shown for them becoming entirely involuntary.

MOST petrol engines are provided with carburettors which depend for their best operation upon heat derived from the motor. Either the carburettor is jacketed with water from the cylinder cooling system, or the supply of air to form the mixture is drawn from near the exhaust pipe. Until the engine has been running for a little time these sources of heat to be supplied to the carburettor do not materialise, and not quite so perfect a mixture is at first delivered to the motor, which has a corresponding effect upon the power developed. Under certain conditions, when a motor is started very cold, there may be more or less recondensation of petrol in the induction pipe, preventing the development of full power, but this condition is soon overcome by the running of the engine.

WHEN the car is to be brought to a stop it is unnecessarily hard upon the brakes and other parts of the car mechanism to drive up with full power to the stopping point and then to apply both brakes suddenly. It is far better to disengage the clutch some little distance before the stopping point is reached, when the car will slow down, but little braking effect being necessary to stop it exactly at the desired point.

IN attempting to take off a cylinder head never drive any kind of tool between the cylinder and head.

SLIPPING in a leather-faced clutch may be due to want of adjustment, and consequently remedied by tightening up the clutch spring. Very often slipping is due to the presence of grease, oil, etc., on the leather, in which case the latter should be well washed with petrol and slightly roughened with a rasp, and adjusted up a little by the spring. A light tin screen should be placed between the clutch and the gear-box from where the oil usually splashes. Of course, if the leather is badly worn and fired, there is only one remedy, and that is a new clutch leather. The latter gets badly burned by injudicious driving, such as slipping the clutch continually on the high speed on a hill, instead of changing on to the lower speed.

WHEN a car is to be driven through the rain, a great deal of subsequent work and worry can be avoided if all bright parts are given a coat of vaseline. With such a coating there is no immediate necessity for wiping down and polishing such bright parts, as the grease prevents the rain from spotting and tarnishing, while it may be readily removed at any time. Should any plated parts become tarnished they may be restored to their previous brightness by the use of silver polishing powder and a little liquid ammonia.

It should be remembered that exhaust gases contain ingredients of a highly poisonous nature. Therefore, when the engine is run whilst in the stable, always have a door or window wide open so as to ensure free ventilation.

## THE 1906 BRASIER CARS.

[Concluded from page 30.]

PASSING now to the transmission, the clutch is of the leather-faced cone type; that on the 50-60-h.p. car is, however, provided with a special locking system, giving a rigid drive once the clutch is fully engaged. The lock consists of a series of steel plunger rods, held in slides in the male clutch member and constantly pushed in their furthest forward position by means of

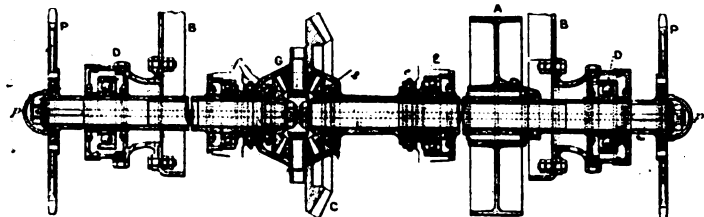


Fig. 8.—Sectional View of Differential Shaft in Brasier 25-36-h.p. and 50-60-h.p. Cars.

A. Brake drum. B. Chassis frame. C. Bevel wheel. D. and E. Ball bearings. e and f. Ball bearings. G. Differential gear. P. Chain sprockets. z. Screw caps over bolts holding sprockets in place.

small coil springs. The length of these plungers is such that they clear the web of the flywheel which forms the female member of the clutch when the male part is withdrawn. The plungers are so arranged that the clutch, being put into engagement, will gradually take hold, owing to the leather facing, and so that when the hold is complete the plungers, of which there are four or six, according to the size of the engine, will drop into the nearest ones of the thirty-six holes drilled opposite to them in the flywheel web. A double cardan-shaft transmits the power from the clutch to the primary shaft in the gear-box, and its construction is such that it allows the clutch cone to be easily dismantled. It will be noticed from Fig. 1, page 28 *ante*, that at the forward end of the cardan shaft is a plunging joint, whilst at the rear end is the usual universal joint.

The change-speed gear is of the same type as last year, giving four speeds and reverse controlled by one lever and affording a direct drive on top speed. The shafts, which are stronger than hitherto, rotate on ball bearings. Only one sliding sleeve is used, this being operated by means of a gear-striking bar and fork. The driven intermediate wheel has

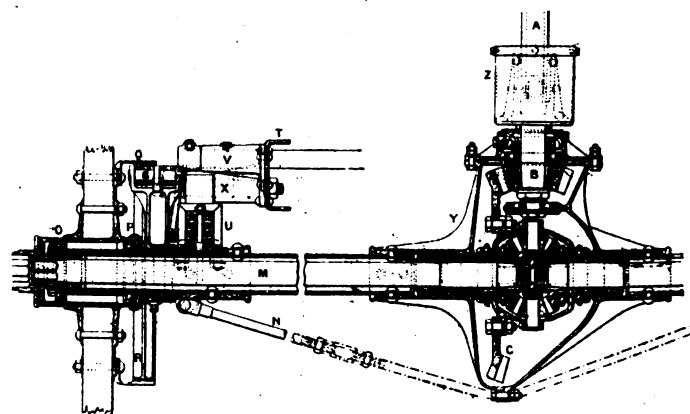


Fig. 9.—Sectional View of Half of Rear Live Axle of Brasier 15-24-h.p. Car. The right hand portion of the illustration is a plan, and the left a vertical section.

A. Cardan shaft. r. Driving bevel pinion. C. Bevel wheel. M. Axle. N. Axle tie rods. O. Wheel hub. P. Dust shield. Q. Brake drum. R. Brake segments. T. Chassis frame. V. Brake lever support.

internally cut teeth, with which the toothed wheel on the end of the sliding sleeve engages for the direct drive. On the outer end of the sleeve carrying this driven intermediate wheel is the driving bevel wheel meshing with the bevel ring C bolted to the differential gear-box (Fig. 8). As previously stated, the transmission on the 15-24-h.p. car is by a cardan shaft; the live

axle is, however, stronger than last year. The small bevel-driving pinion B (Fig. 9) is carried on ball bearings and has ball-thrust bearings. The axle tubes proper are carried at their outer end by two ball bearings fitted inside the wheel hub, so that they carry the load, the internal shafts simply having to transmit the driving effort.

Fig. 10 depicts a somewhat novel departure, which is, however, only fitted to cars intended for use in hilly districts. It is a reducing gear contained in a separate case R, by means of which the number of speeds available are doubled; that is to say, whatever speed may be in mesh in the usual gear-box, a reduction to, roughly, one-half can be obtained by the actuation of a second lever close to the driver's hand. The arrangement is somewhat similar to that introduced in the six-speed Vauxhall car which competed in the Tourist Trophy race last year, and also to that adopted in the Bussing motor-omnibuses. The supplementary reducing gear-box R is interposed between the end of the gear-box proper and the driving bevel pinion, which is not shown in Fig. 10. It will be seen that in the box R are two shafts, on each of which are mounted a sliding and a fixed pinion. The two sliding gears D and I work in unison in such a way that as D is brought into mesh with E the pinion I engages with H, in which position the power is transmitted to J in the proportion of 100 to 56, or 2 to 1.12, while when the pinions D and I are not in engagement with their respective

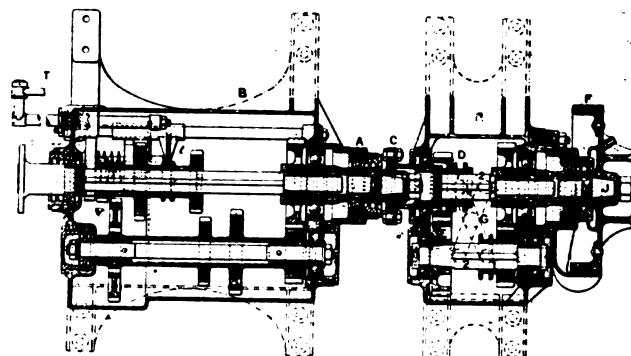


Fig. 10.—Section through Change-Speed Gear Box and Speed Reduction Case.

A. Ball bearings. B. Change-speed gear-box. C. Coupling. D and I. Sliding pinions. E and H. Fixed pinions. F. Brake drum on chainless car. G. Sliding sleeve lever. T. Lever of shaft operating sliding sleeve fork.

gears the drive is direct through the box R. As already mentioned, this reducing gear is only fitted to cars intended for mountainous districts, where long inclines are met with, and where the gradients are such that the fact of eight speeds being at the disposal of the driver in mounting such grades will result in better progress being made.

The usual foot and hand controlled brakes are provided; the brake drums are larger than before, and are now made of stamped steel instead of castings, this reducing the wear and the tendency to seize. It will also be seen from Fig. 1 that the ordinary rear spring horns are replaced by halves of semi-elliptical springs. All three cars are made in two lengths of chassis to enable wide side-entrance bodies to be fitted, the length of carriage work available behind the dash in the case of the larger size being 9 ft. 2 in. Altogether the new Brasier cars comprise many interesting features, and should attract considerable attention at the Agricultural Hall Show next week, where they will make their first public appearance in London.

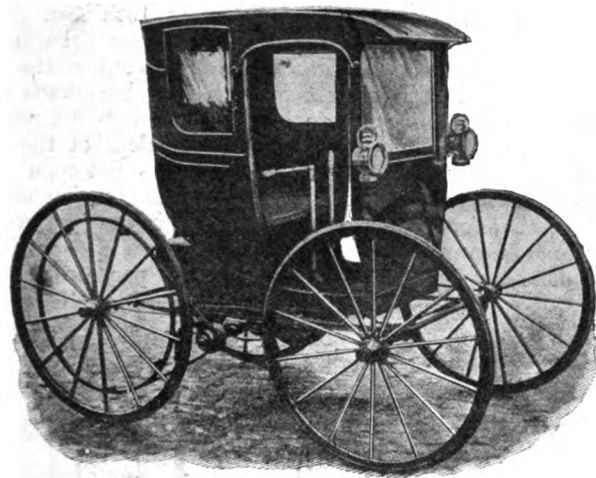
THE Automobile Club of America has decided to establish a series of competitions to test new devices and improvements, as well as to encourage inventive ability in the direction of automobile improvement. It is proposed to offer prizes for the best inventions introduced within a stated time, and others for open contests to demonstrate the advantages of new carburetors, anti-skidding, and self-starting devices and other practical features.

A DOZEN motor-cabs are about to be put in service in Leipzig, Germany.

THE offer of Messrs. Cordingley and Co. to supply posters announcing the forthcoming motor-car show to managers of garages willing to exhibit the same is still open, and requests are being dealt with at 27-33, Charing Cross Road, London.

MESSRS. DUCROS-MERCEDES, LIMITED, have despatched a two-seated 120-h.p. Mercedes car to the Sultan of Johore.

A MOTOR omnibus is now being constructed by Messrs. Horn, Littlewood and Co., of Gainsborough, for the White Hart Hotel of that town.



The above illustration depicts a somewhat novel car which has lately been put on the market in America. It is stated to have five speeds forward and one reverse; no gears, differentials, friction clutches, etc. Speed four to thirty miles per hour.

A NEW motor garage is being opened on the main London road at Sevenoaks by Messrs. Wm. Hely and Co., who are also prepared to undertake repair work.

ARRANGEMENTS have been made by which members of the Motor Union will be entitled to the use of the Wolseley Motor Car Company's garage at York Street, Westminster, on reduced terms.

MESSRS. COOPER AND Co., of Glasgow, have ordered a two-ton Albion motor lorry. They have had a similar vehicle in use since November doing a daily run of fifty miles without costing anything for repairs.

THERE is a very large increase at Coventry in the number of private car owners this season, and not only are many representatives of motor and cycle firms in Coventry doing their travelling by means of a car, but those in other branches of trade, such as engineers, builders, grocers, tobacconists, architects, etc.

THE motoring public are availing themselves of the free instruction in tyre repairing offered by Messrs. Harvey Frost and Co., Limited, at 39, Great Eastern Street, E.C., and also at their West End showrooms, 215, Shaftesbury Avenue, W.C. These departments are always open to users of H. F. vulcanisers, in order that they may learn the latest information concerning the vulcanising process, and operate their own appliances.

RUDGE-WHITWORTH, LIMITED, are having a unique factory built at Coventry, the main structure of which is of steel frame work. The dimensions are 400 ft. long by 60 ft. wide, with a height of 85 ft. There are six floors, giving an area of three and a half acres. By permission of the architects—Messrs. Harrison and Hattrell—we were permitted to closely inspect this structure, which is now nearing completion, and were informed that the advantages of this style of building were rapidity of construction, greater strength, and less liability of settlement, and an increased area of glass for the reception of daylight. In addition to the manufacture of cycles, Messrs. Rudge-Whitworth, Limited, construct motor-car wheels.

## HERE AND THERE.

THE MARQUIS OF GRAHAM, on his way to open the Glasgow Motor Show, was driven from the station on a Crossley car to the residence of Sir John Ure Primrose, Bart.

It is expected to make the Phyllis Court Club, which is to be established at Henley, an important centre of up-river motoring.

THE Milano Motors, Limited, 92, Gloucester Road, S.W., are the sole agents for the Milano car.

MESSRS. ERNEST ARNOTT AND HOLLOWAY, LIMITED, is the title of a new company registered with a capital of £5,000, and Messrs. E. Arnott and W. C. Holloway as joint managing directors.

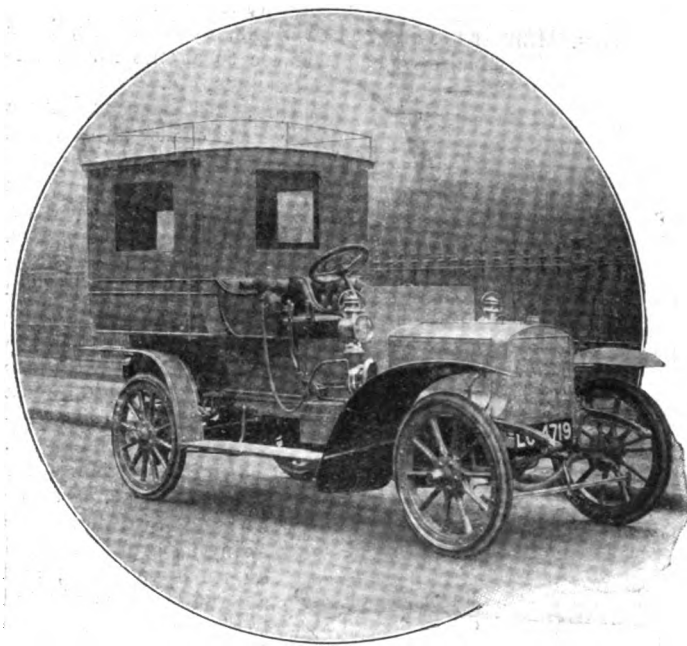
THE Department of Agriculture and Technical Instruction in Ireland has approved of the purchase of a motor-car in connection with the automobile instruction classes under the Pembroke Education Committee (Dublin).

MESSRS. J. SIMPSON AND I. B. BLAIBERG are the first directors of the Automobile Transit, Limited, which is "to carry on the business of financiers, promoters, stock and share holders and dealers, motor-car and carriage proprietors."

DURING January 285 motor-cars and 130 motor-cycles were registered in London, thus bringing the total number of cars and cycles registered up to 9,049 and 5,138 respectively; 2,319 licences to drive motor-cars and cycles were issued and changes of ownership of 209 cars and cycles were registered.

ONE of the witnesses of the Scottish Chamber of Agriculture before the Royal Commission on Motor Cars has been confiding to his fellow-members that they advocated the reduction of the speed limit to sixteen miles an hour in daylight. But, he added, they had little hope of securing such a restriction.

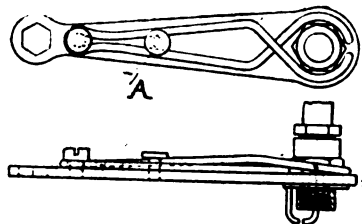
WE illustrate herewith a "National" station bus, designed to use solid tyres, and to carry six people inside with 10 cwt. of luggage on the top. The sides of the covered portion of the body can all be removed for use during fine weather, leaving the canopy supported for the purpose of carrying luggage. The inside seats are also so arranged that by tipping them up the whole of the internal capacity of the car can be utilised for luggage should the



vehicle not be required to convey passengers at the same time. The engine is of the standard 18-22-h.p. three-cylinder type. Messrs. Lamb Bros. and Garnett inform us that during its test run from Birmingham to London, fully loaded, an average of twenty miles per hour was attained, with a consumption of just over fifteen miles to the gallon, notwithstanding that the run was made during the night and in very stormy weather.

MOTOR-CABS are about to be introduced in Bristol by Messrs. E. K. Folwell and Co.

WE illustrate herewith a simple little tool which has recently been introduced by M. J. Pupille, of Paris, for removing sparking plugs from cylinders while the motor is in operation, or when it has just ceased running. Usually when a plug is removed from the engine, when it is practically unscrewed, the



motorist grasps it with the fingers in order to prevent it from dropping to the ground and breaking. In the majority of instances he finds it too hot to hold and quickly lets go, with the consequence that it is frequently broken. It is to obviate this trouble that the Evrard pinch

spanner, as the tool is known, has been designed. On top of the device is secured a heavy wire spring, which grasps the hexagon portion of the plug and holds the same firmly after it has been completely unscrewed, so that it cannot be dropped and damaged. The two ends of the spring can be opened, to allow the spanner to be fixed in a position by a small knob A, working in a slide.

THE Pilot Motor-Bus Company, Limited, has been registered as a limited liability company.

MESSRS. WAYTE BROTHERS are allowing their garage in Lemon Street, Dublin, to be open night and day throughout the year.

THE Acre Rubber Company, of 58, High Street, Shaftesbury Avenue, W.C., have opened a branch at 130, Steelhouse Lane, Birmingham.

MESSRS. E. C. WILLIS AND CO. have opened a garage in the Union Road, Leytonstone, where they have also facilities for the repair of cars.

THE South Wales Motor Company are opening motor-car showrooms at 94, St. Mary's Street, Cardiff. Their garage and repair shop will be continued in Park Street.

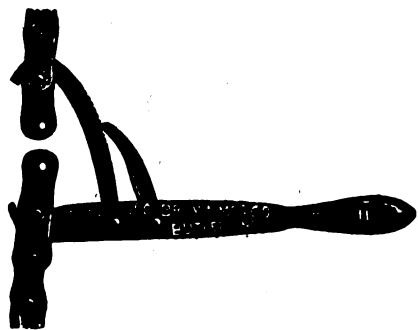
To work Mr. P. G. Tachi's patents the Newmobile, Limited, has been registered with offices at 78, Hamilton House, Bishopsgate Street Without, E.C., and a capital of £1,000.

MESSRS. HERBERT TERRY AND SONS, of Redditch, have brought out a clip which will be of service to agents for motor-cars and motor-cycles in the display of tickets, etc.

MR. ARTHUR BEALES, of Spalding, has been making a display of motor-cars and cycles in the local drill hall to mark the opening of the season in that part of Lincolnshire.

OWING to a tyre coming off a wheel of the motor mail van running between Birmingham and Worcester the vehicle overturned, resulting in a five hours' delay in the delivery of letters.

A USEFUL tool to facilitate the connecting up of motor-car driving chains has recently been introduced by the J. C. Brown Chain Tool Manufacturing Company, of Butler, Ind., U.S.A. As will be seen, it consists of a straight blade or handle, having a



curved end to grip one link of the chain, and a swinging arm, also provided with a hooked end, which grips the other end of the chain to be connected up. The swinging arm is notched on its upper edge, and a pawl which is pivoted just above the swinging arm engages in the notches. Thus the links

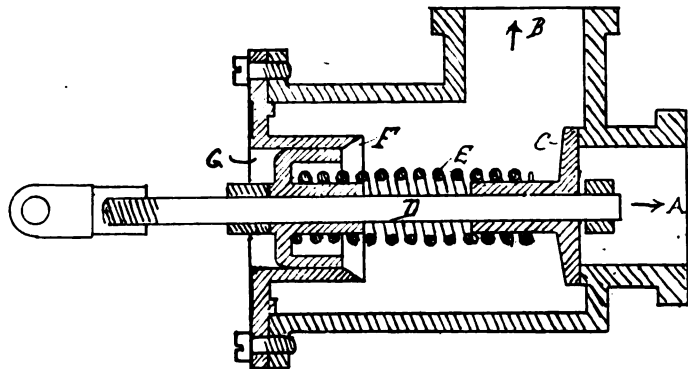
can be drawn together as close as desired, the tool then holding the ends in that relation while the connecting link or bolt is inserted.

MR. JOSEPH WILSON has opened a motor garage and repair shop in connection with his coachbuilding establishment at Middleham, Yorks. He also stocks petrols, oils, spare parts, etc.

THE next A.C.G.B.I. examination for driving and mechanical proficiency certificates will take place in London on the 21st inst.

WE have received a price list of the "Guaranteed" motor tyres of the New Motor and General Rubber Company, Limited, whose non-skids have features worthy the consideration of motorists.

APROPOS of the discussion on throttle valve *v.* variable lift which has recently taken place in our columns, the following description of a throttle patented by Messrs. Soames and Langdon-Davies, which has the simplicity of the former with the advantages of the latter, may be of interest. The system consists of placing in the admission pipe, between the engine and the carburettor, a spring-controlled throttle valve, the tension of the controlling spring of which can be varied as mentioned in our "Current Topics" column of February 10th last. The difference, however, in this arrangement is that one valve serves any number of cylinders, either with M.O. or automatic inlet valves. When not in use for throttling the valve stands wide open, and, not being subjected to any heat, it does not require any attention. It is claimed to be the equivalent of the best form of variable lift, for the reason that it does not open until sufficient suction is attained to overcome the tension of the spring, and therefore the rush of air through the carburettor tends to remain constant in velocity for different speeds of the engine, but to last for a longer or shorter time per stroke; this



has a tendency to automatically keep the mixture constant. In the accompanying drawing A is the inlet from the carburettor, which can be cast in one piece with it; B is the outlet to the cylinders; the valve C is loose on the rod D; if the latter is pulled fully to the left, the position shown in the figure, the valve is sucked open by the engine and remains in that position. When it is desired to throttle, the rod D is pushed to the right and a greater or less pressure is put on the valve C. If the rod is pushed to its fullest extent to the right the tension of the spring is sufficient to prevent the valve C from opening, and the piston valve F, which is fixed on the rod D, is opened, thus allowing the engine to draw in air through G and act as a brake.

AT the meeting of the Bermondsey Borough Council on Tuesday, the Works Committee reported that on the 15th ult. an explosion took place in a gully in Tooley Street. Upon inquiries it was found that it had been the practice of the chauffeurs who drive motor-cars to Chamberlain's Wharf to empty the petrol from their cars previous to going into the wharf premises, as petrol is not allowed there or on the vessels. This petrol is emptied on to the yard of the wharf, and then flows down the channel of Bridge Yard and thence into the gully referred to. On the occasion in question a carman was standing over the gully, and must have dropped a lighted match on to the grating, the result being that a loud report took place, and a column of flame ascended as high as his head, scorching his hair and slightly injuring his face. The police were at once informed of the circumstances, and also the L.C.C., as the sewer into which the gully empties belongs to the latter authority. A communication has been sent to the proprietors of Chamberlain's Wharf acquainting them of the fact, and warning them that if the offenders are detected proceedings will be taken against them for putting deleterious matter into the Council's sewers.



## CORRESPONDENCE

[Letters to the Editor should be addressed to the office, 27-33, Charing Cross Road, W.C.]

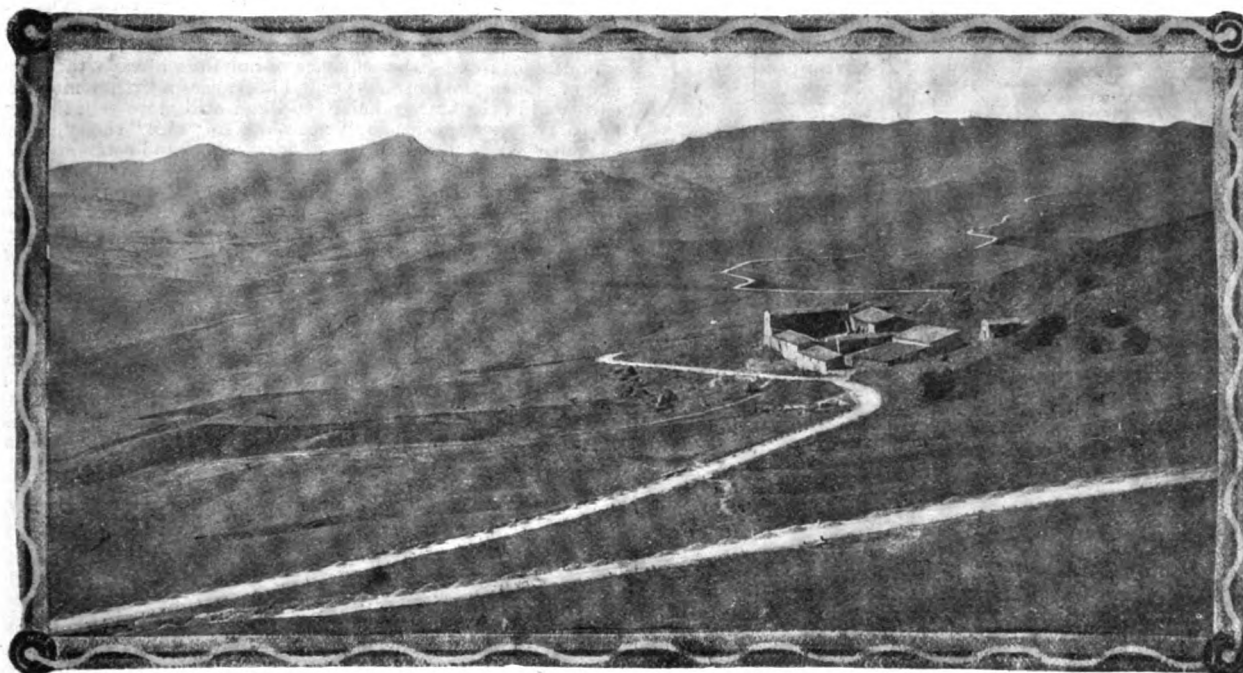
### THE TWO-CYLINDER ENGINE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In the published reports of the paper recently given by Col. Crompton before the Automobile and Cycle Engineers' Institute there are several statements which can hardly be allowed to pass without scrutiny. For example, the lecturer is reported as having said that "the two-cylinder engine is now rarely seen, even in small cars." Now anyone conversant with the motor industry knows that this is far from being the case. It can with safety be claimed that there is a greater number of two-cylinder cars on the roads to-day than there is "four"; not only so, but at no time in the past have cars with this type of engine been turned out in greater numbers. Some of our largest manufacturers devote special attention to cars fitted with this type of engine, and at present one of the largest motor factories in Britain is solely devoted to their production, and such is the demand that a

Again, it is suggested by Col. Crompton that with two cylinders the tyres must suffer. That this is not so can most readily be shown by actual results. The writer knows of several instances of two-cylinder 10-12-h.p. cars, seated for five persons and used on ordinary roads, having been run for 5,000 and 6,000 miles on one set of tyres, but cannot recall a single instance of as good results being obtained on a four. Nor is this difficult to account for, because the life of a tyre of a given size is, as near as may be, other things being equal, inversely proportional to the horsepower, and is in practice not found to be affected by the number of cylinders.

Having in the first place endeavoured to set aside the two-cylinder engine, Col. Crompton next directs attention to the "complexity of parts, costliness of manufacture, and increased risk of stoppage on the road" of the four and six cylinders, and deplores that English motor engineers are not striving after improvement in the way of greater simplicity and fewness of parts. The Colonel's desire evidently was to pave the way for an advocacy of the steam car, but it seems to the writer that his arguments are far more telling on behalf of the properly designed and built two-cylinder car. In this you have the great simplicity asked and the minimum number of parts to give trouble or to need adjustment, and at a moderate cost. The upkeep of such a car is very low, and for ordinary running need not exceed £50 a year, while such a car can be bought from £350 to £400, with any style of body desired. For the man of moderate means, who wishes to keep his car for general use and who wishes to have the maximum of pleasure with the minimum of worry and expense, the well-made two-cylinder petrol car



The Targa Florio Circuit. The Winding Mountain Road near Castelbuono. (See page 47.)

ready market is being found for an output of twenty vehicles a week.

The lecturer goes on to claim that four and even six cylinders are necessary in order to obtain elasticity of drive, even turning movement, and durability of rubber tyres. From this the novice would naturally infer that a two-cylinder car was non-flexible, ran with a series of jerks, and was heavy on its tyres, yet this is not so; two-cylinder engines as manufactured by the best engine builders run with remarkable sweetness, and when fitted with a suitable flywheel it would baffle most people to tell, after a fifty miles run, whether a two or a four-cylinder engine was below the bonnet.

An altogether inflated value seems of late to have been put on "an even turning movement," without due regard being paid to what is meant by the term. What we have to deal with is the effort exerted by the driving wheels where they touch the ground, and we have to remember that between the drivers and the crankshaft we have the axles, the differential, the cardan shaft (or the driving chains), the clutch and the flywheel, that each of these is tending to keep the motion of the car steady, either by the energy stored in the moving parts or by the elasticity of the parts under stress; further, that the whole mass of the moving car acts to this same end. The engine is giving off an uneven turning effort, it is true, but note the smallness of the time interval during which the fluctuations take place. At the nominal speed of 1,200 r.p.m. we get each complete revolution taking 1-20th of a second or a complete cycle in 1-10th of a second, a period of time too small to permit of the fluctuation of effort from an up-to-date two-cylinder engine reaching further than the flywheel.

takes a lot of beating. Of course, for the man to whom money is no object, who is out to break the legal limit up hill as well as down dale, the four-cylinder high-powered car is essential, but the number of such persons must always be small compared with the thousands to whom the lower-priced, simple, reliable and efficient two-cylinder appeals.

—Yours truly,

L. J. A.

### WHICH BRAKES SHOULD BE MOSTLY USED ON LIVE AXLE CARS?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to Mr. Wellington's letter in the *M.C.J.*, of the 3rd inst., I must say that I quite agree with him that it is wrong to make a practice of using in the general way a brake acting on the cardan or one of the gear shafts on a car, and, as he states, usually it is putting excessive strain on parts that are designed in the first place for transmitting the drive and not for braking. This I have found not only causes excessive wear on the gears, but also on the bearings. At the same time, whilst agreeing with Mr. Wellington on this point, I certainly think the designers of the cars are just as much to blame in fitting single brakes on the cardan and gear shafts. In this case my remarks apply equally to a number of chain-driven cars, of very high class make in some instances, as in all cases I find that it puts strains on the shafts and gears for which they are never designed, and has a very bad effect on the bearings.

The first arrangement to get over this problem was that originally

fitted to and as is now used on the Daimler car. In this case the foot brakes act on each extremity of the countershaft, in consequence relieving the differential of all braking strains—in fact, only throwing the strain on the driving chains to the rear road wheels. Even this method I do not look upon as absolutely ideal, as, in my own opinion, both the hand brakes and foot brakes should act on the rear road wheels, as they have been arranged on the 40-h.p. Brotherhood. By this means none of the gears or shafts that are provided for transmitting the power have to do anything but what they were designed for, whilst I think it is an accepted practice that the nearer one can brake to the periphery of the road wheel the better it is, and besides this, it has numerous other advantages, as, in the case of a live axle car, should the cardan shaft break the foot brakes are useless; and also in the case of a chain-driven car, if the chain breaks, one is in the same predicament, whilst if both brakes act on the rear road wheels nothing short of the collapsing of the back axle or one of the back wheels will put the brakes out of use, when, under such circumstances, in any case, they would not be of any advantage.—Yours truly,

PERCY RICHARDSON.



The Silent Tear.

### KNOCKING IN THE ENGINE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The engine of my double-cylinder car has developed a knock which I cannot locate, and I venture to invoke the aid of the readers of the *M.C.J.* It sounds just as if the crank shaft bearings were loose, and is not the click or knock that is heard from advancing the ignition too far. The noise comes from both cylinders. I have had the engine to pieces, and found the piston rings and crank shaft bearings in excellent condition. The motor runs with perfect regularity, has full power, and never misses an explosion. The valves have been carefully ground, and new springs put on the stems, of the same strength, as nearly as could be determined. Both cylinders register 65 lbs. pressure each, and hold it. By careful adjustment of the ignition and mixture the engine can be made to run so you can scarcely hear it, and this with full load and with any of the speeds. When, however, the accelerator be opened, or a slight rise in the road is met, the bumping commences alarmingly. Even when the knock occurs the engine works with regularity, and there is no difference in the sound of the escaping discharge. Everything sounds perfectly normal with this extra noise added, and sometimes I am inclined to think it must be outside the engine. The car has three speeds forward, sliding gear transmission, and bevel gear drive, and the noise is not only heard, but the knock felt in the machine. There are no explosions in the silencer, and the engine never overheats.—Yours truly,

DEVONIAN.

### ENGINE STARTING TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Will any of your readers kindly tell me how to overcome the following difficulty? I have a small car fitted with 8-h.p. single-cylinder engine, magneto ignition, which I can always start at the second turn of the handle, when commencing a journey or when the engine is cold, but after running some miles and stopping I have to turn sometimes a dozen or more times to start the engine. Why should it be more difficult to start when the engine is warm; would the auxiliary accumulator set for low tension magneto remove the difficulty? I should be glad of the experience of any of your readers who have used the same.—Yours truly,

TARANTA.

[We are inclined to think that our correspondent's trouble is not at all to do with the ignition, as if this were the case he would have the same difficulty when starting cold. The trouble is generally reversed, trouble in starting cold, and not when hot. We should be rather in favour of trying the compression, and if found to be weak when hot, use a somewhat thicker lubricating oil. This appears to be the only possible trouble, as the engine will readily start when the lubricating oil is cold and will cause a good compression, but when it is warm is likely to let the compression pass the piston.]

### THREE-CYLINDER ENGINES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We are much interested in the correspondence which has been published in your columns on the merits of three-cylinder engines. As pointed out by Mr. Mawdsley Brooke there is one radical defect which condemns this type, however well made, and that is the excessive vibration caused by the sequence of impulses always turning from one end of the engine to the other. This causes a tilting motion which is corrected in the four-cylinder type, and still more so in the six-cylinder type. To prove this it is only necessary to "race" the engine of a three-cylinder car, and watch the steering wheel and compare the vibration with that set upon a four or six cylinder car. We have built engines with one, two, three, four and six cylinders, and so speak from actual experience. We think your correspondents who write in favour of three-cylinders cannot have had actual experience of four and six cylinder engines. Mr. Brooke says that a well-constructed three-cylinder is better than a badly constructed four-cylinder, but surely for the purpose of a fair comparison, it should be assumed that the types compared are of equally good construction. Of course for a perfect balance it is necessary to use a six-cylinder engine, and we find that the public is appreciating the fact to such an extent that we are making six-cylinder cars only, and venture to prophesy that this type will become practically universal for cars of the highest grade, and that the four-cylinder type will supplant the one, two and three cylinder motors now used on the lighter and cheaper cars in general use. In any case, the three-cylinder engine is bound to become obsolete owing to the impossibility of eliminating the excessive vibration which is inseparable from it.—Yours truly,

The Standard Motor Company, Ltd.

R. W. MAUDSLAY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Mr. King's letter in the *M.C.J.* of the 3rd inst. is most interesting, and I trust that he will shortly be able to let us have further particulars of his motor. I can see that it is possible to have a three-cylinder motor of the two-cycle type that would give a fairly constant torque, almost equivalent to a six-cylinder motor, but I cannot conceive how all the crank shaft connecting rod bearings will be in constant thrust. On the other hand, it is of course generally admitted that there are certain drawbacks to two-cycle motors.—Yours truly,

MAWDSLEY BROOKE.

### THE COST OF CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to the figures I gave on the question of the three years' guarantee, Mr. Letts, of Messrs. Jarrott and Letts, writes me that the price of the 40-h.p. Dietrich is £1,000, and not £1,100. My figures were taken from a list in a well-known journal entitled "A Guide to Buyers." On the rectified figures given by Mr. Letts their price per b.h.p. would work out at £19 10s. (or £2 better per horse power, roughly speaking £100 cheaper on the total than I stated in my letter). Or, again, the comparison with Mr. Edge's car would be that Mr. Edge should charge at the same ratio £585, or he is in comparison £665 dearer.—Yours truly,

D. M. WEIGEL.

### THROTTLE VALVE OR VARIABLE LIFT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I noticed with interest your remarks on the above subject, and in my opinion the variable valves have no equal. The fine adjustment and regulation of the speed of the engine is only obtainable to a nicety by the use of the variable valves. On the "National" cars the control on the inlet valves as a means of throttling has been made use of with a result that we can secure great flexibility and smoothness of

running, silence and power when required for climbing hills, etc. We incorporate also a variable petrol jet which has great advantages; both these motions are controlled from the face of the steering wheel. The low petrol consumption by the combined use of this arrangement is remarkable.—Yours truly,

P. LAMB.

### OVER-LUBRICATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you or any reader of the *M.C.J.* can assist me in discovering the trouble with my 6-h.p. De Dion car. It began to smoke very thick, and now it has stopped altogether. The sparking plug and contact seem all right, and the petrol goes through the carburettor.—Yours truly,

T. R.

[The trouble of T. R. is evidently one of over-lubricating, and we would advise a thorough wash out of the engine with paraffin, and a proper charge of lubricating oil. If this is not the cause, it may be that too rich a mixture is being used, which can be remedied by opening the airway of the carburettor.]

### A MINIMUM FINE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It may not be generally known that the Guildford magistrates have practically fixed a minimum fine of £5 for offences against the speed limit of motor-cars. It is also worthy of note that

the present costly way of sending milk. What we require is a good, cheap, reliable car, with solid tyres, to take three or four churns of milk, and equally serviceable to use for pleasure, and no doubt some of the second-hand cars could be cheaply converted to this end, as one would not be particular about the latest fashion so long as it was reliable.—Yours truly,

F. HEATH.

### MISFIRING TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Could you or some of the readers of the *M.C.J.* advise me. I have a 12-h.p. De Dion car, new last year. I have no fault to find with the car anywhere except the ignition, and it has been a lot of trouble. I have run on dry batteries and accumulators, and the platinum points soon burn up and want trimming. What I want to know is this, can you or any of your readers tell me whether, if I have a trembler coil and wipe contact, I shall lose power? I mean, will the trembler coil make the engine run slower than with the plain coil? I have asked the makers, and they say I shall lose power, as the trembler coil will not run the engine as fast as the plain coil. I know of two single-cylinder De Dion cars, one 8-h.p. and another 6-h.p., running on trembler coils, and the owners say they do not notice any difference in the speed since changing to the trembler coil. At present I have had a lot of misfiring and running on one cylinder. I have cleaned the platins and adjusted them, also had a new charged accumulator, but all the same sometimes the engine will run for a few miles both cylinders firing and then one will stop for a little and go on again. Can any user of a



The Targa Florio Circuit. The Village of Caltavuturo. (See page 47).

the general principle governing English law lays down a maximum penalty or punishment, leaving the minimum to the discretion of the Court trying the case; indeed, there are, or rather were, only two exceptions to this rule, namely, the crimes of high treason and wilful murder.

In this latter category, therefore, must now be classed the technical offence of driving an automobile at the rate of twenty and one-tenth miles an hour along a desolate stretch of open country in the district that enjoys the advantage of the services of the Guildford Bench.—Yours truly,

STENSON COOKE.

Secretary Automobile Association.

### MOTOR-CARS AND FARMERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—A great deal has been said about motors and agriculture and the disastrous effect upon the same, but, instead of any serious injury, I think the introduction of motors will prove highly beneficial, especially in the conveyance of fruit and also milk; and if the milk business could be more centralized I believe it would pay farmers much better than the exorbitant rates charged on rail. If some enterprising motor companies would take the matter up and put on motors to start from certain centres within a radius of thirty miles of London it might be made a paying concern. I met a brother farmer the other day who was grumbling about the low price of hay, and who attributed it all to those blessed motor-cars; but such an assertion will not bear investigation, as I well remember hay being much cheaper before motors were thought about.

I have an idea that if motor-car manufacturers would give it their consideration a trade might be done in cars for station work in place of

12-h.p. De Dion give me a hint as to what is wrong? I have been told that if I use a trembler coil I shall lose four miles per hour. I should like to learn from some user of a 12-h.p. De Dion who has fitted a trembler coil, if it does make the engine slow. Also, please say what make of trembler coil would suit a De Dion car.—Yours truly,

E. W. S.

[The trouble mentioned by our correspondent is no doubt due to a faulty coil. When the platinum points burn quickly, it is usually due to the condensers in the coil having broken down. We consider that E. W. S. would find a great advantage in using a trembler coil, as they are equally as fast as a non-trembler. Any type of high-speed trembler coil would be suitable, especially one used for synchronised ignition, as, if it is fast enough for this work, it would certainly give the desired effect to E. W. S.]

### TIMING A DE DION ENGINE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Will you kindly oblige me by letting me know how to get the timing right on my 6-h.p. De Dion engine? I have lately taken the engine down to clean it, and I took off the brass plate in front and exposed the two small cog wheels with the attachment to lift up the exhaust valve. Since I replaced them the engine will not start at all, but back fires. I am in a fix, and a reply by post, if possible, will greatly oblige.—Yours truly,

PRESTON BALL.

[To time a De Dion engine it is necessary to determine the position of the piston in the cylinder; this can be done by putting a piece of stout cord through the compression tap (removing the tap, if necessary.)

The engine should then be rotated in the direction it has to run until the piston is within about three-quarters of an inch from the bottom of a downward explosion stroke. The exhaust valve should then commence to lift, and by rotating the engine the valve should close precisely on the top of the stroke. If it does not do this, the cam must be altered either backward or forward until this is correct, as the closing point is of more importance than the opening.]

### ACCUMULATOR TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have been having some trouble lately owing to my accumulator constantly running down. I have taken all the wiring completely down, and can find no flaw in the same. Similarly I have tested the contact maker and other parts, but without locating any cause for the trouble. I recently went for a run, and having gone about forty or fifty miles found the accumulator had run down. The voltmeter at starting had registered  $4\frac{1}{2}$  volts, and the car had run quite well up to the time of stopping, when the accumulator only showed about three volts.

I should also feel obliged if you or any of your readers could inform me how to stop the acid leaking out of accumulators.—Yours truly,

WARWICK.

[Provided that the voltmeter is accurate, and that no fault of an intermittent character exists in the wiring, the most probable cause of the trouble is that the accumulator requires fresh acid and rinsing out

If "A 4359" will drill two  $\frac{1}{8}$  in. holes in the above-mentioned air shutter he will find that it will make a great difference in the pulling of his car, also a saving in petrol, and will prevent the plugs, &c., from fouling up. I have made this alteration to several of these cars with remarkable results. Trusting that this information will be of some use to your readers, although late.—Yours truly,

F. G. MILNE.

### AN ENGINE QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In answer to "Constant Reader," whose letter appeared in the *M.C.J.* of the 24th ult., I think his trouble may be a similar one to that I experienced some time ago. Having bought a sparking plug with a solid wire centre, I found in use that my engine kept running for some time after switching the current off, owing to the heat being retained in the centre of the plug. I remedied the same by cutting off the thick wire centre and soldering a thin wire in its place to match the wire on the edge of the plug. I have had no trouble since.—Yours truly,

A. D. JACKSON.

J. A. is recommended to Mr. Worby Beaumont's volumes. We shall be glad to hear our readers' opinion as to the best work on the construction of motor-cars.

THE COST OF CARS.—Messrs. S. F. Edge, Ltd., write, that the price of the standard 40-h.p. six-cylinder Napier is £1,050 and not £1,250. "The 40-h.p. chainless type of Napier for which we ask £1,250 costs

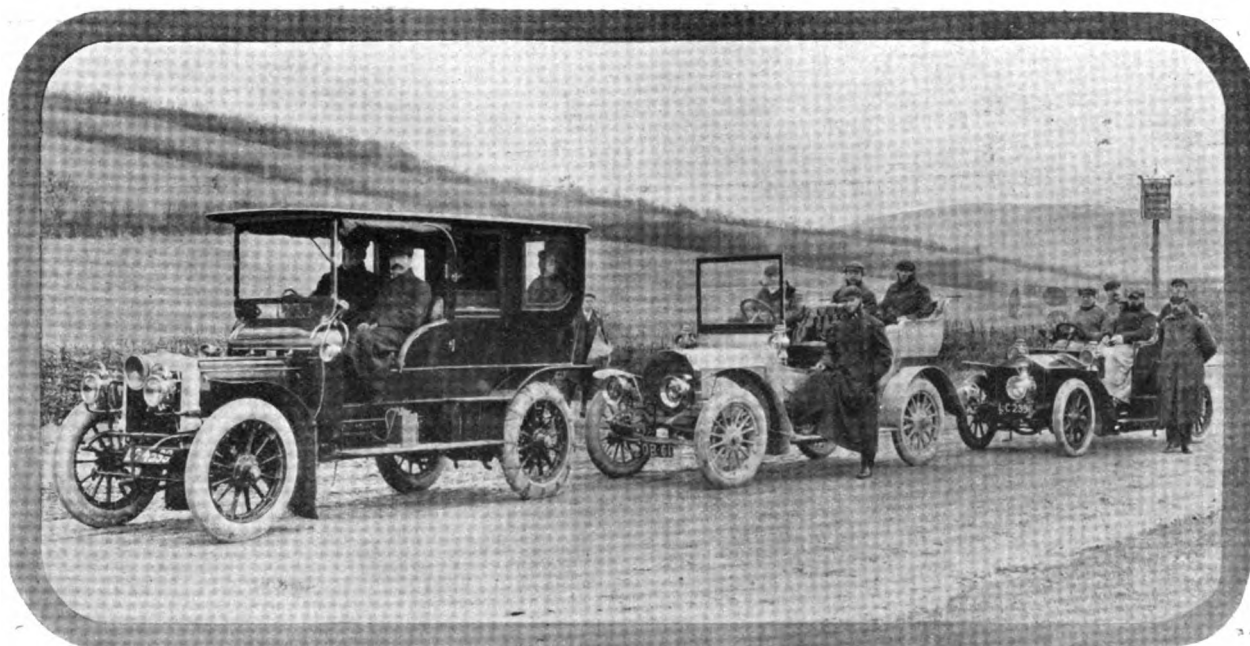


Photo by]

The Tyre Trials. The Competitors at the foot of Dashwood Hill. (See page 41).

[Argent Archer.

with water to clear all loose particles of material in the cell. The capacity of an accumulator rapidly declines when the density of the acid falls below a certain point, and if the acid is old, the voltage may fall as soon as the density has dropped below the amount that charging has brought it up to. "Warwick" should test a little of the acid with a hydrometer; to be correct it should be at 1.200 approximately. If it should be as low as 1.0 the accumulator cannot be properly charged. To prevent the acid leaking out of the accumulators, many devices can be used, but they all depend upon whether the containing cells are ebonite or celluloid. Also, by leaking out, does "Warwick" mean actual leakage of the containing cells, or splashing out of the vents? The first can only be remedied by efficiently repairing the cells, the second can be effected by various forms of valve vents and by care in properly fixing the accumulator in the car. The acid can also be made unspillable by making it into a jelly with silicate of soda, but this reduces the capacity in time.]

### A CARBURETTOR QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—On looking through an old file of the *M.C.J.*, I notice in the issue of October 28th, 1905, a letter from "A 4359," complaining of trouble with the carburettor of a 9-11-h.p. Clement car. He does not state the type of carburettor, but if it is the type with a shutter which covers one of the air ports when the engine is throttled down I may be of assistance to him with the following information; at any rate it may be of interest to other of your readers.

us a higher price because we make the chainless type in small number compared to the chain driven. The b.h.p. of the 40-h.p. is guaranteed at 48."

LOST HUB CAP.—Mr. W. A. Bruce, of the Chater Lea Manufacturing Company, Ltd., writes that on Friday last week he had the misfortune to lose a hub cap from his Brush car (it has the word "Brush" engraved on it), somewhere on the main London and Bishop Stortford road, via Edmonton and Walthamstow.

A LOST BACK LAMP.—Last week a motorist, having tyre trouble, called at the Richmond Motor Body Works, 5, Eton Street, Richmond, S.W. He left his back lamp, which can be obtained on application by the owner.

TAIL LAMP FOUND.—Messrs. Salsbury and Son, Limited, have been advised that one of their tail lamps was found on February 11th, between Windsor and Staines, close by the "Bells of Ouseley," and if any of our readers lost one about that time and place they will be pleased to place him in communication with the finder.

A SCOTCH correspondent asks for information as to the duties of chauffeurs. Perhaps some of our readers can supply this from their own experience.

CLEANING OUT SILENCERS.—"Chiswick" writes:—"Can any reader suggest a way to clean out a silencer without removing it? I have one that is hard to get off and take to pieces."

SOLARINE.—We thank the many correspondents who have sent the address of the Solarine Company, Barnard Street, Southampton, asked for by an enquirer in our last issue.



## CLUBS AND ASSOCIATIONS.

### A.C.G.B.I.

THE annual general meeting of the Automobile Club of Great Britain and Ireland was held on Thursday, last week, at 119, Piccadilly, W. A satisfactory report and balance-sheet for the past year were presented to the members. In the course of his remarks on the report the Hon. A. Stanley referred to the membership of the club, which now numbers over 2,800 members, and to the large amount of useful work achieved in many directions during the year, more particularly as regards the institution of examinations for driving and mechanical proficiency certificates, the collection of evidence for the Royal Commission on Motor Car Traffic, touring at home and abroad, and the institution of the International Tourist Trophy Race for the evolution of the best type of motor-vehicle. He congratulated the club on its work in connection with the prevention of inconsiderate driving, complaints in regard to which had greatly diminished.

The committee for the ensuing year is constituted as follows:—Members elected by ballot:—Hon. Arthur Stanley, M.P., Lord Montagu of Beaulieu, Mr. Lionel de Rothschild, Mr. Charles Hardy, Major F. Lindsay Lloyd, R.E., Mr. Wilson Noble, Mr. E. H. Cozens-Hardy, Lt.-Col. R. E. B. Crompton, C.B., Mr. Stanley Spooner, Mr. Alfred F. Bird, Mr. E. Manville, Mr. J. R. Nisbet, Dr. H. S. Hele-Shaw, F.R.S., Mr. M. O'Gorman, Dr. Bruce Porter, Capt. Dyke Acland, Mr. T. G. Chambers, Mr. T. H. D. Berridge, M.P., Mr. J. D. Siddeley, Mr. James F. Ochs, Mr. Claude Watney, Mr. E. M. C. Instone, Mr. Alfred Armitage, Mr. Henry Sturmer, Dr. J. Hopkins Walters. Non-Retiring Members: Mr. F. P. Armstrong, Mr. W. Worby Beaumont, Hon. Stuart Bouverie, Professor C. V. Boys, F.R.S., Sir W. J. Bull, M.P., Mr. F. H. Butler, Capt. H. H. P. Deasy, Mr. Henry Edmunds, Mr. J. M. Gorham, Col. H. C. L. Holden, R.A., F.R.S., Mr. J. A. Holder, Mr. Vere Ker-Seymer, Mr. W. J. Leonard, Mr. G. Montagu, Mr. Henry Norman, M.P., Mr. Robert E. Phillips, Sir Boverton Redwood, D.Sc., Hon. C. S. Rolls, Mr. C. D. Rose, M.P., Earl Russell, Mr. J. Lyons Sampson, Capt. G. H. J. Skeffington-Smyth, D.S.O., Mr. Sidney Straker, Mr. F. Strickland and Mr. Robert Todd.

### HERTFORDSHIRE.

ON Thursday of last week, at the invitation of the Hertfordshire County Automobile Club, a reception was held at the Masonic Hall, Watford. Mr. C. McWhirter, who acted as chairman, said he should like to see the interest in the club more widespread, and more motorists become members. One of the aims of the club was to make it thoroughly representative of every part of the county of Hertfordshire. There were many advantages in belonging to the club, and he hoped they would not delay in obtaining proposal forms from the secretary if they were not already members.

Mr. Basil Crump then gave an interesting account of motoring in England, Holland, Germany, Switzerland, Ireland, and India. At the close he was accorded a hearty vote of thanks, on the motion of Mr. C. McWhirter, seconded by Mr. W. T. Coles. The Hertfordshire Club have arranged an exhaustive list of fixtures, the principal ones being an open motor-cycle hill climb at Maple Hill on April 21st and an open car hill climb at Aston Hill on June 30th. The opening run takes place on April 7th at Hatfield. Tea will be partaken of at the Red Lion at 4.30. During the reception Mrs. Munro, on behalf of the members of the West Herts Motor Club, now merged in the Herts County A.C., presented to Mr. T. Williams, the hon. secretary, a silver cigarette case, suitably inscribed, as a mark of their appreciation of his services for the past season.

### MANCHESTER.

THE sixth annual dinner of the Manchester Automobile Club was held on Saturday, at the Midland Hotel, the president, Mr. J. A. Morris, in the chair. After the loyal toasts had been honoured, the hon. secretary, Mr. H. Hoyle Smith, read letters of apology from the Lord Mayor of Manchester and others. The president proposed the toast "The Local Governing Authorities," and said they had to thank the chief constables of Manchester and Salford for the consideration shown to them.

Alderman Rudman, responding to the toast, told how last summer he attended a police court as a witness for a friend, whom he believed had not exceeded the speed limit. The chief constable of that place told him he did not desire to bring these gentlemen before the justices, but since the St. Albans scare a number of the members of the local Council, living on a certain road where cars had passed at a speed they believed to be dangerous, had instructed him to insist on his officers acting as checkers or spies. He could assure them that no such instructions would ever be issued by the Chief Constables of Manchester or Salford.

Mr. C. A. Cripps, K.C., who had charge of the toast "Automobilism,"

said there was no doubt that the motoring movement, whether for purposes of pleasure or business, would grow enormously. In town districts particularly they would see the disappearance of the horse and the installation of the motor. There was a Royal Commission sitting, which had had ample evidence. It had had the advantage of the examination and cross-examination of their ex-president. On the question of the speed limit, no one knew what the Royal Commission was going to suggest, but, he could not help feeling that, so long as they had sufficient restrictions where a motor was driven to the common danger, the public had sufficient security that they would be protected against unfair driving. Then there was the question, he would not say of unjust action, for he was a country J.P. himself, but of biased action on the part of the country magistrates, and here in all serious cases there ought to be a possibility of an appeal to the best tribunal they could get, on the cheapest terms the law could provide. Then also, as regarded local authorities, there ought to be a similarity of regulations not dependent on the individual wills of local authorities, but of a general character, applicable under all conditions. Motorists then would know what the law was and would have a guarantee through some central authority that the regulations were just and right.

Mr. Hepper, replying to the toast, congratulated the Manchester Club on its strength and importance. He hoped that the Royal Commission would see that many of the petty little nuisances motorists had been subjected to would be done away with, and, among others, the endorsement of licences for purely technical offences.

Mr. Fred Smith proposed "The Visitors." Mr. Rees Jeffreys, who responded on behalf of the Motor Union, thanked the members of the Manchester Automobile Club for the steady and consistent support they had always given. Referring to the Royal Commission, he said that the motoring movement depended so much on the support it received from the provinces that when the Motor Union's case was being prepared he was extremely anxious that witnesses should be heard from the provincial clubs. It was a remarkably happy thing for automobilism that the election came when it did, for it had had its influence on members of Parliament, as well as on those who elected them. Every member of the House of Commons owed some of his votes to the motor-car, and every member of that House had had the law broken on his behalf. If they were logical, which they were not, every member of Parliament would see that the twenty mile speed limit was abolished.

### YORKSHIRE.

ON the 28th prox. the club will hold a run to Harrogate; on May 12th a joint meet will be held with the Cleveland branch at Borough-bridge, and on June 30th the annual speed trials will take place, at a place to be decided upon later. The following gentlemen have just been elected to membership:—Messrs. James Hill, Allerton, Bradford; C. A. Cooper, Netherwood, Frizinghall; F. Whitworth Wright, Kirby Leas, Halifax; and Mark Day, Oxford Road, Dewsbury.

It is the intention of the committee to arrange, in addition to Leeds and Huddersfield, free casual garage for the members (upon production of their membership cards) in other Yorkshire towns, and the hon. sec., Mr. C. P. Wilson, c.o. Great Northern Hotel, will be glad to hear from any garage owners in Yorkshire who would extend this privilege to members.

### MOTOR CYCLING.

THE opening run of the Motor Cycling Club will be to Brighton on Saturday, March 31st. The meet will take place at Sutton at 3.30, and the route followed will be via Reigate and Crawley, where tea will be taken at Terry's. The stopping place at Brighton will be the Old Ship Hotel, where special terms have been arranged and everyone will be made thoroughly comfortable, while the ample garage will be a great convenience in view of the large crowd anticipated. The destination for lunch on Sunday will be Reigate. Members and friends intending to take part in the run are requested to send in their names to the Captain, Mr. J. A. Jackson, 34, Gt. Ormond Street, W.C.

THE Manx Automobile Club has just completed the first year of its existence.

MR. H. JONES, the hon. sec. of the Sports Committee of the Southern Motor Club, will be pleased to send entry forms to intending entrants for the open hill climb for tri-cars and motor-cycles of his club on the 7th prox., at Coast Hill, Westcott, near Dorking. Particulars of the gradient, etc., will also be sent.

COL. MARK LOCKWOOD, M.P., has been elected vice-president of the Essex Motor Club.

### ROAD REPORTS.

POLICE TRAPS.—With the opening of the touring season, police traps may be expected in certain districts. Readers are invited to keep us informed of any discoveries they may make of the existence of such devices.

MOTORISTS should be careful in the Guildford area, where several traps have lately been in existence.

PERTSHIRE.—Mr. Bell, the surveyor to the Perthshire County Council, agrees that motor-car traffic, which is increasing in his area, does not seriously affect the condition of the surface of the road.

## SOME UNSOLVED PROBLEMS IN MOTOR ENGINEERING.

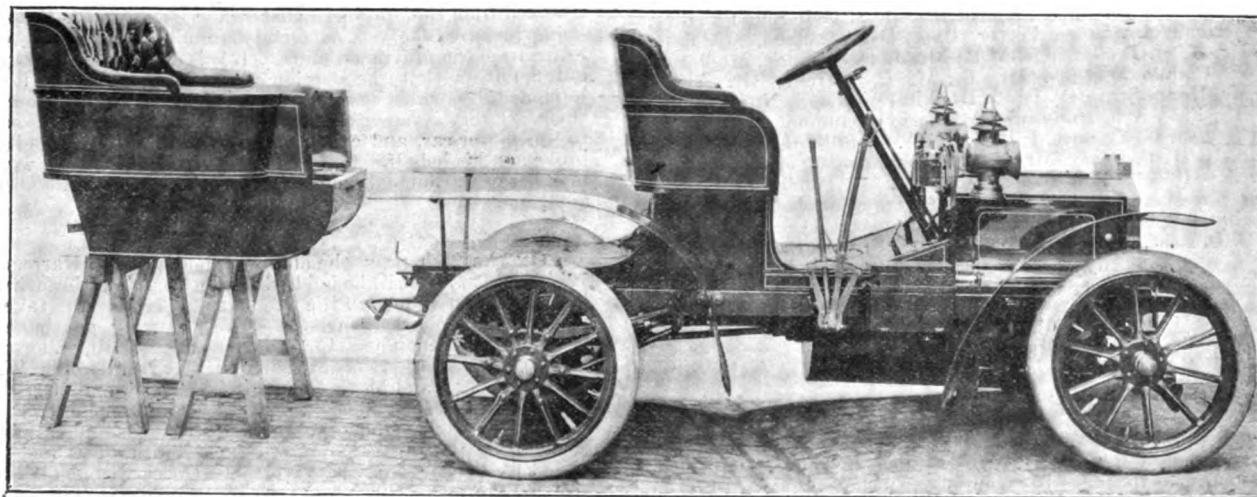
THE [adjourned meeting of the Automobile and Cycle Engineers' Institute, to discuss the paper recently contributed by Lieut.-Col. Crompton on the above subject, was held at the United Service Institution, Whitehall, on Wednesday week last. Mr. Douglas Leechman occupied the chair and there was a large attendance.

Mr. Henry Sturmeay agreed with the author that anything in mechanical engineering which differed from accepted or orthodox practice was not necessarily a freak. The present designs in motor-car construction were far from satisfactory, and radical modifications must be introduced, especially in regard to commercial vehicles, which were the *reductio ad absurdum* of the pleasure vehicles and served to illustrate in a more complete way the weak points of motor-car construction. Referring to Col. Crompton's statement that the present four-cycle engine was as perfect as it could be made under existing circumstances, he asked for the experiences of any gentleman with two-cycle engines. It seemed to him that though some slight loss of fuel efficiency might result, there would be a simplification of the engine to produce the same turning moment. Personally he thought there was a very great future for engines of that kind, without shaft drive, reversing gear, or the ordinary Panhard type of gear. A car such as the Lucas would be at least as simple as any steam car ever produced. After all, the question of plant efficiency was ruled by simplicity of construction. He did not think the author of the paper had been quite fair to the petrol car in his comparison of a £900 petrol car with a £600 steamer, as there were plenty of petrol cars about

facture of one of these and observing some of its tests, and the claims made for this motor were far in advance of anything that could be obtained from the ordinary four-cycle explosion engine. He did not think that the clutch was at all perfect yet, otherwise they would not have so many different designs. It was rather astonishing that more had not been done in the way of fuel tests, and of the tests which had been made by Messrs. Hutton with naphthalene nothing had yet been heard. Experiments had also been made with alcohol, but here it was necessary to specially design the engine from beginning to end. With regard to the comparative cost of steam and petrol cars, there were difficulties with steam which condemned it. Still the steam car was a good vehicle, and for many purposes was far superior to the petrol machine.

Mr. Clarkson spoke of the steam car. He remarked that there was no difficulty about burning heavy oils at all rates of combustion from minimum to maximum. One of the original difficulties in connection with the burner was in starting it. They had, however, devised a starter to use paraffin, and now the starting arrangement had been brought to a high degree of perfection—so much so that they could start up a large 32-h.p. engine from all cold. In the old form of boiler the water gauge needed constant attention, but now it was automatic in the fullest sense of the word, both as to water supply and fuel. One of the greatest improvements and discoveries recently made was the governing of the fuel supply by the dual system of temperature and pressure. The pressure governor took care of the fuel when the car was standing, and the thermo governor when the car was running. It was a duplex form of governor, each acting independently of the other.

Mr. Coventry said that since 1903 he had had charge of cars running in public service for 800,000 miles, and he had analysed the causes of failure as follows:—About 45 per cent. were due to petrol supply and



The Peugeot 8-h.p. Single Cylinder Car with detachable Tonneau to be exhibited at the Agricultural Hall by Messrs. Friswell, Ltd.

the same price as the steamer which would give approximately the same results. Many petrol cars would also compare favourably with the steamer in regard to repairs. The question of the number of cylinders was largely one of fashion. In regard to the statement that there was no such thing as direct drive Mr. Sturmeay thought Col. Crompton had overlooked the fact that there were cars which drove by chains from the engine shaft to the rear axle—a two-shaft drive, as with steam cars. He joined in condemning the cardan shaft drive, remarking that he could not see how anyone with any engineering instincts could use a double gear to transmit power if he could do it by any other means. He would like to know whether any comparative tests had been made between worm and bevel gearing. He agreed with Col. Crompton's view that if they had cylinders large enough to start a 'bus with the ordinary clutch and drove practically direct they would probably get much nearer the mark; he would abolish the gear shaft altogether and drive direct by chains. They would then get over the trouble of having the gear shaft down the centre of the 'bus, and with the chains encased they would have a drive which would be exceedingly sweet and simple, which would absorb very little power and would last. The one thing which had caused chain drive to fall into disrepute was the fact that the chains in the cars of to-day were placed in absolutely the worst position possible for ensuring anything like length of life. If a chain was properly protected he was satisfied that it would beat any other form of transmission.

Mr. J. W. Roebuck questioned Col. Crompton's dictum that the petrol engine was perfect. Indeed, he thought they should not be satisfied until it was as perfect as the electric motor, with the same uniform torque and without any tendency to tip over the car. He instanced the Lanchester engine as one having its reciprocating parts well balanced and one which had not received the attention it deserved. With regard to two-stroke motors, he recently had the opportunity of seeing the manu-

carburation; 25 per cent. to ignition; 23 per cent. to gear and clutch; 6 per cent. to engine; 1 per cent. to the differential. This left out tyre failures, spring troubles and other odds and ends. The 45 per cent. of petrol failures were very easily remedied, being due chiefly to water in petrol; to badly-designed filter or no filter at all between the petrol tank and the carburettor; to poorly designed pipes, long lengths unsupported, and no arrangement made for expansion or vibration, etc. This seemed to be a very simple engineering problem, which could easily be put right. Of ignition failures the greater number had been owing to badly-designed plugs, or to the magneto itself. He had had no magnetos remagnetised, though they had been taken apart to be cleaned in the ordinary way. That was about as efficient as any engineering machine could be expected to be. With low tension magneto driven direct off the half-speed shaft, brought well back out of the way of any oil or dirt from the engine, and boxed in under the footboard in a position where it could be got at, with solid brass wire leads enclosed in large insulating tubes, leading up to a well designed cut-out arrangement for the plug, worked with a trip motion, so that any getting out of timing due to wear inside the cylinder would be got rid of, and the problem of ignition would be solved. A great many of the failures were comparatively small—five or ten minutes on long runs. A number of failures had been due to gear wheels shearing off the flanges. He would like to see flanges made solid with the shaft and the gear wheels bolted between the solid flange, and a loose flange in two halves placed between the fixed flanges. He would also like to see a system of lubrication entirely out of the hands of the driver. Differential failures had been practically nil—only one per cent. during the whole time. They had worn out about three bevel wheels in three thousand miles, many of the vehicles having been on the road three years.

(To be concluded).

## THE GLASGOW MOTOR CAR SHOW.

FOLLOWING Edinburgh's example, Glasgow is this year being favoured with a motor-car show, which was opened in the Exhibition Hall, Duke Street, on Friday last week. The exhibition is the largest which has so far been held in the great Scottish shipbuilding centre. One of the first stands to strike the eye is that of Argyll Motors, Limited; it is designed to represent the front of their new and extensive works at Alexandria, N.B. A full range of the well-known Argyll cars is on view, including the 10-12-h.p. double-cylinder, and 14-16-h.p. and 16-20-h.p. four-cylinder models. One of the smaller vehicles is fitted with a sample-carrying body specially designed for commercial travellers' use.

The Rossleigh Motor Company, Ltd., Glasgow, have a large stand, on which are shown examples of the 28-36-h.p. and 30-40-h.p. Daimlers, a 12-h.p. and 16-h.p. Peugeot, the latter being fitted with a handsome six-seated limousine body, a 10-h.p. Darracq and a 10-12-h.p. Humber. Another extensive stand is that of the Western Motor Company, Ltd., Glasgow, who are exhibiting three sizes of Delaunay-Belleville cars, 16-20-h.p., 20-28-h.p., and 28-36-h.p., all fitted with highly finished bodies built by the Burlington Carriage Company, Ltd., and a range of the well-known Argyll cars, including the 10-12-h.p., 14-16-h.p., and 16-20-h.p. models, including one with a luxurious double landaulet body. Messrs. V. Jennings and Co., Glasgow, show a Humber 10-12-h.p. car, and 5-h.p. tri-car, as well as a Quadrant Carrette. The Northern Engineering and Manufacturing Company, Glasgow, exhibit one of the Talbot cars and examples of the Spyker dustless 14-18-h.p. and 20-28-h.p. vehicles. An interesting display of the Darracq cars is made by the Kennedy Motor Company, Ltd., Cathcart, ranging from the new 8-h.p. four-seated car to a handsome 20-32-h.p. double phaeton. Specimens of the 6-h.p., 8-h.p., and 12-h.p. Wolseley cars, together with a full range of Siddleley vehicles, 6-h.p., 12-h.p., 15-h.p., 18-h.p., and 32-h.p., are shown by the Wolseley Tool and Motor Car Company, Limited. Messrs. John Croall and Son, Limited, exhibit the 60-75-h.p. De Dietrich chassis, of which a description was given in a recent issue of the *M.C.J.*; a 16-24-h.p. De Dietrich and a 20-25-h.p. Mercedes are also on view. The Albion Motor Car Company, Limited, of Scotstoun, are present with examples of their 16-h.p. and 24-h.p. cars, the former being fitted with a double landaulet body by Penman, of Dumfries. Examples of the West 10-12-h.p. two-cylinder and 12-16-h.p. and 15-h.p. four-cylinder chassis are shown by Mr. R. Wight, junr., Edinburgh. These are all fitted with Aster engines and cardan-shaft transmission. Mr. Wm. McLean, of Glasgow, the maker of the St. Vincent cars, shows a 24-30-h.p. vehicle fitted with Aster engine, a 12-h.p. van, and an 18-22-h.p. double landaulet. The Bergius Car and Engine Company, Glasgow, stage a Kelvin 16-h.p. four-cylinder car with side-entrance body, as well as examples of their 7-9-h.p. and 14-16-h.p. launch engines. A new firm is the Neilson Motor Company, Limited, Glasgow, who, in addition to examples of the Germain, Martini, Daimler, and Mors cars, are exhibiting a chassis of the new 40-h.p. Crossley car, which is attracting considerable attention. Another new exhibitor is Mr. John Ridley, Paisley, who exhibits a 6-h.p. two-seated car and a light van of equal power. There are several special features in the vehicles, notably as regards the gear, which we hope to refer to more fully in a later issue. Other exhibitors of cars include the Peacock Autocar Company, Glasgow (Chenard-Walcker), Mr. C. M. Farrow, Glasgow (Rexette), Messrs. L. C. Seligmann and Company, Glasgow (Clement), Messrs. Rennie and Prosser, Limited, Glasgow (Mercedes, Siddleley, Panhard, and Napier), the New Arrol-Johnston Car Company, Limited, the Holloway Manufacturing Company, Bridgeton (an 18-22-h.p. Holloway car with Aster engine), Messrs. Bell Bros., Manchester (Bell cars), Messrs. Gibbon and Company, Glasgow (Darracq, Minerva, Rover and Vinot-Deguingand), Messrs. MacLaren Bros., Dumbarton (Scout motors), and the Scottish Motor Syndicate, Glasgow (Winton and De Dion).

In the heavy vehicle section Messrs. Robert Morton and Sons, Limited, of Wishaw, N.B., display a 25-h.p. steam motor-van and a lorry and chassis of similar power. Messrs. D. Stewart and Company, Limited, Glasgow, show two steam wagons, one being of 4-ton capacity, and the other of 5 tons. The Glasgow Motor Lorry Company, Limited, exhibit a 3-ton steam van, specially built for the transport of milk cans, and a 5-ton wagon constructed to the order of the Glasgow Motor Haulage Company, Limited. Other exhibitors in this section include the Yorkshire Patent Steam Wagon Company, Limited, Messrs. J. Robertson and Son, Fleetwood, Messrs. T. Coulthard and Company, Limited, Preston, and the Scottish Motor and Engineering Company, Granton.

In the accessory branch Mr. Rudolph Raitt, of Blairgowrie, displays a collapsible trestle which should be found useful by motor-car repairers, as by its means the work of disassembling and assembling parts of the mechanism of motor-cars and also of changing one type of body for another is greatly facilitated. Among other firms we noticed are the General Petroleum Company, Limited (Shell motor spirit), Messrs. Jas. Thomson, of Edinburgh (accessories), Messrs. Jones Bros., Limited (Selvyt), Messrs. Alfred Dunhill, Limited ("everything but the motor"), Messrs. S. Stevenson and Co., Glasgow (motor-car and lorry wheels, etc.), Messrs. W. Barton and Sons, Edinburgh (coils and accumulators), Price's Patent Candle Company, Limited (coils and greases), the Samson Leather Treads and Tyre Company, Limited, London (non-skids), the North British Rubber Company, Limited (Clincher tyres), Messrs. J. E. Hopkinson and Co., Limited (the Hopkinson solid tyres), the Cave

Quick Change Tyre Rim Syndicate, the Shrewsbury and Challiner Tyre Company, Limited (wheels and tyres for all classes of motor-vehicles), Messrs. R. and J. Pullman, Limited, Godalming (non-skids). The show closes to-day (Saturday).

### PUBLIC MOTOR SERVICES.

MESSRS. RADFORD BROTHERS, of Rostrevor, co. Down, are starting a service of motor-vehicles into operation between Newry, Rostrevor, and Warrenpoint.

THE members of the Yeadon District Council are about to visit other places where motor-'bus services are in operation.

A MOTOR-CAR service is to be established between Christchurch Road and the pier at Boscombe.

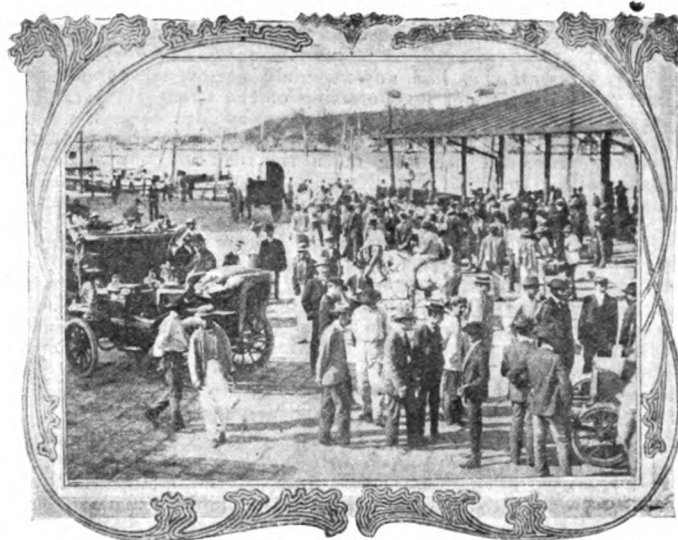
THE G.E.R. motor-'buses commenced running for the season on Monday between Loddon and Beccles station. The service between the former place and the Victoria Station at Norwich also recommenced on the same day.

THE Sussex Motor Road Car Company, Ltd., has recommenced an extension to Kemp Town, Brighton.

### MOTOR TEACHERS ACQUITTED.

RISKI MEDAWAR and John Raymond Kerr, the two young men accused of conspiracy to defraud in connection with the Motor Drivers' Union, have been discharged at the Central Criminal Court.

Mr. Marshall Hall, addressing the jury in defence, denied that the accused had been concerned in any conspiracy to defraud. The business of the Motor Drivers' Union had grown, and possibly it had outgrown the means which the Union had of coping with it. The Common Serjeant ruled that there was no case of fraud to go to the jury.



Motor Racing in Cuba. The Cars on the Quay at Havana.

### THE BUSINESS OF RAILWAY COMPANIES.

AN action was instituted by the Attorney-General, at the relation of the Corporation of Birkenhead, who asked for an injunction to restrain the Mersey Railway Company from running motor-omnibuses in connection with their railway system in the borough of Birkenhead, whereby, it was alleged, they were acting *ultra vires, id est*, in excess of their statutory powers, either expressed or implied.

The Corporation of Birkenhead owned the system of electric tramways which passed through the borough, and which had cost them £350,000. The Mersey Railway was a line which ran under the river Mersey, and thus connected the city of Liverpool with Birkenhead. The company had a central station at Birkenhead, and other stations in outlying parts of the borough. The railway company had recently bought several motor-omnibuses, and were running them from their central station to different parts of the suburbs, for the conveyance of passengers to and from their stations, and not only were they conveying passengers, or intending passengers, on their railway, but any member of the public who wanted to go from one point to another on the line of route.

The plaintiffs' contention was that the running of these omnibuses was not incident to and consequential upon the carrying on of a railway business, but was a separate and distinct business altogether, and it was, therefore, beyond the scope of the defendants' Acts to carry it on. On behalf of the defendant company, it was submitted that the running of omnibuses for the conveyance of passengers in connection with the railway service was just as incident to the proper working of the railway as to employ carts and wagons for the collecting and distribution of goods, parcels, merchandise, etc.

His lordship, in giving judgment, said that he must, on the authority

of decided cases and *dicta*, find in favour of the plaintiffs, and grant an injunction against the defendants, in the terms asked. Although a railway company might conveniently carry on an omnibus business in connection with their railway system, such a business could not be said to be incidental to and consequential upon the conducting of a railway system.

The injunction was granted accordingly, but was suspended for fourteen days, with view to an appeal.

### OBSTRUCTION OF THE HIGHWAY.

At Norham and Islandshire Sessions, Berwick-on-Tweed, on Wednesday, March 7th, John Coulter, of Manchester, proprietor of locomotive and wagons, was summoned for obstructing the highway, and also for infringing the County Council byelaw as to keeping a heavy locomotive stationary on a bridge. Mr. John A. Williamson, solicitor, Newcastle-upon-Tyne, prosecuted on behalf of the North Eastern Automobile Association, and Mr. Adam Douglas, solicitor, defended. Captain Burrell, of Carham Hall, stated that he was driving his motor-car on the main road from Cornhill to Berwick on Saturday morning, February 24th, and he met the defendant with a heavy locomotive and three wagons. The defendant stopped the locomotive on the middle of the road on a bridge and took in water. Captain Burrell could not get past with his motor-car and had to wait for twenty minutes until defendant had finished taking water from the burn, the road in the both directions being obstructed for that period of time. The Bench informed the defendant that he had no right to obstruct the highway and keep Captain Burrell waiting there for twenty minutes, and fined him £2 and costs, £1 for obstructing the highway and £1 for infringing the County Council byelaw.

### MOTOR-CAR ACCIDENTS.

A MOTORIST has had an extremely narrow escape of being run over at the Loudwater level-crossing of the Great Western Railway, near High Wycombe. The car, driven by Mr. John Lancaster, on reaching the top of Treadaway Hill—a very steep decline to Loudwater Station—proceeded headlong down the road in consequence of the brake failing to act. Mr. Perrin, a passenger, realising the danger, jumped out, and sustained some injuries and a bad shaking. Mr. Lancaster stuck to the car, which, on reaching the railway gates at the bottom of the declivity, crashed through them and got on to the railway line. A train was approaching, but was stopped just in time.

In attempting to avoid a dog in the Coventry Road, Birmingham, a motor-car swerved in front of two bicycles, causing the two ladies who were riding them to be thrown to the ground. One of the ladies was taken to the General Hospital suffering serious injuries from a compound fracture of the thigh.

### CASES AGAINST MOTORISTS.

At the Newcastle police court, Charles Englebach was summoned on a charge of having, on the 14th inst., driven a motor-car at a speed which was dangerous to the public. P.C. Railston, who was on point duty at the junction of Westgate Road and Grainger Street, stated that on the 14th inst. he saw the defendant driving a motor-car down Grainger Street at a speed of not less than fifteen miles an hour. When about thirty yards off witness held up his hand for defendant to stop, but he took no notice, and drove straight on. Thomas Emerson stated that he was standing on the footpath in Grainger Street West, when he saw the motor-car. It was going 100 yards in ten seconds. It would have been impossible for the fastest runner to keep up with the car. Mr. Holmes, for the defence: I put it to you that your estimate works out at seventeen miles an hour. Can a man run seventeen miles an hour?—Oh, no. If you work it out at 100 yards in ten seconds, you will get it up to twenty. Defendant stated that he was the head of Messrs. Armstrong's motor-car department at Scotswood. The speed would certainly not be more than ten miles an hour—about eight or nine. He saw the policeman in the middle of the road, but he never saw him give any signal. The Bench held that the speed was greater than was necessary, considering the state of the traffic, and imposed a fine of £2 and costs.

At Loughborough Police Court, Albert Farnell, of Manningham Lane, Bradford, was summoned under the Motor-Car Order, 1904, for refusing to stop his car when Wm. Lowe, the driver of a horse and cart, put his hand up as a signal for him to stop. Mr. Read, of Huddersfield, defended. Wm. Lowe, carrier, Rempstone, said that about 12.15 on February 8th he was driving a cart into Loughborough. When near Cotes they met a motor-car, and witness pulled to the side of the road. As his horse seemed timid, and did not like to face the car, witness put up his hand three times for them to stop. They did not pay any regard. His horse was so frightened that it jumped round, and the wheel went up the bank. Then the horse jumped back and broke the harness, throwing witness and the passengers out of the cart. Witness was hurt, and had been under the doctor since, and two of the passengers were also hurt. The occupants of the car came back, and they took witness home in the car. He asked their names, but they said he need not trouble. Mr. Read, in defence, said the reason why the case was brought was bound up in the one word "compensation." Mr.

Read then raised a technical objection, stating that these proceedings were taken under the Motor-Car Use and Construction Order, 1904, and that was a proceeding in Council that ought to have been proved in accordance with the provisions of the Documentary Evidence Act. That had not been done, the prosecution had closed their case, and therefore it failed. They did not commit the offence, for they must have seen the hand if it was put up. The chairman said the magistrates were of the opinion that the occupants of the car did everything they possibly could for the people, and that they might have been mistaken as to the putting up of the hand. They suggested that the case should be withdrawn on payment of costs. The suggestion was accepted by the police and the defendant.

CHRISTOPHER CHARLES FRISBY, the driver of a motor-omnibus, was summoned at the Lambeth Police Court by the police for omitting, when his vehicle was stationary, to stop the action of all machinery so far as was necessary to prevent noise. There was a second summons against the defendant for quitting the bus without taking due precautions against it being started in his absence. Police-sergeant Matthews said he found the defendant's motor-bus standing in Deacon Street, Walworth. The machinery was running. After the lapse of four minutes the defendant came out of a house, and witness said to him, "How is it you leave your motor-omnibus with the machinery running and without anyone to look after it?" The defendant replied, "I can stop it, if you want it stopped." He pointed out to the defendant the danger there was of the motor being started in his absence, and also the noise it was making. The defendant now pleaded that he was ignorant of the regulations. Mr. Hopkins: "Don't you know that if you leave your bus with the machinery running some silly boy will get up and touch the levers." The defendant retorted that a boy would not know how to do it. Mr. Hopkins: "It's the silly boy's business to find out how to start a motor for the purpose of starting one when he gets the chance. It is exceedingly dangerous. There will be a penalty of 20s. and 4s. costs."

EARL RUSSELL, of Telegraph House, Chichester, has been summoned at Kingston for driving a motor-car at a greater speed than twenty miles an hour on the Portsmouth road at Cobham on February 26th. His lordship did not appear, but the chairman intimated that he had written a letter, in which he admitted that he had exceeded the limit. Three previous convictions for a similar offence were proved, and the magistrates imposed a penalty of £15, with 13s. costs.

LIONEL ANDERSON, of Riversdale Road, Highbury, was summoned by the police at the North London Court, for (1) having no lights on his motor-car after dark, and (2) for having no light on the identification plate in the rear. Constable Foster said he saw the defendant's car at a standstill near his residence for quite twenty minutes. There were no lights on it. The Defendant.—I pulled up at a well-lighted spot and turned out the acetylene lights. When I came out of the house I relighted the lamps, and was proceeding on my journey when the constable came to take my name and address. I submit that I have done no wrong, because the car was not proceeding. Mr. d'Eyncourt: I don't think the regulations were framed to meet such a case as this. They all go on the assumption that the car was proceeding. The police should have taken their summons against the defendant for obstruction with his car. As it stands, the car was not being used, and was not proceeding, and we do not know in what direction it was going to proceed. The summons is dismissed.

AN action was heard at the Boston County Court on Monday, before Sir Geo. Sherston, Bart., and a jury. It was brought by John Alliss, farmer, Medville, near Boston, who sued Dr. W. F. Miller, of Wrangle, for £12 15s. damages sustained by plaintiff by reason of the defendant's negligent driving of a motor-car on January 16th last. The case for the plaintiff was that a wagon and three horses was near Old Leake station, when defendant approached in a motor-car at a rapid pace. The horses became restive, but defendant did not stop until the animals swerved across the road in front of him, when the shaft horse was thrown down and the wagon was overturned, the wagon being partly smashed. Dr. Miller stated that he was driving twelve miles an hour. When forty yards away he noticed that the leading horse cocked its ears and became restive, whereupon he immediately stopped the engine and put on the brakes, reducing the speed to five or six miles an hour. The leading horse swerved across the road in front of him, and he then stopped the car altogether, being at the time eighteen yards away from the horses. His Honour said the point the jury had to consider was, whether the defendant, when he saw that the horses were restive, was justified in going on, or whether he ought to have stopped at once. The jury found a verdict for the plaintiff for the full amount, and judgment was given accordingly with costs.

Place.	Summoned for	Result.
Brighton ...	Dangerous speed	40s., etc.
Croydon ...	Exceeding legal limit	£10, etc.
North London ...	Drunk while in charge of a car	10s., etc.
Solihull ...	Keeping motor-cycle without Inland Revenue licence	£1, etc.
Hamilton ...	No rear light	15s., etc.



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## COMMENTS.

### The Exhibition.

READERS will scarcely need to be reminded of the fact that Cordingley's eleventh Motor-Car Exhibition at the Agricultural Hall, London, opens to-day (Saturday), and will continue throughout next week. From a glance at the catalogue it is evident that the high expectations raised will be fulfilled, and that many distinct novelties and highly-finished specimens of automobile engineering will be on view. Italy will be conspicuous among the exhibitors; the splendid work of British engineers will be again demonstrated, and from what we have heard during recent days good business may be expected.

### Meetings at the Agricultural Hall.

A NOTABLE feature illustrative of the position attained by this display in the automobile world is the list of meetings that will be held during the week. This is as follows:—

Monday—Automobile Association.  
Tuesday—Motor Van and Wagon Users' Association.  
Wednesday—Ladies' Automobile Club;  
Motor Union Annual Meeting.  
Thursday—Cycle and Allied Trades Association;  
Aero Club.  
Friday—Automobile Mutual Protection Association.

This list is a fitting reply to the efforts made by a certain section of the trade—referred to in our Correspondence columns—to lessen the interest felt in the Exhibition.

### The Van Trials.

THE hint conveyed by Colonel Crompton's recent letter on behalf of the Motor Van and Wagon Users' Association to the A.C.G.B.I. has apparently had the effect of causing the Club to advise a little more haste to its Trials Committee in connection with the suggested trials of delivery vans. Disappointment at the previous fiasco is yet keen, and much time has been lost in securing that prosperity for the builders of commercial vehicles that their work entitled them to. The Association naturally points to the importance of such trials in developing the use of the light motor-van, and its offer of assistance to the Club in organising the matter should secure not only the hearty co-operation, but an effective share in the work of organisation.

### The Automobile Association.

MANY readers of the *M.C.J.* will recognise in the new campaign of the Automobile Association a scheme of useful work such as has been freely advocated in the Journal for some years past. Now that some of the southern roads are becoming safer to motorists owing to the Association's scouts having rendered the police trap unprofitable, a further sphere of activity is being wisely entered upon, and a threefold programme has been suggested to the committee as follows:—1, the close trimming of hedges at cross roads; 2, the

display of the names of villages and hamlets at each end thereof; and 3, the restoration and improvement of unsatisfactory direction posts. This is to be taken up in a business-like manner, and not suffered to lapse after a desultory correspondence. The Post Office requires that the name of the hamlet shall be conspicuously displayed over the local postal premises; this is often done in such a way as to be of little value, and the point might also be watched by the Association with a view to the Post Office seeing that its responsibility is not set at naught by local officials. Anyhow, the additional work now undertaken by the Association is of such great utility to those who travel by road, that we anticipate there will be little difficulty in doubling its membership and so extending its influence. In the Gallery at the Exhibition it will have a stand where further information as to its propaganda may be obtained.

### Cars and the Elections.

NEW aspects of the use of the automobile in connection with the recent General Election continue to be presented, and almost every week since that event various people have pointed out different advantages that the car has given to the political world. Mr. Frederick Thoresby, whose experience in connection with motor-car insurance is extensive, has had a special calculation made showing that in the week when the elections were thickest the additional accidents due solely to the contests cost his company over £1,500 beyond their normal experience for accidental damage to car and third party claims. This may seem a large amount, but it is valuable as proving the safety of the car. When it is remembered that these vehicles were careering about in all parts of the country and that their drivers were frequently in unfamiliar localities it is a tribute to the automobile that accidents and mishaps were so few.

### "Lay" and "Technical."

A PRETTY little controversy is going on between some champions of the "lay" and "technical" press, which has the merit of enabling writers with nothing else to write about to fill their columns. Having read much on both sides, we are inclined to agree with Major C. G. Matson, who sees "no reason why there should be the slightest antagonism between the two classes of critics." As a matter of fact both parties have to learn; there is no finality in knowledge. Hence the need for each to adopt a tolerant attitude and not be always ready to denounce the other.

### The Education of Workmen.

THE fact that many of the leading makers of motor-cars give facilities for their workmen to visit such exhibitions as that now in progress at the Agricultural Hall, is significant of the recognition that is now made of the need of well-informed assistants. The old time idea of keeping workpeople in entire ignorance of the productions of other establishments has been dissipated, and enterprising firms now encourage their men to study the details and finished goods of other people.

Last Saturday the motor show at Glasgow was visited by the workpeople from three well-known Scottish builders of vehicles, and during the coming week the London exhibition will have equal interest for foremen and others from British works, while many of the automobile instructors from the polytechnics and technical schools will take the opportunity of acquainting themselves with the latest developments in an industry the progressive advance of which is one of the most notable movements in the engineering world of to-day. As educational forces exhibitions have acknowledged influence with the public; they are even more valuable to those engaged in the actual work of production.

#### Police Traps.

THAT the police trap has not been quite dissipated is evident from the illustration we are able to publish of the scene of such a device on the Portsmouth road. Its exact location is near the twenty-third milestone from London.

This trap was discovered by the Automobile Association scouts, and the photo taken by the chairman of the association, Colonel W. J. Bosworth, when on inspection duty. The policeman hides behind a specially-constructed hedge on the right of the



photo. The simple villager standing in the gateway gives an air of innocence to the ambuscade.

#### The Ladies' Club.

ON Saturday last the Ladies' Automobile Club commenced its outdoor programme for the present season, nearly seventy guests assembling at Montreal, Sevenoaks, the home of the Earl and Countess of Amherst. It was a perfect

day for the run from town, the sun being in gracious mood, while the good roads and absence of dust contributed to the enjoyment of the motorists. Most of the guests arrived at Montreal about four o'clock and were welcomed by Lady Amherst in a room full of quaint curios. After a visit had been paid to the golf course, park, and gardens, tea was partaken of in the ballroom. Several of the members had to leave early, and for this reason only about thirteen cars were available when the usual photograph was taken after tea. Among those who accepted Lady Amherst's invitation were:—Mrs. and Miss Ansdén, Mr. and Mrs. Ash, Mrs. Foyster Bowen, the Hon. Lady Birkbeck, Mrs. Harold Browne, Mrs. William Cleaver, Mrs. Dawson, Mrs. Foster, Mrs. Guy Hardy, Miss Hills, Mrs. Loeffler, Miss Johnston, Mrs. Kinlock, Colonel and Mrs. Morland, Mrs. Manville, Mrs. Merryweather, Miss Pilcher, Captain Pears, Mr. Leslie Sanders, Mrs. Richardson, Mrs. C. Boevey, Miss Watts, Miss Beresford, Mrs. Ward, Lady Nore, and Miss d'Esterre-Hughes, secretary.

#### The Tourist Trophy.

ON another page we give a list of the entrants for the International Tourist Trophy to be held in the Isle of Man in September next. With regard to this Mr. J. W. Orde, the secretary of the A.C.G.B.I., asks us to draw the attention of readers to an erroneous impression which seems to obtain in some quarters, namely, that the sole object of the race is to promote economy in fuel consumption. This idea is quite incorrect, as the primary object of the Club in fixing a definite allowance of fuel for a given distance is simply to limit the horse power, and thereby the speed, of the competing vehicles, thus restricting the race to *bona fide* touring cars. This method of limiting engine power was chosen on account of its simplicity, after the other methods had been carefully considered by the committee responsible. The allowance of petroleum spirit for this year's race has been fixed at one gallon for every twenty-five miles of the course. Further entries will be announced in our columns from time to time.

#### Public Vehicles in London.

ALTHOUGH there will be no fresh legislation for automobiles this year, and the chances of any adequate Traffic Act with regard to London are equally remote, there is likely to be a small mercy extended towards mechanical traction in the public service, for which we should be grateful. A Select Committee is to be appointed to inquire into some of the anomalies affecting cabs and buses in the metropolis, and one of the matters to be included in the purview is the structural requirements to be enforced so far as cabs and omnibuses driven by mechanical power are concerned. This is important; it can be made the occasion for advocating the covered top that the Commissioner at present declines to sanction, and from the composition of the Committee there is hope. On this body it is proposed to appoint Mr. H. Norman, who is well acquainted with the practical aspect of the matter; Sir Samuel Scott and Mr. Armitage, both motorists, and Alderman Bowerman, a member of the Southern Motor Club. Their real knowledge of motoring affairs should make their views extremely useful to their fellow members who have not had the advantage of an automobile education.

#### Garages in Royal Mews.

GREAT are the changes now in progress in the Royal mews consequent on the general favour shown by the King to the motor-car. During the next twelve-month large sums will be expended by the First Commissioner of Works on this account, the principle having been laid down that there shall be a motor garage in each of the mews attached to a Royal Palace. Although the automobile has not yet attained to the dignity of participating in State ceremonials, it has become recognised in connection with affairs of great social distinction, and its place in the best Society is fully assured.

#### On the Great North Road.

WITHIN easy access of London, and on the main line of railway to the north, the district around Letchworth promises to develop as an important centre for the new industries that modern means of locomotion are bringing into existence. Already the supply of labour is growing, following the erection of houses on the Garden City estate at Letchworth, near Hitchin, and the commercial enterprise with which that development is being conducted will be a great factor in attracting manufacturers to study the conditions that prevail on the spot in company with Mr. T. Adams, the secretary. From the motoring point of view everything is admirable. The roads that have been constructed have a splendid surface and should serve as an example to many local authorities throughout the country.

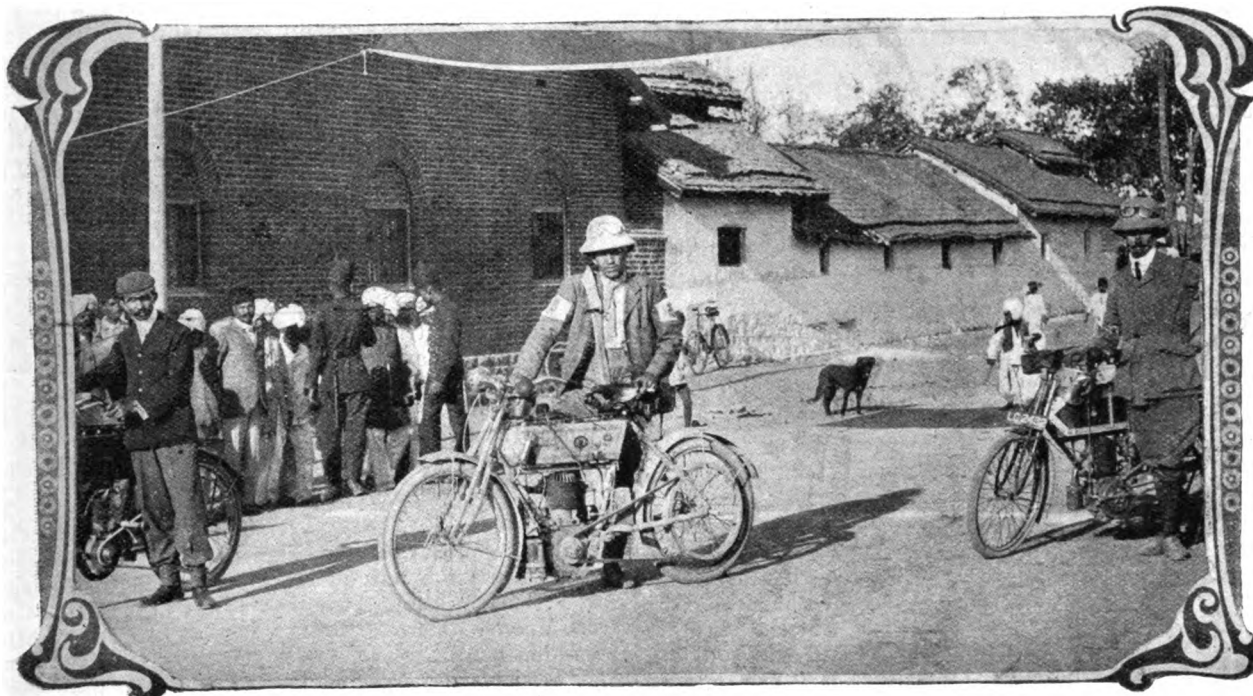
**Where Roads are Wide.**

LETCHWORTH is favoured by the proximity of the Great North Road, which runs along the outskirts of the estate on the east, and is familiar to motorists from the north and the south. It is the intention of the company that is responsible for the enterprise, and which is dealing with the matter in a thoroughly practical and businesslike way, to make the majority of the new roads, upon which a start has been made, from 40 ft. to 60 ft. in width; thus ensuring provision for the motor-car traffic that is expected to be a regular means for the conveyance of both people and goods in the near future. Then, too, regard will be paid to the straight course and sharp turns obviated as far as possible, thus enabling motorists to have glorious spins along roads which will not be required as the playgrounds of the people. Open spaces will be provided for the children. In fact, it may be quite easy to secure a good stretch of road for testing speeds, and doubtless the authorities would be able to arrange for a "close time" for motorists if any real desire were manifested.

dust question that are even more important, affecting as they do the health of our people, for unfortunately germs and the conveyers of disease are thus disseminated throughout the country, to the consequent risk of the populace. The condition of the streets, thanks in a large measure to the horses used in traffic, is often much to be deplored, and the constant churning of debris into small particles maintains a source of contagion and risk. The coming of the motor-car will obviate at least one cause of disease and danger to the people.

**An Indian Run.**

THOSE unacquainted with India can scarcely realise the progress that is being made by automobilism in the Dependency. Not only do owners of cars abound, but motor-cyclists are an increasing number. The driving is not confined to Anglo-Indians, natives taking an intelligent interest in mechanical matters, and rapidly becoming expert in the handling of machines. A motor-cycling contest had been held just before the mail left between Poona and Kolhapur over a 340-mile



A Motor Cycle Trial in India.

**An opening for the Motor-car Industry.**

So much for the charms of Letchworth from a motoring point of view. They are even more substantial in the eyes of those searching for a locality where rates are reasonably low, the authorities willing to please, and the railways anxious to assist the future competition of the motor-car by facilitating the conveyance of raw material from its home to the place of construction into cars. Such a place is Letchworth. Here, thirty-three miles from London, is a place where land can be obtained adjoining a railway side at ground rents ranging from £10 to £25 per acre, where roads, etc., are already made, where rates are less than half what they are in the most favourable Metropolitan area, and where gas is supplied at rates to make the London consumer envious. Already half a dozen factories are being erected, and we look to Letchworth as having a fine promise of becoming a busy hive of successful industry.

**Dust.**

THE physical inconvenience attaching to the production of clouds of dust by the rapid passage of motor-cars over loosely constructed roads is recognised by all who travel. There are, however, other dangers lurking in the

course. There were twenty entries, of which rather more than half were from Bombay. Fourteen started in the Reliability Trials, the contest being won by Lieutenant Henderson on a 3½-h.p. Brown machine. A notable feature of the entrants was the large proportion of native riders.

**Motoring in Bermuda.)**

A SERIES of regulations apparently largely based on those prevailing in this country have recently come into operation in the island of Bermuda. The main provisions are as follows: Every vehicle weighing more than 5 cwt. must be provided with a reversing gear, and all cars must have two independent brakes, each capable of locking the wheels. Between one hour after sunset and one hour before sunrise each vehicle must carry two white and one green (in the centre) lamps showing a light in the direction the car is travelling, and two red lamps showing in the reverse direction. In the two principal towns of the island and on certain narrow roads, bridges, etc., the speed is limited to six miles per hour. Owners and drivers of cars must obtain a driving licence from the registrar of the island, the charge being £1. All cars are required to carry rectangular licence-

number plates showing the number of the car in white on a black background, one plate to be attached to the front and one to the rear of the car. Any violations of the law are punishable with a fine not exceeding £20. A correspondent in Bermuda writes that "at present the island is almost devoid of motor-cars, there being only five steam vehicles, and of these only one is in going order. There are about 125 miles of good roads with a fine hard surface—all made of coralline limestone; they are practically always in fine condition, as even after a day's hard rain they are dry after less than an hour of sunshine. In fact the roads, if they were not quite so narrow, would be ideal for short trips."

#### Opening Garages.

FROM correspondence received during the last few days it would seem that a goodly number of people are anxious to set up establishments for the garaging of cars and the repair of automobiles. Several questions have to be considered in replying to the queries raised. Firstly, of course, care has to be taken that there is a minimum of existing competition. The location of the garage as to town and site is also an important factor. As motoring becomes more universal there will, of course, be plenty of work throughout the year for all engaged in the business, but in the present order of things those prepared to cater for the motor-car industry must be content to endure a slack time during the winter. Hence the advisability of having premises situated on busy main roads, thus being eligible to deal with the troubles of passing motorists. We shall be pleased to hear from practical motorists living in districts where garages or repair shops could be opened with the possibility of success to persons knowing their business.

#### The White Car.

THE pleasure and utilitarian aspect of the White steam car has been prominently brought to our notice recently. The "Sphere" has a spirited drawing by Mr. Arthur Garratt representing a snow-scene in the Park. One "White" car is standing by the side of the road, and its load of children are disembarking from it. Another "White" car, also loaded with children, is bowling merrily along the roadway. The children in one car are waving their kerchiefs at the children who are standing by the other. So much for the artistic view of the matter. The illustration on page 76 of one of the 15-h.p. White delivery vans used by a well-known London firm. Originally the chassis on which this van has been placed figured in the Tourist Trophy competition; now that it comes into range with ordinary Metropolitan traffic it wears a more useful garb.

#### Advance in Australia.

IN Australia good work is being done by the Roads Improvement and Touring Association, which has headquarters at Melbourne. Its primary object is to direct the attention of the citizens to the neglected condition of the common roadways of the State, to demonstrate that the present methods of construction are wasteful, to advise that the Government should take over and maintain the main trunk roads as a national work, and to drive home to the people the fact that roadways are at least as necessary as railways. But the Association is not only educational, it is eminently practical, and has constructed many stretches of smooth cycle pathways where the local authorities have been inordinately neglectful of their duties. It is now engaged in joining up some of the towns in Victoria by wider roadways than now exist, and the formation of a motor racing track at Aspendale has quickened enthusiasm for that work. This track has been laid down at an expense of £1,700, and the inaugural race meeting was a great success, more than a score of cars entering in many of the events.

#### More Conversions.

LAST week we recorded the "conversion" of churches to the purposes of motor garages; an even more curious trend of the times is the acquisition of an old tramway depot for a similar purpose. This has occurred at Leeds, where the whilom premises of the Leeds Tramways Company are now in the occupation of the Motor and Electrical Engineering Company (Leeds), Limited, and used as a garage. The inroads that the motor-bus is making into the popularity until now enjoyed by the tramcar will doubtless lead to many other similar changes of this kind—all indicating a great advance in public mobility, and constituting a justification of those who have urged local authorities to cease expenditure on tracks in the roadway and look to the motor-bus as a way out from the present congestion of traffic.

#### Knowledge at the Stands.

EXHIBITORS at the Agricultural Hall Show will probably be struck with the general knowledge of automobile matters displayed by a large proportion of the visitors. There was a time when practically everyone who went to see a motor-car exhibition revealed a delightful nescience to the bewildered stand attendant. Now this is greatly changed, and the intelligent curiosity of the public requires that those who seek to enlighten visitors to automobile shows shall be fully primed with information not only regarding their own particular exhibits, but also concerning the trend generally of automobile design and practice.

AMONG those who have recently ordered Crossley cars from Messrs. Jarrott and Letts, Limited, are the Baron Bruno Schroder, Mr. C. H. Whittington, and Sir William Gull, Bart. The carriage bodies are all being built by Messrs. Hooper, the vehicle for Baron Bruno Schroder having a large limousine capable of carrying six persons, fitted up with electric light and armchair seats. Mr. Whittington's 40-h.p. car will be fitted with a large three-quarter landaulet, whilst Sir Thomas Gull is having a large limousine with detachable top.

MESSRS. A. PROBYN AND CO., the official caterers to the Royal Agricultural Hall, notify us that the whole of the catering arrangements are now under the experienced management of Mr. F. Turner, M.C.A., who has secured the services of a chef from Messrs. Ring and Brymer, who will pay every attention to that department. The public generally may rely on prompt and efficient service. Luncheons, dinners and teas will be served in the dining room at the hall, and tables can be reserved for large and small parties on application. The telephone number is 688 North.

A NEW series of cars known as the "Leon Dussek" is being put on the English market by "Motoria," of Hanover Square, London, W. Three sizes are being made—16-20-h.p., 24-30-h.p., and 35-45-h.p.—all fitted with four-cylinder engines. The valves are located on opposite sides of the separately-cast cylinders, and are all mechanically operated. The bottom half of the crank case can be readily removed without disturbing the bearings, to enable the big ends of the connecting rods to be inspected. Both Eisemann high-tension magneto and coil and accumulator ignition are provided. The radiator is of a special type, and is equipped with a large air-inducing fan. As regards the transmission, this can be either by side chains or a cardan shaft; the change-speed gear is operated by a lever working in a "gate" quadrant. Ball bearings are fitted to all the shafts, with the exception of the motor. There are a number of special features in the Leon Dussek cars which pressure on our space prevents us referring to this week, but we may add that the cars are being turned out with roomy side-entrance bodies, Cape hoods and glass front, and all necessary fittings to render them ready for the road.



## OFFSET CRANKSHAFTS.

### A TOPICAL QUESTION IN PETROL MOTOR DESIGN.

**A** MATTER of considerable importance in the construction of single-acting internal combustion engines, more especially those of high or moderately high speeds, is evolved by an apparently growing tendency on the part of designers to so construct their motors that the crankshafts are set over in such a manner that their axis is in advance of the axis of the cylinders. The idea is not new, and, moreover, is open to argument; but the fact that several leading foreign makers are adopting the system is apparently creating more impression than has one or more isolated instances in this country. Departures from standard design of well-known motors, if introduced tentatively and merely for the sake of novelty, would soon die a natural death; and it behoves disciples of a new, or at least unconceded doctrine, to be prepared to stand the assaults of more or less carefully ground axes. Not only that, but they must be prepared to show with an approach to logical argument that there is something in the idea to merit serious attention.

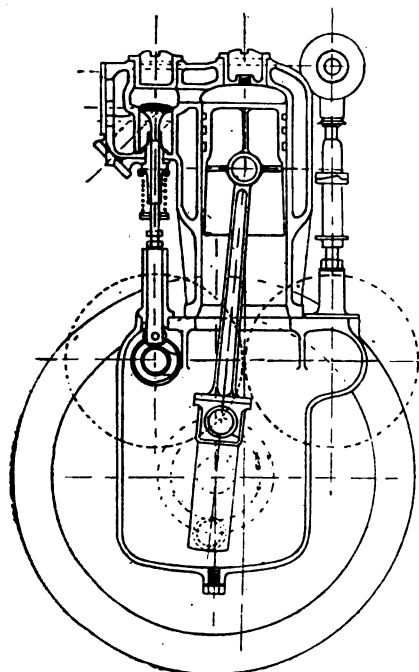


Fig. 1.—The Brasier.

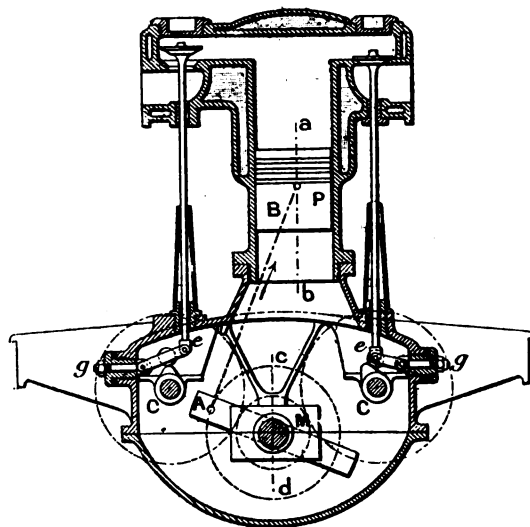


Fig. 2.—The Moss.

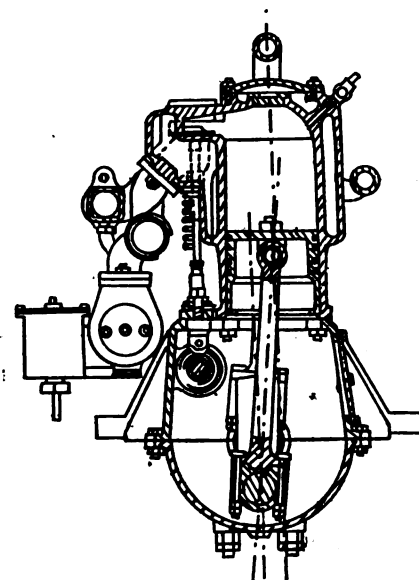


Fig. 3.—The Ailsa Craig.

### SECTIONAL VIEWS OF PETROL ENGINES WITH OFFSET CRANKSHAFTS.

Fortunately this particular question of offset crankshafts is a very simple one, and can be explained without resort to intricate technical demonstration. To start with, it involves absolutely no complication of any kind, not one screw or pin being added to the engine; and, on the contrary, in motors in which all the valve-actuated mechanism is on one side the design lends itself distinctly to compactness and simplicity. To put the matter broadly, the adherents of the offset or *désaxé* doctrine—for, as our neighbours have copied us, we must needs copy them by borrowing their word to express our admiration for their ingenuity—have in view a double object, and that is, while obtaining as much effective power with a given cylinder capacity, at the same time to produce a more even-running engine. Simple diagrams show that these objects are attained theoretically to a certain extent, and it is obvious to the most casual observer that, in practice, admitted that in one revolution of an engine the very slightest advantage be obtained in these respects, then, as the engine piles up its advantages at, say, the rate of 1,000 per minute, the gain in power and economy of fuel, not to speak of less wear and tear at the end of a year, is well worth considering. It will, we think, be generally conceded that an important stroke

to consider in an explosion motor is the firing stroke. We say generally conceded advisedly, because the opponents of the idea point to the compression stroke as nullifying any advantage gained in the offset system during the working or explosion stroke. Now, as in single-acting explosion motors there is no piston-rod—the guidance of which in a gland and slipper guides in a steam engine relieves the piston of all side thrust on the cylinder walls—the piston itself has to receive direct all the side thrust caused by the necessarily oblique position of the connecting rod. This side thrust must without doubt be the most serious import during the maximum effort of the explosion stroke, and therefore if we can considerably reduce at this time the oblique position of the connecting rod by placing the cylinders out of the vertical centre with the centre of the crankshaft, say one-sixth of the stroke in advance of the direction of rotation, we reduce friction, and, as a natural consequence, gain power to the extent that we reduce the friction.

A curious paradox in offset practice, and which at first strikes one as an anomaly, lies in the fact that the stroke is longer than twice the throw. This can easily be proved mathematically, or demonstrated by a simple experiment with two pieces of cardboard and two drawing pins. It will be found that the stroke is increased by prolonging the difference of axes. But in practice a limit must be set to this, as the benefit

of turning moments is sacrificed, and we have to find by actual tests the point at which the various advantages and disadvantages appear to balance. Another factor, however, should be here carefully noted, which is distinctly in favour of offset practice, and which, added to the greatly lessened friction by obviating the side wedging action during the explosive effort, compensates for the lessened turning moments alluded to. This refers to the fact that the thrust during this period, both on the gudgeon pin, connecting rod bearing, and crankshaft journals, is considerably reduced; here again avoiding excessive friction, and conducting greatly to the longevity of these parts, and to the sweet running of the engine. For it must be borne in mind that the area of, say, a gudgeon pin has a much less margin or factor of safety in an explosion motor during the first part of the working stroke than in a steam engine; in fact, in many motors it is quite inadequate, and therefore a fruitful source of trouble. A still further point is put forward as regards the question of compression; for it is argued that the final effort of compressing the gases is done—quicker, owing to the fact that the piston has to finish its upward stroke at a greater speed when the crankshaft is set forward. This is a very much greater advantage than would at first sight

appear, for its results are threefold. In the first place, it is without doubt advisable to retain the heat of the gases due to compression until the moment of ignition, otherwise energy is sacrificed. Secondly, however perfect an engine may be when new, a certain amount of compressed gases may escape, past the valves and pistons, and the longer the period during which they have a chance of escaping the more risk there is of losing some. Thirdly, a much better compression effect is obtained, and this, of course, alone would constitute a very decided advantage.

The question of ignition must also be noted. It appears in practice that in offset cylinders the engine can have the spark more advanced than in those not so arranged, particularly when the engine is pulling a load at a slow speed. On making a diagram to observe the benefit as to the reduction of side thrust, it is necessary to notice the two curves, and it will be seen that from start to finish the off-set system scores easily, and at the most important period the difference in its favour amounts to no less than 50 per cent. As the pressure at the moment of explosion may be nearly 400 lb. per square inch, it can easily be realised what enormous friction may be caused by oblique thrust, and that a very considerable amount of power may be thereby absorbed. If, on the other hand, we can reduce this, we not

## USEFUL NOTES.

THE entire wiring of a car should be carefully examined from time to time for signs of wear in the insulation. At certain places the wires are exposed to continual, if slight, friction, which will ultimately break through the insulation and establish a short circuit. The timely application of a little insulating tape will often save much trouble in this respect.

It is well to occasionally examine the couplings and fittings on the oil and grease pipes on one's car, to see that there is no escape that would rob any bearings of their due supply and so cause overheating. A leak in a pipe of a multiple lubricating device is much more serious than a leak in a separate cup-system, because it allows the reserve supply of lubricant to flow out and thus prevents sufficient pressure being applied to force the oil to the other bearings, which suffer in consequence.

SOME motorists test the spark of a motor by removing the high-tension wire from the plug and holding it near the frame when contact is made. This method is all right so long as the wire is held quite close (about 5-16 in.) to the frame. If the wire is held some distance away a large spark may certainly be

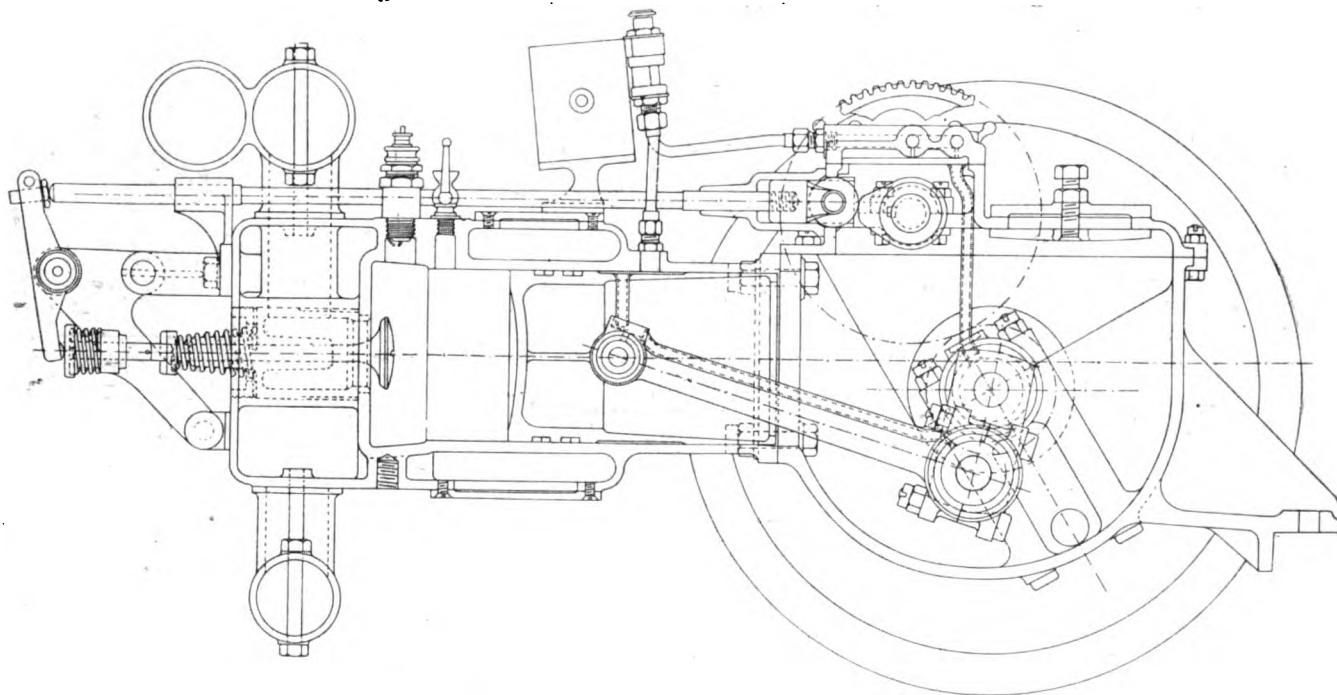


Fig. 4.—Sectional View of Duryea Motor with Offset Crank Shaft.

only save power directly, but by practically equalising it with the side thrust during the compression stroke (for it must be remembered that although the obliquity is more here the pressure is much less) we make the engine more perfectly balanced and the torque more constant.

These points, therefore, give the designer scope in a direction that enables him, if he desires, to reduce both the height and weight of his motor. For, inasmuch as a long connecting rod is solely necessary in co-axial construction to counteract the wedging tendency on the cylinder walls, designers are logically entitled, by adopting a system that reduces this tendency, to shorten their connecting rods and cylinders until a point is reached that coincides with the former practice. It is probable that there may be other points in favour of this construction that have escaped mention here, but those that are indicated may suffice to show that the adoption of off-set crankshafts is based on principles worthy of attention.

C. R. G.

MESSRS. WEST, LIMITED, have appointed Messrs. Ninci and Graziani, of Bologna, the agents for West cars in Italy.

produced, but the coil may be injured, as the insulation can easily be broken down in this way.

MESSRS. GROUVELLE AND ARQUEMBOURG, the well-known makers of ribbed-tube radiators, have lately given their opinion as to the best method of cleaning out these devices. They write:—"In reality it is very rare that any incrustation forms in the pipes of radiators, as incrustation only takes place when the water is at boiling point, which ought not to take place in a radiator. When it does, it is an indication that the radiator is not large enough. The same remark does not, however, apply to the water-jackets of the motor, where the water often reaches a very high temperature. In cases where incrustation does happen to form in radiators, a small quantity of hydrochloric acid should be added to the water, and this caused to circulate for a time, making sure afterwards to thoroughly remove all traces of the acidulated water." Messrs. Grouvelle and Arquembourg point out that while incrustations are rare, deposits are frequently formed on the internal walls of the pipes, due to impurities in the water. These can, however, be removed by sudden injections of water by means of a pump.

## SOME CURRENT TOPICS.

### Offset Crankshafts.

The fact that the Brasier Company has followed the example set by other well-known concerns in adopting off-set crankshafts for the engines of their 1906 cars has, judging from the letters which have recently appeared in our correspondence columns, evoked considerable interest not only among automobile designers, to whom the matter more directly appeals, but also amongst motorists generally. As the various text books on the design of internal combustion engines deal with the question but briefly, the article we publish elsewhere in the present issue should prove useful and instructive. It is from the pen of a well-known engineer, who, while admitting that the subject is one on which opinions are divided, is in favour of slightly off-setting the

lighter paraffins, such as that sold as "petroleum ether," may be intended; this consists largely of pentane, which has been used experimentally as an engine fuel, but as nothing seems to have been heard lately regarding these experiments, which were proceeding three or four years ago, they were presumably without much result.

### Increasing Engine Power.

The only substance which, as far as we are aware, has been used with some success to increase engine power is picric acid, though what risks—either of cylinder corrosion or damage by excessively violent explosion—may be run in using it is a disputed point. We have not heard of the latter accident, though the former has come under our notice. The rationale of its action is obscure and somewhat contrary to theory; probably it is due to an increase in the rapidity of combustion.

### The Grand Prix de l'A.C.F.

The rules for the international race for the Grand Prix de l'A.C.F. have at last been issued. The contest is to be held on



THE PASSING OF THE HORSE.

At the recent Automobile Exhibition in Amsterdam Messrs. Verweij and Lugard, the Dutch agents for the Fiat Co., attracted much attention by parading half a dozen horses in a Fiat motor Lorry. [De Auto.]

crankshaft, and who endeavours to explain the advantages gained by such a departure from the usual practice. In connection with the article we have given sectional views of all—so far as we can ascertain—the different motor-car engines at present in use having offset crankshafts.

### Ether as a Motor Fuel.

In our Correspondence columns this week "Go Ahead" puts some queries as to the use of ether as a fuel for internal combustion engines. We are, however, not aware of any recent experiments in the direction named. If ordinary ethyl ether is intended, its thermal value is approximately double that of alcohol, and therefore does not differ much from that of petrol; its price is prohibitive, and, boiling as it does at about 93 deg. F., it would be an awkward and dangerous liquid to carry on a car and difficult to supply to a carburettor without considerable loss. Its specific gravity when pure is 720, and its price varies from 1s. 2d. to 7s. per lb. according to purity. Possibly some of the

the Sarthe circuit and will extend over two days, June 26th and 27th, a distance of 600 kilometres (375 miles) having to be covered each day. Manufacturers will be permitted to enter a maximum of three cars, vehicles built by different firms under licence being considered as one type. Entries will be received by the A.C.F. up to April 30th at the rate of £200 per car, and from that date to May 15th at £400 per vehicle. Rule 9 provides for a change of drivers, if desired, on the second day of the race, and for a change of mechanics at any control on either day. All the chassis must be fitted with a reverse motion, and must not exceed a weight of 1,000 kilog, an extra allowance of 9 kilog being made in the case of those fitted with magneto ignition. At the end of the first day's run the cars will be locked up in separate compartments, and access to them will not be permitted until the starting time on the second day, the time occupied in filling up with fuel and water counting in the running time. All work of this kind, as also all repairs, must be effected by the driver and mechanic.

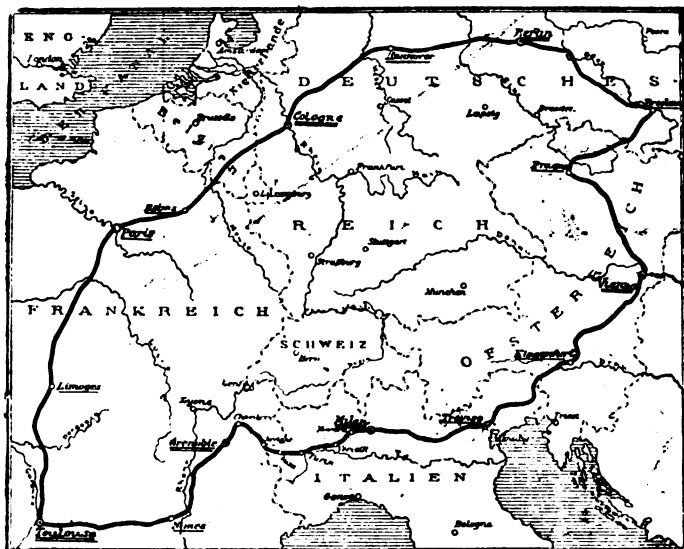
## CONTINENTAL NOTES.

## Entries for the Grand Prix Race.

Already three Darracqs and an equal number of Panhard and Brasier cars have been entered for the Grand Prix race. Hemery, Wagner and Hanriot are designated as the drivers of the Darracqs; Heath, Teste and Tart of the Panhards; while Baras, the old Darracq driver, Lebrun and Barillier will handle the wheels of the Brasier racers. Barillier and Lebrun are foremen in the Brasier works and are reported to be expert *chauffeurs*. No information is available as yet as to the details of the cars the Darracq Company have entered, but it is reported that the Panhard vehicles will be similar to last year's type with a slight increase in engine power, and that the Brasier vehicles will be on the lines of the Gordon Bennett winner of 1906 with a slightly lower centre of gravity.

## Le Circuit European.

The full rules and regulations of the great international touring contest known as Le Circuit European, and which is to be held in July and August next, were issued last week. The principal clauses are similar to those which have already been given in the *M.C.J.*, the classification of the competing cars being based on the piston area of the cylinders. The distance to be covered in the trial is 5,000 kilometres, divided into fifteen stages of from 250 to 400 kilometres, exhibitions being organised in the chief towns to be passed through. We give herewith a



Route Map of the Circuit European.

map of the route. The start will take place in Paris, the towns forming the daily stages being underlined, those with a double line underneath being the places where a day will be spent for exhibition purposes. A Wolseley, two Darracqs, two Dixis, four De Dions, and two Mercedes cars have already been entered for the event.

## The Cannes Automobile Meeting.

The motor-car competitions in connection with the Cannes automobile meeting commenced on the 13th inst. with a consumption test, in which ten cars took part. A litre of spirit was served out to each competitor, who had to drive round and round the Square du Masque de Fer, Cannes, until his engine came to a stop. M. Mounier, on an 8-h.p. Renault, succeeded in covering the greatest distance—10½ kil. in 28 min., M. Gallice, on a 12-h.p. Clement, being second—10.3 kil. in 29 min. A brake contest on the Adrets Hill was held on the 14th inst., the competitors having to stop their cars on the descent as quickly as possible after a given signal. M. Mounier, on his 8-h.p. Renault, again took the first place, he pulling up in 16 ft., a 25-h.p. Hotchkiss being second, 23 ft. The programme on the 15th inst. consisted of a kilometre speed trial on the level and a hill-climbing test. The former was held on the Cannes-Frejus

road, and was won by M. Grigg, who on a 35-h.p. Daimler covered the distance in 40 sec., equal to 56½ miles per hour, a 25-h.p. Hotchkiss being second in 56 sec. M. Grigg also won the hill climb, notwithstanding that his 35-h.p. Daimler carried seven persons.

## Motor Racing in Spain.

A motor-cycle race for a trophy presented by Senor Sama, who is desirous of encouraging motor-cycling in Spain, is to be held on Sunday next. The course to be covered measures about 150 miles. Arrangements are also in hand to organise a motor-car race from La Corogne to Ferrol in August next. Prizes to the value of £1,200 have already been offered.

## A Tour of France Reliability Trial for Motor-cycles and Voiturettes.

The Autocycle Club of France is organising a reliability trial for motor-cycles, tri-cars, and voiturettes, to be held from the 12th to the 24th May next. The competition will consist of a tour of France, the first day's run being from Paris to Orleans, 129 kil.; the second day's ride (May 13th) is from Orleans to Poitiers, 218 kil.; the third, from Poitiers to Bordeaux, 246 kil.; the fourth, from Bordeaux to Toulouse, 254 kil.; the fifth, from Toulouse to Montpellier, 254 kil.; the sixth, from Montpellier to Marseilles, 168 kil.; the seventh, from Marseilles to Avignon, 121 kil.; the eighth, from Avignon to Lyons, 225 kil.; the ninth, from Lyons to Besancon, 212 kil.; the tenth, from Besancon to Nancy, 194 kil.; the eleventh, from Nancy to Rheims, 195 kil.; the twelfth, from Rheims to Amiens, 179 kil.; and the thirteenth, from Amiens to Paris, 139 kil. The competitors will be divided into four categories—(1) Motor-cycles, the engines of which have a cylinder capacity of a third of a litre; (2) ditto, of a maximum of 225 cubic centimetres; (3) tri-cars, of a maximum cylinder capacity of 500 cubic centimetres, which must carry a minimum load of 140 kilogs.; and (4) light two-seated cars, maximum cylinder capacity one litre. The competitors will be required to attain a maximum and minimum speed of respectively 30 and 15 kilometres per hour. So far, three Gregoires and two Vulpes voiturettes and a Quentin and three Austral tri-cars have been entered.

## A German Touring Competition.

The Cologne Automobile Club is organising a two days' touring competition for the 19th and 20th May next. On the first day the route is from Cologne to Coblenz *via* Homburg, a distance of 175 miles, and on the second day from Coblenz to Cologne *via* Hembach, 112 miles.

## Miscellaneous Items.

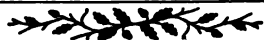
The Deutscher Motor-boat Club has just been formed in Berlin to foster the motor-boat movement in Germany.—Messrs. Panhard and Levassor are introducing a new shock absorber devised by Commandant Krebs.—The A.C.F. has adopted a resolution in favour of organising a competition for electrical vehicles during the coming summer.—It is stated so far only one firm of French motor-car manufacturers has signed the special agreement with Messrs. Renault Freres with regard to the direct drive patent.—The date of the Circuit des Ardennes race has been fixed by the Belgian Automobile Club as August 13th next.—The largest motor-car exhibition so far held in Austria was opened in Vienna on the 15th inst.—Owing to the paucity of entries the competition of silencers for motor-cycles which the motor-cycle section of the Austrian Automobile Club proposed to hold has been cancelled.—The kilometre contest for the Sneden Cup, organised by the Algerian Automobile Club, was run off on Sunday last, the winner being M. P. de Maglaive, who on a Paris-Madrid De Dietrich covered the distance in 35.15 sec.

## Instructing the Children.

The Prussian Minister of Education has issued instructions to the authorities of the various schools in Prussia that they should from time to time warn the scholars of the care they should take in crossing roads, owing to the increasing automobile traffic, and the risks they run in playing in busy thoroughfares.



# The Critchley-Norris Motor-Omnibus.



ONE of the latest additions to the list of British motor-omnibus builders is the Critchley-Norris Motor Company, of Bamber Bridge, near Preston, whose vehicles are making their public debut at the Cordingley Show at the Agricultural Hall. Two sizes are being made, viz., 25-30-h.p. and 35-40-h.p., but, as the general arrangement is on similar lines, the following description of the more powerful chassis may be taken as applying to both. The object of the designers has been to produce a vehicle which will be able to withstand in a most efficient manner the strains and stresses which are set up in the working of motor-omnibuses, owing to the continual starting and stopping and the continuous work they are called

inspection doors and efficient arrangements for lubrication, and also special fittings for collecting any surplus lubricating oil. The crankshaft is of nickel steel, accurately turned and balanced. Particular attention has been devoted to the bearings, which are of Crossley special phosphor bronze. The length of the main journals is two and a half times the diameter, thus giving great stability and long-wearing surfaces. The inlet and exhaust valves are mechanically operated by separate cam shafts, which rotate in special oil-tight cam shaft chambers. The valves are of nickel steel, and designed both as to area and lift to allow for an air or gas velocity in proportion to the area of the cylinders. The carburettor is of novel design. It is of the float feed spray

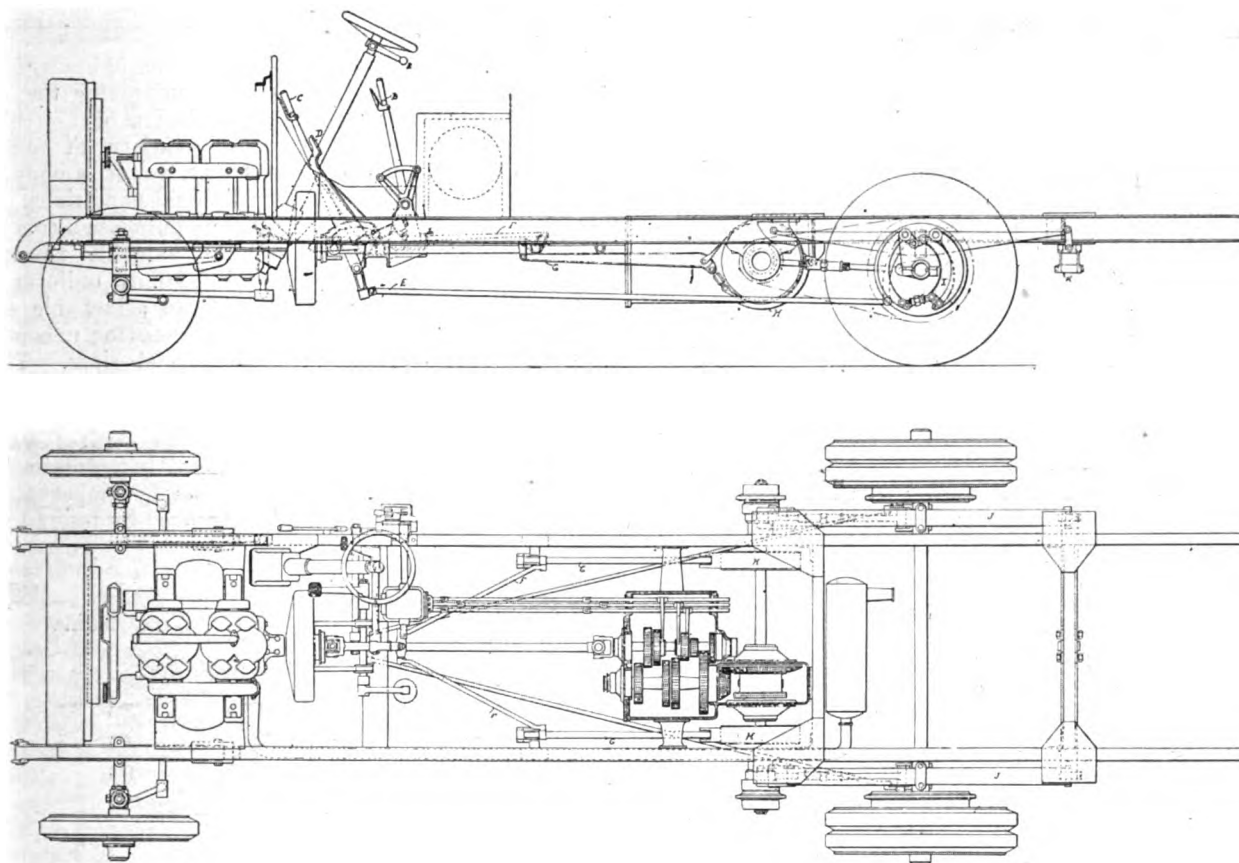


Fig. 1 and 2.—Elevation and Plan of Chassis of Critchley-Norris Motor Omnibus.

A Lever controlling both ignition and throttle.  
B Change Speed Lever.  
C Brake Lever.  
D Clutch Pedal.

E Hand Brake Connections.  
F G Foot Brake Connections.  
H Differential Shaft Brakes.

I Rear Wheel Brakes.  
J Rear Longitudinal Springs.  
K Transverse Rear Spring.

upon to perform. The motor, gear-box, and the spring hanger brackets are secured to the main frame, which is of channel steel, having a section of  $4\frac{1}{2}$  in. by  $2\frac{1}{2}$  in. by  $\frac{1}{4}$  in. As will be seen from the plan view, the sides of the frame are quite straight, while strong cross stays are provided. The springs, which are of good length, are five in number, the usual longitudinal set being supplemented by a transverse spring at the rear.

The motive power is supplied by a Crossley four-cylinder engine; the 25-30-h.p. type has cylinders  $4\frac{1}{2}$  in. diameter by  $5\frac{1}{2}$  in. stroke, the dimensions of the 35-40-h.p. engine being  $4\frac{1}{2}$  in. by 6 in. A description of the last-named motor, together with illustrations, was given in the *M.C.J.* of February 3rd last, so that it need only be briefly mentioned that although the normal speed of the engines is 800 revolutions per minute, they are capable of considerable acceleration, and can be run at 1,100 revolutions. The aluminium base chamber is fitted with

type; while automatic in its action, there is only one air inlet, which is opened or closed entirely by the suction of the engine, and at the same time the supply of petrol is increased or decreased in the proper proportions at all speeds.

A feature of the water circulation, which is maintained by a gear-driven centrifugal pump, will be found in the main water pipes, which are 1 inch internal diameter, the friction of the water through the pipes being thus reduced to a minimum. The radiator, of which two views are given in Figs. 4 and 5, is an entirely new departure. As will be seen, it consists of a central receptacle into which are screwed a series of independent sealed tubes containing spirit in partial vacuum. The cooling of the water is effected as follows:—The hot water which flows into the receptacle heats up the spirit tubes until part of the spirit evaporates; the vapour thus formed rises along the tubes, in the outer ends of which it is condensed, owing to the action of

the air on the radiating fins. The vapour, once more converted into spirit, flows back to the bottom or inner end of the tubes, ready to be again heated, and, consequently, abstract further heat from the water. In this way a continuous circulation of the spirit in the form of liquid and vapour is kept up by the heat withdrawn from the circulation water, which is thus maintained at the desired temperature. The efficiency of this type of radiator is claimed to be very great. The construction is also

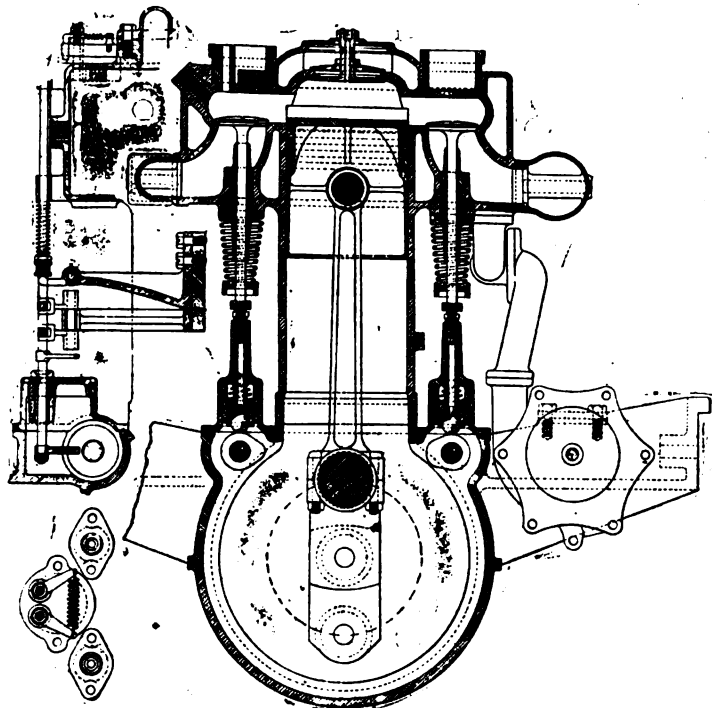


Fig. 3.—Sectional View of Crossley Motor.

such that the liability to leak, owing to vibration or jolting, with the consequent loss of water, is eliminated. The radiator tubes in case of damage are easily replaced, and in the event of a tube being injured, only one unit of the radiator is affected, and, consequently, the general efficiency of the cooling device but slightly interfered with. A belt-driven fan running on ball bearings is provided, to draw a current of air through the radiator.

The ignition is by a gear-driven Simms-Bosch low tension magneto. The make and break mechanism is of substantial construction, and the point of firing can be advanced or retarded. Provision is also made to permit of the sparking in each cylinder to be tested independently. The gear wheels driving the cam shaft, magneto and pump are all enclosed in oil-tight covers. Special attention has been devoted to the question of lubrication; all the engine bearings are fitted with ring lubrication. The main oil tank is fitted to a distributor on the front of the dash board, the oil being forced through the pipes by air pressure.

(To be continued.)

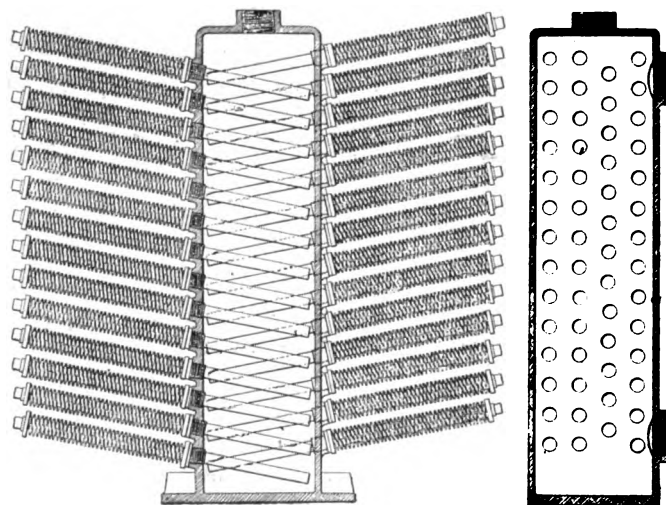
THE Fiat Motor Omnibus which recently did so well on its trial trip was fitted with "Royal Sirdar-Buffer tyres."

A 30-h.p. Prunel double-deck bus has just successfully made the journey by road from Paris to London, excepting, of course, the sea trip across the Channel. The vehicle started from Paris on Friday of last week from Boulogne, where it was shipped to Folkestone. On Tuesday morning the omnibus started the second stage of its journey by road. Ashford was reached at 11.55, and Maidstone an hour and a quarter later. London was reached at 7.50 p.m., the seventy-two miles from Folkestone to London having been covered in less than seven hours' actual running. We may add that the vehicle is on exhibition at the Cordingley Show.

## COMPENSATING ATTACHMENT FOR CARBURETTORS.

IT is hardly to be doubted that to the improvements in carburettors which have been made within the last two or three years is attributable a large part of the betterment in the operation of petrol motors which is now so noticeable. The adoption of the automatically-controlled auxiliary air inlet, and later of the automatic main air intake, which compensates for those changes of vacuum at the spraying jet which arise from variations in the rate of air flow, have gone far toward the perfection of the carburettor as a reliable gas supply, almost independent, as to its effectiveness, of the rate of demand. Automatic control of the main air supply at or near its point of entrance by means of a spring-actuated valve, or, in some instances, by a swinging vane, seems at present, remarks an American contemporary, to be the preferred method of compensation, as it ensures good results without any considerable increase of complication.

Users of cars fitted with the older forms of non-compensated carburettors are naturally desirous of improving the operation of their engines under widely varying degrees of throttle opening, and fortunately the market offers a variety of compensated carburettors applicable to almost any motor, among which a selection may be made to suit individual conditions. In fact, it may not be necessary in all cases to purchase a complete new carburettor in order to secure the valuable results which accrue from a gas supply of substantially uniform quality, as there is already on the market an attachable automatic air valve designed to be applicable to existing uncompensated carburettors of a variety of forms and sizes. This little device comprises a poppet valve fitted with an adjustable spring which may be so regulated as to open in such proportion to the entering air that the desired vacuum at the spraying jet is said to be approximately maintained. There seems no reason why the action of an uncompensated carburettor might not be considerably improved by resort to the use of a simple device of this kind, although it is hardly to be



Figs. 4 and 5.—Sectional Views of Critchley-Norris Radiator.

expected that the results obtained would be equal to those obtainable with a modern carburettor consistently designed throughout.

AN English resident in India recently took a Turner-Miesse car about 700 miles in one week. The run included the Kohat Pass, where the road rises 1,200 feet in four miles. The car went over it without stopping. No great speed could be maintained owing to bad roads, but the average was generally fifteen or sixteen miles an hour, including all stops for water, etc. The owner's best run was 106 miles, from Rawal Pindi to Peshawur, in a little under seven hours, including two stops for water.

FOR the Scottish Reliability Trial the entries, which do not close till May 2nd, already number twenty.

WITH reference to the trials of tyres, speedometers, and lamps now proceeding under the auspices of the A.C.G.B.I., things have been going smoothly during the past week; but it would be premature to add to what has already been written on the subject.

THE offices of the Reliance Motor Transit Company, registered with a capital of £25,000, are at 9, Wool Exchange, London, E.C.

ON Saturday the road sign at Grove Hill, Harrow, was painted green, the ring and tablet surmounting the post bearing the unauthorised warning, "Beware of police traps."

A LIST of the spare parts of the 16-h.p. Albion car has been prepared by the makers, which will enable users abroad or at home to telegraph for the prompt supply of parts wanted urgently.

MESSRS. J. KEELE AND CO. are arranging a large and attractive exhibit of Spyker and Darracq cars at the Cordingley show, a notable feature of which will be the landaulet illustrated herewith. The vehicle

has been introduced to meet the growing demand for a covered car for touring or town work at a moderate price. The body is of English construction, and is designed on neat roomy lines, and is luxuriously upholstered, so that it should meet the requirements of a large section of the motoring public. The chassis on which the body is mounted is of the Darracq standard 10-h.p. type, fitted with double-cylinder engine 100 mm. bore by 120 mm. stroke. The valves are all mechanically operated, and the ignition is by coil and accumulators. The transmission is by means of a special form of leather-faced cone clutch to a gear-box giving three speeds forward and a reverse, with direct drive on top speed. The final drive is by means of a cardan shaft and bevel gear on to a well-stayed live axle.

FROM Messrs. Friswell, Limited, comes a copy of a new French catalogue of Peugeot cars. This is not only a highly artistic production, but is at the same time of a practical character, as it includes not only full particulars of the vehicles, but well-executed line and half tone illustrations of the principal parts of the mechanism.

AT the next general meeting of the Continental Caoutchouc and Gutta Percha Company, a dividend of 40 per cent. will be declared, as against 33 1-3 per cent. in 1904. The turnover during the past year has been far in excess of all previous records, and the output for January and February this year also shows a great increase over that of the same period in 1905.

THE Maudslay Motor Company, Ltd., who are building a number of double-deck motor-omnibuses for the Scottish Motor Traction Company, despatched one on Thursday the 8th inst. on a non-stop run from Coventry to Edinburgh with a 30-40-h.p. omnibus, with six passengers and supplies. Rain interfered considerably with the trip, while, after crossing the Border, snowstorms were encountered. Notwithstanding this, the journey was successfully accomplished in just over twenty-five hours.

## HERE AND THERE.

ENTRIES or the British team for the International Motor-Cycle Cup Race close on the 31st inst.—the last day of the Agricultural Hall exhibition.

MR. HAROLD ARKWRIGHT has supplied Daimler cars to the Maharajah of Mysore, the Maharajah of Durbhunja, and the Rajah Nanshal Ali Khan.

THE Nottingham County Council have placed an order for a 15-20-h.p. Horbick car with Messrs. Horsfall and Bickham.

THE Burke Engineering and Motor Company has been registered with a capital of £6,500, and offices in Parnell Street, Clonmel, co. Tipperary.

THE general manager of the Great Southern and Western Railway of Ireland, Mr. C. H. Dent, has become a motorist, having ordered a Humber four-cylinder car.

THE Scottish district delegate of the Amalgamated Society of Engineers, in his official report to the Society, adds his testimony to the progress of the motor-car industry north of the Tweed.

MR. R. F. DAVIS has opened a garage and motor works at 20 and 21, Buckwell Street, Plymouth, where he teaches driving,

repairs tyres and charges accumulators. The workshops are well equipped to deal with all classes of repair work and are in charge of an expert tester from a well-known automobile firm.

THE Automobile Omnibuses, registered with a capital of £1,000, is the title of a company registered to supply motor vehicles and to adopt an agreement with Mr. E. M. Davey. The office is at 18, Fleet Street, E.C.

ON Tuesday, the 27th inst., at 3 p.m., Messrs. Reynold Jackson and Co. intend to entirely dismantle, at their stand at Cordingley's Show, the original Jackson dog-cart which went through the Hereford Trials. The car has been in daily use

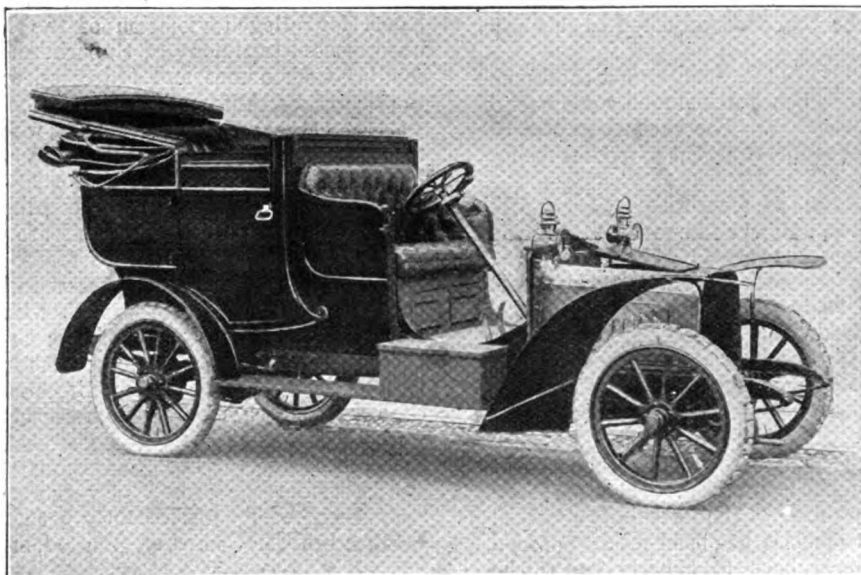
and has travelled over 15,000 miles. The total cost of repairs, with the exception of tyres, has, we are informed, been under £1 5s.

WE learn that the Fabry Automobile Company have secured an order for a 50-70-h.p. Itala car from Sir Thomas Lipton.

PRYCE TROW is the title of a company formed to take over the business of a cycle and motor-car manufacturer carried on at 55, Oxford Street, Swansea.

WE learn from Clement Talbot, Limited, that from their works in North Kensington they produced and sold £15,000 worth of British Talbots during January, and it is expected that the average in future will be £20,000 per month. An extension of the works is under contemplation which will double their productive capacity.

MESSRS. J. AND R. OLDFIELD, lamp manufacturers, Warwick Street, Birmingham, have just arranged to occupy the adjoining premises, which will double their factory space and enable them to cope with the demand for their "Dependence" tail lamp. This alteration will also secure the utilisation of a suite of offices in Bradford Street. Their latest production is an electric side light, which possesses special features, and will be exhibited at the Agricultural Hall Show next week.

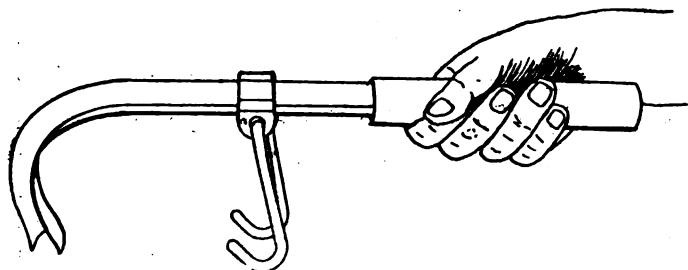


A Darracq 10-h.p. Car, with special English-built body.

THE Coventry Engineering Society have paid a visit to the Daimler Motor Company's works at Coventry.

THE shipments of motor-cars and parts from the United States during January last attained a value of £59,539, as compared with only £39,228 in the first month of 1905.

WE illustrate herewith what is known as the adjustable tyre iron, which has recently been put on the market by Messrs. Janney-Steinmetz and Co., of Philadelphia, U.S.A. The tool is intended for lifting and holding up the outer cover to enable the valve of the inner tube and the security bolts to be readily



placed in position when a change of tubes is rendered necessary by puncture or other cause. As the illustration shows, the device comprises a curved piece of angle steel upon which slides a swinging double spring wire hook. The latter can be slid along the angle steel bar and the tool thus adjusted to suit any size of tyre.

MESSRS. MATTHEW WELLS AND CO. send a neat catalogue of their Wellsaline lubricants, in which are included some useful hints as to effective motor lubrication. The various grades of oil are described, their advantages for different purposes being fully explained.

MESSRS. GUTTERIDGE, LIMITED, of Cambridge Circus, W., have a good selection of novelties, and are now undertaking the teaching of driving as well as the repair of accumulators. Prospective motorists and drivers will be interested in this development of their successful business.

ONE of the most artistic trade lists lately received at our office comes from Mr. William Lea, of Liverpool, and sets forth the merits of the Darracq cars. A well-written technical description is followed by a capital series of illustrations and a list of the records standing to the credit of this type of car.

"NOTES ON IGNITION" is the title of a booklet brought out by the Electric Ignition Company, Limited. This has been written in answer to the large number of requests daily received for information on ignition matters. It has been produced in a form which we think will appeal both to experts and to the novice. The wiring diagrams embody the previous booklet on wiring.

PORTABLE ACCUMULATORS, LIMITED, have introduced a scheme to supply owners of private motor-bicycles and motor-cars with freshly-charged ignition batteries on hire at an inclusive annual fee. The company undertakes to exchange used batteries for freshly-charged ones as often as desired, provided they are returned to the charging stations at 210, Shaftesbury Avenue, W.C., or Much Park Street, Coventry.

A VERY large number of forgeries in Pognon plugs have been discovered by Messrs. H. M. Hobson, Limited, in France. To protect the trade and the public M. Pognon has now added the name of "Hobson," Messrs. H. M. Hobson, Limited, being his sole concessionaires, to that of "Pognon" on the top porcelains, and is arranging to supply all the plugs boxed neatly, with a label fastened across bearing a facsimile of his signature.

MESSRS. ALFRED DUNHILL, LIMITED, who, in addition to their showrooms in the Euston Road, N.W., have premises in Manchester and Edinburgh, have brought out a new lamp catalogue of more than usual interest. In addition to the particulars of their Duplex lens headlights, acetylene generators, etc., information is also given with regard to the supply of dissolved acetylene, the sole rights in which for Great Britain have been acquired by Messrs. Alfred Dunhill. The page of instructions to users of these headlights will be found extremely practical and useful.

THE ambulance exhibited on Messrs. McNeil, Hutchison and Co.'s stand at the Manchester Motor Show was one of the patent accident ambulances made by Messrs. Wilson and Stockall, of Bury.

AT the Dorking garage, owned by Mr. C. J. Tracy, there is accommodation for about twenty-five cars. The premises are open day and night, and are situated adjoining the local post office, on the main road to Eastbourne, Brighton, and other southern resorts.

MR. T. S. BAILEY has acquired the factory and adjoining residence known as Forton House, near the junction of the Lichfield and Wolverhampton main roads at Stafford. He intends to organise a motor-car garage, and develop the residence as a private hotel.

MESSRS. PADDON AND SOPWITH have started in business as motor-car and accessory dealers at 1, Albemarle Street, Piccadilly, W. A special point will be made of tuning up cars, teaching driving, hiring vehicles, and generally assisting prospective as well as actual motorists.

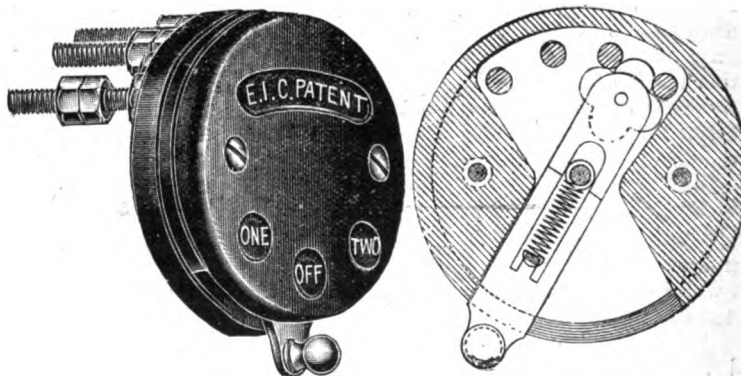
THE Rolledge "Auto" polish is a preparation brought out by Messrs. E. Brown and Son, of Garrick Street, Covent Garden, W.C. This is an admirable preparation for polishing, cleaning, preserving, and waterproofing motor leather and enamelled parts. It is made in all colours.

MOTORISTS who have been fined by the Kingston-on-Thames bench for alleged violation of the Motor Car Act, upon the unsupported testimony of Superintendent Marks, will oblige by sending their names and addresses, with details of their case, to the Secretary, Automobile Association, 18, Fleet Street, E.C.

MESSRS. HALL AND CAPRIS, who have secured the British agency for the Italian-built Isotta Fraschini cars, have been fortunate enough to obtain the 28-35-h.p. Fraschini polished chassis, which was the centre of admiration at the Paris Salon and at the Turin Exhibition, and are exhibiting the same at the Agricultural Hall.

IT is regrettable that interest in the trials now proceeding under the auspices of the A.C.G.B.I. should have apparently waned, and also that one of the competitors, Messrs. George Polkey, Limited, should have withdrawn their entry, having become dissatisfied on one or two points of the trial. Till the time of withdrawal their paraffin headlight had done remarkably well.

THE accompanying illustrations show respectively a general and sectional view of a new ignition switch, known as the "Simplex," which has recently been put on the market by the Electric Ignition Company, Limited, of Sparkbrook, Birmingham.



As will be seen, the switch is arranged to be coupled up to two accumulators, either of which may be used as desired. From the sectional view it will be noticed that the working parts are of a simple but durable design, reducing the chance of the switch getting out of order to a minimum.

THE reliability of the modern car is very simply but expressively told in a letter from Mr. E. T. Langridge, the chairman of the Motor Union, in which he states that his 9-11-h.p. Talbot, delivered in May, 1903, has just completed 22,569 miles. Mr. Langridge adds that he has never failed to drive the car home any day in all weathers under its own power, and that it has proved a most satisfactory and economical car to run.



# The Cordingley Show.



TO-DAY (Saturday), Cordingley's eleventh Motor-Car Exhibition opens at the Agricultural Hall, London, N., and will continue to attract visitors—both present and prospective motorists—throughout the coming week. From what we have ascertained the success of the event is assured, and those who contemplate the motor movement with any interest will find plenty to inspect at the Exhibition, not only in the latest types of cars but in many little things that constitute the enjoyment of "the Happy Motorist," to quote a phrase lately introduced into the world of books. Every day will bring its own special attractions and gatherings, and the proceedings from now to the 31st inst. will make up a really important motor week.

In our succeeding issues we shall report fully on all the stands in the Exhibition; meanwhile the following notes may be accepted as the first part of our record of this event.

## The Carter Steam Wagon.

A newcomer in the steam wagon section of the Show is CARTER'S STEAM WAGON COMPANY, of Oakenrod, Rochdale, who are showing a 5-ton vehicle comprising a number of special features. The boiler is of the vertical fire tube type, constructed for a working pressure of 200 to 250 lbs. per sq. in. The tubes are of curved pattern, an arrangement which allows free expansion and contraction of the tube without straining the expanded ends in the tube plates, consequently reducing the liability of leaky tubes. The furnace crown and upper tube plates are conical in form—in fact, there are no flat surfaces in the boiler. The outer shell of the boiler can be easily removed to allow the interior to be cleaned, and by simply removing the smoke box cover the tubes may be swept clear of soot. Three mud doors and three wash-out plugs are also provided. The boiler is centrally fired, and a super-heating coil is fitted in the smoke box, ensuring perfectly dry superheated steam being supplied to the engine. The boiler

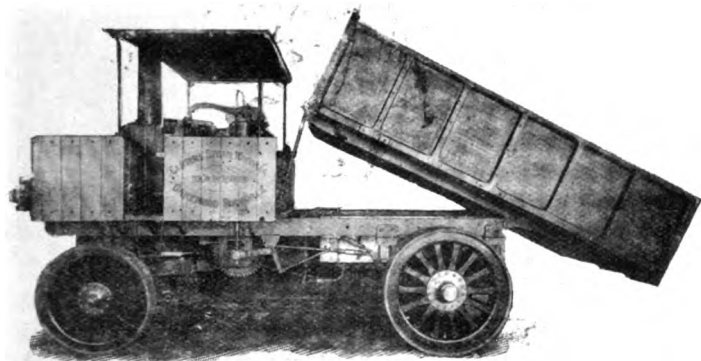


Fig. 1.—The Carter Steam Tip Wagon.

feed is either by means of force pump geared direct to the crankshaft or by an independent steam pump. A special, by-pass valve is fitted to allow the amount of feed to be regulated, the surplus being returned to the tank. A special type of Gresham injector is provided as a standby. Contrary to the usual practice, the engine, which is of 35-h.p., is of compound inverted vertical type, fitted with link motion reversing gear, the vertical type having been adopted owing to the ease with which it can be inspected when running, either loaded or empty. It is enclosed in a box casting, which is securely bolted to cast steel channels fixed to the main frame. The cylinders are cast in one piece, the dimensions being 4 in. and 7 in. diameter by 5 in. stroke. An arrangement consisting of two double-ported brass connections fitted with balanced piston valves is supplied for admitting boiler steam direct to both cylinders.

The transmission is first by means of an improved gear, consisting of a three-speed pinion on the squared end of the crankshaft, this pinion being constantly in gear with three spur wheels on the second motion shaft. Any one of these wheels can be alternately locked to the shaft by means of a clutch arrangement, worked from the driver's platform, giving speeds of 1½, 3, and 6 miles per hour respectively. From the second motion shaft the drive is by a pair of reducing spur wheels to the countershaft, and thence by means of a Renold 2½ in. pitch roller chain to the rear live axle. The gear wheels are all secured by means of forged collars on the shafts, which are machined to form jaw clutches; the bosses of the wheels are correspondingly formed and are retained in position by means of fine threaded locknuts or bolts, a method which obviates all keying of wheels. The whole of the gearing is enclosed in dust proof covers and runs in oil. The road wheels may be of either the artillery, steel, or composite type. The drivers are 3 ft. 6 in. in diameter and 10 in. wide; the front wheels 3 ft. diameter and 6 in. wide. A novel feature of the vehicle is the method by which the rear side

driving road wheel is secured to the end of the live axle. The collar of the latter is notched out in jaw-clutch pattern, the link of the driving wheel being formed in a similar way. The road wheel is forced on to the axle, so that the jaws interlock in an exact fit, the whole being secured by a fine-threaded nut, which is prevented from working loose by a strong taper pin. The off-side driving road wheel is driven by the differential sleeve, to which it is securely bolted. The frame is built of strong channel steel, well braced with cross channels. The object of the Carter Company has been to produce a

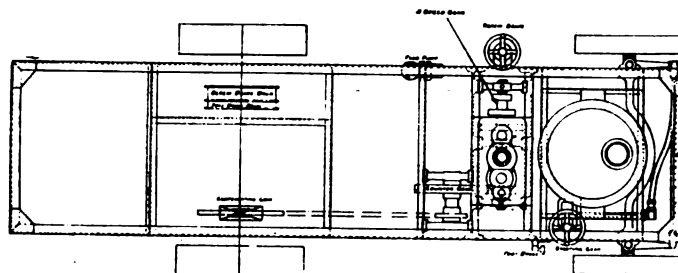


Fig. 2.—Plan of Chassis of Carter Steam Wagon.

quiet running vehicle, and with this object they make the springs from Sheffield blister spring steel, they being designed to absorb the whole of the vibration and shocks due to rough roads, so that no strain is transmitted to the frame and gearing. Considering the sheet iron front usually fixed round the platform of steam wagons to be a great intensifier of noise, they have discarded this material in favour of a pitch pine boarded front. A layer of sound-proof material is also interposed between parts liable to create noise. Two powerful brakes are fitted, one foot brake and one hand screw brake, both acting on a brake drum on the rear axle.

## The "Gorton" Steam Wagon.

Considerable interest will be evinced in the steam wagon of Messrs. Beyer, Peacock, Ltd., Manchester, the vehicle being the result of considerable experiment and also of the company's long experience in the construction of locomotives. The vehicle (Fig. 3) is designed to carry a load of five tons, and has a platform area of 86 square feet, the main frame being constituted of 6 in. by 3 in. channel steel girders mounted on stout laminated springs. The footplate is riveted to the steel channel frame, and carries the boiler in a well in the centre, a large fuel bunker being located behind the driver's seat. The water tank, of 200 gallons capacity, is carried between the framework at the rear, so that its weight is useful for adhesive purposes when the vehicle is running light. The boiler (Fig. 4) which has been designed by Mr. H. A. Hoy, is of the vertical type, but resembles the locomotive pattern inasmuch as the fire tubes are entirely submerged, although slightly inclined to the horizontal. A locomotive type of smoke box is fitted which can be quickly opened for cleaning or even for plugging a tube on the road. The fire-box

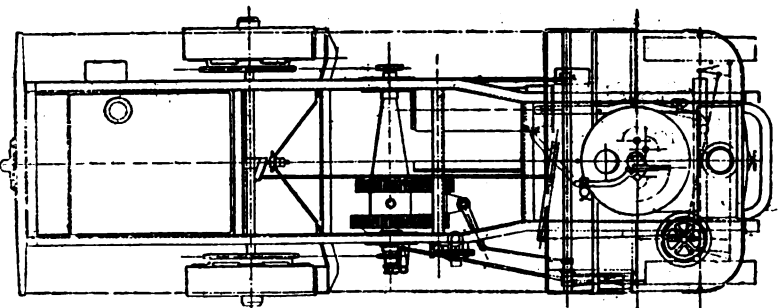


Fig. 3.—Plan of Chassis of "Gorton" Steam Wagon.

possesses two advantages in combination which are peculiar to this boiler, namely, that the whole of the firegrate can be inspected, through the firing hole situated on the top of the boiler, by the driver from his seat, thus ensuring a well-trimmed even fire, while the whole of the tube ends in the fire-box can be seen through the firing hole, enabling any leak to be instantly discovered. The boiler possesses ample steam space, and the heating surface measures 95 sq. feet and the grate surface nearly 3½ sq. feet. The engine is of the enclosed simple type with two cylinders 3½ in. diameter

by 5 in. stroke; with steam at 200 lbs. pressure per square inch it develops 40-h.p. at a speed of 430 revolutions per minute. The engine is completely independent of the lorry, and attached by only three bolts, so that it can not only be quickly detached, if necessary, but the three-point attachment frees it from any risk of cross binding due to the movement of the main frame. The valve motion is of the single eccentric type, with constant lead and variable cut-off. The reversing shaft is above the cranks, and the valves are placed on top of the cylinders. Further, to save the engine and gear from undue stress, the crank shaft is coupled up to the change-speed shaft (two speeds being provided) by a flexible loose driving disc coupling. A cone having its base secured to the casing of the differential and its apex close to the left-hand bearing gives the differential shaft exceptional stiffness. The final drive is by Brampton 2 in. pitch roller chain working on a

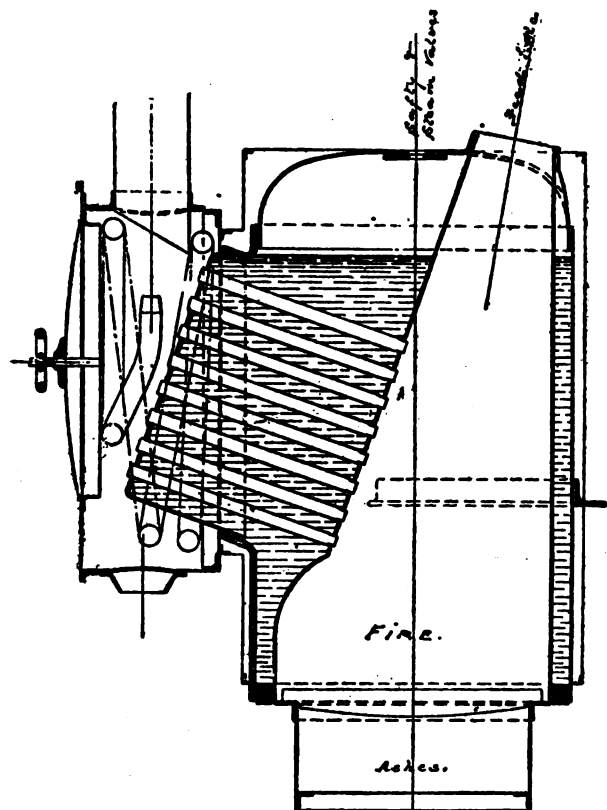


Fig. 4.—Section of Boiler of "Gorton" Steam Wagon.

special form of "automatic pitch" chain wheel. The road wheels have cast steel elastic centres and wood-cushioned rims. The differential shaft is provided with an emergency clutch for locking the gear should the vehicle be running upon slippery or soft roads. The front wheels are 2 ft. 9 in. in diameter, with 7 in. tyres, and the driving wheels 3 ft. 3 in. by 9 in. wide. The steering gear is another special feature of the Gorton wagon; it has been devised by Mr. Hoy, and is designed so that all stresses, both from steering and road shocks, are taken by the axle itself, and not transmitted, as is usual, through the springs to the frame and the steering-wheel. The controlling end of the steering-rod runs into the long sleeve boss of a bevel-wheel which is screwed to receive it, the bevel-wheel being carried in a bracket fastened direct to the H section axle itself. The bevel pinion with which it meshes has a vertical axis and a long telescopic clutch connection, so as to admit of a free sliding action, thus preventing the transmission of the effects of rough roads and deflection of springs to the hand of the driver. The bearing springs of this axle are relieved of the thrust of driving by a stiff horizontal radius rod fastened to the axle and centred on the main frame.

#### The Leyland Steam Wagon.

In addition to a new motor-omnibus, to which we hope to refer in a subsequent issue, the LANCASHIRE STEAM MOTOR COMPANY, LIMITED, are exhibiting one of their class H steam tipping wagons, this being one of a repeat order for ten vehicles they have in hand for the Borough Council of Chelsea. The vehicle, of which an illustration is given in Fig. 5 is designed to carry a load of five tons and two tons on a trailer on good roads and on grades not exceeding 1 in 8. The boiler is of the fire-tube central-feed type, built for a safe working pressure of 200 lbs. per square inch. The distinguishing feature of the boiler, which is adapted to burn coke or hard Welsh coal, is the ease with which it can be taken to pieces for examination and cleaning purposes. The water is fed by a ram pump, which runs at practically a constant rate irrespective of the speed of the vehicle. For the auxiliary feed supply an improved automatic injector with independent suction

is used. The engine change-speed gear and differential are contained in a dust-proof and oil-tight casing. The engine, which is 35-h.p., is fitted with an improved constant lead valve gear. The lubrication of the parts inside the casing is carried out in a simple manner. The casing is charged with oil, the amount being fixed by the opening of a test cock on the side. The cylinders are lubricated by a positive sight-feed lubricator, a duplicate system of feed being fitted to provide for any of the glasses breaking. The differential gear is so designed that it can be locked as occasion may demand, as, for example, on a soft road. Heavy roller chains connect the differential shaft with the rear road wheels. Powerful internal-expanding brakes working on the inside of the chain wheels are provided, these being capable of holding the vehicle on any gradient in either direction. The road wheels are of a special "composite" pattern which are claimed to possess all the advantages of the gun-carriage type whilst dispensing with loose hubs and spokes. The driving wheels are 3 ft. 6 in. diameter by 10 in. wide, and the steering wheels 3 ft. diameter by 6 in. wide. The water tank has sufficient capacity to run the wagon from twelve to twenty miles, according to the nature of the roads. The body, which has a capacity of seven cubic yards, is entirely independent of the working parts and main frame of the wagon, and can therefore be easily removed, and a tank or sheet-watering body fitted in its place. The tipping gear, which is driven off the engine, is self-sustaining in all positions, enabling the wagon to be moved to clear the load.

#### The Foden Steam Car.

MESSRS. FODENS, LIMITED, are present with three of their standard heavy steam vehicles, intended for general hauling purposes for loads up to 5 tons, one (Fig. 6) being intended for Messrs. Mark Mayhew, Limited third repeat order, the second for Messrs. Style and Winch, Limited, Medway Brewery, Maidstone, making the fourth ordered by this firm, and the third a second vehicle for the Idris Mineral Water Company, Limited. In general appearance the Foden wagons, which are being built to comply with the Local Government Board regulations, take the form of a small traction engine, behind which is mounted a platform upon which the load is carried. The boiler, which is of the horizontal multitubular type, forms the front part of the framework. The sides of the frame are constructed of channel steel tied and braced together in such a manner as to secure great strength in the complete lorry. The boiler can be fired with coke, coal, or wood. The wagon is driven by a compound steam-engine fixed on the top of the boiler. The cylinders are fitted with high-pressure gear, by means of which both can, in case

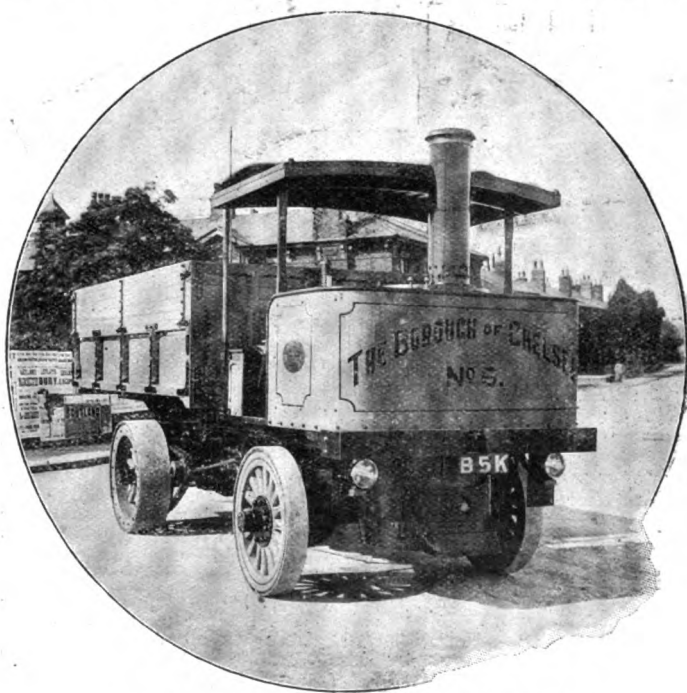


Fig. 5.—The Leyland Steam Municipal Wagon.

of emergency, receive live steam from the boiler, and each cylinder exhaust independently into the chimney. The reversing motion is of the ordinary link type. The power is transmitted by spur wheels to the compensating gear shaft, and thence to the rear axle by an extra strong roller chain. The gearing is arranged for two speeds. The firm are fully employed with orders, many of which, like the wagons exhibited, are repeats, an eloquent testimony to the efficiency of these vehicles.

#### The "Reyrol" Light Car.

Motorists on the look-out for a light two-seated car will be interested in the various examples of the Reyrol exhibited by the MOTOR SUPPLY COMPANY, LIMITED, and of which a general view is given in Fig. 7.

The little vehicle is a reproduction in miniature of the standard design of touring car; the frame, which is of armoured wood construction, carries in the fore part a Buchet single-cylinder engine, having a mechanically-actuated inlet valve. Ignition is by means of accumulator and high-speed trembler coil, but magneto ignition can be fitted when desired without any alteration, provision being made for this. The mixture is furnished by a carburettor of the Vaux type. The water circulation is on the thermo-siphon system through a double row of gilled tube radiators. The clutch is of the leather-faced cone type. The gear-box gives two forward speeds and a reverse; the gear wheels are always in mesh, the changes being effected by means of a sliding key-

#### Coachwork.

Messrs. SAYERS AND COMPANY make a good appearance with some exhibits from their new factory at Vauxhall. Special attention may be directed to the side entrance limousine landaulet body shown in an unfinished state. Although the body is a large one its weight is minimised by the use of aluminium—a metal which, so far, has been very little employed in the building of landaulets. Messrs. Sayers and Company have, however, overcome the difficulties in the way of such work. The interior of this body is a very large one, leaving comfortable seating for three persons at the back, and also for a roomy spare seat, so much better than the narrow flap folding seats, which are often little

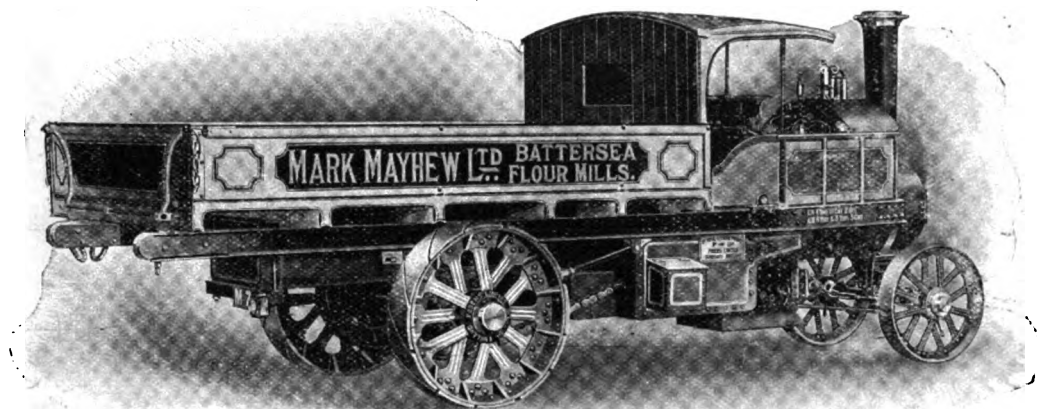


Fig. 6.—The Foden Steam Wagon. (See page 72.)

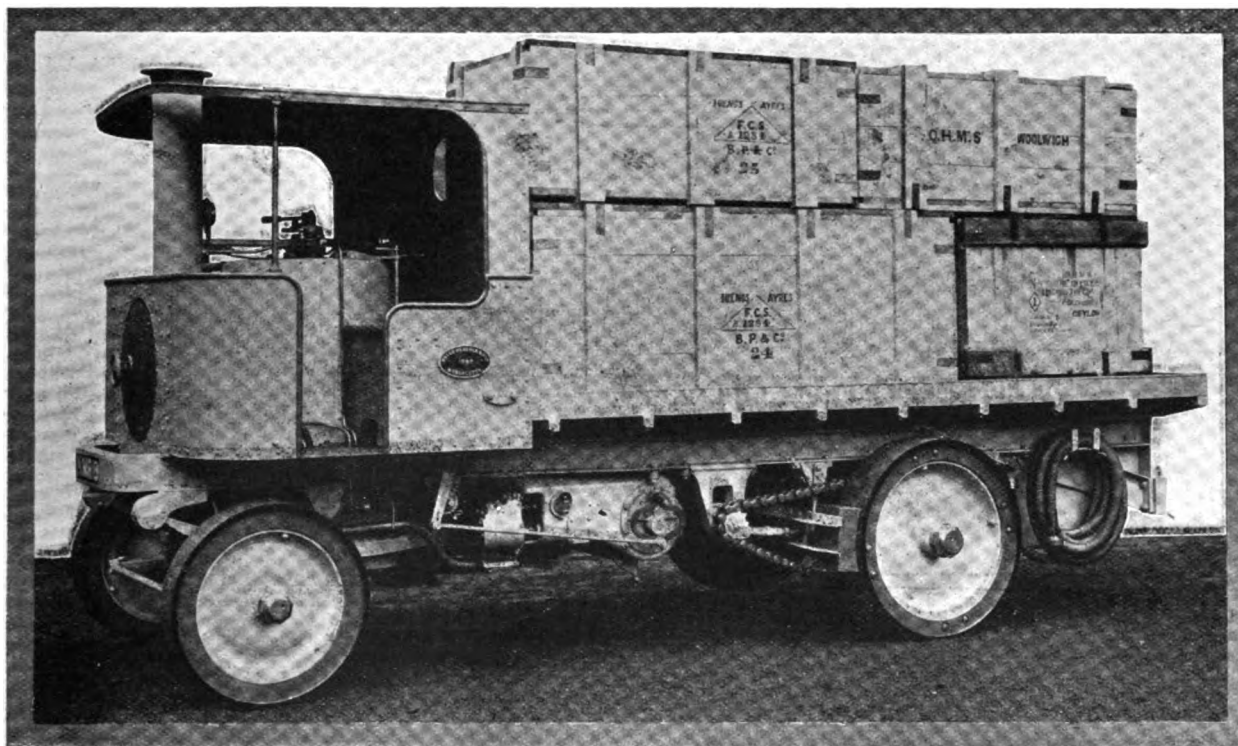


Fig. 6.—The "Gorton" Steam Wagon. (See page 71.)

way which locks the desired spur wheel in position. The final drive is by means of a cardan shaft and bevel gear on to the live axle. A pedal-operated hand brake is fitted to the shaft immediately behind the gear-box, and hand brakes on each rear wheel are controlled by a side lever. The car has a wheel base 5 ft. 6 in. and a track of 3 ft. 5 in. In view of its relatively low price the Reyrol car should meet with a good reception at the hands of those about to embark on a motoring career. A useful little delivery van built on the same chassis is also shown by the Motor Supply Company. It is intended for the use of tradesmen and is designed to carry from 4 to 5 cwt. in addition to two persons.

better than a folding shelf, on which a journey of more than a few miles is very often more a pain than a pleasure. Several important novelties in the design of hoods are also on view, and the firm is to be congratulated on the way in which it makes its debut at an automobile exhibition.

#### Non-Skids.

The "De Fornier" detachable tyre protector is shown by Mr. W. J. MAYER. This is claimed to be a simple, economical and effective device against one of the perplexities of motoring. Its ready method of attachment and detachment is one of its great recommendations.

On each side of the protector is a complete circle composed of thin metal sectors brought together by screw bolts. By this arrangement the whole band can be tightened or slackened (if required) without deflating the tyre. The device protects the whole of the rubber and preserves the resilience and suppleness of the tyre. It is provided with extra strong non-slipping studs fitted with washers which add to the longevity and secure three advantages not to be lightly esteemed. They prevent the rivets from coming in contact with the rubber through the weight of the car, reduce the side strain on the studs in taking corners, and prevent any heat that might generate from deteriorating the leather. The studs are hand riveted, and chrome leather of an excellent quality is employed in the manufacture of the band. The "De Fornier" protector can be utilized on old covers, for the whole device is adjustable at will, providing one of the most effective non-skids now on the market.

#### The Conveyance of Petrol.

Amongst exhibitors in the Gallery will be found the STEEL BARREL COMPANY, LIMITED, whose electrically welded steel barrels and drums have been appreciated in many industries. Their exhibit comprises a variety of welded articles for the storage and transport of motor spirit, petroleum, and other inflammable liquids, oils, etc. For the storage of motor spirit, petroleum, etc., there are a number of steel tanks of different shapes, square tanks of various dimensions, cylindrical tank, and a boat shaped tank, the latter being made to fit into the stern of a motor-boat for containing the necessary motor spirit. Steel barrels such as are used by the various petroleum companies for the distribution of motor spirit and petroleum is another excellent feature. There is a storage cask with a pump specially designed for country houses where lighting is done by means of paraffin oil. A prominent exhibit is a welded steel cart tank for the transport of petroleum, of a capacity of about 600 gallons, having three compartments, the division plates between the compartments being welded in such a manner as to be absolutely and permanently petroleum tight, and so strong as to resist, without the slightest fear of damage, the vibration due to the transport over rough roads. This tank is exceedingly light, being only about two mm. thick. The fact that it is welded is a great advance, securing that it is absolutely tight. Its lightness relieves the strain upon the horses used to draw the cart. For neatness, good finish and efficiency the exhibits of the Steel Barrel Company, Limited, are conspicuous.

#### Solid Tyres.

At the stand of the NEW MOTOR AND GENERAL RUBBER COMPANY, LIMITED, a novelty will be seen in the "Milo" sectional solid tyre for heavy motor traction 'buses, etc. In this tyre each section is securely bolted to the rim and felloe, preventing the likelihood of "creeping." Any damaged portion may be replaced by the driver in two or three minutes, while a further advantage is that it will fit any shape rim. There is an economy of at least one-third of the rubber available for cushioning and wearing surfaces. Any portion of the tyre can be renewed and fitted in a few minutes by an ordinary driver without the use of special tools.

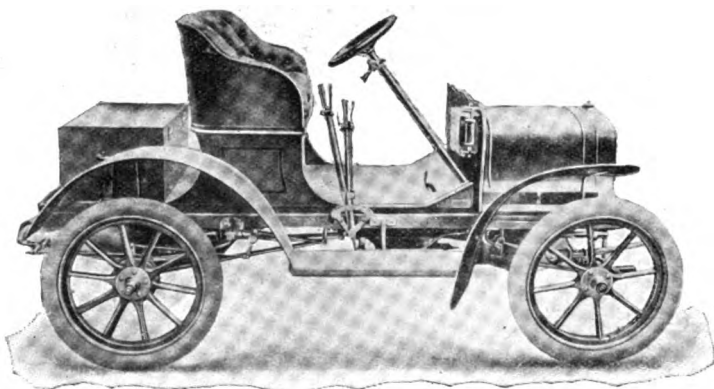


Fig 8.—The Reyrol Two-Seated Car. (See page 72.)

#### Office Requisites.

Office requirements are filled by the BLICKENSDECKER COMPANY, LIMITED, so far as typewriters are concerned, their specialities ensuring visible writing, interchangeable type and permanent alignment. The SHANNON, LIMITED, has also a good display of their labour-saving devices, including roll top desks, sectional cabinets, book cases, etc. This company make a special feature of electric light installation, the folding lamp shown on their stand being a really notable acquisition to any motor office or showroom. On other stands will be found the Oliver and the Underwood typewriters, each with distinct merits entitling it to the consideration of those with heavy correspondence.

Among the specialities of the ANGLO BOPHORUS OIL COMPANY, LIMITED, is an oil intended for use with leather to metal clutches. This is claimed to keep the leather in perfect condition, preventing it from getting hard and dry, or from slipping when the clutch is right home. The company's lubricants for automobiles have been selected after practical exhaustive tests with several makes of internal com-

bustion engines, and include air and water cooled motor oils, motor-car gear-box oil, yellow gear grease, and other preparations of a good grade of quality.

The "Fastnut". Washer is shown by the FASTNUT, LIMITED. Its merits have been previously set forth in our columns. Suffice it now to say that it saves drilling bolts and the usual filing and fitting of nuts, effecting an economy in the cost of construction, and securing such efficiency that insurance companies are making reductions in premiums for third party risks to all owners of cars in which Fastnut washers are used throughout their cars.

Messrs. SMITH, PARFREY AND CO., LIMITED, have a capital exhibition of their axles for both heavy and light motor-vehicles, springs, forgings, gears, and frames for all types of automobiles. We illustrate a group of their wheels—always a chief product of their works. The

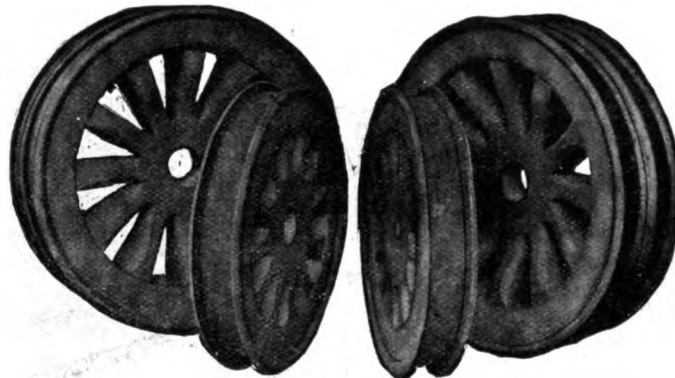


Fig. 9.—Messrs. Smith, Parfrey and Co.'s Wheels.

exhibits may be regarded as a fair sample of their ordinary work, almost everything shown on their stand is there by the indulgence of customers and will be delivered as soon as the Exhibition closes. Messrs. Smith, Parfrey, and Co., Limited, also bend timber for all classes of work, such as motor-omnibus wings, car wings, panels, pillars, etc., these being also supplied in aluminium or blue steel. The firm have been manufacturers of wheels since 1836, and are sufficiently up-to-date to recognise the demand for motor-buses, for which they are producing some notable work.

GAULOIS TYRES, LIMITED, are exhibiting in a very comprehensive manner all types, sizes and strengths of the Gaulois tyres. A special feature is made of the Gaulois Special Tourist tyres, which are being used extensively on the Continent for high-powered touring cars. Messrs. Bergougnan and Co., the makers of these tyres, whose works are in Clermont-Ferrand, France, hold a very high reputation on the Continent as pneumatic tyre manufacturers, and possess very extensive works. They cater for all the purposes to which a pneumatic tyre can be used, from the motor-cycle to the heaviest touring car. Besides pneumatic motor tyres, Messrs. Bergougnan and Co. also manufacture solid rubber tyres for motor-omnibuses and heavy commercial vehicles. Other unique features in motor tyres will also be found at this stand.

THE LONDON AUTOCAR COMPANY, LIMITED, have a complete show of accessories and parts as well as of some useful devices of value to motorists. Practical men are familiar enough with the difficulties arising from the carburettor tube becoming choked through foreign matter finding its way into the tank. With a view to obviating this, the L.A.C. petrol filler has been designed to overcome the trouble. The petrol passes through three gauzes of different mesh before entering the carburettor. The filler is easily fitted. The company also show a simple and effective device for registering the compression of the engine by merely removing the sparking plug and replacing this with the gauze. This will prove a great saving of time and trouble in tracing the puzzling losses of power which sometimes worry motorists. The L.A.C. spring fork attachment is a reliable means of eliminating the excessive vibration transmitted by the front wheels of motor-cycles to the rider's hands and body. It is possible to fit the attachment to almost any make of machine, while the absence of any lateral movement in the wheel ensures the rider against the risk of side slips. The L.A.C. patent terminal is another novelty at the stand, the display being completed by larger exhibits, including castings for all purposes, three or four different types of engines, steering gears, carburettors, coils, accumulators, etc.

Messrs. A. F. HARDING AND CO., LIMITED, have a show of particular interest to the trade as well as private motorists, anxious to maintain a good appearance on their vehicles. The specialities of the firm are known by the "Fish and the Ring" brand, and consist of leather varnishes and dyes in all colours, their card of specimens being a distinctly attractive sheet for reference. The "Blackall" varnish is a good preparation for touching up ironwork and woodwork of motor-cars, producing a brilliant and lasting polish and drying hard in a very short time.

(To be continued.)

THE old Penrhos Foundry at Llanelli is being remodelled and fitted with machinery for the manufacture of the Davies spare wheel.



## CORRESPONDENCE

Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, W.C.]

### THE INTIMIDATION OF MOTORISTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I forward herewith a copy of a letter which the Society of Motor Manufacturers and Traders have sent to the various associations that have arranged to hold meetings at the Agricultural Hall during the progress of the Motor Car Exhibition there.

For some considerable time past the members of the society have attempted to undermine the strength of my exhibition generally, and to persuade firms in the motor industry not to show. With what ill success this has been done will be apparent when the exhibition opens on the 24th inst., and knowing how thoroughly representative will be the character of the display, I have not replied to those who have been prominent in their attacks, being content to give the motoring public demonstration of the position attained by Cordingley's Exhibition, the eleventh of the series.

But the writing of the letter referred to; with its menacing demand, warrants me in addressing you and your readers on the dictatorial atti-

It is significant of the attention paid to this "official" ultimatum that the programme of conferences, meetings and receptions will be held as though the letter from the Society of Motor Manufacturers and Traders had never been penned. Only the British Motor Boat Club has been subservient enough to withdraw from its engagement, but in its place a more interesting meeting for those concerned with motor-boats has been arranged, so that the continued ill-will of the society has again blown awry, surely much to the advantage of the motor movement.—Yours truly,

CHARLES CORDINGLEY.

Copy of letter sent from the Society of Motor Manufacturers and Traders.

Dear Sir,—My committee have learnt with regret that your — proposals to be officially represented at the forthcoming motor show at the Agricultural Hall, which show is not officially recognised by the majority of the trade, but rather the contrary.

At the official motor exhibition at Olympia every opportunity will be given you to be properly represented, and I am directed to convey to you the strong expression of opinion of my committee that no organisation in the position in relation to the industry of your own ought to officially connect itself with any exhibition not officially recognised by the majority of the trade.

I am therefore directed to request you, if you desire, the support of this society, to furnish an assurance that you will not so support any such other exhibition.—Yours faithfully,

T. F. WOODFINE.

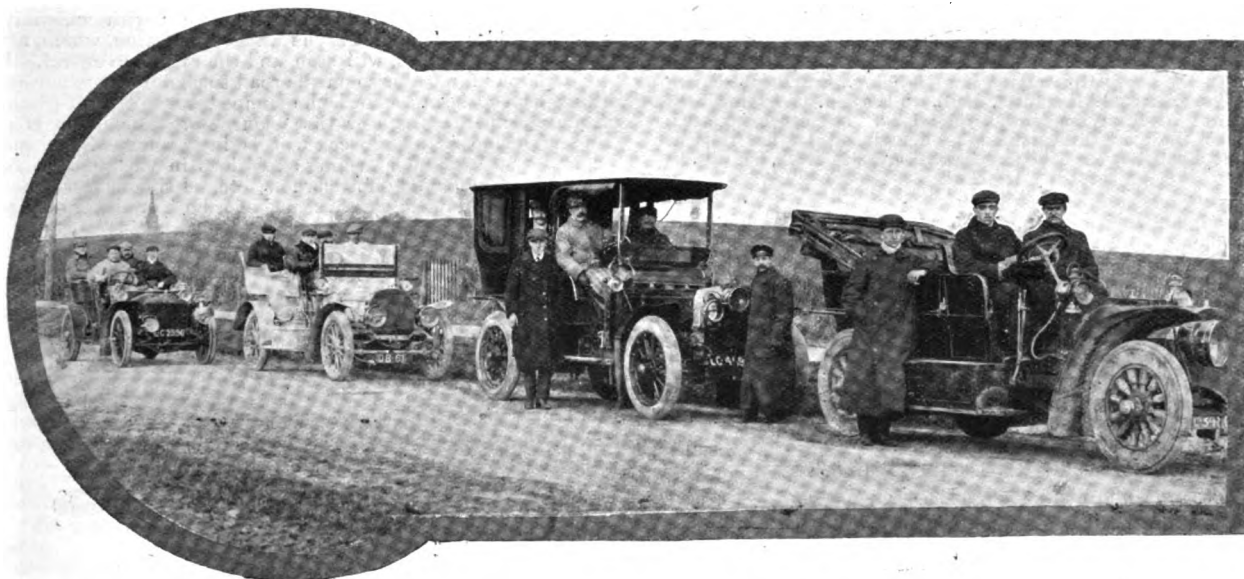


Photo by]

The Tyre Trials.—The Competitors near Daventry.

[Argent Archer.

tude assumed by the society, especially as the number of individual firms exhibiting at the Agricultural Hall will exceed that at the so-called "official" show.

For some years past motor organisations have had the hospitality of the Agricultural Hall Exhibition, and have grown stronger in membership and influence, perhaps, because of the opportunity thus afforded of reaching motorists and attracting the notice of the Press. Many recognise the exhibition as a factor in their progress; others who have their annual meetings in March realise that when their members are in town for the show it is to their mutual advantage to meet at the Hall. Now, perforce, at the dictation of a trade society, annual meetings are to be set aside, events which have been a feature of the year are to be abandoned, long arranged conferences to be postponed, and the machinery of automobile associations disturbed unless committees "furnish an assurance" not to carry out the wishes of their members.

The opposition of the society has now passed beyond the region of trade matters; it has developed towards the whole motor movement, being a deliberate attempt to coerce those associations responsible for the guidance of motor policy, the organisations concerned with the sport and pastime, and of those interested in developing the utilitarian object of the movement. Such restriction of effort is not only unfair and impolitic, but it sets a barrier around freedom of action and is entirely subversive of all British notions of public life. Why, then, should this effort be made to stifle discussion, thwart the development of automobilism, and dictate terms upon which associations like the Motor Union, with its 11,000 members, shall carry on their propaganda? Surely the time has come to break silence and to call upon all interested in the future of automobilism to demand free interchange of ideas and the liberty of action without which progress is impossible.

### DOES LOW TENSION MAGNETO IGNITION GIVE GREATER POWER THAN HIGH TENSION?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have seen a good many statements to the effect that a petrol motor is capable of developing greater power with low tension or magneto make and break ignition than with high tension with accumulators and coil. I should be glad to know whether the truth of the statement is borne out by actual practice.—Yours truly,

WORTHING.

### THREE-CYLINDER ENGINES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to Mr. Mawdsley Brooke's letter in your issue of the 24th February.

If Mr. Brooke disagrees with my contentions, then I am prepared to prove same with a three-cylinder "National" car having a bore 4½ in. by stroke 5½ in. against a four-cylinder car of equal cylinder capacity, and to be under other similar conditions. I make this assertion, that the three-cylinder car will run as smoothly, as fast, as flexibly (perhaps slower on "top") as most four-cylinder cars, without the extra complications, and the smooth and flexible running is what the public demand. Many well-known motorists have been deceived, and not until the bonnet has been raised would they believe it was only the simple and much belied three-cylinder engine.

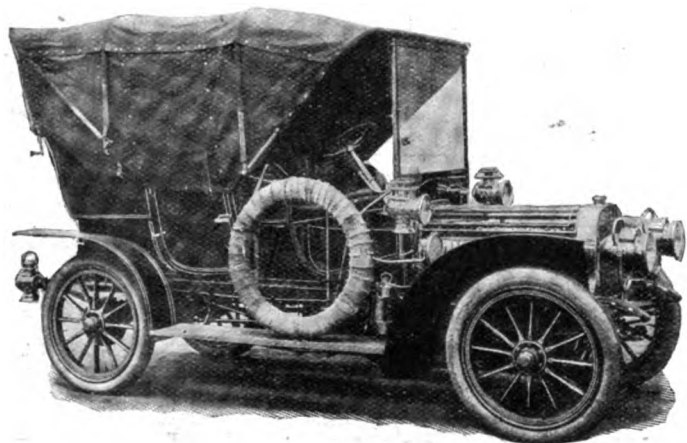
I am glad that your correspondent Mr. Gaskell is a supporter of the three-cylinder engine. If users would only put on record their opinions, it would assist in removing the ridiculous prejudices. Mr. Gaskell asserts that his three-cylinder "runs as well as any four,

and better than most," which is exactly what we maintain. It is possible to construct a three-cylinder engine car that will fulfil all the requirements that a four is likely to be subjected to by any critical buyer.—Yours truly,

P. R. LAMB.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have read with much interest the letters upon three-cylinder engines, and am rather surprised at the opinions of Mr. Mawdsley Brooke and of R. H. Maudslay as regards the vibration set up in these



The car shown in the above illustration is a 16-20-h.p. Argyll which was dispatched last week from Alexandria, E.B., to Ceylon, it having been built to the order of a leading resident in the island. The capacious hood, which will protect the occupants against the fiercest rays of the tropical sun, has a celluloid panel at the back and a glass screen in front, and can be readily detached.

engines by the "impulses always turning from one end of the engine to the other." I do not question the experience of these gentlemen in the least, but does their experience not lie entirely with vertical engines? Have they ever noticed this "pendulum" motion with any good horizontal engines, such as the Duryea, for instance? I cannot see how any "tilting" motion can take place with these, and must say that I have never seen any. I would like to have this threshed out, as I have a great liking for three-cylinder engines, for various obvious reasons.—Yours truly,

INTERESTED.

#### ASSISTING WOULD-BE MOTORISTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Theory has sometimes to yield to practical experience, and it is, therefore, to those who are using motor-cars day in and day out that would-be motorists must look for practical information with regard to motor-cars. A record of the facts and things met with would be very interesting and very helpful to novices if only motorists would take the trouble to make the same public.

It is on the broad plane of imparting useful knowledge that I venture to suggest that owners of motor-cars should write frequently to the *M.C.J.* about the practical points that come up in their several experiences. Some of the things that beginners desire to know about are: (1) The consumption of fuel. (2) The cost of repairs; the kind of repairs most common and the methods taken to carry out the work and prevent recurrence of the trouble. (3) The life of tyres under varying conditions. (4) Useful accessories; that is, all those adjuncts to the car in the shape of lamps, tools, and the like, which are not an actual part of the vehicle. (5) Experiences with various forms of motors, gearing, lubricators, carburettors, ignition, pumps, etc. (6) General happenings in operation, breakdowns, their causes, results, and repair.—Yours truly,

W. HENDERSON.

#### DRIVING CERTIFICATES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was very pleased to see a letter in the *M.C.J.*, signed "F. C. M.", re driving certificates. I quite agree with him that the Board of Trade would be a more suitable authority than the A.C.G.B.I. to hold driving examinations; I would also strongly protest against the heavy entrance fees charged by the Club. Now that driving schools are so plentiful, motor drivers are not so difficult to obtain as they were a few years ago; consequently, their wages have gone down considerably, and for a man to enter for both driving and mechanical proficiency certificates would mean a big slice of his week's wages gone with not much to show for it.

Of course, no reasonable minded man will deny the desirability of some system whereby the incompetent drivers can be weeded out, and the club deserve all praise for taking the stand they have done, seeing

that the Board of Trade have so far neglected their responsibility in the matter. But I think, if the Club were as anxious as they profess to be to get drivers to qualify for their certificates, they should be content to accept a less entrance fee than what they are demanding.

I have no doubt "F. C. M." will join me in the hope that other drivers will give their views on this matter.—Yours truly,

B. 1048.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Might I, through your valuable paper, endorse "F. C. M.'s" remarks re the above in the *M.C.J.* of the 10th inst.? It is, as he points out, a very unfair tax on drivers. Then look at the charge the Automobile Club are making for their certificates; nine men out of every ten (even if they want to go in for the Club's certificate) positively cannot afford to do so. If a man has to go, say, twenty miles to be examined, it means that a driving certificate will cost him 30s. at least, which is a serious item to a driver who is, perhaps, not getting that amount per week in wages. Then, again, the Club are (so I understand) borrowing cars for the examinations, and charging the poor driver 10s. for the use of the cars. In my opinion it is simply waste of time and money, going in for the examinations, as I firmly believe that when the time comes that it is necessary to have a certificate the A.C.G.B.I. will not be the examiners, and the certificate granted will be something to be proud of, and not waste paper, as at present.—Yours truly,

PANHARD.

#### OVERHEATING TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

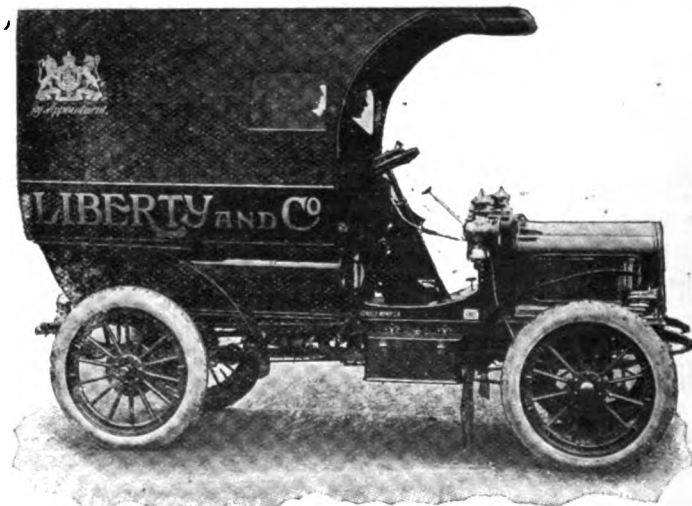
SIR,—I have a small double-cylinder car with which I have two slight troubles. The first is the water circulation, which, after running well perhaps for days, will stop, and the engine overheat. I then have to wait ten minutes or so on the road to cool down, when, without anything having been touched, the pump starts work and I have no more trouble for perhaps two or three journeys. The pump is gear-driven, and is composed of two cog-wheels in mesh. My second trouble is caused by occasional alarming explosions in the exhaust box, when I switch engine on and off at corners, etc. I should feel obliged if any of your readers could suggest a remedy for both or either of these troubles.—Yours truly,

J. BARTON.

#### ETHERISED VAPOUR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Can you kindly inform me whether any data exist as to the amount of ether required mixed with petrol to increase the explosive force of the mixture, whether it is safe to use, and if the extra heat engendered is considerable? The exact sp. gr. at various temperatures would be useful as a guide. I have thought of adding an extra air inlet and bringing the ether through it.



A White Steam Delivery Van, built for Messrs. Liberty and Co. (See page 62.)

Also has anyone tried CO<sub>2</sub> in bulbs for speedy tyre inflation. Were they not used in the Gordon Bennett races?—Yours truly,

GO AHEAD.

[A reference to the first point raised by "Go Ahead" will be found under "Some Current Topics." As regards tyre inflation, it is quite usual in France to carry compressed gas cylinders for blowing up tyres; CO<sub>2</sub> is as good as anything. Except for racing, however, an engine pump would be lighter and better, and it is somewhat surprising that they are not more often employed. A pressure regulator would be advisable, similar to those used with magic lan-

terns, but adjusted to cut down to 90 lbs. instead of the much lower pressure there employed, if a gas cylinder is used.]

### KNOCKING IN THE ENGINE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to "Devonian's" letter in the last issue of the *M.C.J.*, the trouble your correspondent experiences is no doubt caused through the flywheel of the engine being loose on the crank shaft. If he will take down and re-key the same, he will find the knocking disappear.—Yours truly,

WILTSHIREMAN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The pounding complained of by "Devonian" in the last issue of the *M.C.J.* is caused by faulty carburation. Your correspondent should see that none of the air inlets have become choked, clean out the float chamber and the jet. If the knocking then continues, an extra air inlet, controlled by hand, might be tried. This should be manipulated when the pounding commences.—Yours truly,

O. H. B.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In answer to "Devonian's" query in the last issue of the *M.C.J.*, re "Knocking in Engine," I was troubled with the same complaint with a two-cylinder engine, and found it was due to the flywheel having become slightly loose on the crank shaft axle, the nut behind it having worked loose. After having tightened this the knocking entirely ceased and I had no more trouble. Perhaps "Devonian" may find this to be the cause of his difficulty.—Yours truly,

E. TRAVISS.

### MOTOR-CARS AND FARMERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The letter signed F. Heath opens an interesting subject, but I doubt if a service of cars could be made to pay by conveying milk, as it is heavy and bulky stuff and the prices the rail companies now carry it for and return the empty churns are fairly low for most distances. It might answer those farmers who live about ten miles from any big town, but not twenty or over, at present. I think it would pay better for fruit and other perishable garden produce. I believe this is being done by a few big growers, and will be much more in time. Your correspondent might tell his farmer friend that in a little time motors will be of great use to farmers in many ways. I don't think F. H. would find his combined milk and pleasure car quite the thing. Has he ever tried the same thing with a horse? I have, and I found that the horse had to be home at certain times to take the milk to station, whether I wanted to or not.—Yours truly,

W. KILLICK.

### THE SIZE OF CHAIN WHEELS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to the discussion on Colonel Crompton's paper on "Unsolved Problems in Motor Engineering," Professor Sharp remarked that "chain wheels as now used had an insufficient number of teeth on them." A short time ago I carried out some experiments on the above and found that by fitting an exceptionally large sprocket on the countershaft and a proportionally larger one on the back wheel I got a much smoother drive and hardly any noise worth mentioning, and I contend a chain running on sprockets as above is practically noiseless; of course, providing it is kept in proper condition. I think if the countershaft sprockets and back wheel sprockets were made as near equal as practicable, and any gearing down necessary effected at the differential, the chain driven cars would run even smoother than they do at present. Another point I might mention: when running free there is no clinking of the chains, which one sometimes hears; they run on the sprockets quite as smoothly as when transmitting power.—Yours truly,

WM. L. HARDMAN.

### QUERIES RE WOLESLEY ENGINE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am having a little trouble with my 10-h.p. Wolesley car. It has been running well up to quite recently, and as the engine was losing power a little, I ground all the valves in, and now it is worse than before. If any reader of the *M.C.J.* has had the same trouble, I should be obliged if he would let me know how often the exhaust and inlet valves ought to be replaced. I find one inlet spring to be much weaker than the other, but I do not think that has anything to do with it, as the engine has run well with it before.—Yours truly,

AJAX.

[Undoubtedly "Ajax's" trouble is caused by the tappet-screws under the exhaust valves giving too much lift, so as to hold them slightly off their seatings. By grinding in it would slightly lower the valves, bringing them in contact with the adjusting screws in the end of the

lever which actuates them. The inlet valve springs should both be as near the same tension as possible. With regard to the renewal of valves, this is a point which must be left for discretion, as some engines may burn a valve in a few journeys, while others may run for years.]

### ENGINE AND CARBURETTOR QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a 10-12-h.p. car with four-cylinder high speed engine fitted with a Krebs carburettor and throttle, also variable lift induction valves. On starting up the engine and throttling it down the motor runs very well, but on opening the throttle it misses fire for about fifty revolutions or more, then picks up and will race. When running the car on the road with the throttle open and ignition advanced, the motor works by fits and starts, pulling well for about 100 yards, and then slowing down for a few yards, but not missing fire. I have tried altering the carburettor by lowering and raising the jet, with larger and smaller holes, but this has had no effect. Any suggestion will be greatly appreciated by—Yours truly,

CARBURETTOR.

[Our correspondent's trouble seems to be in connection with the suction float of the carburettor, this allowing too much air; a somewhat stronger spring might remedy matters. A choked petrol pipe would also cause similar trouble, also a petrol tank (gravity feed), without a small vent-hole or with the same stopped up.]

### A DE DION QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Will you please tell me, through the *M.C.J.*, what size of hole there should be in the De Dion carburettor of an 8-h.p. two-cylinder car? My engine is very bad to start when cold, but when I put a little petrol in the cylinder it starts immediately. I think it does not allow enough petrol.—Yours truly,

ALBERT ED. BIRKBY

[The size in the jet depends entirely upon the size of the air inlet, but if the engine runs all right after once started, we very much doubt if



The 24-36-h.p. Fiat Car, fitted with Pradeau Spring Wheels, which are at present undergoing a 4,000 miles test.

the trouble is in this direction. In all probability it is due to the jet being slightly too high. It is a very common occurrence to have to inject petrol before starting the engine when cold, so if the motor runs all right after starting, we would advise our correspondent not to tamper with the carburettor.]

VERS THREE CYLINDER ENGINE.—Mr. P. Lamb, of Messrs. Lamb, Bros. and Garnett, writes:—"We must entirely disagree with the statement of the Standard Motor Co., that it is only necessary to race an engine of three cylinders and watch the steering wheel to realise the excess of vibration over that of a four or six-cylinder car. In our own car, the "National," we witness no vibration worthy of discussion at high speeds. It is rather a rash statement to make that the three-cylinder is bound to become obsolete, as this is contrary to well-known authorities on the subject."

THE COST OF CARS.—We have received a number of letters on this subject which we regret we have not space to publish. Among them is one from Mr. D. M. Weigel, in which he states that he is sceptical "whether Mr. S. F. Edge is able to obtain 48-h.p. from 300 cubical inch contents. I should be pleased to pay all Mr. Edge's expenses if he will have the engine in question, viz., a six-cylinder engine of which the cylinder dimensions are 4 in. by 4 in., tested upon an independent testing machine, and I would suggest that the engine be tested at Faraday House, and that we obtain a certificate as to what the actual horse-power was for half an hour's run."

THE EXPRESS TANK CAP.—The Albany Manufacturing Company, Ltd., of Willesden Junction, N.W., write that the tank cap illustrated in the *M.C.J.* of the 10th inst. was designed and patented by them about a year ago.

HIRING MOTOR-VANS.—We have yet another inquiry from a firm desirous of hiring light motor-vans—not lorries—and shall be glad to hear from those in the trade able to meet their requirements.

## CLUBS AND ASSOCIATIONS.

### ESSEX.

THIS club held its first dinner at the Great Eastern Hotel, Liverpool St., London, on the 10th inst. The chair was taken by Mr. Gurney Fowler, J.P. The toasts given included "The Club and Automobilism," proposed by Mr. T. Clarkson and responded to by the hon. secretary, Mr. G. C. Tijou, who stated that the membership of the club, which had only been formed three months, numbered seventy-one. Dr. Butler Harris then gave "The Visitors." Dr. Ferrier responded. The speeches concluded with the health of "The Chairman," proposed by Mr. Mills and suitably acknowledged.

### AERO.

THE Hon. C. S. Rolls has ordered two balloons through Messrs. Short Bros., the aeronautical engineers. One will be made of cambric, 42,000 cubic feet capacity, to carry four persons; this balloon will be owned jointly by Mr. Rolls and Messrs. J. Moore-Brabazon and Warwick J.

excellent record of a busy year's work the committee place on record their keen appreciation of the services of Mr. A. McAlpin during several years.

### AUTO-CYCLE.

AT the annual general meeting of the Autocycle Club, held at the Automobile Club, Piccadilly, a few evenings ago, Mr. Robert Todd presiding, Mr. Arthur Stanley, M.P., was re-elected president.

The committee was elected as follows:—Individual members:—Messrs. H. M. Wyatt, A. G. Reynolds, H. P. E. Harding, B. Chatterton, W. Gunn, V. Hart, E. W. Goslett, and W. Pratt; representing the Automobile Club—Messrs. E. M. P. Boileau, Leopold Canning, J. Pennell, J. Lyons Sampson, C. A. Smith, and Robert Todd; representing affiliated clubs—Messrs. E. Nelson, Cardiff M.C.; A. E. Newton, Motor Union; E. J. Bass, Essex M.C.; F. J. Ellis, Woolwich, Plumstead and District M.C.; H. B. Renner, Lewisham A.C.; G. W. Blackaller, Cardiff M.C.; G. H. Rogers, Chatham and District M.C.; W. H. Georges, Guildford M.C.; R. A. Osman, Ilford and District M.C.; J. R. Bedford, Birmingham M.C.; E. S. Hare, Bristol M.C.; and the Rev. — Ayton, Coventry M.C.

### HEREFORDSHIRE.

AN open hill-climbing contest will take place on Frome's Hill on Thursday, May 24th, for touring cars not exceeding 35-h.p. This is the hill which beat so many of the cars in the small car trials. It is 1,289 yards long and the steepest gradient is 1 in 6'37. The contest will be held under the A.C.G.B.I. rules and the times



The Meet of the Ladies Automobile Club at "Montreal," Sevenoaks.

Wright, two amateur members of the Aero Club. The other balloon, which is for Mr. Rolls' own use, will be a small one of 17,500 cubic feet, made of Japanese silk for lightness; this latter balloon, which will be the smallest ever seen in this country, will, when packed up, go into the back of an ordinary motor-car, and Mr. Rolls intends to take it about with him on a car, so that he can make an ascent in any part of the country where gas is available.

Both these balloons will be on view at the exhibition of the Aero Club, which will be held in connection with the Motor Car Exhibition at the Agricultural Hall, London, from the 24th to the 31st inst.

### LEICESTERSHIRE.

THE membership of the Leicestershire Automobile Club has now attained 103. A census of the traffic on the road leading from Leicester to Loughborough, at the foot of Birstall Hill, from Friday, October 5th, to Thursday, October 12th, from 7 a.m. to 9 p.m., was taken by the club, with the following results:—Horse vehicles, 2,585; bicycles, 3,646; motor-cycles, 172; motor-cycles with trailers, 54; motor-cars, 244; traction engines, 38; horses, 167; cattle and sheep, 737.

The committee have entered into communication with the County Council with respect to the absence of danger boards, with the result that the Council have commenced erecting the same in accordance with the provisions of the Motor Car Acts. They have also been in communication with the Highway Committee of the County Council with reference to the dangerous bridge and ford at Sharnford, and they co-operated in this matter with the C.T.C. and the N.C.U. In the course of their

will be taken by the official timekeepers of that body. Entries close on Saturday, May 19th, and should be sent to Mr. Wilfred Groom, the hon. secretary of the Herefordshire Automobile Club, Wroxeter, Hereford, together with entry form and £1 ls. entrance fee for each car. Steam cars are barred from the competition.

### MID-STAFFORDSHIRE.

THE annual general meeting of the members of this club was held at Stafford on Saturday under the presidency of the Rev. S. Wickham Jones. The report and balance-sheet showed that there were thirty-two members of the club, which had a credit balance of £5 16s. 1d. During the year the club, which is a year old, was affiliated to the Automobile Club of Great Britain and Ireland and also to the Motor Union. A charge against one of its members of furious driving was successfully taken up and defended, the Bench at Walsall dismissing the case. The chairman said he believed the general public had not yet fully realised the power of the motor and the fact that it was far safer than a horsed vehicle. Motorists showed far more consideration and respect for people they met on the road than formerly, and the more owners there were who drove their own cars the better would be the position of motorists. Mr. H. Irwin (Stone) also spoke.

The Earl of Shrewsbury and Talbot was re-elected president of the club, the Rev. S. Wickham Jones and Mr. W. C. T. Mynors vice-presidents, Mr. C. H. Riley hon. treasurer, and Mr. H. Charrington hon. secretary. A discussion ensued as to the best method of inaugurating the club season, and it was agreed to arrange for a hill-climb on



Saturday, April 28th, and to proceed to Stone subsequently for tea. Two new members, Mr. Selby Gardner, of Rugeley, and Mr. Cyril Marson, of Stafford, were elected.

### LINCOLNSHIRE.

To have fifteen new members elected at one meeting was the pleasurable experience of Mr. Godfrey Lowe, the new hon. secretary of the Lincolnshire A.C. at the committee meeting last week. They included Messrs. T. Wilson, F. A. Peacock, Richard Whitton, Dr. A. W. Allan (Skegness), H. D. B. Aylliffe (Lincoln), Dr. J. S. Chater, Dr. E. Mansell Symptom and Dr. W. Jagger (Lincoln), J. Sutcliffe Pyman (Grimsby), H. Haagenzen (Grimsby), F. W. S. Heywood (Holbeck Manor), Major W. R. Fane (Fulbeck Hall), Dr. H. A. Howes (Horncastle), M. J. Tomlinson (Birtherpe Manor), and J. E. Casswell (Laughton). The rules for the 100 miles non-stop run on May 18th were completed, also the arrangements for the public luncheon at Lincoln on Saturday next, the 31st. The acceptances have exceeded all expectations, practically every chairman of the various County and Rural District Councils and other similar public bodies, as well as the highway surveyors of the county, and the mayors of Lincoln, Grimsby, Louth and Boston having signified their intention of being present. The Hon. A. Stanley, M.P., the chairman of the Motor Union, has promised to attend.

### HALLAMSHIRE MOTOR CYCLE.

At a committee meeting of the Sheffield and Hallamshire Motor Cycle Club, twenty-eight new members have been proposed, which brings the number to eighty-nine. It is expected that there will be one hundred by the opening run, which is to Blythe on April 2nd.

Prizes are being given for the best attendance at both Thursday and Saturday runs. A week-end run has been arranged to Grimsby and Cleethorpes at Easter. Members meet at headquarters on Sunday, April 15th.

### NORTH LONDON

THE North London Automobile Club's handbook for 1906 is a capital production, upon which Mr. C. Smith and his officers are to be congratulated. From the list of fixtures we learn that May 19th has been decided upon as the date for the Gamage cup competition between this and the Southern Motor Club.

Among the members of the North London Club are Sir Thomas Lipton, Col. H. F. Bowles, J.P., the Hon. Rupert Guinness, Sir Walter Johnson, J.P., Messrs. F. Coleman, A. W. Gamage, T. North, W. G. Rice, J.P., F. Thresby, and W. A. Vincent.

### SCOTTISH AUTOMOBILE CLUB.

At a meeting of the general council held in Glasgow on Friday last week, drafts of the minutes of agreements between the Club and the Automobile Club of Great Britain and Ireland and the Motor Union, as these had been negotiated by the sub-committee, were submitted, and these were approved for completion.

A scheme for the establishment of a department of the Club relative to commercial vehicles, and which will include the users and makers of these, was submitted and discussed and remitted again to a special committee to be dealt with.

The admission of twenty-nine members was reported and confirmed.

### MOTOR VAN AND WAGON USERS' ASSOCIATION

THE annual meeting of this Association will be held at the Agricultural Hall, London, on Tuesday next, at 4 p.m. when it will be proposed to amend the rules of the Association so that it shall be described as the "Motor Van, Wagon and Omnibus Users' Association."

The report emphasises the important development that has taken place in connection with the motor-bus, more particularly in London. The Association has dealt with many legal points raised by its members and has considered some of the difficulties in connection with the restrictions on canal and other bridges. The committee is now preparing a scheme for undertaking the expert examination of members' cars. During the year important negotiations have been carried through with the War Office, due reference to which has appeared in the *M.C.J.*

At a meeting of the Blackburn and District Motor Club Mr. A. E. Beard has been giving a practical demonstration on vulcanisation.

MR. H. J. MADDOX has resigned the hon. secretaryship of the Automobile Club of Victoria. Mr. J. Lang has been temporarily appointed in his stead. The address of the club is 243, Collins Street, Melbourne.

THE Natal Automobile Club is in consultation with the local authorities with a view to passing new bye-laws for motor traffic. The secretary is Mr. C. D. Bradford, Field Street Buildings, Durban, who will be pleased to hear from British motor-car makers.

THE second ordinary meeting of the London Section of the Automobile and Cycle Engineers' Institute will be held at the Royal United Service Institution, Whitehall, London, on the 28th inst., when Mr. H. Worby Beaumont will read a paper on "Public Service Motor Transport."

THE opening meet of the South Herts Automobile Club will be held on April 7th at headquarters, the Falcon Hotel, Waltham Cross, at 3 o'clock, to be followed by a run to Stevenage, where tea will be provided at the White Lion.

## SOME UNSOLVED PROBLEMS IN MOTOR ENGINEERING.

(Concluded from Page 56.)

BELOW we print the concluding portion of the discussion on Lt.-Col. Crompton's recent paper on the above subject at the Cycle and Automobile Engineers' Institute.

Mr. P. L. Renouf said that experiments which he had conducted for the improvement of the single-cylinder engine showed that this could be done with very slight modification. He referred to the Hamilton system of control as fitted to motor-bicycles, and said that it had possibilities for cars also.

Professor Archibald Sharp said he thought with Col. Crompton that automobile engineers had not quite realised the important bearing that the character of the road they had to deal with had on the design and construction of the vehicle. Roadmakers should be instructed to consider the method of road repair most suitable for the traffic passing over it. Just to give an idea of what an undulating, uneven road meant, he asked them to take a favourable country road with undulations such as were to be met with everywhere, 2 ft. apart and 1 in. high, and a car running at thirty miles an hour. That meant that every portion of the mass of that car which partook of that slight vertical oscillation was going upwards and downwards 1,320 times a minute. The acceleration given to that mass was the same as that of an engine of 4 in. stroke making 660 revolutions per minute. All engineers had directed their attention to keeping down the weight of the reciprocating parts of the engine, but it was time they were devoting a little more attention to keeping down the mass of the car that must partake of this vertical motion. In the case of a London motor-bus running at a speed of fifteen miles an hour that meant that the forces required to produce these vertical accelerations were reduced considerably; but even at fifteen miles an hour it meant that the upward force to be given to the axle was equal to 6½ times its own weight. Therefore it was easily to be seen what was the great advantage of pneumatic tyres. If they could get a pneumatic tyre that would suitably carry the load of a motor-bus a great deal of trouble arising at present from damaged chassis, frames and springs would be done away with at once. That same consideration had to be taken into account in the question of the kind of drive to be used—live axle as against chain. In a live axle they had a considerably greater mass directly connected to the wheel, and therefore to be jolted up and down, than with chain drive. The chain, on the other hand, was a much lighter form of construction, and no doubt in this respect it was superior to the live axle.

Mr. Crawley thought Col. Crompton was going a little too far in advocating the entire abolition of change-speed gears in motor-buses, and said that personally he thought buses should be built in this respect to suit the routes they were intended to run on. The same gearing would not do for a hilly and a flat route. The dust question was not altogether an unsolved problem, though they were getting very near to its solution so far as the design of cars was concerned, and the road makers were meeting the motor-car makers loyally in the matter. The last three meetings of the Civil Engineers had been given over to the discussion of the question of dustless roads. It was now recognised that motor-cars were coming and they were going to make their roads to stand them. Motor-car designers must also do their best to get rid of dust; and they could do it now with very little expense.

Mr. Cooper, referring to what he called the fashion for spring wheels to absorb vibration, suggested that the remedy was worse than the disease. Spring wheels might do something on heavy vehicles, perhaps, but for ordinary touring vehicles he did not see that they offered any advantage. A large number of people wanted cars to run at not more than twenty miles an hour, and to look after the same themselves. That being so, would it not be possible to do something more in the way of solid tyres than had been done? Solid tyre makers would say there was no difficulty about solid tyres, but the fact remained that makers did not fit them.

Col. Crompton afterwards replied on the points raised in the discussion. He said he thought they must admit that his paper had been a success in one way—that it had led to an interesting discussion. He wished to deprecate any feeling that he was unduly biased as to the respective merits of steam and petrol cars. He used the great simplicity of the steam car in order to show what the petrol car might be brought to. The fact of there being so much greater elasticity in the steam engine than in the petrol motor marked the great difference between the two. When he introduced the subject of the Brayton engine it was to show that with the petrol motor there was the possibility of some improvement in the engine itself, and a hope of getting the same simplicity which was now obtained in the steam engine. Mr. Roebuck had asked why a great man like Mr. Parsons had not been able to arrive at a gas turbine. That was a phase of the continuous temperature question. The continuous pouring of a stream of hot gases upon the rotary portion of the turbine had the effect of enormously raising its temperature, so that the difficulties connected with producing a gas turbine were something so gigantic that it was impossible to realise them. In regard to what Mr. Sturmev said about a central chain drive, it was remarkable that a central chain was most efficient, whereas the unfortunate side chains were the cause of endless trouble. He thought the reason of this was that the side chains lived in a mud bath. Such speakers as Mr. Coventry were of great value to the Institute, and

it was one of the arguments why the Institute should be enlarged so as to get all the designers into it, in order that they might meet the workers and talk over difficulties. He complimented Mr. Crawley and Mr. Cooper upon the time and attention they had devoted to the solution of the dust problem. He did not know how much time and trouble had been spent in attempting to find out what Spyker had embodied in his car, features which designers were only beginning to be dimly aware of. The fact was that a car like that, which did not kick up a dust when it was travelling at thirty miles an hour, was worth five hundred pounds more than a car which could not be driven at the speed without being a trouble and a nuisance to the public. He thought the time would come when people would not buy the cars which were being made now without any attempt to stop the dust. It was very easy for designers to say "It is all the fault of the roads; roads will have to be improved." The trouble appeared to be the other way. Designers had not paid attention to this matter until quite lately. He did not think they had anything to hope for from solid rubber tyres except in very small cross sections. Those at present on motor-omnibuses were far too great in cross section. The centre of the mass of those tyres was always being strained beyond its elastic limit and began to be deteriorated from the very moment it was put on.

### INTERNATIONAL TOURIST TROPHY RACE, 1906.

BELOW is a list of the entrants to date for the Tourist Trophy Race, to be held in the Isle of Man, on Thursday, September 27th.

(1) Mr. John S. Napier, Arrol-Johnston; (2) Mr. A. Rawlinson, Darracq; (3) Mr. A. Rawlinson, Darracq; (4) Hon. C. S. Rolls, Rolls-Royce; (5) Hon. C. S. Rolls, Rolls-Royce; (6) Mr. Warwick J. Wright, Minerva; (7) Mr. D. Citroen, Minerva; (8) Mr. T. B. Browne, James and Browne; (9) Mr. C. Harman Wigan, Vinot et Deguingand; (10) Mr. John S. Napier, Arrol-Johnston; (11) Mr. Alec Govan, Argyll; (12) Mr. Alec Govan, Argyll; (13) Mr. Harry Smith, Rover; (14) Mr. Albert Brown, Brown; (15) Mr. E. H. Lancaster, Clement; (16) Mr. Claude Watney, Pipe; (17) Mr. T. C. Pullinger, Humber; (18) Mr. Edward Powell, Humber; (19) Capt. W. E. D. Owen, Aries; (20) Capt. W. E. D. Owen, Aries; (21) Mr. R. L. Jefferson, Rover; (22) Mr. F. Guy Lewin, Peugeot; (23) Mr. J. Ernest Hutton, Berliet; (24) Mr. J. D. Siddeley, Wolseley; (25) Mr. R. R. Brown, Wolseley; (26) Mr. J. Ernest Hutton, Berliet.

### MOTOR-CAR ACCIDENTS.

In the Westminster Coroner's Court, on Saturday, Mr. Troutbeck held an inquest touching the death of William Shipway, a cabdriver, lately living at North Finchley, who died in Charing Cross Hospital from the effects of injuries received in a collision with a motor-omnibus belonging to the London and District Omnibus Company, on the 7th inst. Robert Smith stated that whilst standing at the corner of Jermyn Street and Regent Street, on the morning of the 7th inst., he saw a motor-omnibus and a cab driven by the deceased coming in opposite directions. Suddenly they collided. George Harris, who also witnessed the accident, said that it was due to the omnibus skidding. The road was wet and greasy at the time. Arthur King, the driver of the omnibus, said that he was coming from Piccadilly Circus down Regent Street when the deceased drove a four-wheeled cab across the street in front of him. The witness put his brakes on sharply to avoid running into him. The road being greasy caused the wheels to skid, and the back part of the omnibus struck the cab, knocking the deceased off his seat. The skidding was caused by putting on the brakes too quickly. The pace at the time was only about six or seven miles an hour, and he had the omnibus under control.

The Coroner: I think the result shows that you had not, and that you had to put on your brakes under conditions that you knew might cause an accident. In summing up, the Coroner said that that was the second fatal case he had had which had arisen in consequence of injuries from motor-omnibuses. It was quite clear that connected with this new traffic there were dangers which had not been fully appreciated, and would not be until there was a considerable number of accidents. There was a special danger which was not attached to other vehicles, and that was the danger of skidding. It was for the jury to say whether the driver exercised reasonable care and skill. The jury returned a verdict of accidental death, and expressed the opinion that the driver did not use discretion in driving.

### PUBLIC MOTOR SERVICES.

TODMORDEN.—The Police and Sanitary Committee of the House of Commons, presided over by Mr. J. W. Wilson, have had under consideration the Todmorden Corporation Bill, which contains a novel proposal by a municipality to prefer motor-omnibuses to tramways. Mr. E. Moon, K.C., explained to the committee that some years ago the Corporation proposed to establish a tramway system, but the scheme fell through. Representations had been made to the Corporation that travelling facilities were needed, but the Corporation doubted whether the expense of laying tramways would be justified. It was proposed instead to establish a service of motor-omnibuses along four routes—from the Townhall to the tramway termini of Burnley, Bacup, Rochdale, and Halifax. Undoubtedly that would be more economical, and it was a moot point whether such omnibuses would not be better means of conveyance than tramways. It was now an acknowledged principle that

it was not only within the sphere, but actually the duty of a local authority, to provide means of conveyance by tramways, and he did not see why the same principle should not apply to motor-omnibuses, which were an equivalent means of conveyance. The committee decided to approve the clause.

A MOTOR-BUS service will shortly be commenced from Leigh-on-Sea to the adjacent towns and villages.

THE Great Eastern Suburban Omnibus Company intends to run a service of motor-buses between East Ham and Piccadilly Circus, London. A service is also to be run between Leyton and the Elephant and Castle. As yet there is no line of motor-buses running near the G.E.R. and N.L.R. termini in Liverpool Street and Broad Street respectively.

### ROAD REPORTS.

POLICE TRAPS.—On Saturday a police trap was in operation on the Brighton road at Sutton, just after leaving Banstead Downs. Traps were reported on Sunday near Acton, Uxbridge, Cricklewood, Hendon, and the regions round about. A police trap is in frequent operation between Hadley Common and Potter's Bar. There is a police trap in operation every Sunday in the Melbury Road, High Street, Kensington. Motorists on the way to Hyde Park or Hammersmith should proceed warily.

WANDSWORTH.—The New Streets Committee of the Wandsworth Borough Council has suggested that samples of tar macadam should be laid upon Tooting Bec Road, but this has been negated at the instance of the Highways Committee.

STAFFORD.—There are no paved roads or streets in or about Stafford, all are macadam, and for the last three years the borough authorities have used and will continue to use tarred macadam until something better for the surface of roads is discovered. The tarred macadam with a slight binding of grit forms a smooth and even surface, giving off much less dust or mud than ordinary dry macadam. Motorists, commercial travellers, and others have been favourably impressed with the condition of the streets and roads in the town.

### CASES AGAINST MOTORISTS.

THE first prosecution under the regulation prohibiting motor-car instruction in Richmond Park was heard at the Richmond Borough Court on Monday, when Leopold Harold Casway, of Brompton Road, W., was fined 20s. and costs for giving instruction, and Thomas Pow, of Chelsea, 40s. and costs for being so instructed.

BEFORE the Petersfield County Bench, Charles Hoffer has been summoned for not stopping his motor-car at the request of Captain Percy Seward, who alleged that he was in Dragon Street, Petersfield, in charge of a restive horse, and that he put up his hand as a signal for the purpose of the car being brought to a standstill. After hearing evidence the summons was dismissed. The prosecution then expressed their determination of proceeding with a second summons for driving the motor-car negligently in Dragon Street above mentioned, and a third for driving the motor-car at a speed which was dangerous to the public in Dragon Street, so that there were three summonses for the same incident. Mr. Staplee Firth, who defended, denounced this practice of several summonses for one offence as an unjustifiable procedure, and argued that the doctrine of "Autrefois Acquit" applied in this case, and that therefore the whole incident was disposed of by the result of the first summons. The Bench ultimately accepted this view and dismissed the other two summonses.

### MOTOR WAGON AND WEIGHBRIDGE.

In the Manchester County Court, before Judge Parry, Mr. Richard Garside sued the East Lancashire Motor Transport Company, Accrington, for £27 damages for breaking down a weighbridge in his yard.

Plaintiff's case was that the defendants brought a load of cotton waste on September 27th to their mill at Manchester. The load and wagon weighed over ten tons, and Mr. Garside and his manager, Mr. Thomas F. Heywood, swore that instructions were given to the driver of the motor-vehicle not to come over the machine. There was plenty of room to pass. The vehicle, however, was driven over the machine and broke it down. His Honour gave judgment for the amount claimed.

### DAMAGES AGAINST A MOTORIST.

MRS. JULIA HUSSEY, wife of the deputy lieutenant of the county of Kerry, residing in Elvaston-place, Kensington, claimed damages before Mr. Justice Ridley and a special jury for personal injuries caused, it was alleged, through the negligent driving of a motor-car by the servant of Mr. John Pullman, of Teddington. Negligence was admitted, and the only question was one of damages.

Mr. Low, K.C., for the plaintiff, said that the lady was seventy-five years of age. On October 26, 1904, she was being driven from Winchester to Hadbourne Worthy in a wagonette, accompanied by her grand-daughter. The defendant's motor-car, driven by his servant, ran into the wagonette and overturned it. The plaintiff was badly bruised and shaken. Her medical adviser ordered her abroad, and she stayed in Rome from January to April. She now claimed for the expenses of the trip.

The jury returned a verdict for the plaintiff, and awarded her £175 for expenses and £50 for personal injuries.

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## COMMENTS.

### Cordingley's Motor-Car Show.

THE eleventh and most successful of all the motor-car exhibitions which Mr. Charles Cordingley has organised at the Agricultural Hall, London, will close its doors to-day (Saturday). From every point of view it has been the greatest of the series—in the volume of business done, the notice received from the Press, the number of really interested visitors, and the impetus it has given the selling season of the year. Already bookings have begun for the twelfth of these annual displays, and many who have not been present at that now in progress are inquiring as to the likelihood of their obtaining space at the next.

### The Aero Exhibits.

AS was the case last year, the Aero Club section of the Exhibition at the Agricultural Hall is proving a popular feature of the display, and even the most practical and substantial persons seem interested in the machines that threaten to invade the clouds. Here may be seen some famous balloon cars, including those of the club, the Hon. C. S. Rolls, and Mr. F. H. Butler, as well as a set of most interesting photographs taken by these gentlemen in the course of their ascents. The Jones model airship, a new corrugated iron flying machine, and other aeronautical models also add to the interest and variety of the display. Considerable interest is being taken in the photographs of the Frost-Hutchinson flying machine. In connection with this we may mention that by the E. P. Frost method of construction it is claimed to be possible to make gigantic feathers so like natural feathers that at first sight they might be taken for those of some fabulous bird like the "roc." Dr. F. W. Hutchinson informs us that a feather thus made measuring about sixteen feet in length will weigh less than that number of ounces.

### Farmers and Motors.

THE discussion that has been proceeding in our columns with reference to the adoption of motor vehicles by farmers in the conveyance of milk and farm produce has revealed an almost unsuspected interest in a quarter that was once heralded as hostile to the automobile. Of course, it was known that the presence of industrial motors at agricultural shows was an attraction, but not everyone knew the number of farmers who are actively following the course of events in the automobile world with a view of being among the first to utilise the new power as soon as a satisfactory all-round machine has been obtained. There is one aspect of the matter that has not yet been touched upon which seems to us to suggest new thoughts for those social reformers who have raised the cry of "back to the land." What is going to be the effect of the motor on labour in the country? Either the present labourer will have to equip himself to become something more than "a hewer of wood," and be prepared to cultivate mechanical knowledge, or some of the mechanics unable to find work in the towns will be glad to turn

again to village life and pursue the work of a skilled operative on the land. This would be a great gain if at the same time the advent of the motor on the land also enables men to cultivate small holdings instead of being ordinary labourers. There is little doubt that the future of some of the questions of unemployment is bound up with the development of the automobile.

### Ecclesiastical Favour.

VERILY things are moving rapidly. In some places chapels which stand isolated from great centres of population on the roadside are being translated into garages, and throughout the country bishops are becoming motorists. General Booth started the idea of pastoral visitation by automobile; Dr. Clifford and the Rev. F. B. Meyer developed its use as a political force during the General Election; the friends of the Bishop of Liverpool presented that distinguished prelate with a motor-car; and now the Bishop of Worcester has become an ardent believer in the use of the motor. The diocese of the Bishop of Worcester covers a great area, and he is conducting a series of special Lent services in many outlying districts which are difficult of access. The tour is being made in a motor-car, and before the mission ends the Bishop will have preached sixty special sermons and travelled nearly 900 miles by automobile. Hence the suggestion that the motor-car will contribute greatly to efficiency as well as celerity in all departments of terrestrial activity.

### 'Buses v. Trams.

IN many places the rival interests of motor-buses and tramways are arousing keen discussion, and even the London County Council is beginning to realise that its hurry with regard to the development of the tramway may have been too fast to be profitable in the end. The chairman of the Highways Committee of that body, Captain Hemphill, has just expressed the opinion that at some time in the near future the Council may find it advisable to seek Parliamentary powers to run motor-omnibuses as feeders to the Council's tramway system. Just as the railway companies are finding profit in running motor-buses as feeders to their lines in rural districts, so the proprietors of the trams may ultimately have to take passengers to their tracks by the same means.

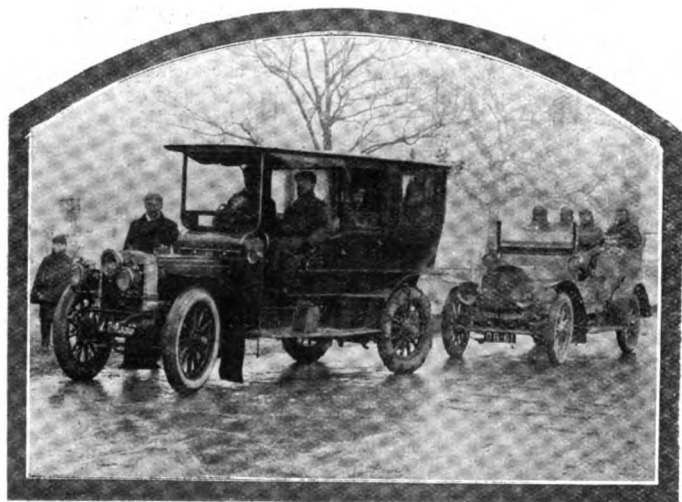
### Motor Hackney Carriages.

THE Commissioner of the Metropolitan Police is considering new regulations for the licensing of motor hackney carriages in London, and likely users of such vehicles will do well to communicate their suggestions to the authorities without delay. As a general warning we would remind proprietors that before entering into contracts for new types of such vehicles they should certainly send the drawings to New Scotland Yard, London, for approval as to type. Carriages must be submitted for inspection newly painted and varnished. The total overall length of the chassis and body must in no case exceed 14 ft. nor the extreme breadth be greater than 5 ft. 9 in. Some difficulty

may be experienced with the regulation that the vehicle should be able to turn within a circle of 25 ft. diameter, and this is a point which the Motor Van and Wagon Users' Association might well consider. At the annual meeting on Tuesday it was decided to include "motor-omnibus" in the title and to take such vehicles within its purview. Hence the idea that motor hackney carriages may well come within the scope of its deliberations; and, looking at the proposed rules of the London police authorities, we would suggest that that with regard to the turning of vehicles within a circle of only 12½ ft. radius is one that should be carefully considered before being officially approved.

### The Trials.

TO-DAY (Saturday) is the announced date for the conclusion of the road tests of the car, tyres, lamps, speedometers, etc., now in progress under the supervision of the A.G.C.B.I., which, by the way, does not seem to have been particularly happy in the matter. Somehow or other an uneasy feeling has got abroad with regard to competitions in this country, and what with advice before the settling of rules, and correspondence after its events, the Club has been the cause of much writing to the papers—not always to the apparent advantage of the readers. In the old days competitions excited keen interest, their progress was watched by the Press and the public, and all things conspired to give them importance. Now they proceed with an easy quietness almost as silent as the cars at the Exhibition. No one seems to trouble as to their beginning or ending, and it would seem that there is need of a great revival in that section of official enterprise.



The Tyre Trials. Two of the Competing Cars in the snow near Staines. *Photo by] Argent Archer.*

### An Incident.

WE are informed, however, that excitement was restored to the Trials on Friday of last week, when the occupants of the Dennis car had an experience which is probably unique. When travelling between Newbury and Hungerford they were alarmed at the sight of some unknown figure coming rapidly in a direct line for the car. The passengers were quite prepared for a collision, and began to crouch below the wind shield, but, when only a few yards from the car, the ostrich—for such it proved to be—darted aside and swept by at a pace of about eighteen or twenty miles an hour. Another incident which occurred later in the same day disabled one of the cars to such an extent that it did not take part in the trials on Saturday. In Hammer-smith, a boy suddenly ran off the pavement, and, as the only means of saving the boy's life, the driver turned the car into the kerb and broke a front wheel. The Dennis car accomplished

non-stop runs all the week, and by Saturday night had a record of 3,331½ miles non-stop to its credit. The total distance then covered was 3,417 miles, the odd 85½ miles being deducted owing to an unavoidable stoppage on the first day of the event. The Daimler did not finish until fairly late on Saturday evening, having broken a spring at the Sunningdale level crossing. A temporary repair was made with wood, and the journey had to be finished very slowly.

### The Exhibition Catalogue.

With its entries of names and addresses as well as the particular exhibits of each firm, it presents a comprehensive view of the state of the motor-car industry, and thus has a permanent value. Beyond the copies sold at the Exhibition closing to-day (Saturday), it will have a wide circulation among the motoring public, who can order it through any bookseller or newsagent, price 6d.; or post free 10d. from Messrs. Cordingley and Co., 27-33, Charing Cross Road, London.

### Cylinder Capacity and Horse Power.

MR. DUGALD CLERK's paper at the A.C.G.B.I. had the advantage of exciting a really useful discussion, some of the main points of which we propose to give in our next issue. His subject was the vexed one of cylinder capacity and horsepower. The rating of an engine's power by means of cylinder dimensions is not a new problem. It arose immediately upon the perfecting of the steam engine by James Watt, and it produced a series of more or less divergent rules, beginning about the end of the Eighteenth Century, and terminating about twenty years ago. These rules were all intended to give the power of a steam engine directly from the cylinder dimensions. The power given by rule was long known as the nominal power of the engine, and steam engines were originally sold as so many horse-power nominal, capable of working up to some fabulous power, generally three times, and sometimes six times, the nominal power. Mr. Clerk is not without hope that, in the case of the petrol motor, no rigid rules may be formulated tending to impede progress and prevent engine designers varying proportions and dimensions of their engines in any way which they may think best adapted to secure improved results. Personally, he fears it is impossible to devise a rating rule which will enable us to accurately estimate the power of any engine from cylinder dimensions only. To obtain any such accurate rule would require uniformity of mean pressures, cylinder proportions, piston speeds, and engine revolutions, which would tend, in his view, to impede progress rather than assist it.

### Results of Experiments.

THE cylinder dimensions in the petrol engines used by Mr. Clerk for his experiments vary from 3½ in. diameter by 4 in. stroke as the minimum to 7½ in. diameter by 6 in. stroke; and the mean pressure equivalent to brake horse-power varies from 61 as the minimum to 81 as the maximum. The highest mean pressure actually exerted on the piston is 101.5 lb. per square inch, and the lowest 76.4. With pressures varying so much as this, it is obvious that no rule could be given depending on cylinder dimensions only, which would estimate, even with approximate accuracy, the power to be given by petrol engines. Two motors of exactly the same cylinder dimensions, with this variation in mean pressure, would vary as much as 25 per cent. in rated power. Judging, however, from these numbers, it appears to Mr. Clerk that it would be very near the truth to say that a petrol engine of first-class construction should give a brake equivalent of about 70 lb. per square inch mean pressure upon the piston. The engines from 6-h.p. to 15-h.p., excepting Dr. Watson's experimental



engine, vary from 750 ft. to 800 ft. piston speed per minute. Mr. Clerk thought it might then be considered with some justice that the piston speed of a good engine varying from 6-h.p. to 15-h.p. could be taken at 800 ft. per minute. The piston speed of the more powerful engines appears to vary more; from a 28-h.p. Humber to 60-h.p. Mercedes it varies from 862.5 ft. to 1,350 ft. A piston speed, however, of 1,000 ft. per minute appears to be very near the mark for all engines except racers. From the tests made Mr. Clerk suggested that for all petrol engines power might be calculated on the assumption of a brake equivalent of 70 lb. per square inch on the area of the cylinder, and for engines up to 12-h.p. piston speed 800 ft. per minute, and over 12-h.p. 1,000 ft. piston speed per minute.

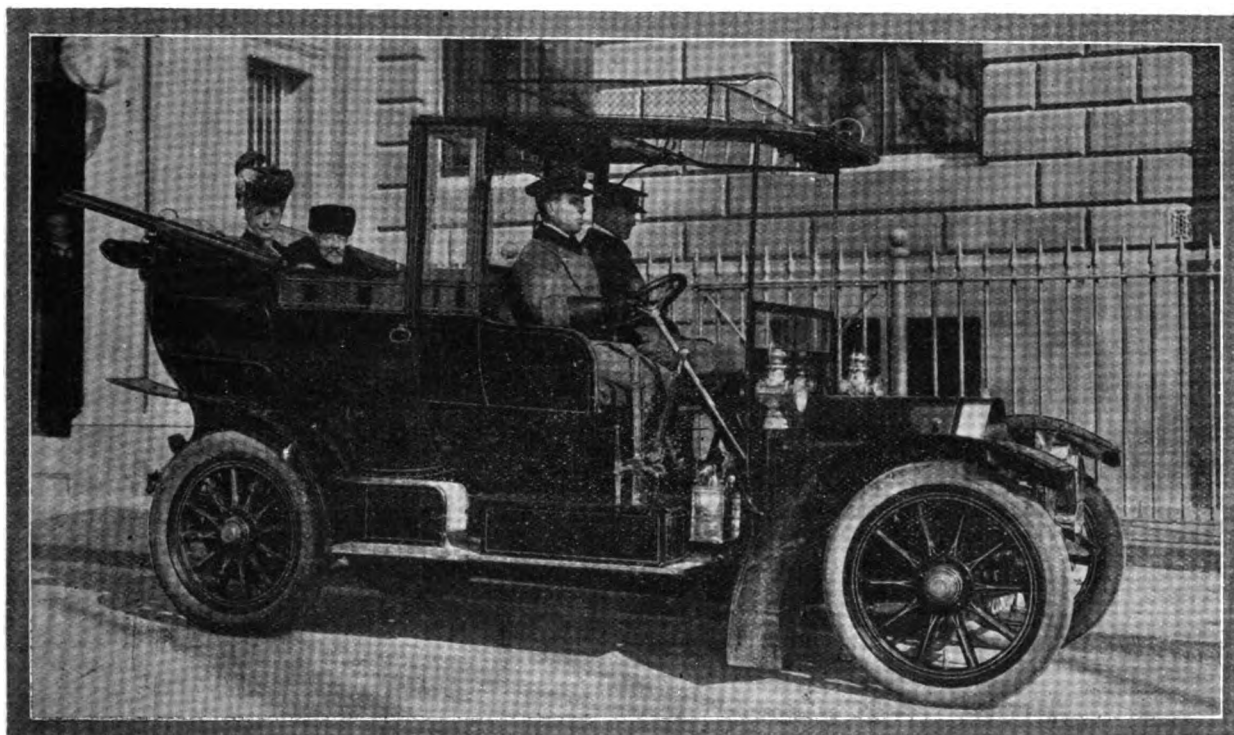
#### Newspaper Drawings.

A STRIKING innovation in daily journalism has just been made by the "Pall Mall Gazette" in connection with its report of the Cordingley Motor-Car Show. The general Press has latterly awakened to the fact that the public is interested not only in the personalities of motorists but also in

auxiliary motor power to fishing boats was one of considerable interest. This had been accomplished with great success in the Fife herring drifters. These boats, which were about 72 feet long, had been fitted with a two-cylinder motor of 25-h.p., which had proved very satisfactory. Several lifeboats had also been fitted with motors, and in every case they had worked well and gave very little trouble. Mr. Redwood thought there was a great future for the motor torpedo boat. A remarkable vessel of this type had been launched recently by Messrs. Yarrow. It was provided with five engines, each having four cylinders and had attained a speed of twenty-six knots.

#### A Labour Dispute.

THE strike of the motor-bus drivers employed on the Kingsway route of the new London and Suburban Omnibus Company is the first labour dispute that has taken place in connection with the new form of traffic that promises so much for the improvement of means of locomotion in the Metropolis and other large cities. Of course, there are two sides to the question, and probably the "newness" of the occupation is one of the difficulties in the situation. Apparently there are



Sir Max and Lady Wasechter in their 20-25-h.p. Brotherhood Double Landulet, which they have now had in continuous use since last summer. This car is under the entire control of Sir Max Wasechter's head Coachman, the simple construction of the vehicle enabling him to drive and maintain the same, without any stoppages during this period.

Photo by]

[Dover Street Studios.

the mechanism of their cars. Our contemporary has not only recognised this fact but has had the enterprise to give diagrams in its Show report—an innovation suggestive of the great hold that the automobile has taken of the public, evidence of which has been apparent at Islington every day of the week.

#### Motor-Boats.

AT the annual meeting of the Royal National Lifeboat Institution, Lord Tweedmouth, First Lord of the Admiralty, referred to the motor lifeboat stationed at Newcastle-on-Tyne, and said they would shortly have three motor-boats going through their trials. Speaking on the same evening at the Society of Arts on "Motor-Boats," Mr. Bernard Redwood said it was in 1902 that the British and Continental motor-car manufacturers first began to turn their attention to the manufacture of motor-boats. The question of fitting

men who have taken advantage of the possibility of delays by mishap to loiter on the way, and the 'buses have not been worked up to their proper time table. To deal with such a state of things the plan of piecework was adopted, the men being paid according to the number of journeys travelled. Hence the bother. The drivers must be careful that they do not take advantage of their present unique position, as others are in daily training, and the supply of motor-bus drivers will ultimately be quite equal to the demand.

THE watchmakers, Messrs. Stauffer and Sons, who produced the three split seconds chronograph for Mr. T. H. Woollen, which finished on the same fifth at the close of all the events he timed for the Automobile Club, have just received the Kew Observatory Report that their split seconds chronographs obtained 1st, 2nd and 3rd positions for the year.

## OFFSET CRANKSHAFTS. AN ADVERSE VIEW.

IT is not only in this country that the subject of offset crankshafts, as a result of their adoption by such well-known firms as Mors and Brasier, is attracting attention. The question is also being discussed in America, and as an opposite view to that recently published in these columns is taken by Prof. James Hunsicker, the following summary of his article in the "Automobile Magazine" will no doubt be read with interest:—"Within the past two years," states Prof. Hunsicker, "the internal combustion engine has developed more problems for its designers than pioneers in motor building ever thought it capable of. The pioneers were, of course, overwhelmed by what have since become rudimentary matters, but which were at the outset of vital importance, for if they had not been solved by making the motor go, later questions could never have come into existence. One of these questions which is beginning to assume prominence is the matter of providing against the effects of the thrust of the connecting rod. In the ordinary steam engine the piston is provided with a crosshead running in slides, and this effectively takes up the lateral thrust of the connecting rod. This, of course, is not a part of the usual internal combustion motor, although examples have been provided in this respect in the

the centre of the cylinder, the angle which the connecting rod makes on the exhaust and compression strokes is considerably increased, but on these two it is doing very little, while on the working stroke the angle is appreciably lessened, so that the thrust of the connecting rod is as nearly as possible directly downward. The closer the latter approximates to the perpendicular the more efficient it would be in obviating the force in question, but this would not be advisable, as the return stroke would then be at an abnormal angle, with a similarly detrimental effect. However, with the proper amount of offset it is contended that the increased thrust of the return stroke is more than compensated for by its absence on the power stroke, which is doubtless the case. Other makers have adopted the plan of making the connecting rod as long as possible, but this naturally has closely defined limitations, particularly in the vertical engine.

The fact that a few prominent firms, upon investigation, have decided to adopt the plan is not necessarily indicative of its overwhelming merit by any means, and there is much to be said both for and against it. Many innovations have been adopted wholesale, only to be discarded after a short time, as witness the fate of the extra spark gap in the ignition circuit. The practical question presented is, Will the increased life of the engine built in this manner compensate for the necessarily



Near Ardennay.

One of the Narrow Streets of Saint Calais.

Near the Village of Bouloire.

VIEWS OF THE SARTHE CIRCUIT, ON WHICH THE RACE FOR THE GRAND PRIX DE L'A.C.F. WILL BE HELD

Photos by]

[Bariller, Le Mans.

same manner as the steam engine, but it is something that is out of the question on any engine for automobile use. The length of the piston has, in consequence, to be depended upon to diminish or equalize this thrust as much as possible; it does so to a certain extent, but its effects cannot be entirely eliminated by this method, and consequent friction and wear take place. The compact dimensions of the engine must, of course, be retained, and as at present constituted the long or trunk piston is apparently the most simple method, which nothing short of a revolutionary design can displace.

The question is not entirely new, by any means, as the Mors cars built for the International Cup race of 1904 were designed specially with a view to overcoming this effect by offsetting the cylinders—that is, mounting them to the side of least resistance, instead of centring them over the crank case, as is the usual practice. The advantages of this plan are apparent from a study of the working stroke of the engine. No work is being performed on the exhaust stroke, comparatively little on that of compression, and probably seven-tenths to nine-tenths of the service of the engine is centred on the explosion stroke, and it is on the latter that the evils of the lateral thrust against the side of the cylinder make themselves felt.

By offsetting the crank shaft a predetermined distance from

increased cost? And right from the outset it would seem that it must be answered in the negative. The reason therefor will be plain from a consideration of the present status of the life of some of the high-grade engines. The product of five years ago is not regarded very highly by the present-day owner and builder, the majority of whom are naturally recruits whose enlistment dates from a later time. Nevertheless, there are scores of Panhards and Daimlers ornamenting the highways to-day, and doing it in a silent, easy-going fashion that puts to shame many of their so-called successors of a later day. The motors in these old cars have seen more hard work than a great many of more modern make will endure, with few exceptions, possibly, without having had their cylinders rebored, yet they are good for unlimited future service. On the other hand, it may be granted, for the sake of argument, that at the end of five to seven years' running the cylinders will have lost their symmetry to the extent of requiring reboring. Will the cost of the latter exceed that of offsetting, with the probability of coming into the turner's hands in almost the same period? But there is still another side to the question that is to be found in the rapidly increasing homogeneity of the motor-car. Talking points are an absolute necessity for the sales department, and they must be had even at the expense of a slightly increased first cost."

## SOME CURRENT TOPICS.

### The Cordingley Show.

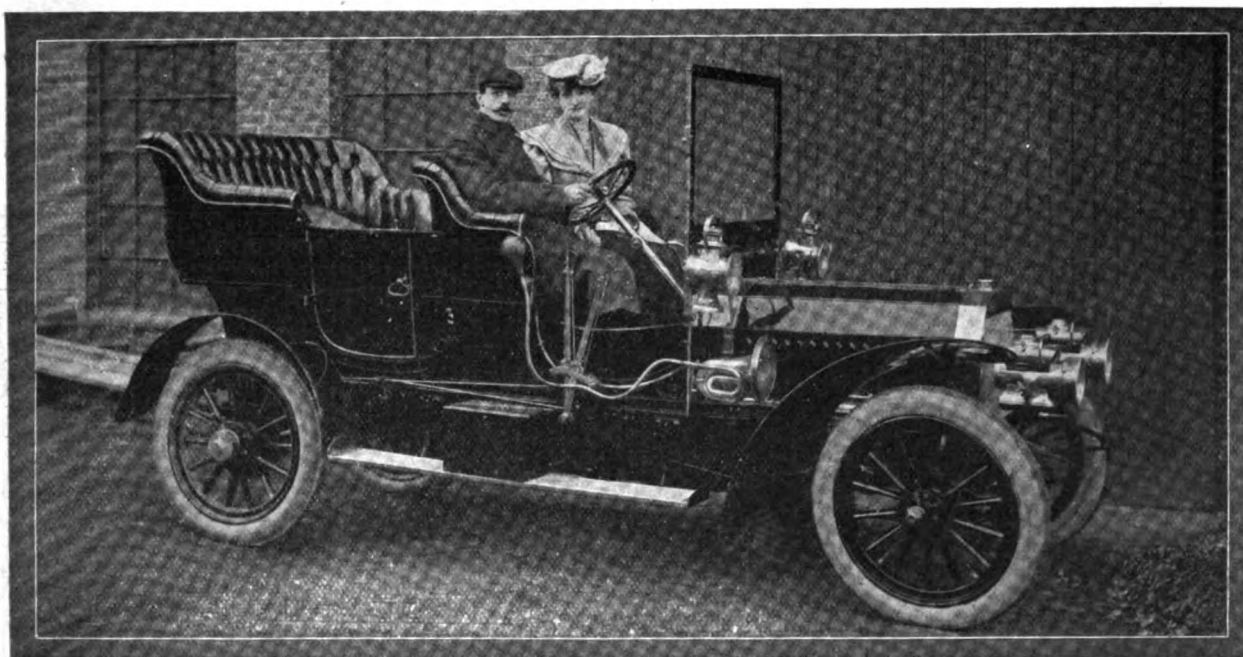
It is being freely admitted on all hands that the Exhibition at present being held at the Agricultural Hall is by far the most successful of those so far organised by Mr. C. Cordingley. From the point of view of those interested in automobile engineering matters the Show is of a particularly attractive character. As one walks round the gallery one continually comes across a small crowd of people all centreing over one spot, as if it were a scrimmage at a football match, the point of attraction being either an ingeniously-designed petrol motor or a new change-speed gear. Of both of these there are several novel designs on view. To refer to the Lége and Primat motors, it is safe to say that these are full of interest to students of the internal combustion engine. Without drawings, which we shall publish later, it is difficult to describe these engines. The Lége, how-

### The Italian Invasion.

Another striking feature of the show are the several new Italian cars on view, and which are seen in England for the first time. The Fiat and Florentia vehicles have already earned a reputation in this country. To these have now to be added the Fraschini, the Marchand, and the Milano, which, judging from the cursory inspection we have so far been able to give them, should quickly become favourites with British motorists, the details of construction being of a high order of merit.

### Six-cylinder Cars.

The tendency of the times is seen in the increasing number of six-cylinder cars which are making their appearance on the market, and the 1906 Cordingley Show will long be remembered in this respect, for it has seen the advent of the Humber and Hotchkiss "sixes," while before the week is out it is expected that the "National" six will also put in an appearance. It will probably be difficult to surpass the example of speed in the production of a new type of automobile just furnished by the Hotchkiss Company, at their St. Denis works, in France. Mr J. J. Mann, the company's manager, when recently in England was struck by the apparent predilection of the public for six



Mr. R. Middlemost, of Sedgfield Edgerton, Huddersfield, on his 22-23-h.p. Dennis Car.

ever, has six cylinders, the connecting rods working on to a sort of octopus claw, which has a curious dancing action, which results in giving a rotary motion to the fly-wheel shaft. The Primat, on the other hand, has four curved cylinders with correspondingly shaped pistons, all connected by a claw to a central spindle. Only one of the pistons is provided with a connecting rod. As the explosions take place the pistons oscillate in the cylinders, the method of boring which is proving a puzzle even to many of the engineering visitors to the Show.

### New Change-speed Gears.

A second class of exhibit which is attracting the notice of engineers is that of new change-speed gears. Of these there are quite a number, including the Newmobile, the Paradox, the Rillo, and the Churchill. All of these are well worthy of close inspection, the Churchill in particular appealing to public service engineers. The gears are always in mesh, and, no matter how brusquely a bus-driver may change speed, there is little likelihood of the gear being damaged. The Autoloc device for engine control and brake levers, too, is one of which more will doubtless be heard in the near future.

cylinder motors, and on returning to France set himself to design such a vehicle for exhibition at the Agricultural Hall. Pattern making progressed almost synchronously with the production of the drawings, with the result that from the time of the completion of the latter until the new Hotchkiss six-cylinder chassis emerged complete from the works only fifteen days elapsed. The chassis was conveyed to the carriage-builders without a road test, and in ten days was duly fitted with a body. Mr. Mann then at once started up the engine and commenced his journey to London, so that from the time of laying down the motor and chassis until the completion of his journey to Islington only twenty-seven days were occupied. The trip from Paris to London was accomplished without a failure or *panne* of any description, the route being *via* Dieppe and Newhaven. The entirely satisfactory character of this long test has induced Mr. Mann to decide on devoting in future the energies of the St. Denis works very largely to the manufacture of the new six-cylinder type of car.

REAR-ADMIRAL POE, commanding the East Indian squadron, has just acquired a Beaufort car.

## THE CRITCHLEY-NORRIS 'BUS.

(Concluded from page 68.)

STILL another noteworthy feature in the design lies in the engine control, which is effected by means of a single lever operating both the throttle valve and the advance and retard of the ignition, fitted below the steering wheel. The lever (Fig. 7), has a double movement; to vary the ignition it can be moved up and down within certain limits, and at any point in the vertical plane

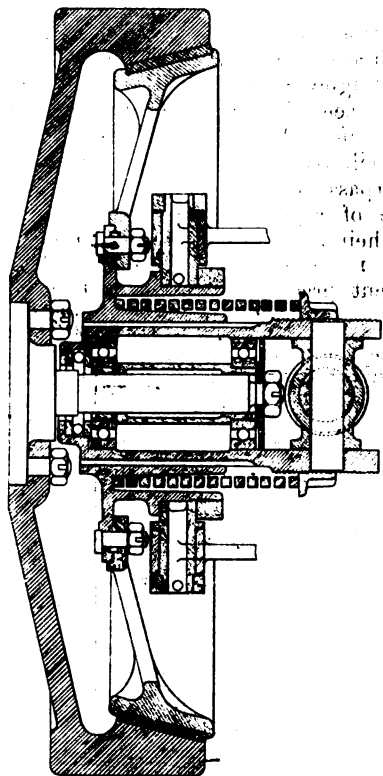


Fig. 6.—Section through Friction Clutch.

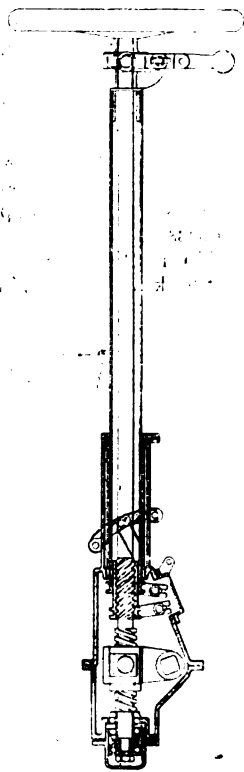


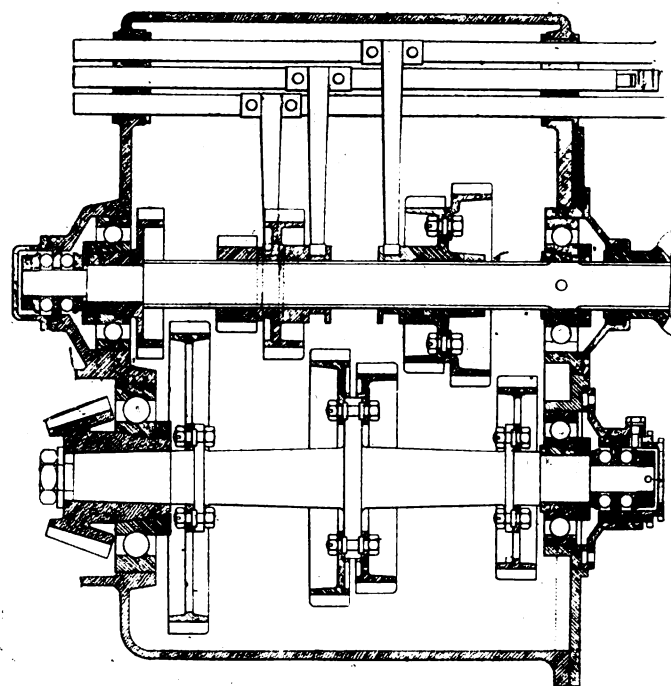
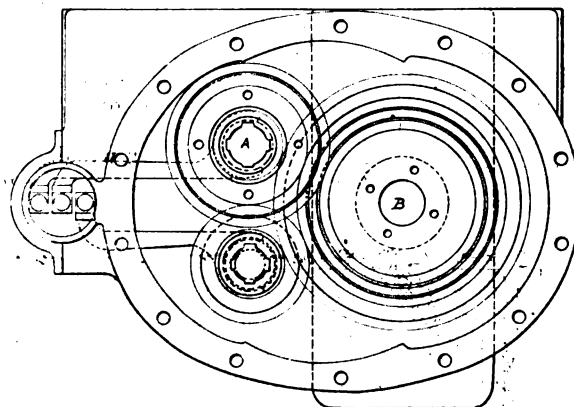
Fig. 7.—Section through Steering Column, showing Single Lever Controlling both Ignition and Throttle.

it can be moved to open or close the throttle, in a horizontal plane, the lever being automatically locked in any position.

Passing now to the transmission, a vertical sectional view of the clutch, which is of the leather-faced cone type and of large diameter, is given in Fig. 6. It is of the self-contained thrust type, the male portion being arranged to run on ball bearings when withdrawn from the flywheel. The connections between the pedal and the clutch are shown in Fig. 12, from which it will be seen that the clutch is withdrawn by means of two eccentrics; a specially-designed dash pot *D* is also provided to prevent any shock should the pedal be released suddenly. So that no strain due to any deflection of the frame when travelling over rough roads may be transmitted to the clutch or gear-box, the shaft connecting the latter is provided with a universal joint at each end. The gear-box is adapted to give four forward speeds, of respectively three, six, nine and twelve miles per hour, and a reverse. All the shafts of the gear-box run on ball bearings of exceptionally large size. Reference to Fig. 8 will show that the gear-box is cast without a longitudinal joint, and that the gear shafts are fitted in with an end cover, by removing which all the shafts and gear wheels can be drawn out of the box without the latter being moved out of its position in the chassis. The driving shaft of the gear-box is made with four key ways cut out of the sliding shaft; the four wheels sliding on this shaft are put together in pairs, in order that the bearings of the box may be as close together as possible. The various speeds are controlled by a single lever working in a "gate" quadrant. From the gear-box the power is transmitted to the rear road wheels through side chains. Fig. 10 gives a sectional view of the differential shaft, the design of which is such as to enable the

parts to be readily dismantled when necessary. Like the change-speed gear case the box containing the differential gear is provided with end covers, on the removal of which the whole of the differential gear can be drawn outwards. The differential case, as well as the pinions, are mounted on ball bearings, adjustable ball thrusts being also provided in order that the main bevel driving gear and the differential wheels may be adjusted. The inner ends of the differential shafts are of square section fitting into corresponding holes in the differential wheels.

Two independent sets of double-acting brakes are provided, two contracting brakes on the differential shaft and internal-expanding brakes on drums connected with the hubs on the rear wheels. All the brakes are of the metal-to-metal double-shoe



Figs. 8 and 9.—End View and Sectional Plan of Change Speed Gear Box.

type; those on the differential shaft are compensated one with the other, and are actuated by a pedal. The road wheel brakes are similarly compensated, and are operated by a pull-on hand lever, details of the ingenious arrangement adopted being given in Fig. 12. The steering gear is of strong and reliable design; the steering wheels are so set that they automatically compensate themselves radially on either lock. The steering is controlled by means of a nut and screw enclosed in an oil-tight box with a specially designed double-thrust bearing. The road wheels are built of steel; the rear pair are 36 in. diameter, fitted with twin 5 in. rubber tyres, and the front wheels are 30 in. diameter, with 5 in. single tyres. From the foregoing brief description it will be seen that the new Critchley-Norris vehicles possess a number of special features which should strongly appeal to engineers.



## CONTINENTAL NOTES.

### The Ostend Automobile Week.

At a meeting of representatives of the Automobile Clubs of Ghent, Bruges, and Antwerp, it was decided to hold the Ostend automobile week in July next. The contest for touring cars will be held on July 14th over the same circuit as last year, large vehicles having to cover 500 kilometres and the smaller classes 250 kilometres. On July 15th there will be an excursion to Bruges, and on July 16th a series of mile, kilometre, and five kilometre speed trials on the Snaeskerke road.

### Motor-Buses in Paris.

Two new services of motor-buses are shortly to be started in Paris, one between Montmartre and St. Germain-des-Près and the other between the Hotel de Ville and the Porte Maillot, at the entrance to the Bois de Boulogne.

### The Grand Prix de l'A.C.F.

The rules relating to the race for the Grand Prix de l'A.C.F. provide that each competing firm will be allotted two points on the course where stores may be kept, but no workmen will be allowed. On the first day the start will take place at 4 a.m.; the time on the second day has not yet been fixed, but the vehicles will be despatched at the same intervals as those at which they finished on the first day. Each competitor will be allowed to have two men at the starting point for the purpose of turning the engine starting handle. All cars finishing four hours after the leading one on the first day will not be allowed to start on the second half of the race.

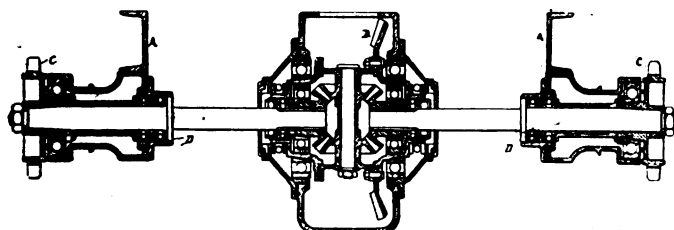


Fig. 10.—Sectional view of Critchley-Norris Differential Shaft. (See page 86.)

A. Frame.  
B. Bevel Wheel.  
C. Chain Sprockets.  
D. Ball Thrust Bearings.

### Another French Touring Competition.

The Automobile Club Forezien of St. Etienne is organising a three days' touring contest to be held on the 30th and 31st April and 1st May next. The competitors will be divided into six categories as follows: (1) single-cylinder cars, (2) double-cylinder vehicles, (3) four-cylinder cars of a cylinder bore of not more than 90 mm., (4) ditto from 90 to 100 mm., (5) ditto from 100 to 110 mm., (6) ditto from 110 to 120 mm., (7) ditto over 120 mm., and (8) large covered touring cars. The single-cylinder vehicles will be required to carry two persons, and all the others four passengers. The route to be covered is—April 30th, St. Etienne—Avignon, April 31st, Avignon—Saint Audeol, and May 1st, Saint Audeol—St. Etienne. The awards will be based on average speed, regularity of running, and speed on hills. The entry list closes on April 14th.

### Motor Vehicles for Fire Brigades.

The Fire Brigade of the town of Nancy has been equipped with two motor-vehicles. Both were supplied by Messrs. De Dietrich and Co., one being arranged for the conveyance of firemen, hose, &c., and the other as a pump; the latter is also arranged as a tractor for the fire escape.

### A Spanish Motor-cycle Race.

A motor-cycle race for the Sama cup was run off in Spain on Sunday last. The course was from Tarragona to Villafranca and back, a distance of 207 kilometres, which was covered by Senor Escoda, on a Goricke machine with 5-h.p. Minerva motor, in 4 h. 20 m.

### The Mont Cenis Hill-Climbing Competition.

The Mont Cenis hill-climbing competition organised by the Turin Automobile Club is to be held on July 15th next. Categories will be provided for racing cars and for public service vehicles having accommodation for twelve passengers.

### Miscellaneous Items.

The Rhenish Automobile Club is organising a hill-climbing competition on the Konigstuhl Hill, near Heidelberg, for the 22nd April.—The Rochet-Schneider Company are reported to

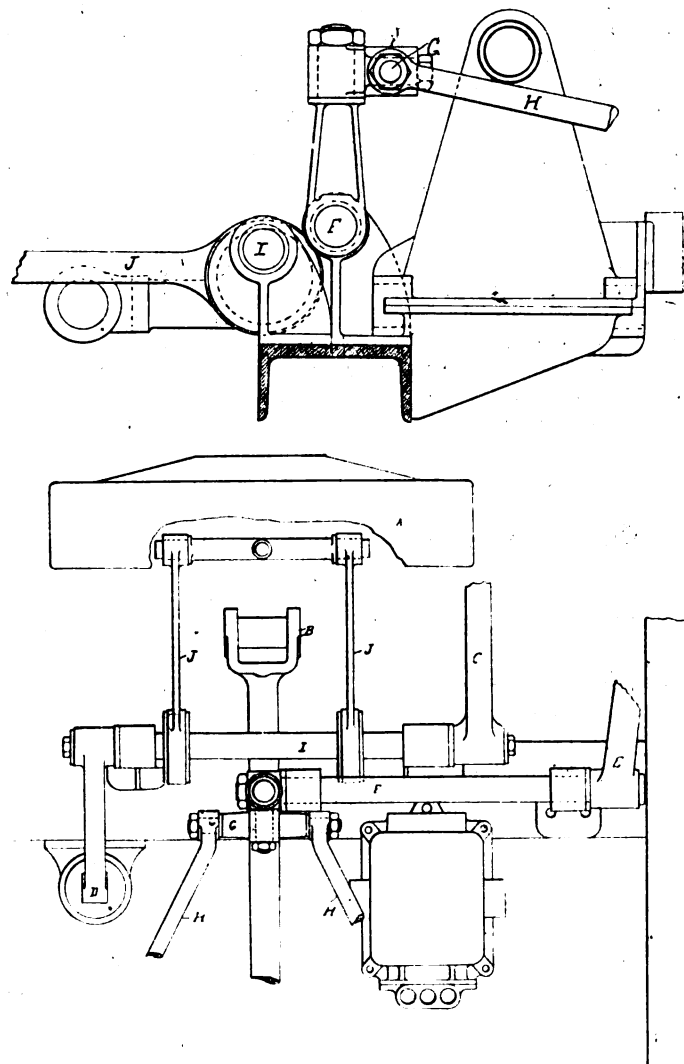


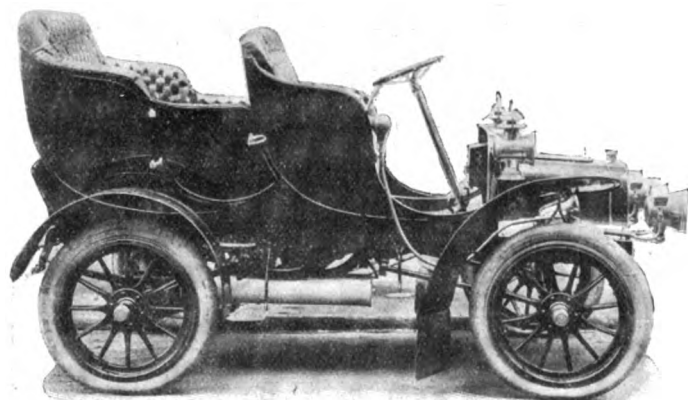
Fig. 11 and 12.—Elevation and Plan of Clutch and Foot Brake Lever Connections on Critchley-Norris Bus. (See page 86.)

A. Fly Wheel.  
B. Universal Joint on Shaft between Clutch and Gear-box.  
C. Clutch Pedal.  
D. Clutch Dashpot.  
E. Brake Pedal.  
F. Shaft on which Brake Pedal is fixed.  
G. Rocking Joint in Brake Connections.  
H. Foot Brake Rods.  
I. Clutch Pedal Shaft.  
J. Clutch operating levers with eccentric ends.

be building a new 160-h.p. racing car.—The entries for the Gordon Bennett balloon race are now closed. Six countries have entered, and it is probable that sixteen balloons will start:—England, Germany, France and Spain three each, the United States two, and Italy and Belgium one each.—A new motor airship is being built at Moissan for the French War Department. It is to be fitted with a 65-h.p. petrol motor and is expected to attain a speed of 45 kilometres per hour.—Under a new Customs tariff which has lately come into force in Dalmatia an English motorist has just had to pay a sum of £80 as duty on taking his car into the country.—The starting point of the Grand Prix race will be just near Pont-des-Gennes, a village located about 12 miles from Le Mans; the entries so far include three each Darracq, Panhard, Brasier, and De Dietrich cars.

## THE CADILLAC LIGHT TOURING CAR

At the depot of the Anglo-American Motor Car Company, Limited, we had an opportunity last week of inspecting an example of the latest model of the Cadillac light touring car, of which an illustration is given herewith. The frame is of pressed steel construction, and is supported on the axles by three springs—two longitudinal ones at the rear and a transverse spring at the front, the latter being fitted to the frame through rocker joints to allow for any deflection due to road inequalities. The motive power is supplied by a single-cylinder horizontal engine of  $8\frac{1}{2}$ –10-h.p., the cylinder dimensions being 5 in. bore by 5 in. stroke. A feature of the engine is the provision of a copper water jacket. The water circulation is maintained by a pump and a ribbed tube radiator, the space under the bonnet being occupied by a well-arranged tool box and the water tank. The ignition is by means of a coil and batteries, a speciality being the employment of a double-insulated sparking plug. The speed of the engine is regulated by varying the lift of the inlet valve, this being controlled by a lever on the steering column. The lubrication of the motor is effected by means of a mechanical oiler, operated by a trip gear on the boss of the flywheel, and equipped with four individual feeds, one for the piston, one to the connecting-rod and crank bearing, and one to each of the two main bearings. A useful device is that by which it is impossible to fix the starting handle in position when the ignition is advanced, so that there is no chance of the driver being injured owing to a back fire. As the ignition is advanced a



sliding piece covers the end of the shaft on which the detachable starting handle fits, so that it cannot be placed into position until the ignition is retarded. To facilitate the starting of the engine a half compression device is provided. The petrol tank is placed directly underneath the front seat, and carries about seven gallons. It is provided with partitions, which prevent undue splashing, while another partition forms a separate compartment holding about one gallon. When the petrol in the main compartment has been consumed the motor will, of course, stop, which gives notice to the driver that but one gallon remains in the reserve compartment, and that it will be necessary soon to renew the supply. The reserve may then be transferred to the main tank by simply opening a valve. Two speeds and a reverse are provided by a gear of the planetary type mounted on an extension of the crank shaft, from which the power is transmitted to the rear axle through a single centrally-located chain. The slow speed is applied by a foot lever and the high speed and reverse by a hand lever at the side of the car. The brake mechanism consists of two friction bands which contract on drums on the rear axle differential, they being applied by a foot lever. The latter is equipped with pawl and ratchet so that the brake can be held at any tension desired. The steering mechanism is of the rack and pinion type, and is operated by means of an inclined wheel. The chassis is, as will be seen, fitted with a luxurious double phaeton side entrance body. The dashboard, which is constructed of pressed steel, is of the curved type, protecting the ignition coil and switch which are mounted on it. The rear axle

is provided with roller bearings and a differential of the spur gear pattern. The front axle is of steel tubing with forged spindles, the front wheels being fitted with ball bearings. We may add that all parts of the Cadillac motor, as well as those of the chassis, are made on the interchangeable system, so that spare parts may be obtained on the shortest notice.

## USEFUL NOTES.

It occasionally happens that the stem of an exhaust-valve is slightly longer than it should be, so that the valve is prevented from closing properly. The spare exhaust-valve, which ought always to be carried, should be examined for this defect (best done by placing the valve in position and seeing whether, when it is closed, there is the usual clearance between the end of the stem and the tappet), and if found too long should be filed off. This is a process which is better done at home than at the roadside.

If necessity occasions the taking down of an engine, carefully watch the parts. If the manufacturer has not marked the various parts for their respective places, the motorist himself should do so. Take the case of valves. Exhaust valves will not always interchange, and if one, at some time or other, has been ground in a little more than the one next to it, it is hardly likely to suit that cylinder. Apart from the fact that the seatings will not agree, there is naturally a slight difference in the length of the stem, which is enough, sometimes, to spoil the compression through the valve not seating properly.

A MOST tantalizing, but not infrequent, cause of puzzling intermittence in the running of a petrol motor is a floating particle, such as a thin flake of solder which has been detached from the carburettor, or has entered the float chamber from the tank. Carried in the intermittent current of the liquid, it may suddenly become lodged so as to cover the capillary duct to the nozzle, preventing all egress of petrol. When the motor stops the petrol in the float chamber ceases to be stirred, and the particle finds a new position. When the motor is started again it is not in the way, but presently it returns and stops the motor again. Should engine troubles be experienced the float chamber of the carburettor may therefore be included in the parts to be inspected.

THE universal joints of cardan shafts do not, in many cases, receive the amount of attention due to them at the hands of those responsible for the running of the car. The joints get a far greater amount of work to do than they are generally credited with, and owing to their generally inaccessible position they receive but little attention. The chief point is to keep the joints well lubricated and free from grit and dirt, which is so disastrous to their long life and sweet working. A simple way of accomplishing both objects is to encase the joints in a flexible covering filled with grease.

WHEN replacing a broken ball in a ball bearing it is better to renew the whole set, unless the new ball can be carefully gauged to be of the same size as the others. If this is not attended to, the new ball, having to bear more than its share of the weight, quickly succumbs. The greatest care should be taken, of course, to use grease free from grit, and to clean the balls and bearings before they are replaced.

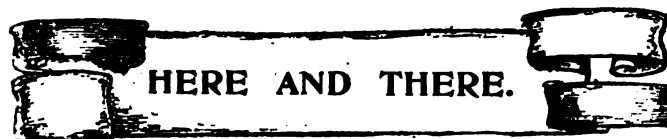
How few novices use the clutch of a car properly! They obtain their new car, start off on it, change the gears, letting in the clutch "bang" each time, and wonder that the car does not get away. A delicate use of the clutch is essential for good driving, as the engine should always be allowed to "get away" before the clutch is fully engaged.

WHEN leaving the car at night, or for any length of time, make it a practice to shut off the petrol supply. If this is not done, and if there is a leak, or a flooded carburettor, a fire may be caused by someone carelessly tossing a burning match under the car.

MR. WILLIAM LEA'S next auction sale at Liverpool is on the 2nd prox.

It is interesting to learn that a Daimler vehicle has secured the premier position in the first Continental race of the season, the Cannes Automobile Club's cup having been won by Mr. Griggs on a 35-45-h.p. car.

"MOTOR ENTERPRISES" is the title of the latest company of automobile interest registered at Somerset House.



THE capital of the newly registered Motor Trading and Contract Corporation is £20,000.

AMONG the visitors to the Show this week has been M. Thery, the winner of the 1904 and 1905 Gordon Bennett races,

and who is now establishing works near Paris for the manufacture of Thery cars.

MR. AND MRS. C. N. WILLIAMSON have started from Mentone on a motoring trip through Spain.

MR. E. D. HEINEMANN has opened a garage and show-rooms at 26, Cranley Mews, South Kensington.

MR. H. J. LLOYD, of Davygate, York, is developing considerable business in the city as an automobile engineer.

MESSRS. LAMPHORNS AND Co. have opened at 20, Long Acre, W.C., with a fine selection of motor-car accessories.

PART 27 of "Harmsworth's Encyclopædia" contains an excellent article on motor-cars, motor-cycles, and motor-boats.

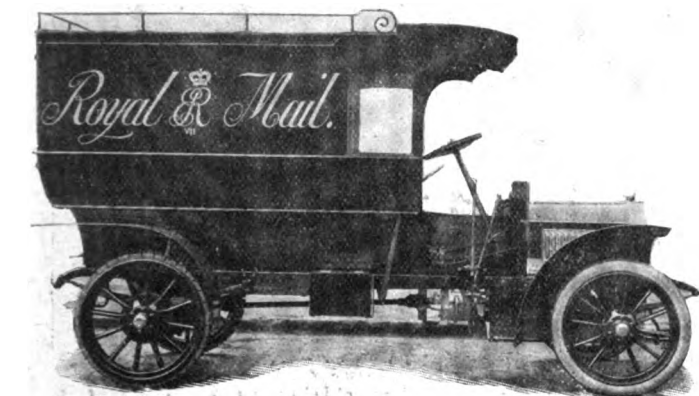
MR. A. C. SWINTON, chairman of the Arrow Omnibus Company, has ordered a 22-28-h.p. Crossley, to be fitted with a luxurious phaeton touring body with Cape cart hood.

MESSRS. CONNOLLY BROTHERS, who have lately come into touch with motorists in connection with the leather-work of cars, have issued an attractive description of their works in Chalton Street, London, N.W.

FOR the "Coppa d'Oro" tourist meeting in Italy, to be held from May 15th to 25th, the Continental Tyre Company are offering prizes to the value of £480 to cars on Continentals which arrive first, second, third and fourth in the different classes.

IN view of the rapid development of the motor-omnibus industry the Brush Electrical Engineering Company, Limited, is assisting the British Automobile Development Company, Limited, which has works adjoining those of the former concern at Loughborough.

THE Empire Engineering Company, of Failsworth, Manchester, have sent us a copy of the new catalogue they have just issued of the Empire-Murray valveless force feed lubricator for use on motor-cars. The device, which was introduced by Mr. Blackwood Murray, of the Albion Motor Car Company, has already been illustrated in the *M.C.J.*



A 10-h.p. Argyll Mail Van supplied to the Peterborough Motor Company for the conveyance of the Local Mails.

MR. J. C. WOOD is the governing director of the Safety Motor Screen Company, Limited, which has been registered with a capital of £1,000.

MR. W. K. PERRENS has opened a motor-car showroom at 263, Deansgate, Manchester. He will have a garage near the Midland Hotel.

THE Belsize London Agency has been registered with a capital of £11,000. The directors are Messrs. F. Loeser, R. A. Unthank, and J. E. H. Monypenny.

THE Earl of Shrewsbury, the Marquis of Salisbury, and Lord Dundonald have been among the visitors to the Show at the Agricultural Hall, which closes to-day (Saturday).

MESSRS. STRADLING AND PLENTY, LIMITED, of Newbury, have the management of the extensive motor garage on the new racecourse, the next meeting on which takes place on April 4th and 5th.

THE Yorkshire Mutual Garage, Limited, of Woodhouse Lane, Leeds, has commenced business, and, in addition to garaging and repairing cars, will shortly hold auction sales of automobiles.

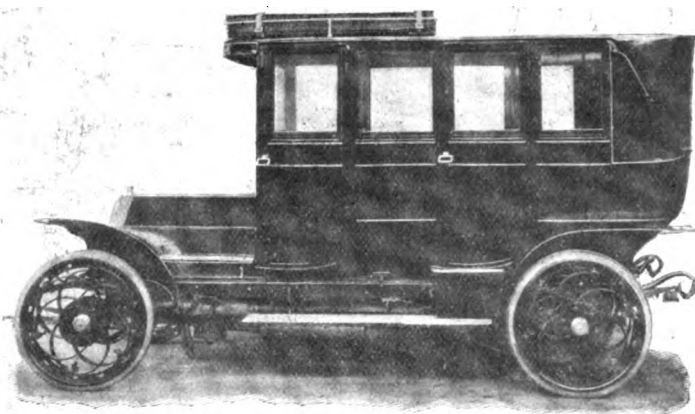
NEW motor accessories showrooms have just been completed at Messrs. Gamage's establishment in Holborn. The firm are now stocking their tyres in dark rooms, where an equable temperature is always maintained.

THE Great Eastern Motor Trust has been registered with a capital of £1,000; the capital of the Great Eastern London Motor Omnibus Company, which has been registered to adopt an agreement with the Trust, is £405,000.

MR. ROWLAND WINN has opened new show-rooms at 34A, Albion Street, Leeds, where he is stocking cars, accessories and clothing. This is in addition to the garage at 11, Albion Street, where repairs will still be executed.

MR. G. F. FERRAND, of Hoddington House, Winchfield, Hants, who has a 22-28-h.p. Crossley, writes that his car is going extremely well. He has now driven it almost 5,000 miles and, except for a choked petrol pipe on one occasion, has had no mechanical trouble on the road.

WILLIAM AUSTIN was sent to prison a couple of years ago at Slough for placing wire across the Bath road to hold up motor-cars. He was arrested last week by Sergt. Pearce, and was sent back to gaol for seven days for lopping off the shrubs in the garden of the officer who arrested him.



THE 35-h.p. "Brooke" Car just delivered by Messrs. J. W. Brooke and Co. to the Hon. A. E. Guinness. The car has a 10 ft. wheelbase, the engine develops 55-h.p. De Cadignan spring wheels are fitted at both back and front. The body, by the Burlington Carriage Company, is of the usual double brougham type, luxuriously upholstered and finished in sealing wax red lined out in black, with silver plated furniture.

VISITORS to the Talbot Works at Ladbroke Grove, W., will see a long list of police traps posted up on the drivers' board. This is not merely a warning to avoid trouble but an instructor to protect others, for Talbot drivers are furnished with a stock of red confetti, and when a trap is located this is scattered on the roadway at the beginning and end. It is therefore an intimation to all motorists to be careful when they see red confetti lying on the road.





## The Cordingley Show.

[Continued from page 74.]

BELOW we continue our report of Cordingley's Motor-Car Exhibition, which has drawn practically all the automobile world to the Agricultural Hall, London, during the week. In our next issue this account will be continued, and both exhibitors and visitors will thus find in our columns a complete report of this great event. Saturday, the 31st inst., is the closing day, and, as several novelties have come into the Hall since the opening of the Show, many enthusiastic motorists will probably take the opportunity of repeating their visit.

### The Isotta-Fraschini Cars.

Reference has frequently been made in the *M.C.J.* to the rapid progress which Italy is making in the automobile industry. An excellent exemplification of this is found in the number of Italian-built cars on view at the Show, as, in addition to the Fiat and Florentia vehicles, which are already well known in this country, three new types are shown

all shafts, including those of the engine. The usual spring horns at the rear are replaced by halves of semi-elliptical springs. Special attention has been paid to the lubrication, grease cups being fitted to all the connections of the steering mechanism.

### Messrs. J. Keele and Co.'s Exhibit.

Messrs. J. KEELE AND CO. occupy two stands, on which are shown a number of the latest models of Darracq and Spyker cars. Of the former the exhibit includes specimens of the new 10-h.p. and 20-32-h.p. models, both fitted with double phaeton side-entrance bodies, as well as the 10-h.p. chassis equipped with the special English-built landaulet body, illustrated in the *M.C.J.* last week. The Spyker cars, for which Messrs. Keele are London and South-east of England agents, are represented by a 14-18-h.p. double phaeton, a 20-28-h.p. car with highly-finished landaulet body, and a 25-38-h.p. chassis. All are fitted with four-cylinder engines,

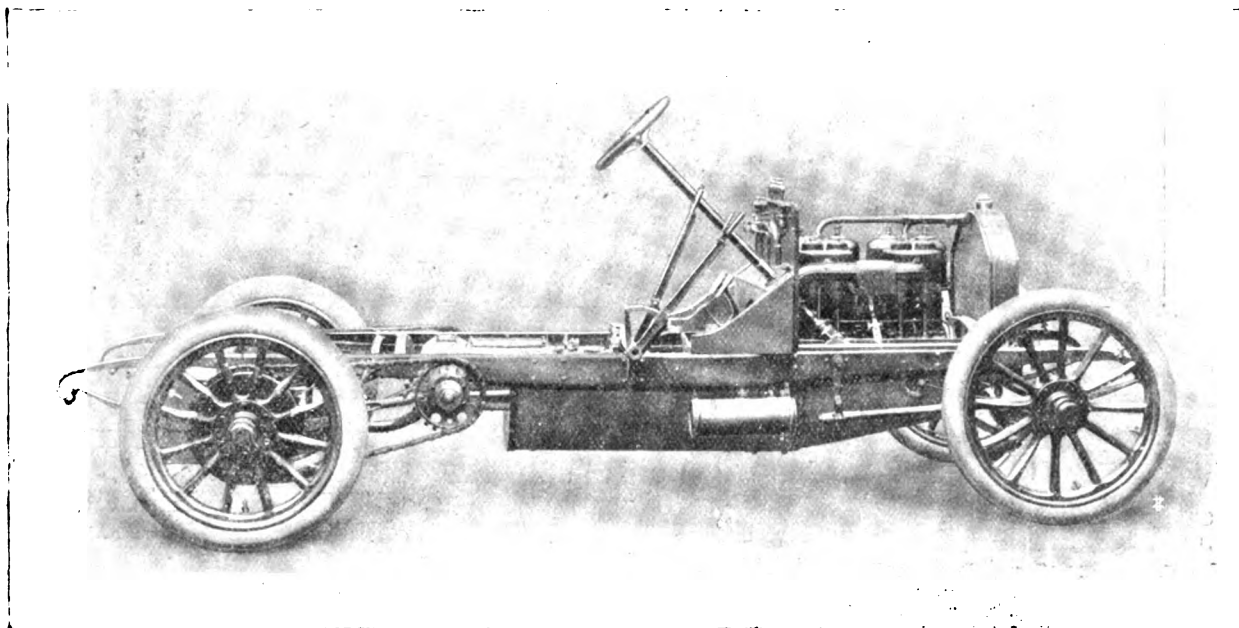


Fig. 10.—Chassis of the Isotta-Fraschini 28-35-h.p. Car.

known respectively as the Marchand, Milano, and Isotta-Fraschini. All of these combine many features of interest and take a high rank in automobile construction. Dealing now with the Isotta-Fraschini cars, the British agency for which has been secured by Messrs. HALL AND CAPRIS, two sizes are on view, viz., 16-22-h.p. and 28-35-h.p. (Fig. 10). As, except for the size, the two models are on identical lines, the following description may be taken as applying to both. In general arrangement the vehicles follow the usual lines of chain-driven cars. The frames are of pressed steel narrowed in front to increase the lock of the steering wheels. The engines comprise four cylinders, cast in pairs, 130 mm. bore by 150 mm. stroke in the case of the 28-35-h.p. and 100 mm. by 130 mm. in the 16-20-h.p. The valves are all mechanically actuated, being located on opposite sides of the cylinders. The water circulation is by pump and honeycomb radiator, the flywheel being arranged to act as a fan. Ignition is by high-tension magneto, and the speed of the engine can be controlled both by hand and foot levers. The carburettor is of a special design, the feed of petrol being varied in proportion to the regulation of the air supply. The clutch is of the multiple disc type and the change-speed gear, which gives four speeds forward and a reverse, is operated by a lever working in a "gate" quadrant. The final drive is by side chains, large sprockets being used. One of the pedals is connected up to two brakes, one being located on the differential shaft and the other on the forward end of the side shaft in the gear-box; both being provided with water cooling. The rear brakes are of the internal expanding type. Ball bearings are fitted to

the crank shafts of one size being provided with ball bearings. A notable feature of the cars is found in the steel frame, the sides of which extend downwards and inwards to support the engine and gear case. The cars are of the cardan shaft driven type, with direct drive on the top speed, and have become favourably known not only from their satisfactory operation, but also from their freedom from dust-raising proclivities.

### The Orion Omnibuses.

Messrs. MOSS AND WOOD are exhibiting two vehicles, practically identical as to the chassis, but one fitted with a double-deck omnibus body, and the other with a twenty-two-seated char-à-banc body. The 'bus is the seventh delivered to the Victoria Omnibus Company, owners of "The Old Vics," and who are so satisfied with the Orions that they are confining their stock to the one make. These chassis are made by the Orion Gesellschaft of Zurich, and the engine is of the horizontal opposed type, with two cylinders, 160 mm. diameter by 180 mm. stroke, and mechanically operated valves, with two very short cam shafts and long tappets. The whole of the engine is under the 'bus body, allowing a very short wheelbase—viz., 11 feet. The carburettor is at the extreme front of the chassis, with gravity feed, from a tank which forms the dashboard. The ignition is by a chain-driven high-tension Eisemann magneto. The cylinders are arranged fore and aft, with the crank-shaft parallel to the axle; a leather-faced cone clutch in the fly-wheel transmits the power through a silent chain to the gear-box. The gears provide four forward speeds, operated by a hand lever on the steering pillar, and the reverse is applied by a pedal, when the forward gears are out. The

final drive is by roller chains to sprockets on the rear road wheels. A tubular radiator is fitted under the centre of the body, and the water is circulated by a centrifugal pump, gear driven off the crank shaft. The driver is given separate control of the ignition, air and throttle, and the engine can be slowed down to run at a remarkably low speed. The steering is by rack and pinion, and the wheels are relatively small, the front 2 ft. 9 in. diameter, and the back 3 ft. They are of the artillery type, and are fitted with Polack solid rubber tyres. Messrs. Moss and Woodd are the sole selling agents for the British Empire for "Orion"

110 mm. bore by 130 mm. stroke. The valves are mechanically operated off separate cam shafts. High tension Eisemann magneto ignition is employed, with the alternative of coil and accumulators. Special attention has been devoted to the lubrication of the engine. The power is transmitted through a large leather-faced clutch and a long cardan shaft to the gear-box, which provides three forward speeds and a reverse. The gear-box casing also contains the differential, and is of compact design, in addition to which ball bearings are employed throughout, including the differential shaft bearings inside the



Fig 11.—The Prunel Double-deck Motor 'Bus.

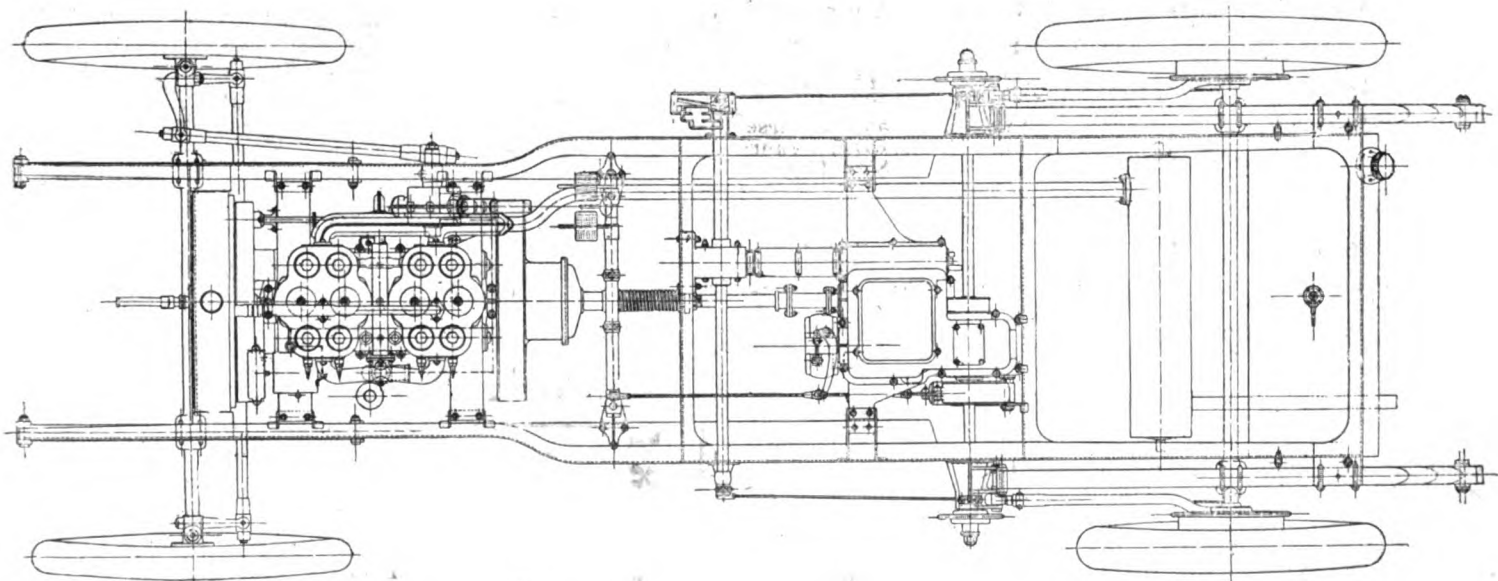


Fig. 12.—Plan of Chassis of Isotta-Fraschini 28-35-h.p. Car. (See page 91.)

commercial vehicles, and are very busy with orders for all kinds of service.

#### The Prunel 'Bus.

LA SOCIÉTÉ DES USINES PRUNEL are exhibiting a chassis of their 30-33-h.p. motor-bus, also the identical 36-seated vehicle (Fig. 11), which last week successfully made the journey by road from Paris to London. The frame is of channel section, unusually deep and strong: it is stayed by three cross members, and is narrowed in front of the driver's seat to increase the lock of the steering wheels. The motive power is supplied by an engine having four separate cylinders

chain sprockets. From the differential shaft side roller chains convey the power to the rear road wheels. The latter are of the Soulas type shod with Gaulois solid tyres. Altogether the Prunel vehicle appears to be designed and built on substantial lines that should render it well suited for the rough work motor-buses are called upon to perform.

Though not closely connected with motoring, the "Sunbeam" electric light bath shown by Mr. C. M. HOLMQUIST makes an attractive display to the public. The bath is made in sections, readily set up in position, and its invigorating effects are undoubted.

**The Sizaire-Naudin Light Car.**

By far the most novel of the small two-seated cars to be seen in the show is the Sizaire-Naudin, the agency for which has been secured by Messrs. T. J. HARMAN AND CO. A very full description of the vehicle was given in the *M.C.J.* of December 16th last, but we may say that throughout the designers of the car have struck out on original lines. To begin with the frame, this consists of two long wooden side members bent inwards towards the front end to increase the lock of the front wheels. The two members are not connected together at the rear, but are provided with stay rods about the centre of the frame, and at the front end are attached to a cross steel bridge, on a projection from which a semi-elliptic spring is supported. The usual front axle and side springs are done away with, the cross bridge terminating in vertical sleeves in which the pivots of the steering wheels are not only free to turn in the usual way, but also to rise and fall against the action of the spring. The rear suspension is also on novel lines, the axle being connected to a point slightly behind the centre of the frame by bow-shaped plate springs. Coming now to the motive power, this is supplied by a 7-h.p. single-cylinder engine. The carburettor is of the automatic air-regulation variety, while the advance and retard of the ignition is automatically varied by means of a small centrifugal governor E (Fig. 13); in this way the usual air and ignition levers are done away with. The water circulation is on the thermo-syphon system, no pump being used. The water tank practically replaces the usual dashboard. The fuel is carried in a tank under the bonnet, and at its side is mounted a box which contains the accumulators and coils; with the exception of a short one from the contact maker below, there are no ignition wires about the car, the proximity of the motor to the coil enabling the connection between the latter and the sparking plug to be made by means of a spring piece C. The clutch is of a special metal-to-metal type, and consists simply of a flat disc which fits close up to and

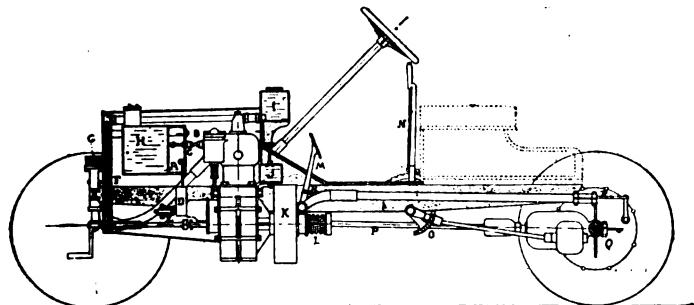


Fig. 13.—Elevation of Chassis of Sizaire-Naudin Car.

- |  |                             |  |
|--|-----------------------------|--|
| A. Accumulator and coil.                   | G. Front transverse spring. | N. Change speed and hand brake levers.     |
| B. Sparking plug.                          | H. Petrol tank.             | O. Sector operating change speed gear.     |
| C. Pin connection with coil.               | I. Water tank.              | P. Cardan shaft.                           |
| D. Contact maker.                          | J. Lubricating oil tank.    | Q. Differential and change-speed gear-box. |
| E. Automatic advance and retard mechanism. | K. Clutch.                  |  |
| F. Radiator.                               | L. Clutch spring.           |  |
|  | M. Clutch and brake pedal.  |  |

against the inner face of the flywheel. The next novel point about the car is that no gear-box, in the usual sense of the term, is employed, a cardan shaft conveying the power to the rear live axle. The gear, which gives three speeds forward and a reverse, is all contained in the differential casing. The cardan shaft has on its end three pinions of an angular form, the largest of which is only 4 in. diameter, and the smallest 35 mm., or less than 1½ in., any of which can be brought into mesh by a cam device with the large angular crown wheel surrounding the differential gear. The cardan shaft is so arranged that it moves laterally to a sufficient extent to allow for the variation in diameter of the three pinions, the sleeve in which the rear end is carried being provided with a sliding piece forming a lid through a closely-fitting hole in which the shaft passes. The makers state plainly that the car is only designed to carry two persons, but claim that it will do this up all hills likely to be met with.

**Lubricants, etc.**

Lubricating oils for petrol, oil and steam motors are shown by PRICE'S PATENT CANDLE COMPANY, LIMITED, whose experience in this department has become of considerable value to motorists. Manulav, the new soap for cleaning hands, is naturally a special attraction, appealing, as it does, to motorists of all degrees. The Cirogene is a wax graphite preparation for the efficient lubrication of heavy motor chains that has come much to the front of late months. Rangraphine, Rangoon oil, Belmoline solidified oil, and lubricating oils for every part of the automobile where such are required are also shown.

**Aluminium.**

Mr. R. W. COAN occupies his familiar corner near the entrance to the Hall, and thus draws the attention of visitors to the facilities he possesses for the repair of aluminium parts. At his foundry he is well equipped for practical work in pure and hardened aluminium for turning and other purposes, repairing cracked or broken gear or motor crank cases. Several specimens of fine work in aluminium are shown of general interest, as well as of value to the automobile industry.

**The Ader Cars.**

A car which deserves to be better known in England is the Ader, made by the Société des Automobiles Ader. For the 1906 season the vehicles are being made in three sizes—16-20-h.p., 20-24-h.p., and 25-30-h.p., the one exhibited by Messrs. J. C. LYELL AND CO. being of the 20-24-h.p. type. The engine (Fig. 15) is of the vertical four-cylinder type, the old-style V engine, which formerly was a feature of the Ader cars, having been practically abandoned. The cars are of the side chain-driven variety, although we are informed that the 16-20-h.p. and

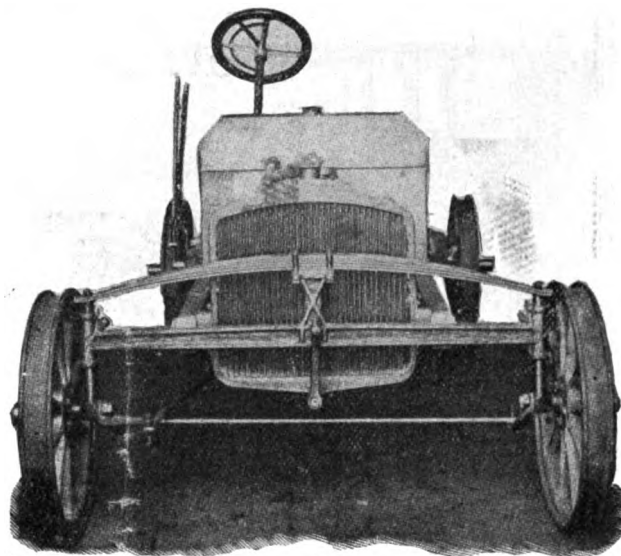


Fig. 14.—Front View of Chassis of Sizaire-Naudin Car.

20-24-h.p. vehicles are also being turned out with a cardan shaft, bevel gear transmission, in which the live axle has only the strain of the drive to withstand, the wheels, which are driven through dog clutches in the hubs, being carried by the axle sleeve. A feature of the engine is that, in place of the usual four supporting arms, the crank chamber is provided on each side with a lip running the whole length. This not only forms a means of solidly supporting the engine on the pressed steel frame, but provides a platform on which the pump, magneto, carburettor, etc., can be mounted. The cylinders are separately cast, and have the valves mechanically actuated from two cam shafts. The pump and high-tension magneto are gear driven, the latter being removable by the withdrawal of three bolts. Coil and accumulator ignition is also provided as a stand-by. The shaft between the gear-box and leather-faced cone-clutch is provided with a joint which enables the latter to be readily dismounted; like the engine, the gear-box is supported on the frame not by arms or brackets, but by lips extending its whole length. Four forward speeds in addition to the reverse are provided, the drive on the

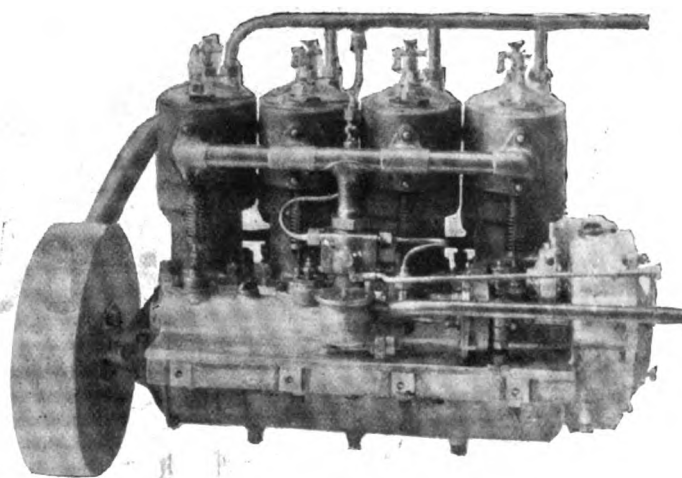


Fig. 15.—The Ader Four-Cylinder Motor.

top speed being direct. In the chain-driven type the differential is separate from the gear-box, so that, by employing varying lengths of shaft between the two, cars of different wheel base can be turned out.

MESSRS. G. W. SHELDON AND CO. take advantage of the opportunity of bringing before the trade as well as the public the facilities they possess for the packing and transport of every description of automobiles.

**The Leon Bollee Cars.**

The Cannstatt Automobile Association show two excellent specimens of the Leon Bollee 25-30-h.p. cars. The engine comprises four cylinders, 106 mm. bore by 130 mm. stroke, the valves being mechanically operated by separate cam shafts. There are two systems of ignition—high-tension magneto and accumulators and, while separate plugs are provided, we note that the advance and retard of the dual ignition is controlled by a single lever on the steering-wheel. The mixture is furnished by a Leon Bollee automatic carburettor, a feature of which

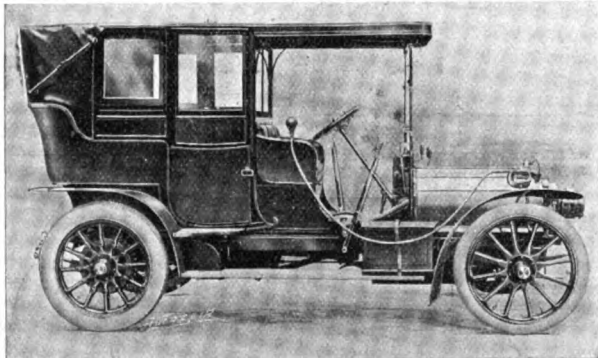


Fig. 16.—Leon Bollee 25-30-h.p. Car with removable Top Landaulet Body.

is the provision made for adjusting the aperture of the spraying jet. The throttle is controlled by hand from the steering wheel, and also by the clutch pedal. The transmission is by side chains, the gear-box, the shafts of which are mounted on ball bearings, being adapted to give four speeds forward and a reverse. A useful fitting is found in a switch-lock, so that, when the car is left alone at any time, the switch can be locked by a detachable key.

**The Robinson and Hole.**

An interesting addition to the list of British cars is seen in the 16-20-h.p. chassis exhibited by Messrs. ROBINSON AND HOLE, LIMITED,

employed to furnish the mixture, the feed of petrol through the spraying jet being varied, up to a certain point, in proportion to the throttle opening. The speed of the engine is controlled both by a hand and a foot lever, the former being set at the lowest point. Any increased engine speed is then obtained by the foot accelerator, and when this is released the motor slows down to the rate provided by the hand control. Although provision is made for a magneto, the ignition

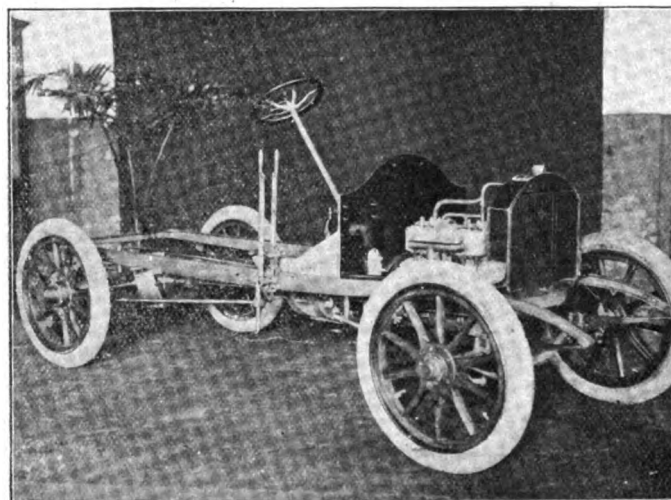


Fig. 17.—Chassis of Robinson and Hole 16-20-h.p. Car.

on the chassis exhibited is by coil and accumulators, a high tension distributor being employed. The water circulation is maintained by a gear-driven pump and rubber pipe radiator, the arms of the flywheel being made to act as a fan. The clutch is of the leather-faced cone type; it transmits the power to a gear-box

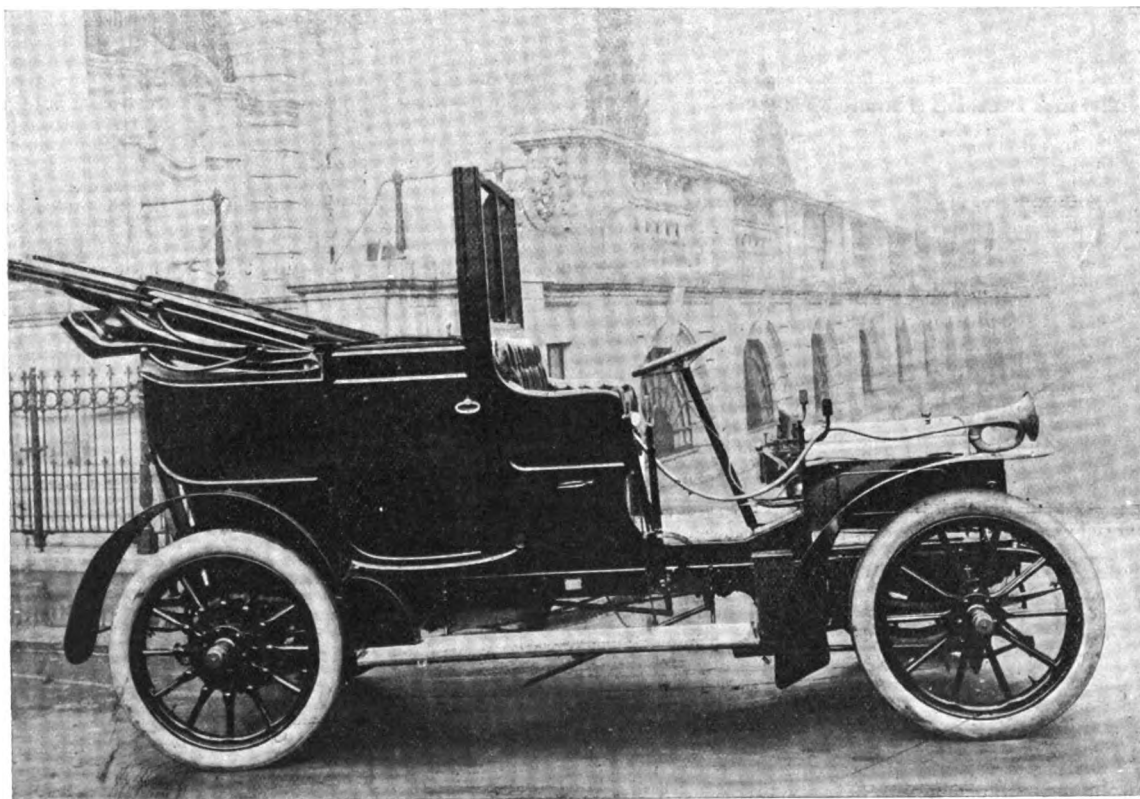


Fig. 18.—The Morris 17-23-h.p. Single Landaulet. (See page 95.)

of Thames Ditton. The car is of the cardan shaft driven variety, and in general design follows the standard arrangement of this type of vehicle. It is, however, marked by its simple lines and solidity of construction. The engine comprises four cylinders 90 mm. bore by 110 mm. stroke, cast in two pairs. The valves are operated off separate cam shafts. A special form of automatic carburettor is

giving three speeds and reverse, with direct drive on top speed, controlled by a lever working in a gate quadrant. The cardan shaft is fitted with a special form of universal joint, while three torsion rods are provided to give rigidity to the rear live axle, which has only the driving effort to transmit, the weight of the car being carried by the axle sleeve on which the road wheels are mounted,



the latter being driven by dog clutches in the hubs. The steering gear is provided with a simple method of adjustment by means of eccentric bushes. Ball bearings are used on all shafts except those of the engine, which are of Messrs. Willans and Robinson's special bearing metal.

#### The Mors Cars.

The stand of Messrs. MORS, LIMITED, is the centre of considerable interest, the cause of the attraction being the chassis of the 28-h.p. car fitted with the Mors self-starting device, an illustrated description of which was given in our report of the Paris *Salon*. For the 1906 season the Mors cars are being made in three different sizes, viz., 17-h.p., 28-h.p. and 45-h.p., all having four-cylinder engines and frames sufficiently long to take side-entrance bodies. All the cars have pressed steel frames; the 28-h.p. and 45-h.p. have two systems of ignition—low-tension magneto and accumulators, and a special form of automatic carburettor furnishes the mixture. The four cylinders are cast in two pairs, and a noticeable feature lies in the fact that the vertical axis is not coincident with that of the crank shaft, the cylinders being displaced slightly to the right, towards the magneto side. The valves are arranged on opposite sides of the engine, the inlets on the 45-h.p. cars being provided with a variable lift device controlled from the dashboard. No centrifugal governor is fitted, the speed of the engine being controlled by the throttle valve, which is automatically closed as soon as the driver de-clutches. To obtain, however, absence of noise and the minimum consumption of petrol, in addition to the admission being throttled, the lift of the inlet valves is variable by two cams joined together by an inclined plane. A lever placed near the steering column causes the whole of the cam shaft to slide along horizontally, bringing the different steps of the cam underneath the rollers attached to the valve-lifting mechanism. The cooling of the cylinders is effected in the usual manner by a pump which forces water, already cooled by the framed ribbed-tube radiator, through the cylinder jackets, a fan being also now provided. The lubrication is effected by a small pump, analogous in construction to the water-circulating pump. The Mors system of change-speed gear, in which the power is transmitted through one or other of two bevel gears to the differential shaft, is still retained, four speeds and a reverse being provided. The clutch, an illustration of which has already been given in these pages, is of a new metal-to-metal type, consisting of two shoes contracting on an internal flange on the fly-wheel. The brakes are three in number; on the 45-h.p. car there are two hand-brakes on the differential counter-shaft, operated by separate pedals, one of which is so connected up that the counter-shaft brake is first applied, further depression of the pedal bringing the rear hub-brakes into operation. The cars on view include a 28-h.p. chassis, a 28-36-h.p. vehicle with a handsome limousine body, and a 17-23-h.p. double landaulet for town use, the engine in this car being located under the driver's seat. An illustration of the Mors 17-23-h.p. landaulet is given in Fig. 18.

#### The Aries Cars.

Considerable interest is being shown in Aries cars, which are now being introduced into this country by a new concern known as ARIES, LIMITED. Several sizes are made, ranging from 12-14 h.p. double

case can be readily removed to enable any adjustments to be quickly carried out. Both magneto and accumulator ignition are provided and the water circulation is maintained by a gear-driven pump, a spring being introduced in the drive to prevent any strain on the pump. The radiator of a distinctive circular form is employed. The clutch, of which a sectional view is given in Fig. 19, is of the disc

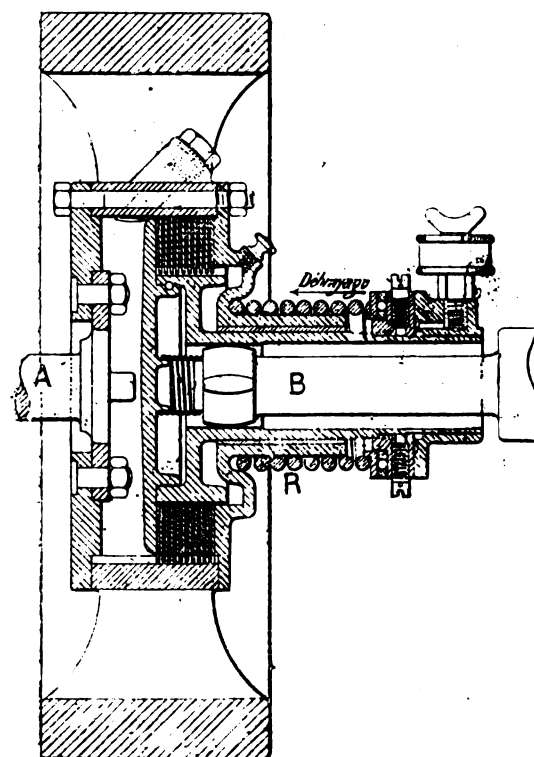


Fig. 19.—Sectional View of Aries Clutch.

A. Engine Shaft. B. Clutch Shaft. R. Clutch Spring.

type, working in oil. The transmission is by cardan shaft and bevel gear on to a live axle. The latter is of special design and was illustrated in the *M.C.J.* of January 6th last. A fixed axle is provided below the live axle to support the differential case and render it rigid. The shafts from each side of the differential run through the hollow trunnions

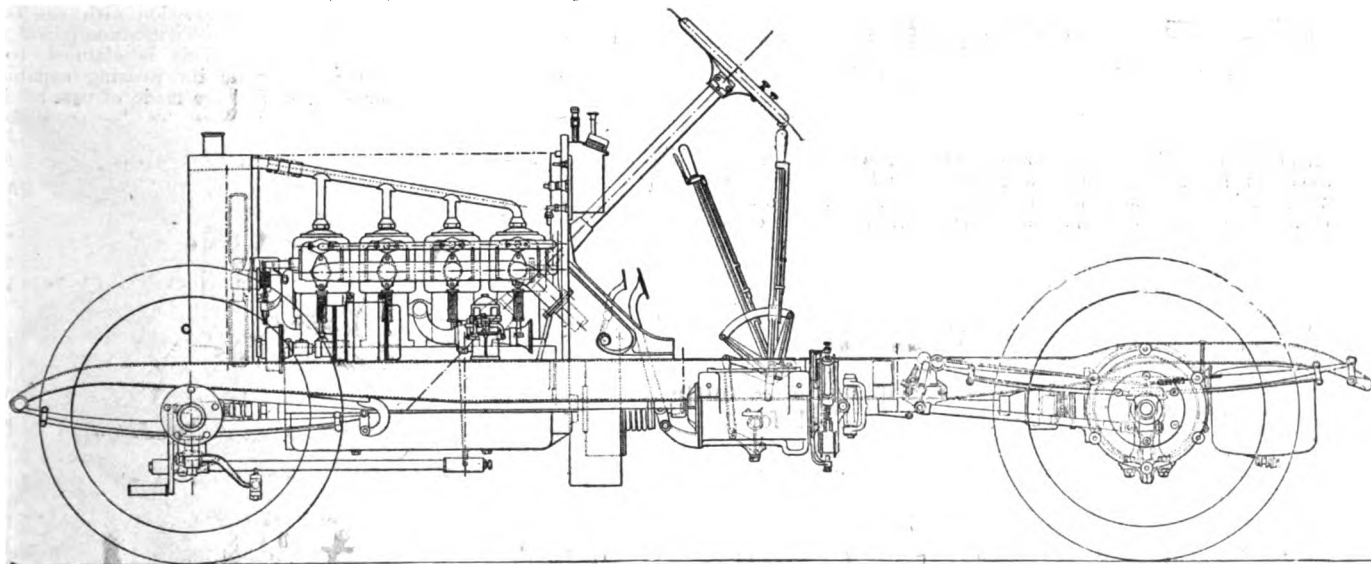


Fig. 20.—Sectional Elevation of Chassis of Aries 35-h.p. Car.

cylinder to a 50-h.p. four-cylinder, the chassis on view (Fig. 20) being of the 35-h.p. model. While following standard practice, the cars appear to be of high-grade construction, and have certain special features of their own. The frames are of pressed steel, with a separate underframe to carry the engine and gear-box. The engine comprises four separate cylinders, with mechanically-operated inlet valves and automatic carburettor. A separate bearing is provided between each throw of the crank shaft and the bottom half of the crank

at the ends of the dropped fixed axle on which the road wheels are mounted on balls, the drive to the wheels being through a star dog clutch on the end of the rotating shaft. The differential shaft has thus only to transmit the power without carrying any of the weight of the car. We may add that ball bearings are employed throughout, except on the engine. The Aries cars have already earned an excellent reputation in France, and now they are being introduced into England, we expect to see them equally as popular at no distant date.

**The Gregoire Cars.**

Messrs. OSBORN AND LORD are exhibiting two new models of the Gregoire cars, both fitted with cardan shaft transmission. Dealing first with the 8-h.p. vehicle, the chassis has a pressed steel frame and a double-cylinder engine (80 mm. bore by 110 mm. stroke). The valves are all mechanically actuated off a single cam shaft. The radiator, which is carried in front of the bonnet, is of the framed ribbed-pipe type and the water is circulated on the thermo-syphon system, a fan being formed in the flywheel. Both high-tension magneto and accumulator ignition are provided, a two-way switch being attached to the dashboard, as are also sight-feed lubricators leading to the engine. The change-speed gear mechanism provides three speeds and a reverse, with direct drive on top speed. The transmission is through a large diameter clutch, universal joint, gear-box, and cardan shaft to the rear live axle. In view of its relatively low price the 8-h.p. Gregoire is rapidly becoming a popular type, and the complete car with special two-seated body and hood is well worthy of inspection. In addition to the 8-h.p. car, Messrs. Osborn and Lord are also showing a 15-h.p. four-cylinder car (Fig. 21). In general arrangement the vehicle is on similar lines and possesses the features of the smaller yet older production. The various parts are, of course, of larger proportions, to correspond to the higher power. The engine comprises four cylinders, 80 mm. bore by 110 mm. stroke; the valves are all mechanically actuated off one cam shaft. The base chamber is fitted with inspection plates for the easy examination and adjustment of the connecting rod brasses. The mixture is furnished by a Longuemare carburettor, with automatic air inlet. Two ignitions are fitted, viz., Basse-Michel high-tension magneto, and ordinary coil and accumulators. Cooling is on the thermo-syphon system, large supply pipes being employed. The engine

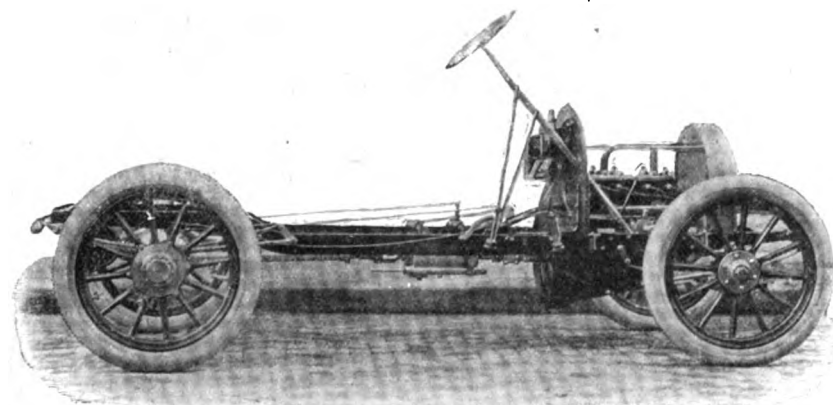


Fig. 21.—Chassis of Gregoire 15-h.p. 4-cylinder Car.

is protected by a metal shield under the frame, which prevents any dust or mud from getting into the mechanism, and which, at the same time, assists the flywheel fan in inducing a current of cold air through the radiator. As in the 8-h.p. model, three speeds forward and a reverse with direct drive on top speed are provided, the transmission being by a cardan shaft and bevel gear to a strong live axle. We may add that in both types ball bearings of the D.W.F. type are employed on all the shafts except those of the engine, and that the control of the engine is by means of levers mounted on the steering wheel.

**The Hurst Car.**

Mr. GEO. HURST, of Holloway, N., who has been building cars for some years, exhibits the well-finished 15-18-h.p. car illustrated in Fig. 22. The vehicle is constructed throughout on modern lines, having a pressed steel frame and a sufficiently long wheel base to take a roomy side-entrance body. The engine comprises four separate cylinders, 4 in. bore by 4 in. stroke, having the valves arranged on opposite sides and mechanically actuated by separate cam shafts. The water circulation is maintained by a valveless pump and a special form of radiator. The latter is built of a series of thin flat tubes set in a frame which also forms the water tank. Ignition is by coil and accumulators, although a high-tension magneto can be provided. The transmission is through a leather-faced cone clutch, gear-box, cardan shaft, and bevel gear, to a well-stayed live axle. The change-speed gear is adapted to give three speeds and a reverse with a direct drive on top. The brakes are of the double acting contracting type, provision being made to allow any adjustments to be easily effected. Mr. Hurst is also building a 30-h.p. six-cylinder car, the engine of which has separate cylinders, 4 in. bore by 4½ in. stroke.

**The Critchley-Norris 'Bus.**

The CRITCHLEY-NORRIS MOTOR COMPANY make their debut with a 40-h.p. chassis specially designed for use as a motor-'bus, and which is attracting considerable attention among public-service engineers. As, however, a full description of the vehicle is concluded in another part of the current issue no further reference is here necessary.

**The Jackson Dogcarts.**

Messrs. REYNOLD JACKSON AND CO. are present with several of their deservedly-popular Jackson dogcarts, the reasonable price of which has brought them many clients. The 6-h.p. vehicle, which is fitted with a De Dion engine, is supplied with either two or three

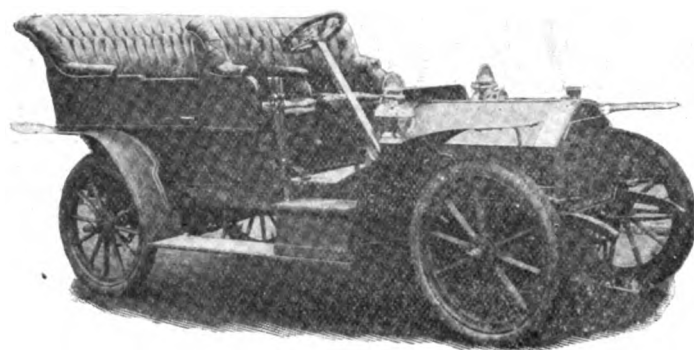


Fig. 22.—The Hurst 15-18-h.p. Car.

forward speeds, in addition to the reverse. It has been improved in many of the details, among which may be mentioned the fitting of a framed ribbed-pipe radiator, which dispenses with the use of a separate water tank. The 9-h.p. car (Fig. 23) is an elegantly-finished vehicle.

It has a pressed steel frame and a heavier axle than heretofore. Three speeds forward and the usual reverse are provided. As in the 6-h.p. car, a combined radiator and tank is now employed. A similar car, but fitted with a Peugeot-Huber horse-power twin-cylinder engine, is also shown. The body is of the standard Jackson dogcart type, the rear seat being reversible, so that all passengers may face forward, the entrance to the back being then through a hinged front seat. Considerable interest is being shown in the chassis of the little Jackson car which has travelled over 15,000 miles at an extremely low cost of upkeep.

**Non-skids.**

The GLASGOW MOTOR TYRE COMPANY, LIMITED, have made great progress since their detachable non-skid and puncture-proof band was introduced to the motoring public, and will shortly occupy new works well equipped to deal with the orders in hand. The band itself can be detached and attached in three minutes; while by bringing the clip in different position over the weak portions of the sides or the walls of the cover the band acts as a gaiter. When in service the band does not heat the tyre, and it is light enough to be used without retarding the speed of the car. The company have abandoned the use of leather in connection with the bands, which are now made of fabric capable of withstanding a pressure of 6,000 lbs. to the square inch. This is claimed to be immune against stretching and water, while its wearing capabilities are exceptional. The studs on the non-skid are made of case-hardened

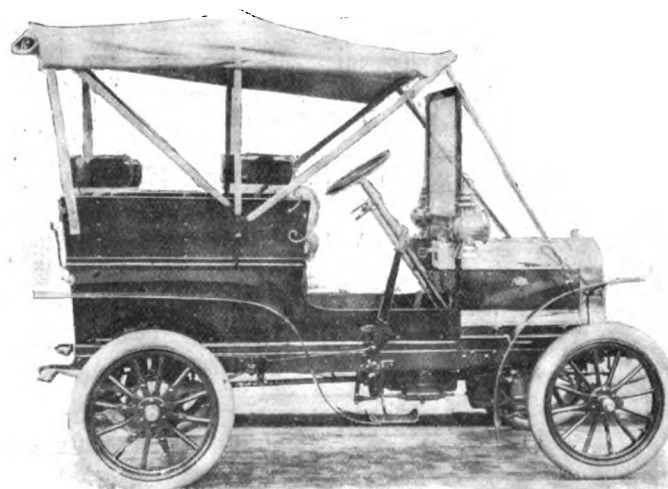


Fig. 23.—The Jackson 9-h.p. Dog Cart.

steel, and the general work of the Glasgow Motor Tyre Company is of a good class. They are experts in dealing with old covers, and we have seen specimens of excellent work in rebuilding these from the foundation with square, grooved, or round treads.

**The 1906 Star Cars.**

A large range of the well-known Star cars are exhibited by the STAR ENGINEERING COMPANY, including a chassis of the 7-h.p. double-cylinder car, a three-seated 7-h.p. vehicle, one of similar power with a special Victoria body with hood and front glass, for doctor's use, fitted with hood and glass screen (Fig. 25). As this vehicle has already been described in the *M.C.J.*, it is only necessary to mention that the engine, Fig. 24, comprises two vertical cylinders, which are  $3\frac{1}{2}$  in. bore by 4 in. stroke, and that a governor with foot accelerator is provided. Three speeds forward and a reverse are available, the power being conveyed

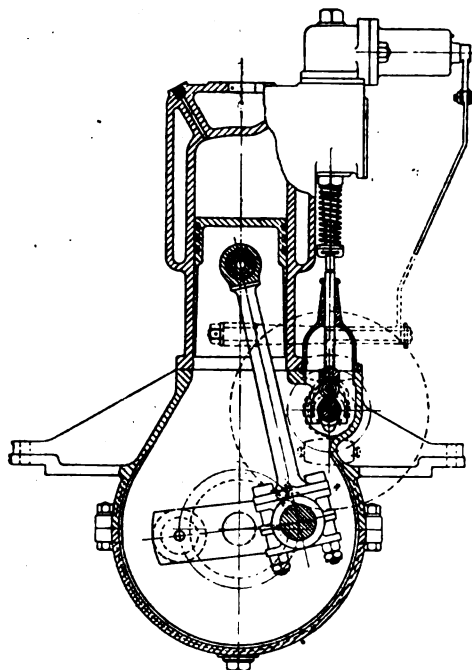


Fig. 24.—Sectional view of Star 7-h.p. Twin-cylinder Engine.

to the rear road wheels by side chains. Among the improvements for the 1906 season may be mentioned the fitting of the steering bar behind the axle, rear springs outside the chassis, and a longer wheel base. The next model is the 10-h.p. four-cylinder car fitted with a double phaeton body, access to the rear seats being through a swinging front seat. The cylinders are 3 in. bore by 4 in. stroke. Three speeds forward and a reverse are provided. The car is on modern lines throughout, and its relatively low price is rendering it a popular type.

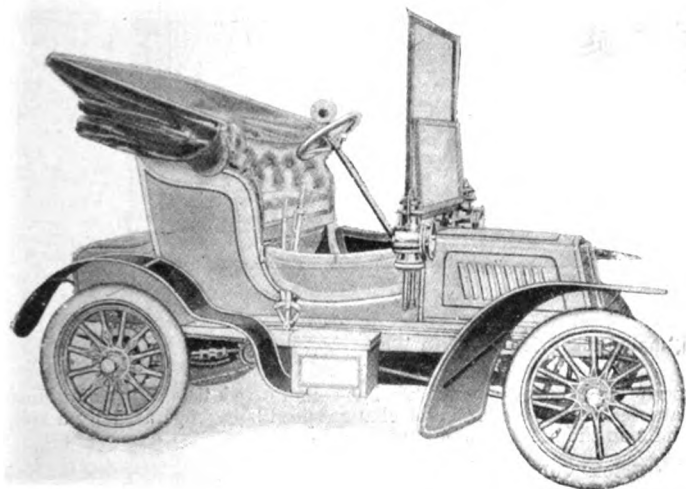


Fig. 25.—The Star 7-h.p. Victoria.

Interest in the examples of the 14-h.p. Star cars on view is increased by the fact that this is the type selected by the A.C.G.B.I. for use in teaching members to drive. The design of the vehicle is on modern lines throughout, the frame being of pressed steel. The engine comprises four-cylinders,  $3\frac{1}{2}$  in. bore by 4 in. stroke; it is on similar lines to that in the 10-h.p. car, the inlet valves being mechanically actuated and located in the cylinder heads. The carburettor is of the automatic air regulation variety, and the control of the engine is by a variable lift of the inlet valves. Ignition is by coil and accumulators, and the water circulation by pump and honeycomb radiator with fan. The gear-box, the

hafts of which run on ball bearings, is adapted to give three speeds and a reverse, and direct drive on top speed. The wheel base of the car is 8 ft., enabling a roomy double phaeton side-entrance body to be fitted.

**The "Newmobile" Car.**

A new light vehicle, comprising a number of interesting features, is exhibited by the NEWMOBILE CAR COMPANY. The chassis on view is

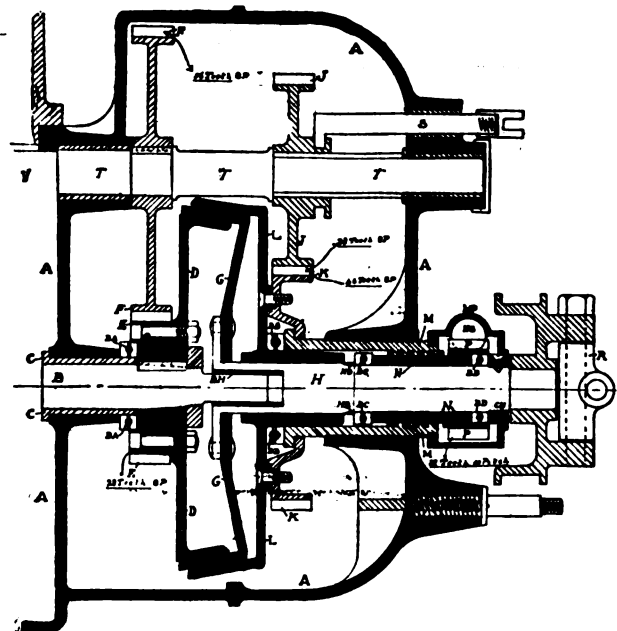


Fig. 26.—Sectional View of Newmobile Combined Clutch and Change Speed Gear.

intended to be fitted with a van body capable of carrying a load of 10 cwt., but it is also being built with a small coupé or landaulet body for the use of professional men. The motive power is supplied by a 9-h.p. engine, built up with which so as to form a single unit is the clutch and change-speed gear, so that there is no danger of the latter getting out of align-

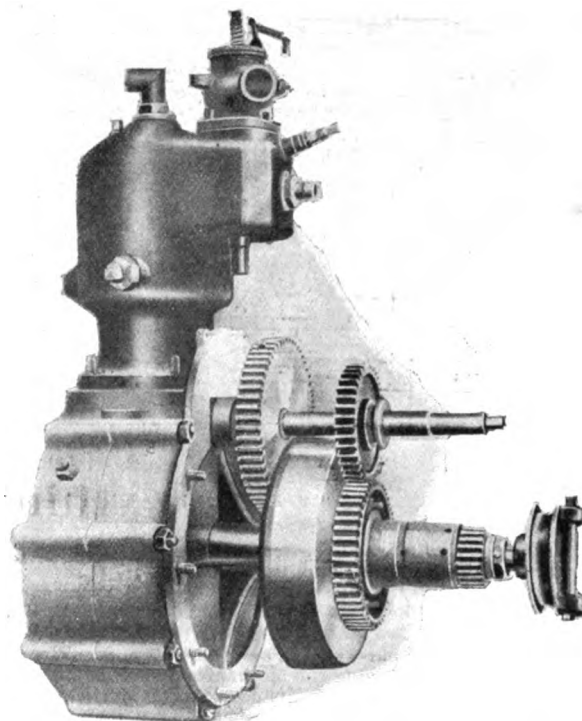


Fig. 27.—The Newmobile Combined Engine, Clutch, and Change Speed Gear.

ment with the motor. Fig. 26 gives a sectional view of the Newmobile combined clutch and change-speed gear, which is adapted to give two speeds and a reverse. The object of the inventor has been to obtain a change of the forward speed gears without sliding spur wheels, by means of metal-to-metal coned clutches. Referring to the illustration, A is the gear-box, which at the left side is bolted rigidly to the engine

crank case; B is an extension of the crank shaft. Mounted rigidly on this is the metal clutch D, which can revolve, but has no fore and aft movement. On the shaft B is also mounted the spur-wheel E, with 28 teeth. At T is shown an extension of the half-time shaft, and upon this is rigidly mounted the spur-wheel F, with 56 teeth, meshing with the pinion E. To the right of the shaft T is fixed upon a squared portion a spur-wheel J, having 38 teeth, which meshes with the pinion K, with 46 teeth. The latter wheel is attached to the clutch L, which can freely revolve around the shaft H. It forms the important member of the group, and can revolve freely round the shaft B upon the bushing B H, whilst at the extreme right it carries the universal joint R, from whence the power is conveyed to the cardan shaft and so to the rear live axle. The central clutch G is carried by a disc machined upon the shaft H, and can be given a fore-and-aft movement by means of the rack N. P is a spur wheel rigidly attached to the turret thread rack N, the teeth of the latter moving in a casing M, which is rigidly screwed to the main oil-tight

sequently the collar C H being rigid with the shaft H, it is also moved to the right, taking with it the clutch G, which then engages with clutch L. The movement from the engine is now from B to clutch D, thence to spur-wheel E, which, meshing with F, drives shaft T. J, being rigid on shaft T, is revolved, and, meshing with spur-wheel K compels the attached clutch L also to move. The latter being in engagement with the central clutch G, and the latter being fast on the shaft H, the engine speed is thus geared down to reach the universal joint R. The three clutches D, G and L are all metal-to-metal, and as the casing A is oil-tight, a film of oil is interposed between the clutch surfaces to take up the shock of engagement, the oil being gradually forced away by holes taken through the peripheries of D and L. All adjustment can be made from the outside of the case, without dismantling the gear. By means of a spring upon the heel pedal, which works on the arm S, it is impossible to leave the reverse wheels in gear after the foot has been taken off the pedal. We understand that the gear has been subjected to extensive trial ere being put on the market. Although from the

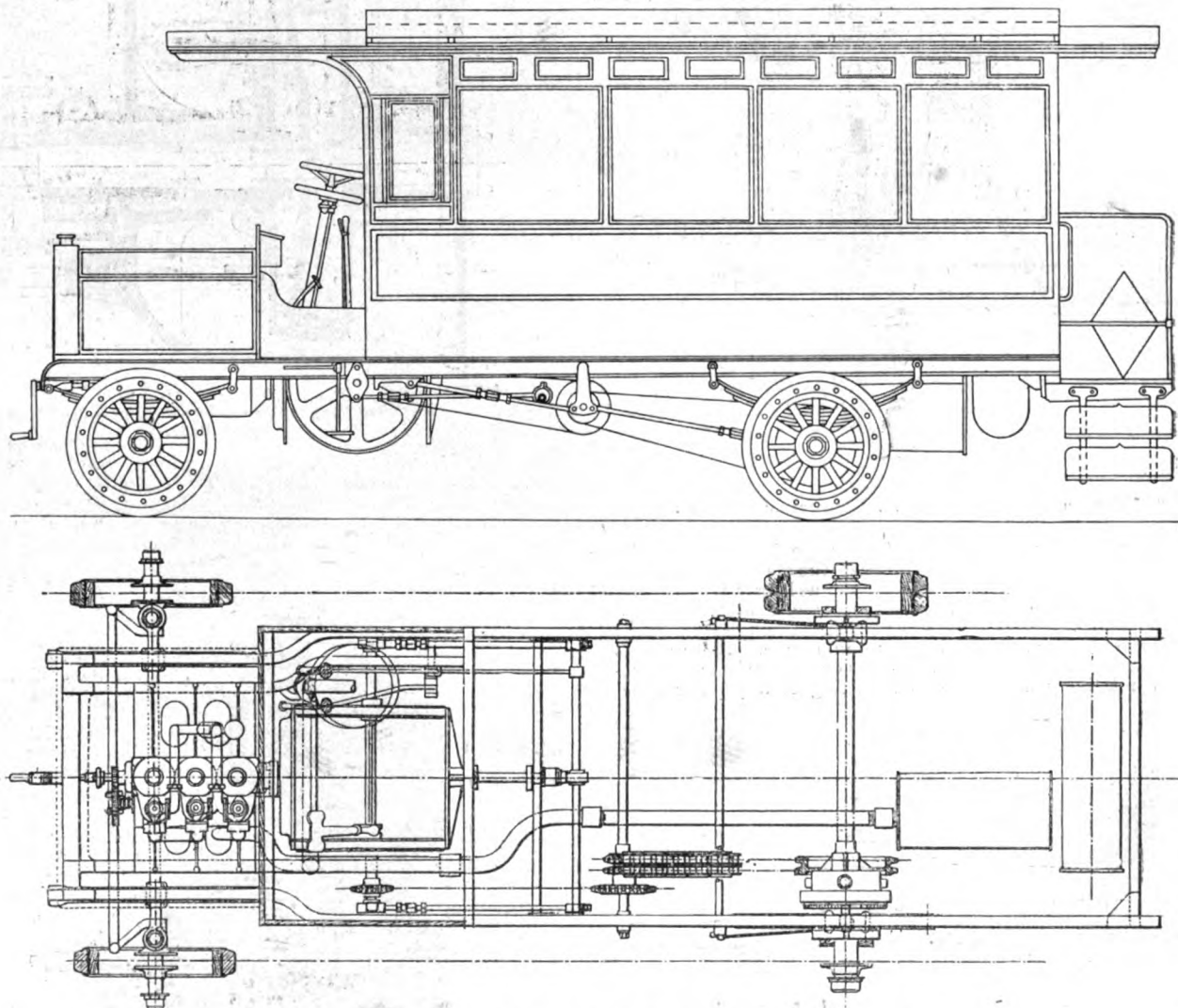


Fig. 28 and 29.—Elevation and Plan of Frick Single-Deck Friction-driven 'Bus.

casing A. To the right of, and above the shaft T is an arm S which projects through the casing A and is attached to the reverse pedal. The inner arm of S engages with the spur-wheel J by means of a collar upon the latter, and as the shaft T at this portion is squared, J can be slid along to mesh with two other spur wheels (not shown) to obtain the reverse by means of the spur-wheel K and the clutch L. We can now proceed to describe the action of the mechanism. On the high gear the four spur-wheels E, F, J and K revolve idly. By a suitable lever below the steering wheel, the shaft N S is pushed along, its rack engaging the teeth of the spur-wheel P and causing this to revolve. As P is rigidly attached to N, this also is revolved, but having its turret thread meshing with similar teeth on the fixed casing M it is compelled to move to the left when revolved, and pushes the ball thrust B C against the shoulder of the shaft H at H S, and therefore pushes the shaft H to the left, carrying with it the central clutch G. The latter is now in engagement with the clutch D, and on the high gear the motion is from B, through the clutch D to clutch G, thence to shaft H, and so to the universal joint R. For the bottom gear the shaft N S is pulled out and the rack N moves to the right against the ball thrust B D and collar C H, con-

description it may appear somewhat complicated, it is really of a simple character, both the clutch and change-speed being operated by a single handle on the steering column.

#### The Frick Vehicles.

MESSRS. DOUGILL'S ENGINEERING, LIMITED, exhibit a single-deck omnibus, one of four constructed to the order of the Bromley and District Motor Omnibus Service, of which we give a plan and elevation in Figs. 28 and 29. It is fitted with a three-cylinder engine, the bore and stroke being respectively 5½ in. and 6 in., developing 20-h.p. at 800 revolutions. Automatic inlet valves are employed, with accumulator ignition. The radiator is a tubular honeycomb, and a centrifugal circulating pump is fitted, although the water would circulate naturally by thermo-syphon should the pump be disabled. There are bearings between each cylinder, the connecting rods and crankshaft being of special nickel steel, and the bushes of phosphor-bronze. The carburettor is automatic with gravity feed. The transmission is by means of the "Frick" variable friction gear, with which any variation of speed can be obtained by moving a leather-edged wheel at right angles to a large



diameter friction disc. When the driven wheel is at the centre of the disc no motion is imparted, but as it is moved out towards the periphery its speed is gradually increased. Another wheel revolves idly on the same shaft, to balance the pressure of the driven wheel, and an idle disc is pressed up on the opposite side of these two wheels, so as to impart sufficient driving pressure without loading the bearings of the driven shaft. Visitors interested in commercial vehicles would do well to examine this drive with care, as it has great possibilities, and entirely eliminates the clutch, gear, and bevel drive. There is a positive drive from

of the dustless Spyker cars, which are receiving a good share of public attention. Pride of place is given to a 20-28-h.p. chassis (Fig. 30) which is mounted on a slowly-rotating turn-table. It is provided with the novel frame and pedals illustrated in our issue of the 9th December last, but a still further new departure is seen in the adoption of three-point suspension both for the engine and the gear-box. The motor comprises four cylinders, 110 mm. bore by 120 mm. stroke. Dual ignition is provided, while the water-circulating pump is located in such a way that it is readily accessible. A feature of the radiator is that it is sup-

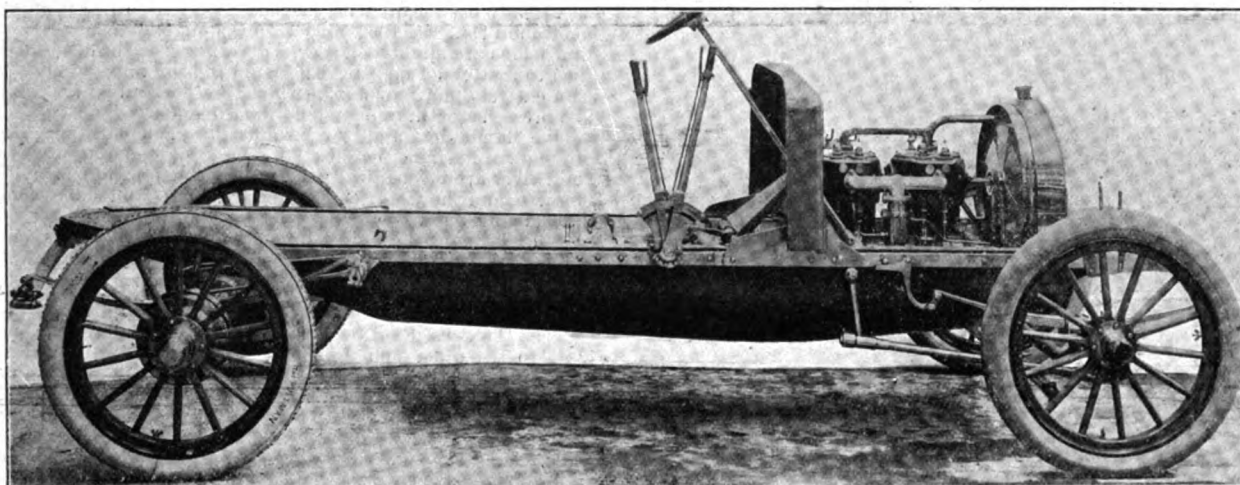


Fig. 30.—Chassis of Spyker 20 28 h.p. Dustless Car.

the friction disc to the driven wheel, and an auxiliary drive through the idle wheel and idle disc to the further side of the driven wheel, so that slip is almost impossible. The reverse is obtained by moving the driven wheel across the centre of the friction disc, thus reversing the direction of rotation. The drive is taken from the friction countershaft by roller chain to an intermediate shaft, the function of which is only to break the great length of chain that would otherwise be required. Thence the drive is by another roller chain to a live back axle. The frames are of H section, 4 in. deep by 2 in. wide,

ported on the frame through ball joints, so that it retains its position independently of any movement of the frame due to jolting or other causes. In this way the liability of leaks arising in the radiator is considerably reduced. The transmission is on the usual lines of bevel gear-driven cars, a notable feature being the ease with which access is had to the gear-box. Other Spyker cars exhibited on the stand comprise a 16-24-h.p. car and a 14-18-h.p. chassis; the engine of the latter is provided with a ball-bearing crank shaft. We note, too, that the motor control levers are not fixed on the steering wheel, so that they do not

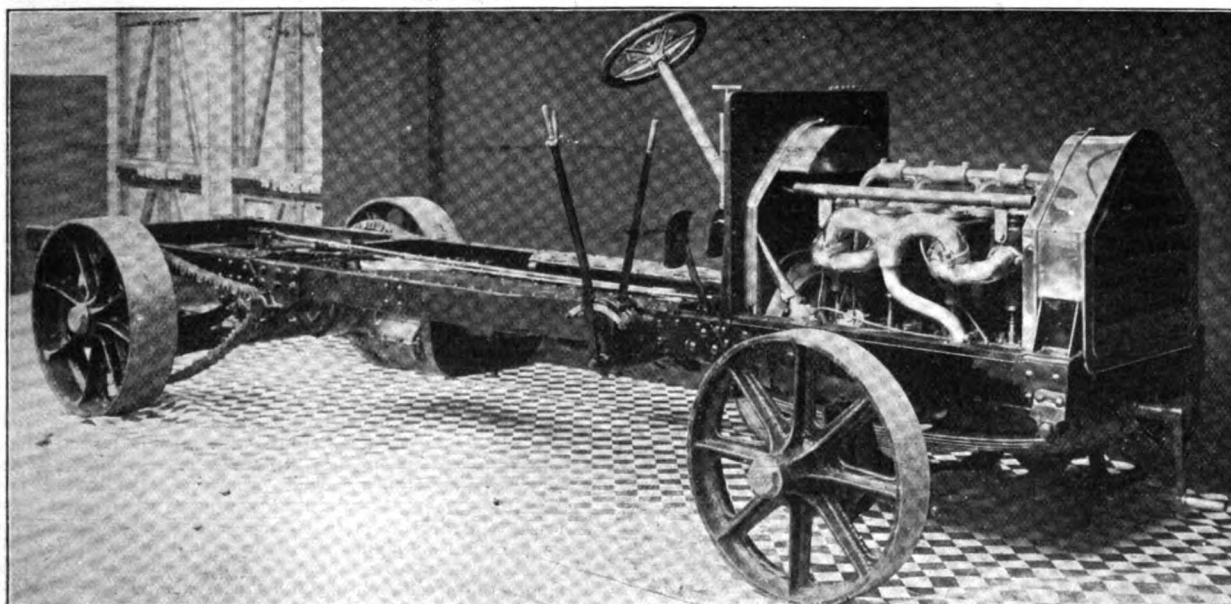


Fig. 31.—Chassis of Turgan 40-h.p. Motor 'Bus.

and all wheels are of equal diameter, 3 ft. 3 in. The body has been built by Goode, of Highbury, and will carry sixteen passengers inside, and the whole of the roof is railed for luggage and parcels. There is, in addition, a special luggage carrier that folds up underneath the body. The firm also manufacture delivery vans and pleasure cars with the same system of gearless drive.

**The Spyker and B.A.C.S. Cars.**

The BRITISH AUTOMOBILE COMMERCIAL SYNDICATE have an exceedingly attractive and novel stand, on which is shown a full range

move with the latter. Reference may also be made to the 20-28-h.p. Spyker fitted with special six-seated landaulet body by Meier, of Redhill, built to the order of Mr. E. N. Casares. Finally we may mention a 28-h.p. B.A.C.S. car with landaulet body; this vehicle, which is on Mercedes lines, has already been illustrated in the *M.C.J.*

**The Turgan Commercial Vehicles.**

ETABLISSEMENTS TURGAN, LIMITED, exhibit an omnibus chassis and a two-ton lorry. They are both of particularly solid construction and appearance, as the previous productions of M. Turgan would lead us to

expect. The frame channels on the 'bus chassis (Fig. 31) have been stiffened by an additional pair of channels inside the frame, to which they are attached by a stiff top plate. These stiffening members extend from the clutch to the gear-box, so that there is no possibility of the frame sagging after six months' use, as has been the case with some designs. This chassis is fitted with a four-cylinder engine having separate cylinders 120 mm. diameter by 150 mm. stroke, developing 40 brake h.p. at 830 revolutions per minute. The inlet and exhaust valves are on opposite sides, operated by separate cam-shafts, and the ignition is by accumulator and coil. High tension magneto can be fitted if required. The crank shaft has a bearing

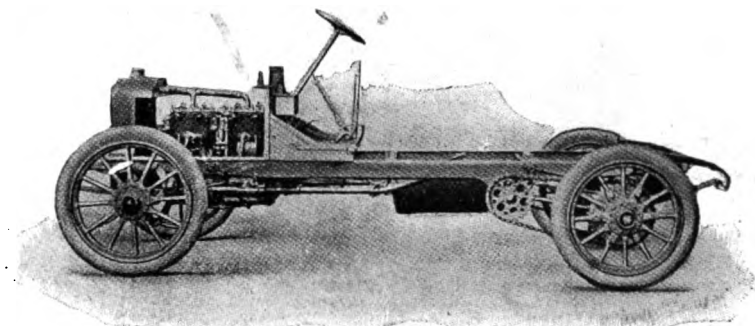


Fig. 32.—View of Chassis of Brasier 25-36-h.p. Chain-driven Car.

between each crank, five in all. The water jacket has been extended much lower on the cylinder castings than usual, and extra large water pipes are employed to ensure efficient circulation. The radiator has horizontal gilled tubes, and a positive pump is fitted. The only fan is that in the fly-wheel, both male and female portions of the clutch being cast with fan vanes. A Tourand carburettor, with pressure feed, furnishes the mixture. A large diameter leather-faced cone clutch is employed to transmit the drive to a long double-jointed propeller shaft. The gear-box, which is cast in gun metal, contains the speed gear, bevel drive, and differential. Four forward speeds are provided, operated by a single lever, the top speed being a direct drive by a dog clutch, the other speeds being by sliding gears on the Panhard system. The reverse is applied by the same lever through a gate quadrant. A flexible differential countershaft is employed, the central portions being carried by the gear-box, and the end portions, which have the chain sprockets attached, are supported with long bearings bolted to the frame channels, and loose couplings are introduced to obviate any risk of injury from temporary want of alignment. The final drive is by Renold silent chains to sprockets on the back wheels. There is a very neat and effective arrangement for locking the differential should it be necessary. The back axle is a solid forging 3 in. by 3½ in. deep, and the back springs are 3 ft. 8 in. long. A pedal operates a duplex band brake acting on both sides of the differential countershaft, and the hand lever operates Lemoine band brakes on the driving wheel hubs. Both sets of brakes are compensated. The exhibition chassis is fitted with cast steel wheels, but wooden wheels can be supplied if specified. The whole chassis is worthy of very careful attention on account of its strength, simplicity, and the care bestowed on the details. The two-ton delivery van is fitted with an engine having four cylinders 110 mm. diameter by 130 mm. stroke developing 25-h.p. at 800 revolutions. In details it is

of the latter being fitted with a handsome limousine body. The 25-36-h.p. chassis (Fig. 32) on view illustrates the very latest production of the Brasier Company, the transmission being by side chains. As has been previously mentioned, the crankshafts of the engine are slightly offset from the centre of the cylinders. The magneto ignition gear is also on special lines. A Brasier car having won the Gordon Bennett race twice in succession, they naturally loom largely in the eyes of the motoring public, and this week is no exception to the rule. Turning now to the Unic cars which are made by Messrs. Georges Richard and Co., two sizes of vehicle are being turned out, 12-h.p. and 16-h.p. The former has already been dealt with in these columns, so that it need only be mentioned that the 1906 model shows but few changes. The engine dimensions are slightly larger, but otherwise the alterations are confined to matters of detail. The Unic 16-h.p. four-cylinder car (Fig. 33) is an entirely new model, for which there should be a large demand. The pressed steel frame is made in two lengths, one being intended to receive landaulet and large limousine side-entrance bodies. The cylinders are 87 mm. bore by 110 mm. stroke, and are cast in two pairs. The valves are mechanically actuated, the ignition is by low tension magneto, and the water circulation by pump and honeycomb radiator, blades being fixed on the periphery of the flywheel to act as a fan. The gear-box is adapted to give three or four forward speeds as desired, in addition to the reverse; the transmission is by a cardan shaft and bevel gear to a well-supported live axle.

#### The Thames Motor Coach and Steam Wagon.

The THAMES ENGINEERING WORKS are exhibiting a motor coach, built to the order and design of the London and South Coast Motor Service, Limited, for summer traffic between London and Folkestone, Brighton, Hastings, etc. It is fitted with a six-cylinder engine, having separate cylinders 4 in. diameter by 6 in. stroke, the valves being on opposite sides, with two cam shafts. High-tension ignition is employed, from accumulators and coil. The crank shaft has a bearing between each

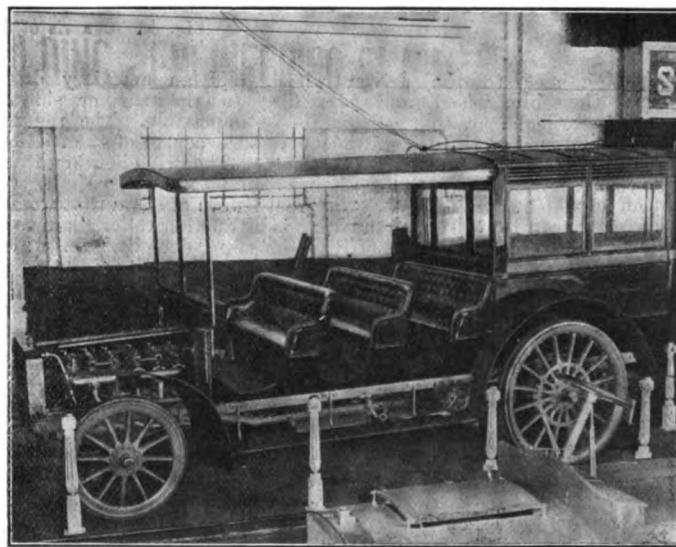


Fig. 34.—The Thames Engineering Works 45-h.p. Six-Cylinder Motor Coach.

cylinder, seven in all, and a positive pump is fitted. The radiator consists of horizontal gilled tubes, and no fan is employed. The carburettor is a special feature, as it was found in the trials that an equal mixture could not be obtained in all six cylinders with an ordinary carburettor, so a new type had to be designed, which is now found to fulfil all requirements. In the centre is a common float chamber from which the petrol vapour is passed in opposite directions through passages jacketed with water from the cylinder jacket. These passages lead to two automatic carburettors, where the mixture takes place, and immediately above each of these is a throttle valve. From the throttles the mixture is led to three branches supplying the three cylinders at either end. The two throttles are connected up to one another, and to the governor at one end, and the accelerator pedal at the other end. The engine develops 30 h.p. at 750 revolutions, and 45 h.p. at 1,000 revolutions. A leather faced cone clutch is used, and the gear-box provides four forward speeds and a reverse, the direct drive being on the top speed. The gears are changed by a single lever on the gate system. From the differential countershaft the final drive is by roller chains. All the wheels are unusually large, the steering wheels being 3 ft. 3 in. diameter and the driving wheels 4 ft. 4 in. A spring pull bar, similar to that on the Straker-Squire 'buses, transmits the pull from the back wheels to the frame, and saves the vehicle from sudden shocks. All the details have been carefully thought out (as, for instance, rubber pads to the spring hangers), so as to make the most luxurious travelling. The body has three transverse seats immediately behind the driver, to seat four each, and a closed back part with seats at the sides, to hold eight, making a total, with two beside the driver, of twenty-two. All the seats are

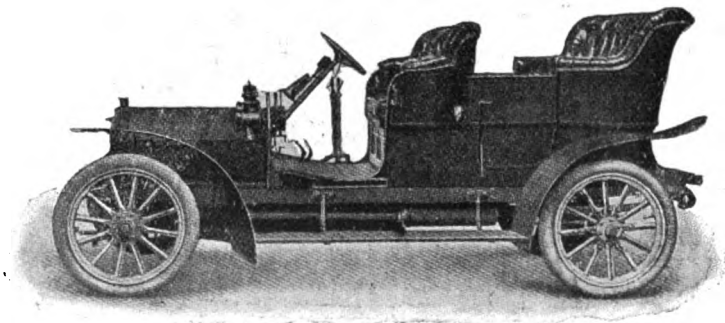


Fig. 33.—The "Unic" 16-h.p. Four-Cylinder Car.

similar to the omnibus except that a belt-driven fan is provided, and roller chains are used for the final drive. A simple body with low sides is fitted to the lorry shown, but any type of body can be supplied.

#### The Brasier and Unic Cars.

MESSRS. MANN AND OVERTON'S, LIMITED, make an imposing display of the Brasier and Unic cars, for which they are British agents. The Brasier vehicles have so recently been described at length in the *M.C.J.* that it need only be mentioned that the cars on view include examples of the 12-16-h.p., 16-30-h.p., and 25-36-h.p. types, one

cushioned with morocco. This firm also exhibit a standard six-ton steam wagon, with a locomotive type boiler, and a compound horizontal engine, slung transversely under the body. This position requires a right-angled turn in the drive, as in the case of most petrol vehicles, so that after passing through the reducing gear, with fast and slow speeds, there is a cardan shaft leading to the back axle, where the differential is driven by a bevel pinion and spur wheel. Long back springs are used with short supplementary springs above them, which come into action when the main springs are depressed several inches. The front springs bear on a rocking fore-carriage, pivoted so as to give three-point suspension to the vehicle. The wagon is very powerful, and can haul a large trailer load in addition to the six tons on deck.

#### The Jackson Omnibus Chassis.

Messrs. R. REYNOLD JACKSON AND CO., LIMITED, exhibit a chassis designed for a thirty-four passenger omnibus. It is fitted with a 25-30-h.p. four-cylinder engine, designed to run at 750 revolutions, the cylinders being 110 mm. diameter by 120 mm. stroke, cast in pairs. The valves are mechanically operated, and are all on one side of the engine, worked off a single cam-shaft. Accumulator ignition is fitted, and the centrifugal pump is driven off the cam-shaft by spiral gearing. The radiator is built up of horizontal tubes threaded through upright plates, and is cooled

to take full advantage of the heavy motor-car Order, and this firm took the opportunity to enclose the whole of the motion work and gearing in a dust-proof and oil-tight casing. The special form of double-ended loco-type boiler which is the characteristic feature of these wagons remains unaltered, except in dimensions. The engine is compound, with cylinders 4½ in. and 7½ in. diameter by 7½ in. stroke, and single eccentric reversing gear is employed. The position of the cylinders, which used to be outside the frame, has been slightly altered, so that they are now immediately below the channels, but are still quite as accessible. The transmission is entirely by machine-cut cast-steel spur gearing to a live axle, made of the best Yorkshire iron. This hind axle is carried in spherical sliding bearings, so designed that the gearing is not affected by the give of the springs. Two speeds are provided, which can be changed from the driver's seat. A pump, driven from the second motion shaft, is inside the oil bath, with the end of the barrel and the valves projecting outside, and maintains the water level in the boiler by a by-pass cock, an injector being also provided for emergencies. The oil is circulated to every bearing by a force pump, and, owing to the form of bath adopted, the consumption of lubricating oil has been reduced to a minimum. Stagg's patent pocket hubs are used in the wheels, with wooden spokes and felloes, and gas-welded steel tyres. The front wheels

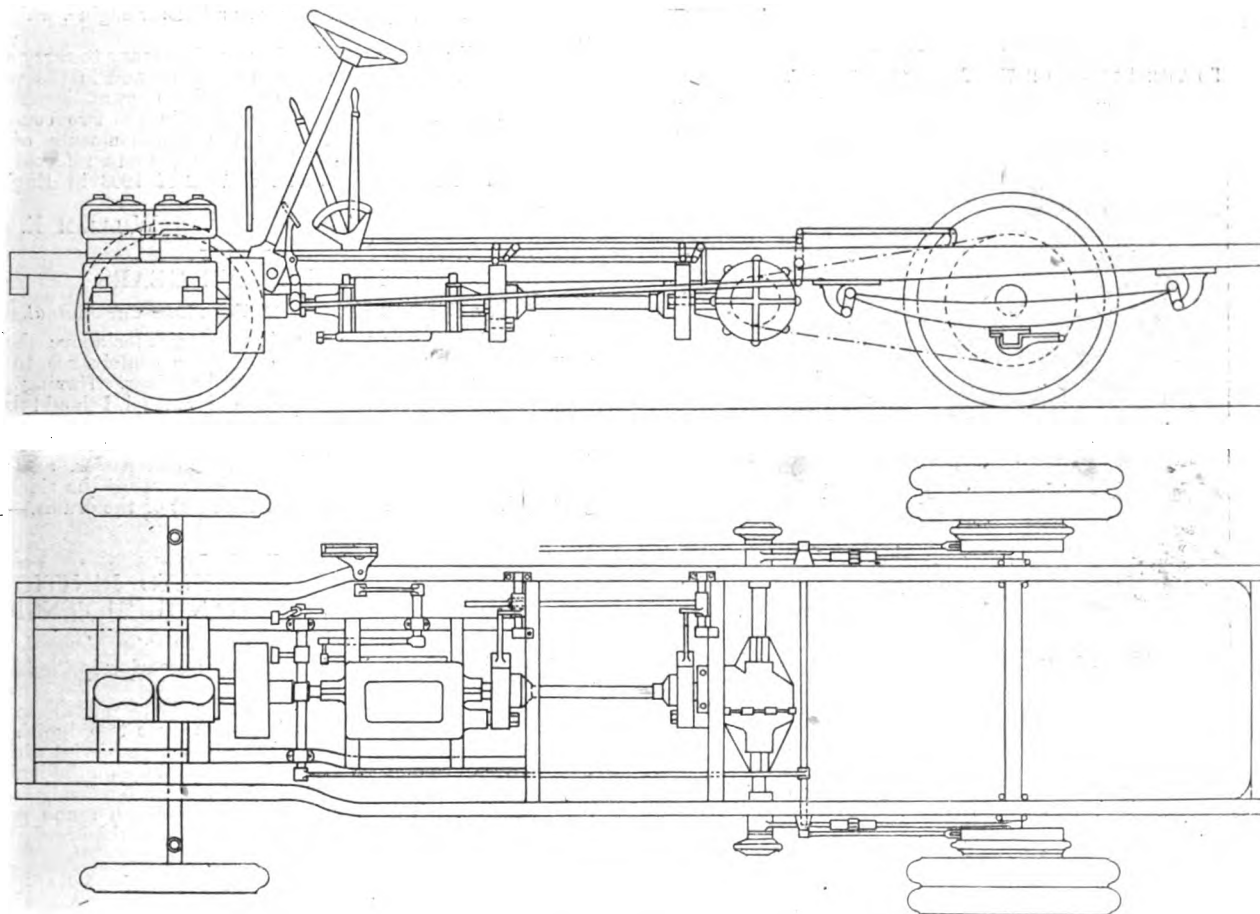


Fig. 35 and 36.—Elevation and Plan of Chassis of Jackson 24-30-h.p. Motor-Bus.

by a fan driven by a belt from the crank-shaft. A leather-faced cone clutch is fitted, and sliding gears, providing three forward speeds and a reverse, with a direct drive on the top speed. The unusual type of cardan shaft at once catches the eye, square boxes on either end fitting over square dies on the fixed shafts. The differential countershaft is fully encased, and carries sprockets at each end, from which the drive is taken by roller chains to the large sprockets, bolted to the spokes of the back wheel. A pressed steel frame is employed, 6 in. deep at the central portion, braced together by pressed steel channels where required. A very large steering wheel is fitted, probably necessitated by the 9 in. from the centre of the steering wheel to the pivot. The attachment of the steering arm to the top of the gudgeon fork is somewhat remarkable, and the coupling rod is at the back of the front axle. The pedal brakes are on the gear-box shaft, and on the rigid length immediately in front of the differential casing, and are not compensated. The hand lever works two band brakes on the back wheel hubs, and these also are uncompensated. The chassis is very simple, and the price asked is much more reasonable than that usually asked for such vehicles. The firm are prepared to give very early delivery.

#### The Yorkshire Steam Wagon.

The vehicle exhibited by the YORKSHIRE STEAM WAGON COMPANY is one of their improved enclosed type. Some alterations were necessary

are 3 ft. diameter by 5 in. wide, and the back are 3 ft. 3 in. diameter by 10½ in. in width. The front axle is a rectangular steel forging 2½ in. by 3½ in., the ends oscillating between horn plates, and carrying the front end of the frame at the buckle of a cross laminated spring, thus ensuring three-point suspension. The wagon exhibited is intended to carry five tons, and to pull another two tons on a trailer. The body, built of well-seasoned timber, is designed to discharge by tipping, two long vertical screws being operated from either side by bevel gearing. It is built to the order of Messrs. Fry Brothers, of Greenwich, and is the third Yorkshire wagon delivered to them.

#### Motor Clothing.

MESSRS. CHAS. BAKER AND CO.'S STORES, LIMITED, make a capital first appearance at automobile exhibitions with a display of high-class motor clothing for both ladies and gentlemen, as well as liveries for chauffeurs. Their waterproof motor overcoats are made in tweed, frieze or cheviot, the dust and rain coats being in Venetians and fancy tweeds. For the convenience of ladies the firm always keep a selection of dust coats and waterproofs, as well as caps and veils, the latter being of a very fashionable design. Motor caps, boots and shoes, leggings, gloves, and travelling rugs make up a very attractive display.

(To be continued).

## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, W.C.]

### CALCULATING POWER OF PETROL ENGINES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Messrs. Dean and Burden's method of calculating horse power seems to work out fairly right, but I shall be glad if you will inform me, through the *M.C.J.*, if the form is equally correct for two-cycle engines, and if I am right in supposing that a single cylinder two-cycle engine at 500 r.p.m. would give 500 impulses.—Yours truly,

R. HANNEN.

[The method of calculating horse power formula given by Messrs. Dean and Burden Bros. will not apply to a two-cycle engine.]

### A USEFUL FITTING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am sending you a photo of a little device I have fitted to my car, as I thought it might be of interest to the readers of the *M.C.J.*



Referring to the illustration, you will see a small mirror fixed on the wind screen, which enables the driver to see at the back when driving. The device is especially useful when turning to the off-side of the road.—Yours truly,

H. HUNT.

### TWO-CYCLE PETROL ENGINES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—A good deal of attention is now being devoted to the subject of internal combustion engines working on a two-stroke cycle. I have been greatly interested in the question for six years, and I think I have found a solution of some of the difficulties which confront us in designing such an engine. With your permission, I will make public my ideas, and, in order to encourage experiment on the lines suggested, I wish to make it known that I shall not make any use whatever of the patents I hold in England and France, except to prevent others acquiring protection, and thereby possibly injuring the industry.

I contend that if an engine be made with a cylinder closed at both ends, and provided with a hollow piston, the charge of gas may be drawn in at the end of the cylinder which contains the stuffing-box, compressed by the next stroke, and forced into the piston, carried to the other end of the cylinder inside the piston, released there and fired. The result will be that every downward stroke of the piston will be a firing stroke and also a compression stroke, whilst every up stroke will perform three functions in exhausting the cylinder, sucking in a fresh charge, and carrying a compressed charge within the piston. Every one of these operations is performed by an absolutely full stroke of the piston. The gases inside the piston will, after one or two strokes, attain such a pressure that exactly one charge will be released for firing at the top of every stroke. Should the charge fire back into the piston, it can exert no back pressure; in fact, it might be found advantageous to fire it there.

I think the following would be the advantages of making an engine on this principle. 1. There is no residue of exhaust gases at the commencement of the suction stroke, and an absolutely full charge is therefore drawn in. 2. The charge is drawn into the cool end of the cylinder, and is not rarefied by the heat. 3. An explosion every stroke. 4. Whilst being carried within the piston, the charge increases in compression owing to the heat of the piston and cylinder walls, without back pressure. Thus the waste heat is used to gain further power. 5. The inlet valve and the valve in the under side of the piston are not subjected to the explosion pressure and temperature (the releasing of the gases into the explosion chamber can be done by means of simple ports). 6. The compression is directly deducted from the explosion, and acts as a buffer to stop the reciprocating parts. 7. The crank shaft and connecting rod bearings are always under thrust. 8. There is no necessity for a heavy flywheel, and the engine would run and develop power at any speed, however slow, since the pressure has only to be returned against the slight pressure of the exhaust gases and of the suction. 9. The engine would probably not require water cooling, owing to the fact that there would be little rarefaction of the charge even at high temperatures. If provision were made for cutting off the fuel supply (which might be injected direct into the firing chamber, and controlled by a hit-and-miss governor) the engine would develop some power as a hot air engine, whilst air-cooling itself.

Personally I have not the time or the money to carry out extensive experiments, and I do not think I ought to stand in the way of others doing so. I shall therefore be pleased to grant licences to anyone working on the lines I have suggested in the two countries I have named, free, if they do not think the abandonments of the patents declared in this letter sufficient. The patents referred to are No. 341559 of 1904 in France, and No. 7932 of 1903 in England.—Yours truly,

WILLIAM E. CLIFTON.

### PROGRESSIVE GEARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As regards the use of cone drums for above (belt driven) it occurred to me that the desideratum was a contrivance to prevent the belt slipping, and operated at will by the driver. Having put my idea of effecting this in the practical form of a model, I should be pleased to show or describe it to anyone interested.

In a few words I might say that the tightener consists of a pivoted frame with end rollers through which the belt passes, and these rollers, by a turning movement of the frame, bear against the sides of the belt, guiding it toward the larger circumferences of the drums.—Yours truly,

H. H.

### DOES LOW TENSION MAGNETO IGNITION GIVE GREATER POWER THAN HIGH TENSION?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was interested in the letter appearing in the last issue under the *nom de plume* of "Worthing," as to whether low tension magneto ignition gave greater power than high tension. We have made a number of experiments on Crossley engines with these two ignitions, and there is no doubt but that the engine is much more powerful with low tension magneto. Of course, there is an external range on the ignition—almost as great a range, in fact, as any system of high tension ignition, but there is no question but that we have got better all round results from a power point of view with low tension ignition than with high.—Yours truly,

CHAS. JARROTT.

### THREE-CYLINDER ENGINES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Such a trial as Mr. Lamb now suggests I do not think necessary, as both the four-cylinder and three-cylinder motors have been on the market for a sufficient length of time to enable the public and manufacturers to already decide the question. I think I am right in saying that my firm was the first to commercially construct three-cylinder motors in this country, and were followed at a later date by the Standard Motor Company, and then by Panhards. Now, it is a curious thing, presuming that three cylinders are better than four, that both Messrs. Brooke and Co. and the Standard Motor Company should have abandoned them in favour of four.—Yours truly,

MAWDSLEY BROOKE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to "Interested," the vibration or pendulum motion of a three-cylinder engine is not confined to the vertical type. The motion is set up and conveyed to the frame in either case. With a horizontal motor set transversely, however, the vibration is across the frame instead of along the centre as with a vertical engine. I notice that the manufacturers who write in support of three-cylinder engines do not seem to have had any experience of four or six cylinder types, and content themselves with the assertion that their



engines do not vibrate. I am quite satisfied that they believe what they say, and also that as soon as they start making four or six cylinder engines they will drop the three-cylinder. Several have done so already and the remainder will inevitably follow.—Yours truly,  
R. W. MAUDSLAY.

### MORE ENGINE TROUBLE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—When my car is at rest, with the motor, which has four cylinders, running as slow as possible—about 250 revolutions per minute, on pulling the throttle open any additional amount the engine will slow down before speeding up. If the throttle is pulled open quickly the motor will stop entirely. The carburettor is the so-called automatic type, with a separate air valve held closed by a light spring. I should be glad if you or any reader of the *M.C.J.* could assist me in locating the cause of the trouble.—Yours truly,

XENOPHON.

[It is very difficult to determine the cause of this trouble, as "Xenophon" does not state the type of carburettor fitted to his car. It would appear, however, from the symptoms given that the air valve

is too low for the capacity; possibly they may be charging at 1 ampere for eight hours which is obviously not sufficient, so that the plates are never fully charged, and the accumulator soon runs down. Unless "Forwards" can get them charged at the above rate, it would be better to employ four cells of a primary battery, as cells of the types mentioned will easily give three amperes if the voltage is kept up, and by the use of four cells for the primary this can be done. It should be remembered, when charging from a primary, that the current in the circuit is produced by the difference in the voltage between the accumulator and the battery, so that it is necessary to keep the charging voltage of the primary at least two volts above that of the accumulator.]

### BROKEN CYLINDER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should feel obliged if you or some kind correspondent could inform me the probable cause of my cylinders breaking. I have had two cylinder heads broken within twelve months; the car is a 6-h.p. single cylinder Regal; in both cases they broke just above the flange that bolts them on to the crank chamber; the fractures were



Touring in Egypt. A Motoring Party at the Pyramids.

requires a slightly stronger spring to prevent too much air passing in upon opening the throttle.]

### IGNITION TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have had a good deal of trouble with the ignition of my 6-h.p. Baby Peugeot owing to the fusing of the platins of the make and break. I have put in a new coil without benefit, and suspect that the charging of the Dinin accumulator of 40 ampere hours capacity is at fault. Could you give me any advice, or could you inform me whether it would be better to charge my accumulators by means of Fuller's cells or the Boron battery?—Yours truly,

FORWARDS.

[If the trouble is caused by the accumulators, it would be advisable to make certain that they are in proper order before trying charging by primary battery, as this is a somewhat expensive method to employ. First ascertain if the dilute acid in the cells is at the right strength, namely, a specific gravity of 1.200 when charged. If it is lower than this more acid must be added to make it correct. Then have the accumulator well charged, making sure that it is charged at the rate of 3 amperes for twelve hours. When fully charged it should give  $4\frac{1}{2}$  volts on a reliable voltmeter. Accumulators of 40 ampere hours capacity are often under-charged owing to want of thought, or they are charged at a rate which

irregular. They were both genuine De Dion heads, and the four bolts that hold the heads to crank chamber were screwed tight down. Would a back fire do this mischief?—Yours truly,

U. C. T.

[The only probable cause of this trouble we can suggest is that the top of the crank case has by some means become out of truth, and does not present a flat face for the cylinder to bolt down on. This, in combination with the explosions and the bolts being tight, would in all probability cause the trouble. A back fire would not in any way do this.]

### OVERHEATING OF INDUCTION COIL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am using an induction coil of good make on my car, but it gets so hot that the paraffin has melted and run out to some extent. I do not know how coils are constructed, and consequently do not know what to do to stop it. Will it do any harm? It does not seem to make any difference with the sparking as yet, but shall be glad if you or any reader of the *M.C.J.* can tell me how to prevent the heating.—Yours truly,

W. R. L.

[The trouble caused by heating in the induction coil may be due to "W. R. L." using a battery of higher voltage than is suitable, or

that the induction coil is placed too near some part of the car which gets heated. It is also possible that there is a short circuit in part of the primary winding, causing too much current to pass through it. It will not do any harm until the paraffin has melted completely off some part of the condenser or secondary winding, so that moisture can get to it, which would eventually happen. If one end of the coil is unscrewed and lifted so that the connecting wires to the terminals do not break off, a further supply of hot paraffin wax could be run into it. The main point is to keep all the parts of the coil thoroughly protected from moisture, which it is the function of the paraffin wax to do.]

### OFFSET CRANKSHAFTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Permit us to thank you for the article in the last issue of the *M.C.J.* upon the advanced crankshaft. You express a wonder why this system is not more largely used. May we say that it is simply due to ignorance on the one hand, and prejudice on the other; we have actually had constructors of cars asking us, before now, "what it meant?" They had never heard of such a thing, consequently, could hardly be expected to understand it. Now that you have so clearly shown that there is a decided gain in the advanced crankshaft, which we have been fitting now for seven years, we hope we may have less difficulty in convincing the public that it is not, because different from



From a Caricature]

Henri Fournier.

[in *Le Chauffeur*.

others, a "freak." If we had only to do with engineers in this business or people who understood mechanical questions we should all of us be very much nearer mechanical perfection than we are, but when we have to sacrifice true design to conform to popular fancy, progress is retarded.—Yours truly,

THE DURYEA MOTOR COMPANY.

### CONVERTING A DARRACQ.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am desirous of replacing my two-cylinder 12-h.p. Darracq with a four-cylinder car. My vehicle is in perfect order, but I am told it will not fetch more than about £150. Would it answer to fit it with a four-cylinder engine of about 12 to 15-h.p.? If any of the readers of the *M.C.J.* have carried out such a change I should be very glad if they would give their experience as to cost, type of engine used, and whether the result was satisfactory.—Yours truly,

PELICAN.

[We do not know of anyone having fitted a four-cylinder engine into a 12-h.p. Darracq, and we are inclined to doubt whether it would pay to do so, as there would be so many alterations necessary, combined with great expense. The market value of the car would not be much in excess of its present worth, as purchasers generally fight shy of re-engined cars.]

CONVEYANCE OF CAR TO IRELAND.—Replying to "A. R." we believe that the charge of the London and North Western Railway Company for the conveyance of a motor-car "uncharged with electricity, gas, oil, or other inflammable vapour," from Holyhead to Dublin is 35s.

## CLUBS AND ASSOCIATIONS.

### AUTOMOBILE ASSOCIATION.

At the Agricultural Hall on Monday the first of an important series of conferences of automobilists was held. This took the form of a reunion under the auspices of the Automobile Association, whose president Col. W. G. Bosworth, occupied the chair, supported by the Earl of Shrewsbury and Talbot, Sir Archibald Macdonald, Bart., Messrs. W. Gibbons, C. Jarrott, J. J. Mann, L. Schlenheim, R. W. Buttemer, C. Cordingley, C. W. Brown, W. M. Letts, Stenson Cooke (secretary), and many other well-known motorists.

Colonel Bosworth told how, recently, two men were charged at Kingston with gross cruelty to a horse. He gave all the details of the brutality, just as they were laid before the magistrates. One man was cautioned and let off, and the other was fined 40s. and 9s. 6d. costs. It seemed that the policeman's common round and daily task was not fascinating enough for him. Like a comedian, he always wanted to play Hamlet. While the police were hiding in the hedges, the cut-throat, the burglar, and the malefactor generally was pursuing his evil practices quite unmolested.

It was proposed that all motorists should be warned of police traps by the association's scouts, and Colonel Bosworth announced a new scheme for assisting the police. The scouts are to wear badges of about the same size as cabmen's badges, which are to be red on one side and white on the other. When a motorist approaches a scout, and the white side of the badge is shown, he will know the scout is signalling: "I am here to help you if you want me." When the red side is showing it will mean that the scout is signalling: "I want to speak to you," and presumably the scout's words will have reference to lurking policemen armed with stop-watches.

Several speakers took part in the conference that followed, and after some discussion it was decided that the services of the scouts should be continued to the assistance of all motorists.

### AUTO CYCLE.

THE Hon. Arthur Stanley, M.P., has consented to again act as the President of the club for the ensuing year. Mr. Robert Todd has been re-elected chairman of the club, and Mr. C. A. Smith vice-chairman. A sub-committee has been appointed to consider the advisability of increasing the limit of cylinder capacity for engines used in racing on enclosed tracks.

Owing to the date of the race for the International Cup in Austria having been postponed until July 8th, it has been decided to extend the time for receiving entries for the English selection trials until Wednesday, April 18th. Entry forms can be obtained from the Secretary.

### SOUTHERN.

THE Southern Motor Club's open hill climb bids fair to be an important event for motor-cycles and tri-cars. The handicapping is in the hands of Mr. F. Straight, and forms can be obtained from the hon. sec., 29, Grantham Road, Clapham Road, S.W.

Members of the Southern Motor Club who attend all the fixtures that an enterprising committee have arranged will have a very busy season. Several hill climbing contests, a petrol consumption trial, garden party, launch trip, gymkhana, inter-club gatherings with the North London and also the Woolwich Motor Club, and an Easter tour to Bath, are included in a lengthy and varied programme.

### NORTHAMPTONSHIRE.

A MEETING of the Northamptonshire Automobile Club has been held at the George Hotel, Northampton. There were present:—Major P. E. T. Hibbert, chairman, the Rev. W. Seggins Pratt, the Rev. William W. Pitchford, Captain W. H. Briggs, Mr. Charles W. Phipps, Mrs. S. Yarde, Mr. A. H. Bryan, Mr. Humphrey Bennett, Mr. Arthur F. Mulliner, and Mr. Sidney F. Harris (hon. secretary). Before commencing business Major P. E. T. Hibbert thanked the members for conferring upon him the honour of electing him their chairman, and said he was most interested in everything appertaining to automobilism and would do everything in his power to make the club a thoroughly useful and successful one. The following gentlemen were elected members of the club:—The Hon. Adrian Verney Cave, the Hon. Edward Douglas Pennant, Captain R. Brassey, Mr. H. S. Hall, Mr. J. C. Hannah, Mr. J. C. Hipwell, Mr. H. T. Mills, Mr. W. B. Shoosmith, Mr. F. H. Thornton, Mr. C. Edmund de Trafford, Mr. Charles Simpson, and Mr. Charles Wicksteed. A letter from Mr. A. Noel Mobbs was read, in which he thanked the members for electing him to serve on the committee, but, as he thought it best for the welfare of the club that persons interested in the motor industry should not be eligible for any position in the club other than that of ordinary members, he felt it his duty to place his resignation in the hands of the committee. A similar letter was received

from Colonel C. E. Foster (director of the Pytchley Autocar Company, Limited). The committee having the same views as expressed by these gentlemen in their letters, it was resolved that a letter be sent to each accepting their resignations, and thanking them for the great assistance they gave in the formation of the club, also stating that the committee fully appreciated the disinterested spirit which prompted their action. A sub-committee, consisting of the chairman, vice-chairman, Captain W. H. Briggs, Mr. A. H. Bryan, Mr. C. A. Phipps, and the hon. secretary, was formed to consider the matter of the appointment of official repairers. It was resolved that a register of motor servants engaged in the county be kept by the club.

#### MANCHESTER.

THIS club's opening run of the season was held on Saturday in bitterly cold weather. About fifty members put in an appearance at the Warren de Tabley Arms at Lower Peover (Cheshire), a favourite resort of motorists and cyclists on the Knutsford-Middlewich road, about twenty-one miles from Manchester. A slight snowstorm was encountered on the outward journey, but there was no heavy downfall and the roads

mobile world. Mr. A. Towler seconded, and Mr. E. Faiers responded. The evening was terminated by a vote of thanks to the chairman, proposed by Mr. C. P. Wilson and seconded by Mr. G. W. Blackburn.

Previous to the concert a special general meeting was held, at which the Halifax Automobile Club was affiliated with the Yorks Automobile Club. The total membership of the club and its affiliated branches is now over 500. More free garages were appointed for the use of members and a complete list will shortly be forwarded to the members.

#### HEREFORD.

THE Herefordshire Automobile Club has always taken a keen interest in the light car movement, as was apparent from its efforts to secure the light car trials of the A.C.G.B.I. being held in that county.

Doubtless the coming contest on May 24th, at Frome's Hill, will attract a large entry, especially as arrangements are being made for the comfort of competitors and spectators on the hill.

THE North East Lancashire Club has now 142 members.

THE opening run of the Chatham and District Motor Club will take place on Good Friday to Herne Bay.



Touring in France. The Felix-Faure Refuge near Pralognan, Savoy.

remained dry. The club have arranged an attractive programme for April. There are Easter tours in North Wales (Bedgellert) or Blackpool at the option of the members, and club runs during the month include such destinations as Chester, Tarporley, Southport, Cranage, Llangollen, Hartford, Rugeley (Staffs), Middlewich and Bakewell.

#### AERO.

MESSRS. WRIGHT, the two brothers who may be said to have solved the first of the problems of aerial navigation by accomplishing with their motor-driven aeroplane a circular flight of 24½ miles, returning to the point of departure, have been invited by the Aero Club of the U.K. to visit England as its guests, and to bring their flying machine over to give a demonstration to members in this country.

#### YORKSHIRE.

THE Yorkshire Automobile Club opened their season with a very successful smoking concert on Friday, the 23rd inst., at their headquarters, the Great Northern Hotel, Leeds. Mr. E. H. Hepper presided over a large company. Mr. W. Penrose-Green proposed a vote of thanks to the artistes, and referred to many matters of interest in the auto-

THE Essex Motor Club will hold an open handicap hill climb at Lippett's Hill, near High Beech, on the 28th prox.

DURING last year the Bury and West Suffolk Automobile Club lost ten members, but, gaining an equal number, its membership remains at 42.

A MOTOR CYCLE CLUB for the Newcastle district is being formed. Mr. W. Stephen, 5, Park Lane, Gateshead, will inform intending members of the arrangements.

#### THE ALBERT BROWN TROPHY.

A TRIAL for cars only will be run on Saturday, May 19th, over a distance of 150 miles. A circular route of seventy-five miles will be mapped out, which will have to be covered twice, with an interval of one and a half hours for luncheon at the place of starting after the course has been once covered. This trial was originally intended for "All British" cars, but being for members of the Motor Cycling Club only, there may be difficulty in obtaining a sufficiently large entry, hence the following parts only must be British made, it being the intention to restrict the deviation from "All British" in future contests as circumstances will

allow, viz., engine, transmission, frame, body, and road wheels, excluding tyres. Any type of four-wheeled car of any horse-power may compete.

A speed of not less than eighteen miles per hour, and not more than twenty miles per hour, will have to be maintained during the whole of the trial. The cars will be observed throughout the entire distance, and kept in charge of the club's officials during the luncheon interval. Marks will be deducted for any minute or portion of a minute during which the road wheels shall cease to revolve, stops for tyre repairs, traffic and luncheon excepted. The cars with passengers will be weighed before the start. A quantity of petrol proportionate to the total weight will be allowed to each car for the distance to be covered. Marks will be deducted for any petrol consumed in excess of the quantity allowed, the car losing the least total number of marks to be declared the winner of the trophy. The trophy will be held by the winner for one year, but cannot be won outright. A gold medal will be awarded to the winner and silver and bronze medals will be given for second and third places. Certificates will be given to all cars accomplishing a non-stop run. Any car being beyond one hour late over the whole distance shall be disqualified. Each entrant must provide one observer, who shall be at the disposal of the club either as marshal or observer, but in no case shall an observer observe the car with which he is entered. Each car must be driven throughout by the entrant, who shall be a member of the Motor Cycling Club. Entries close on May 5th. The necessary forms may be obtained of Mr. J. Van Hooydonk, Spring Villa, High Road, North Finchley, N.

### STUDS ON WHEELS.

FOR employing studs in the driving wheel of a motor-wagon, Messrs. Davenport, Limited, brewers, Birmingham, have been fined £4 14s. by the Halesowen magistrates. The driver of the wagon, who experienced some difficulty in ascending Mucklow Hill, and inserted the studs in the wheel, was fined 22s. at the same court for breach of the regulations.

### AN "AMATEUR MOTORIST."

WILLIAM MILSOM, a cab-washer, who stood in the dock at Marylebone on Monday, had a car costing £700 sent to him to clean, and took the opportunity of going for a trial spin on the vehicle, accompanied by several other equally enthusiastic cab-washers.

Milsom and his party set out for Hampstead. How far they got is best told in the language of a constable who gave evidence. "Prisoner had lost control of the car," he said. "He tried to back it towards Upper Park Place (all this happened in Linhope Street), but instead he drove it into some railings on the footway and damaged the car extensively. Milsom admitted he had no licence, and as he was drunk he was arrested." It was said the repairs necessary might cost £130, and Milsom admitted his offence and pleaded drunkenness. He was given one month's hard labour for driving to the common danger, and fined £20, or two months, for driving without a licence.

### AN "AUTOMOBILE ALPHABET."

- A for "Argyll," a car very well known.
- B "Baby Peugeot" a good record has shown.
- C is for "Clement," a car of great fame.
- D as a "Darracq" has made quite a name.
- E Clifford Earp, the king of his "Trade."
- F is for Friswell's, where bargains are made.
- G "Gladiator," a nice little car.
- H for the "Humber," well known near and far.
- I for the "Iris," coming on strong.
- J is for Jarrott, who sends 'em along.
- K "Krebs" carburettor, a maker of fame.
- L for the "Leader," which lives up to its name.
- M for "Mercedes," to drive one's a treat.
- N for the "National," a hard 'un to beat.
- O for "Orleans," a car, not a town.
- P is the "Panhard," of world-wide renown.
- Q is a "Quadrant," a motor or bike.
- R for "Renault," a car we all like.
- S for the "Siddleley," a car of the times.
- T is a "Thornycroft," on the same lines.
- U for the "Unic," they're selling right well.
- V for the "Vulcan," now quite in the "sell."
- W a "Wolseley," exceptionally good.
- X is the Xcellent tests it has stood.
- Y is the Yankee, who makes by the score,
- Z is the "Zenith,"—I need say no more.

### PUBLIC MOTOR SERVICES.

THE Clacton-on-Sea Motor Omnibus Company, Ltd., will have a capital of £15,000. The offices of the company are at Avenue Chambers, Southend-on-Sea.

A MOTOR vehicle service between Andover and Tedworth will shortly be inaugurated.

A MOTOR-CAR service, or possibly a fleet of motor-buses, will probably run in the Morecambe district during the coming summer.

THE capital of the London Road Car Company is to be increased by the creation of 20,000 new Preference shares of £10, in order to secure the delivery of more motor-omnibuses.

IN a bill before a House of Lords Committee, the Mersey Railway Company have sought power to carry passengers by omnibus to and from their stations. The proposal was opposed by the Birkenhead Corporation, who are the owners of the ferry over the Mersey, and of a tramway system within the borough, and the railway company argued that the Corporation were really in the position of competitors. The Committee granted the powers asked for by the railway company, the routes to be taken by the omnibuses being left to the decision of the Corporation, subject to an appeal to the Board of Trade.

AT a meeting of the Edinburgh magistrates permission was granted to the new motor-omnibuses to have a stand at the Waverley Market.

### ROAD REPORTS.

POLICE TRAPS.—A police trap is in fairly constant operation in the High Street, Kensington.

SHEFFIELD.—Motorists will sympathise with the ratepayers of the Meersbrook district of Sheffield, who are trying to get the local authorities to consider the state of the roads in the locality—at present in a sadly neglected state.

LANCASHIRE.—The Committee of the North-East Lancashire Automobile Club refer to experiments now being conducted by the Lancashire County Council, with the object of minimising the dust nuisance; the Council is spending £500 on these experiments, one of the members of the Club, Mr. J. R. Thompson, having brought the matter before the Council.

### MOTOR-CAR ACCIDENTS.

As Mr. J. E. Hammond, of Fairfield, Baildon, was driving along Valley Road, Frizinghall, Bradford, on Friday of last week, he met another motor-car coming in the opposite direction. He rounded this, but ran full tilt into a horse and trap which was following in its rear. The driver of the trap was thrown into the road and was removed to the infirmary suffering from concussion of the brain. Mr. Hammond was also thrown out of his motor-car, together with his passenger.

IN swerving aside to avoid two little girls a motor-car crashed into the wall of Battersea Grammar School, pinning against the wall Henry Webb, a carriage cleaner at Clapham Junction station, and a boy named Hugh Challice, a pupil at the Grammar School. The former sustained a fractured thigh and the latter a fractured skull. Both had other injuries, and their condition is serious. The car was considerably damaged.

A MOTOR-CAR owned by Mr. Richard Reynolds, of Trinity Road, Wimbledon, ran into John Farr, a labourer, at Barnet Hill, where he appears to have been lying asleep on the road. Farr died within an hour.

### CASES AGAINST MOTORISTS.

AT the Malton County Court a coal dealer has claimed £10 from Lord Garnock as compensation for damages alleged to have been caused through a collision between his lordship's motor-car and plaintiff's pony and cart. The evidence showed that on Friday, December 15th last, Lord Garnock had been driven in his motor to Malton Station. On returning from Railway Street into Yorkersgate, it was alleged, the chauffeur pursued a serpentine course, and collided with the plaintiff's cart, which was standing near the kerbstone. The jury, after short deliberation, awarded a verdict for the plaintiff for £6 damages.

Place.	Summoned for	Result.
Tunbridge Wells ...	Dangerous driving	£5, etc.
Birmingham ...	Dangerous driving	20s.
Marlborough Street (London) ...	Dangerous speed	£10, etc.
Kingston ...	Three cases of exceeding speed limit at Esher	£5, etc.
" ...	Exceeding ten mile limit in Richmond Park	£2, etc.
East Norton ...	Reckless driving	£1.
Sheffield ...	Dangerous speed	£10.
Lambeth ...	Back plate unilluminated	10s., etc.
Brighton ...	Dangerous speed	40s., etc.
Croydon ...	Exceeding legal limit	£10, etc.
Middlesbro ...	Dangerous driving	40s.

### TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.



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## COMMENTS.



WE learn that a resident of Norbury, near Croydon, has been advising passing motorists of the presence of a police trap in that district. To those who may have appeared to have been going too fast he addressed a word of warning, as many others have done. Now comes a summons for "obstructing the police in the execution of their duty." The point is one of considerable importance, especially in view of developments that have lately taken place with regard to the organisation of the motor movement for purposes of defence.

Throughout the south news comes of the revival of the trapping business by the police, and we appeal to our readers to assist their fellow motorists by keeping us informed of the presence of such devices on the road.

### The London Clubs.

AROUND London there are growing up several local clubs, between which some sort of federation might well be established. Something of the kind has already begun in the joint competition shortly to be held between the Southern Motor Club and the North London Club, and therein may be the nucleus of a great metropolitan gathering. Woolwich, Ilford, and suburban Essex, Hertfordshire, and the Surrey clubs are all within the area of the Home Counties, and a meeting of the committees of all these organisations might usefully be held with a view to bringing about the more effective organisation of Metropolitan motorists for purposes of defence. There need be no interference with the present free control of each association; but occasional conferences would be extremely useful and important.

### The Irish A.C.

THE report of the committee of the Irish Automobile Club presented at the annual meeting recently referred to the devolution of authority recently mentioned in these columns. The Irish Club will now be recognised throughout the world as the directing power of the automobile movement in the Emerald Isle, just as the British Club exercises authority in this country. At the same time there will be reciprocity as between members of both organisations in taking advantage of better hotel terms and the like arranged by either club. This will be an important concession to members of the A.C.G.B.I. travelling in Ireland. New premises have been taken in Dawson Street, Dublin, and these are shortly to be opened by the Earl of Aberdeen, who has consented to become patron of the Club. Arrangements are also in progress for amateur reliability trials to be held in June, with Dublin as a centre, and some of the hills in Co. Wicklow providing the hill climbs which have become an essential of such events. It is satisfactory to learn that the good relations which prevailed between the authorities and motorists at the time of the Gordon Bennett race have continued, and that the official voice of automobilism in Ireland is

on good terms with practically all the local and national authorities.

### The Motor Union.

SUPPLEMENTING the report of the Motor Union on another page, we would add to the congratulations of Mr. G. T. Langridge, Dr. Hopkins Walters and Mr. J. E. Hodgkin. The latter, who is Secretary of the North Eastern Automobile Association, referred to the efforts of the clubs comprehended in that organisation to stop applications for speed limits being made by local authorities. By appointing observers in every one of the local authorities' districts in their area, who are able to see members of the Councils and discuss the matter with them, they hope to prevent any action being taken. The advantage of appointing as honorary associates such observers is apparent. They also appoint as honorary members members of Parliament in Northumberland and Durham. It would certainly be an advantage to be able to point to a list of fifty members of Parliament who were honorary associates of the Motor Union. The question of local secretaries becoming honorary members of other clubs has not been generally dealt with in the past, but this, again, is a matter which should be regarded as of great importance in the development of a national automobile organisation. The more the officers come into association with each other the better will it be for the propaganda work.

### The Cost of Examination.

IN the course of his speech to the members of the Motor Union at their annual meeting, the Hon. Arthur Stanley referred to the subject of driving certificates, contending that the Automobile Club rather than the Government was the agency to undertake such work. Doubtless there is much to be urged in favour of such a view in the early days of the movement, and the A.C.G.B.I. is to be commended on the way it has carried out its self-imposed duty. But as Motorism becomes universal there will be a tendency for the licensing authorities to develop into the examining body. Such a course seems consistent with the public view of things, however well qualified the people in Piccadilly may be to continue the work. Meanwhile, however, there is every chance of usefulness for the A.C.G.B.I., and we would suggest that the question of fees should be thoroughly overhauled, with a view to reduce the charges for examination to such a point that, while making no loss to that department, the fees cannot be regarded as a deterrent to prospective drivers. There seems an impression that the cost is, at present, too high, and some official communication on this point would be welcomed by many readers.

### Cars in Australian Elections.

HERE we have fully acknowledged the power of the motor-car as a political force. In Australia the preliminary educational work is still in progress. At a recent municipal election in Sydney the idea occurred to some of the candidates, who thought the charm and novelty of a ride in a motor-car would induce reluctant voters to do their duty. So for some hours after polling began the motor-car was much in evidence,

taking load after load of passengers. People gladly took a seat in the luxuriously-upholstered carriages. No sooner were they emptied than off dashed the drivers for fresh occupants. And so for a time the polling was remarkably brisk. "We have a nice carriage at your door, ma'am," said an energetic canvasser. The lady-voter put on her bonnet and stepped in. "Hope you enjoyed your ride," said the cavalier as they reached the booth. "I've had a *foine roide*," said the lady, with pronounced brogue. "And you won't forget Mr. So-and-So," he added. "No," was the reply, "I won't forget him, I'll scratch his name out, for he's not my man." Then the truth dawned upon candidates and canvassers that they might be bringing up their opponents' friends as well as their own; and the motor-cars were little used afterwards. Their utility was of doubtful advantage; and, as a matter of fact, none of the motor-car candidates secured election.



Mr. W. Crawshaw, of Rainthorpe Hall, near Norwich, on his 15 h.p. Brooke Car.

#### Cordingley's Show.

ALTHOUGH the great Spring Show of 1906 has closed, we may be pardoned for referring to the exhibition as a whole, apart from the notices of particular stands which appear on another page. From whatever point of view it may be regarded it was a success, and the volume of business transacted was greater than at any previous display. This result was highly gratifying to all concerned. More than that, the inquiries were numerous from all sections of society, while the queue of motor-cars and carriages which was drawn up in the Upper Street each afternoon testified to the nature of the attendance. Altogether the event has left a most pleasant impression, and proves conclusively that there is a demand for a Spring Show, and that the popularity of the Agricultural Hall continues and is likely to be maintained for a good many years to come.

#### At the Show.

OUR recent comment advising exhibitors to exercise some care in the selection of their representatives in charge of exhibition stands was generally accepted as worthy of adoption; in some cases where the warning was ignored many opportunities for business were lost. Certain stands at the Show were conspicuous for their uniform neatness throughout the week; others were occasionally wanting in order. Those in charge of the displays were generally good; but an amusing dialogue occurred at one stand. The proprietor of a certain exhibiting concern called at his stand and asked the attendant for some particulars. These were given in an off-hand manner, glossing over a lack of mechanical knowledge. After a few minutes of conversation, extracted with difficulty, the visitor made his identity known, and then the advisability of extending

courtesy to every inquirer was apparent. Those who go to shows must be paragons of patience as well as patterns of persistency. Ignorance and inattention to those who evince any sort of curiosity are not the avenues to success at such displays.

#### Tyres.

VISITORS to the Show could not fail to notice the excellent tyre section in the Gallery, and, although the Continental and some other well-known makes were not represented, there were features of merit and interest. In fact, the makers of the dozen or so tyres shown were quick to congratulate themselves on the way they were able to bring their specialities to the notice of motorists, ever on the look-out for the acme of manufacture in tyres. In our report mention is made of the several varieties exhibited, and it is evident that quality and good design are characteristics of some of the lesser known tyres, as well as of the more widely adopted makes. With regard to non-skidding devices, most of the makers are now regarding 4,000 miles as a tribute to the durability of their devices, and all seem as though they will be very busy for some months to come executing orders lately obtained.

#### The Gallery.

DOUBTLESS in the early days of the shows many visitors ignored the Gallery. It is very different to-day, for, to adopt the late Sir Wm. Harcourt's phrase, "We are all motorists now," and it is recognised that many major as well as minor novelties that contribute to the happiness of the persons on the car are to be found above the ground floor. This is confirmed by a writer in last week's "Clarion," who says:—"I favour the Gallery as a place where a non-technical visitor can be made acquainted with the improvements and new ideas of the motor industry as exemplified in accessories and parts to the car proper. Indeed, I believe that only in the Gallery exhibits can a man find much of interest unless he is on the look-out for a car, or has an expert motor mechanic to explain the varying details of construction adopted by competing builders of the complete car." The success of the firms in the Gallery at last week's display was a notable feature of a notable exhibition.

#### New International Race.

HAVING served an eminently useful purpose, the Gordon Bennett race is to pass away—honoured by motorists and recognised as one of the incentives to perfection in the early days of a quickly growing business. Now the authorities of the automobile world are looking about for a new form of contest which shall attract competitors from all ends of the earth and do something to "improve the breed of motor-cars." A committee is to be appointed in this country to secure the consideration of rules for a new International Race on a rational basis. It is proposed that, subject of course to the consent of the donor, the Gordon Bennett trophy should be ascribed to this event, and that the matter be definitely settled at the International Meeting of Automobile Clubs to be held in June. France, Germany, America, Austria and England have previously figured in these events; Italy must certainly be reckoned in future calculations; Switzerland may possibly renew her one solitary attempt; and Belgium and Holland will probably come into line with other countries. Anyhow, the prospects of a really international competition—if the scope and rules be sane and reasonable—are brighter than ever before.

#### The Repair of Roads.

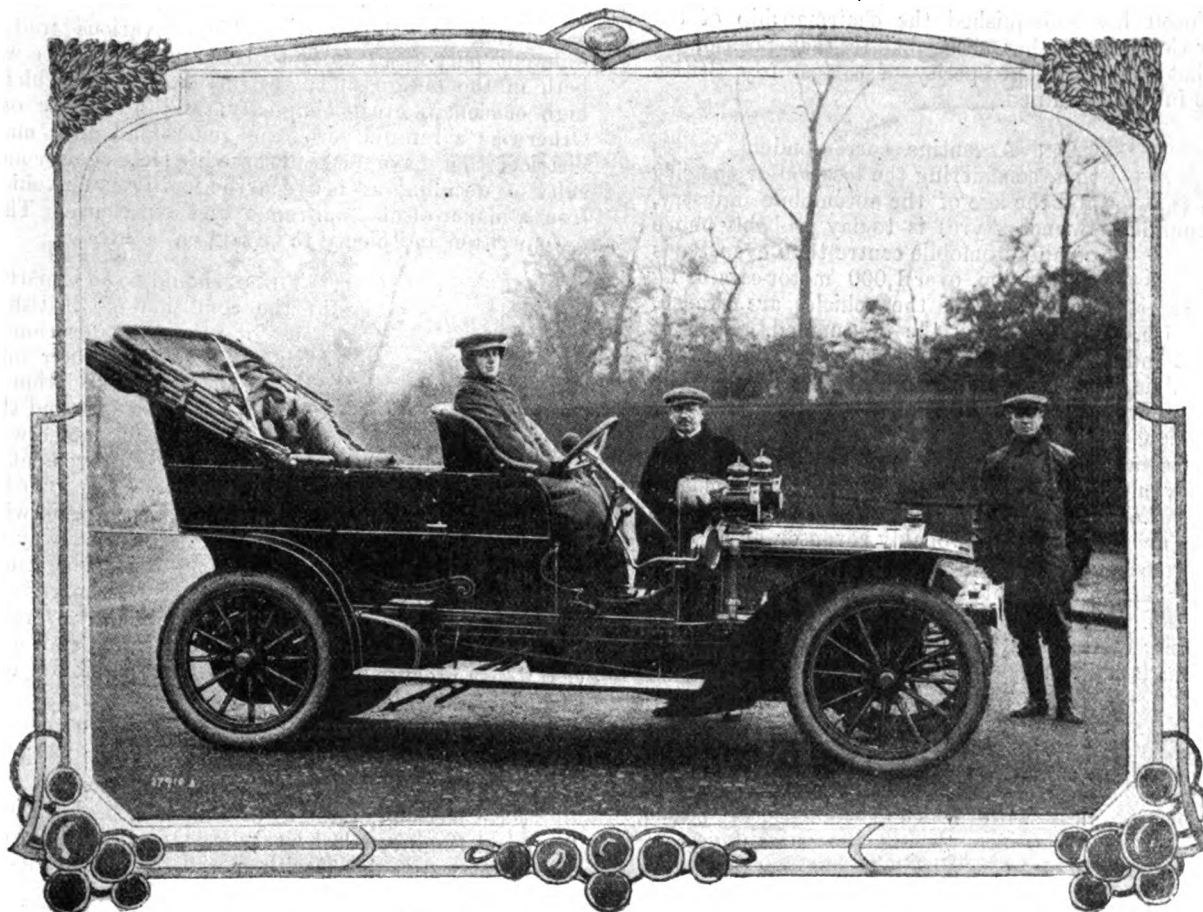
ALREADY the Northamptonshire Automobile Club, reference to the last meeting of which is made in our last issue, is taking active measures to influence the local authorities in the direction of improving the roads of the county, and it has been resolved to send a letter to the County Council asking the Roads Committee to take into their earnest consideration the following points connected with the repair of the roads:

—(1) That instructions be given to the District Surveyor throughout the county, that when they are repairing the roads only one side is to be disturbed at a time, so as to leave a smooth passage, and thus to avoid the great destruction of valuable tyres on motor-cars and other vehicles having rubber-tyred wheels. (2) That in those cases where steam rollers are used, and the stones are not rolled in before dark, a light be placed at either end of the unrolled portion, so that the risk of accident, by drivers suddenly coming in contact with the stones, may be avoided. This precaution, we may add, is taken by the Wilts, Gloucestershire and Warwickshire County Councils. (3) That the system of placing large stones between the road and grass sides, which obtains in some districts, be discontinued, and that the stones now existing be removed, as they are a source of great danger to persons travelling at night, as at times it is necessary for them to draw on the grass side to pass another vehicle on a narrow road. Attention is also to be drawn to the fact that the

Dennis car did well, establishing a record for an officially observed run, while the performances of the Collier tyres amply justified their entry in the Trial and should be highly gratifying to their makers. Four of the speedometers engaged had non-stop records each day of the run, and altogether the trial has given further evidence of the reliability that is now a recognised factor in the automobile world.

#### The Post Office and Automobiles.

IN the course of his paper at the Society of Arts last week, Mr. Norman D. Macdonald said he had been consulted several times by the General Post Offices, both in London and Edinburgh, as to the possibility of getting the mails taken by motor-cars on roads more than they are at present. And specially had he been asked to organise such services in the populous parts of Scotland. Had it been the Highlands and



The Hon. Maurice Gifford's 20-h.p. Sunbeam Car. The Hon. Mrs. Gifford is at the wheel, and her husband is the central figure in the group. The Car is the third Sunbeam owned by these ardent motorists. The gallant officer, who, as will be remembered, lost his right arm in South Africa, is, however, quite able to drive the vehicle, which speaks well for the simplicity of its control.

by-law as to the lights on vehicles now in force is not sufficient, as it does not compel the showing of a red light at the rear of all vehicles, but only those used for carrying timber or any load projecting more than three feet to the rear.

#### End of the A.C.G.B.I. Trials.

ON Saturday the trials which were in progress throughout March under the auspices of the Automobile Club were concluded, and the competitors and the public now await the judges' report. This should not be long delayed, and everything should be done that is possible to hasten its publication, so that the firms enterprising enough to participate may obtain the advantage of their venture during the coming season. From the summary on another page it will be seen that the

islands it would have seemed natural, but not round Edinburgh and Glasgow, amidst a network of railways. The Post Office officials were as clay in the hands of the potter when they started the Parcel Post. Hence they gave the whole thing away to the railways, which actually get 55 per cent. of the receipts for merely carrying the Parcel Post baskets. The Post Office provides all the plant and labour, packs, sorts, sees to the safe handling, and even conveys to and from the train for its 45 per cent. Now it is evident that during the day, to compete with the railway parcels, the Post Office must send its baskets by the same swift trains. But at night there is a lull, during which slower methods may prevail. The Post Office would fain get behind its bad bargain by movements by road in the night seasons. Their only hope to get it done is by big organisation, and probably by those which exist already, having staff, offices, managers, depots, and so on.

### The Daimler Company's New Chairman.

It was something more than a mere coincidence that during the week when the present position of the motor-bus industry was being well demonstrated at the Agricultural Hall, London, two well-known motorists should be writing upon the subject in relation to tramways, their papers being read before the A.C.G.B.I. and the Tramways and Light Railways Association by Messrs. E. Manville and N. D. Macdonald respectively. The latter gentleman is the son of the Lord Justice Clerk of Scotland, whose automobile enthusiasm dates from a period anterior to the famous 1,000 miles trial. Mr. Manville, too, has many claims to secure a respectful consideration for the paper, which we summarise on another page. He has done much valuable engineering work in Ceylon, Canada, Egypt, and Argentina, while his work in connection with the motor-car movement in England has been notable. And now that Sir Edward Jenkinson has relinquished the chairmanship of the Daimler Motor Company he has succeeded to that position—a hopeful sign that the recent prosperity of this sturdy British concern will be fully maintained.

### Progress in the Argentine Republic.

AN Argentine correspondent writes that, considering the location of the city and the age of the automobile industry, Buenos Ayres is to-day probably more of an automobile centre than even Paris or London, over 1,000 motor-cars being at present in use. Three-fourths of the vehicles are French, German, or British, but principally the first-named. Most of the Government and city officials own motor-cars. The President of the Republic has a Panhard and a Krieger electric, while his son has a Panhard and his grandson a Clement-Talbot. The Minister of War, General Godoy, has a Fiat and a Hotchkiss. The Mayor owns a Mors. Commercial cars are now being introduced, and, although there are only a few, information gathered from various important mercantile concerns indicate that within the next few months probably seven or eight such vehicles will be received from France. The good roads movement is gaining many adherents in Argentina, through the efforts of motorists. The Minister of Public Works has recently set aside a special fund of £40,000 for the purpose of having new macadam roads built and others repaired.

### Motor-Car Makers Wanted.

PERHAPS the most authoritative evidence of the public recognition of the growth of the automobile movement that could be afforded comes in the earnestness with which several local public bodies are placing the advantages of their areas before manufacturers. Within recent months Peterborough has sought to attract motor-car makers; the authorities at Letchworth are receiving many firm enquiries as to their development now rapidly proceeding; and the District Council of Bourne, in Lincolnshire, is the latest enterprising authority to take advantage of our columns with this end in view—altogether a tribute to the respect which even agricultural districts are willing to pay to the motor-car.

### Trouble in Russia.

AN English motorist recently took a trip to Russia, and included in his personal baggage a "Car" vulcanizer. On arriving in that country the motorist's baggage was examined by the customs officials as a matter of course. The vulcanizer was noticed, but apparently aroused no suspicions at the time, and the motorist went his way. A few hours later a Russian policeman entered the hotel where the motorist was staying, arrested him on suspicion of smuggling explosive machines into Russia, and, in spite of heated protests from the motorist, locked him up for three days. In the meantime, all the baggage was seized and the vulcanizer subjected to very close scrutiny. Evidently the little steam gauge on the appliance was taken as a timepiece properly adjusted to ignite

the supposed deadly explosive, and the vulcanizer being made of bright gun-metal almost throughout, with a tubular steam generator, no doubt encouraged the Russian officials in the belief that the apparatus was an infernal machine or an explosive of some kind. Negotiations were opened up with London on the subject, and as a result the motorist was promptly released and all his personal belongings, including the vulcanizer, were restored to him.

### Local or National Fame.

RECENT inquiries from commercial firms for the hire of light delivery vans propelled by mechanical means have brought some replies from makers in various parts of the country. They reveal an amount of enterprise on the part of many local firms that seems to suggest the widespread character of the automobile industry in the near future. Many local engineers are combining with body builders in the assembling of vehicles adaptable to various trades and for different purposes. It is to be hoped that care will be taken both in the design and construction of such vehicles to secure high efficiency, great simplicity, and durability of the parts. Otherwise a retardation of the general advance may result in districts that have been ill-served. Here again comes the difficulty of deciding as between the locally-made vehicle and that from a maker of national repute and experience. There is much to be written and plenty to be said on both sides.

### Railway Crossings.

THERE should be an important advance in the condition of British roads ere long, for several organisations are looking with eager eyes to their improvement. The Automobile Association is watching the untrimmed hedges and the unnamed villages; the Motor Union has correspondents always looking for neglected roadways, and the Roads Improvement Association is agitating against unprotected and badly-guarded railway crossings. All users of the roads in East Anglia will rejoice at the action which has led the Great Eastern Railway Company—ever sympathetic towards motorism—to promise attention to the bad condition of the crossing south of Dereham station, on the road leading out of that place to Norwich. Several complaints have been made as to its uneven surface, and now that the G.E.R. has promised repair we trust all possibility of danger in that district has been dispelled.

A CANDIDATE at a municipal bye-election in Liverpool is favouring the introduction of a motor-bus service.

AT a meeting of the Students' Section of the Institution of Electrical Engineers last week, Mr. M. G. Tweedie read a paper on "Electrical Ignition, with special reference to its Application to Internal Combustion Engines."

MESSRS. J. I. THORNYCROFT AND CO. have just delivered their first six-cylinder car. One of its novel features is that two of the cylinders are placed under the driver's footboard in order to shorten the length of the bonnet.

IN connection with our recent article suggesting the use of producer gas as a fuel for the internal combustion engines and public service motor vehicles, we hear that a car fitted with such an installation is already in operation in Italy.

THE "Lady's Pictorial" wrote appreciatively of the Motor-Car Exhibition, where its representative saw the "Proven Rain-and Wind Shield," the "Sigaire and Nandin," small car and "an inexpensive 12-h.p. four-cylinder car," known as the "Prima-Mode." We wonder if the printer was altogether responsible for such novelties.

THE Motor Union have decided to contribute £30 towards Mr. F. W. Baily's expenses in his appeal against a recent decision of the High Court, when he was adjudged to pay £1,500 damages to the widow of a cyclist who was killed in a street accident. Counsel's opinion has been taken in the matter, and Mr. Tindal Atkinson advises that there was a miscarriage of justice in the case.



## ON THE RIVIERA.\*

NOW that the Riviera season is on the wane, and British tourists are returning from the land of the cypress and the olive to the uncertain climate of these northerly shores, comes a new book which will freshen their memories and beguile a passing hour. The Rev. S. Baring-Gould is known as the chronicler of Devonshire folk lore and a gossiping guide to Dartmoor; now he appears as the historian of the Riviera and a courier to the Ligurian coast. His latest volume does not presume to be a consecutive history of Provence and Genoese Liguria, but by recalling some of the prominent incidents in the history of the coast and giving short biographies of the persons associated with the principal towns, the author has written an interesting book on the Riviera. The English visitor calls the entire coast—from Marseilles to Genoa—the Riviera; but the

Cannes, and there built for himself a winter residence. He talked about it in the papers. Eventually it was heard of by the physicians, and they ceased to recommend their patients to go to Montpellier, but rather to try Cannes. When Lord Brougham settled there it was but a fishing village; in thirty years it was transformed; and from Cannes stretches a veritable rosary of winter resorts to Hyeres on one side to Alasio on the other; as white grains threaded on the line from Marseilles to Genoa. As this chain of villas, hotels, casinos, and shops has sprung up so recently, the whole looks extremely modern and devoid of historic interest.

But the Riviera is not destitute of history, as is well shown in this volume. This modern fringe is suspended from an ancient garment, merely a "superficial sprinkling over beds of remote antiquity rich in story." The natural features are described with vigour and freshness.

The traveller approaching the Riviera by the line from Lyon, after passing Valence, enters a valley that narrows, through which rolls the turbid flood of the Rhone. Presently the sides become steeper, higher,

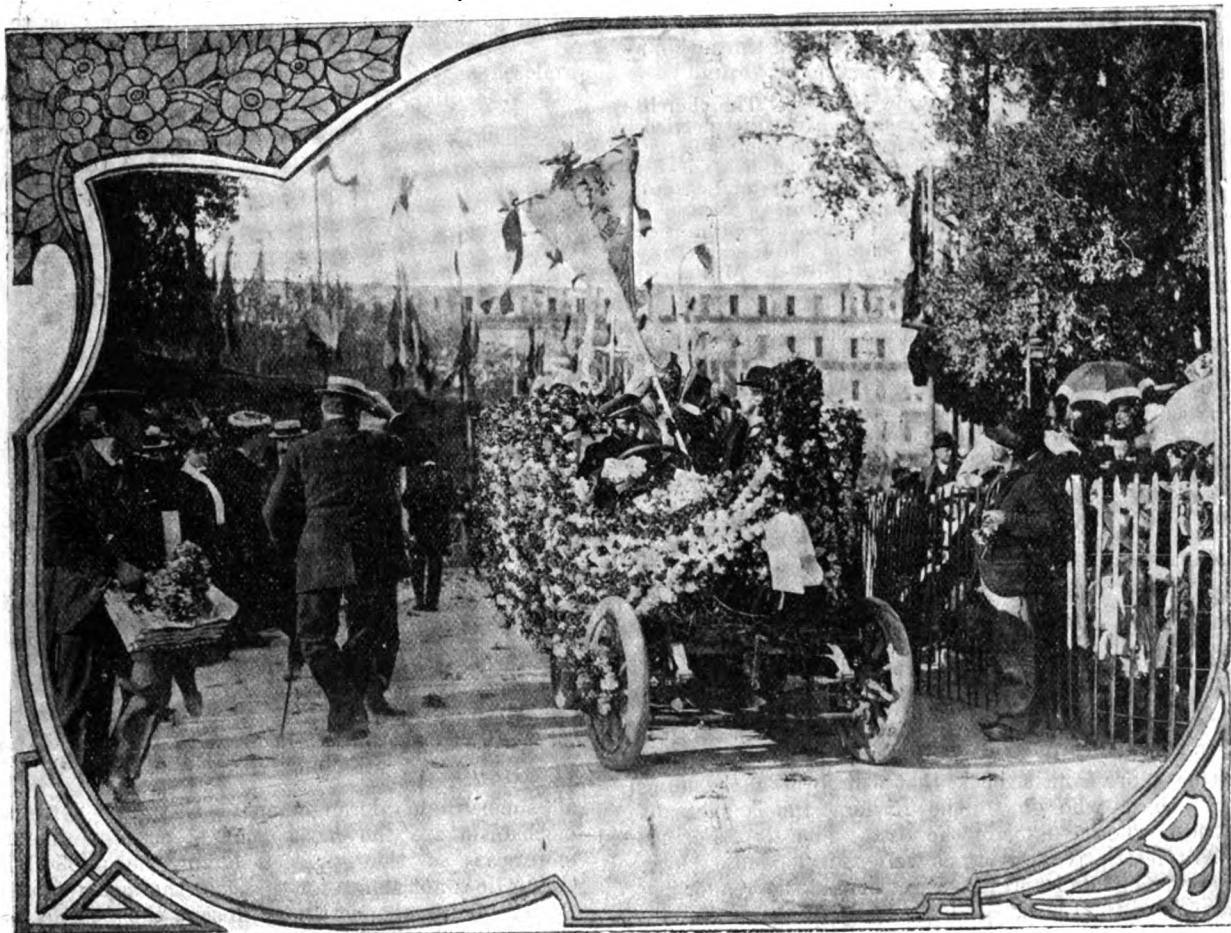


FIG. 1. Automobile Flower Fete at Nice. Over Sixty Decorated Cars, including that of the King of Sweden, took part in the Flower Fete at Nice on Sunday last. The first prize for the best decorated vehicle was awarded to Count Zopolski's Delaunay-Belleville.

French distinguish their portion as the Cote d'Azur, and the Italians distinguish theirs as the Riviera di Ponente.

Lord Brougham was the discoverer of this district, so far as the visitor from our own country was concerned, and, as the Rev. S. Baring-Gould tells the story, this was due to an accident:—

In 1831, Lord Brougham, flying from the fogs and cold of England in winter, was on his way to Italy, the classic land of sunshine, when he was delayed on the French coast of the Mediterranean by the fussiness of the Sardinian police, who would not suffer him to pass the frontier without undergoing quarantine, lest he should be the means of introducing cholera into Piedmont. As he was obliged to remain for a considerable time on the coast, he spent it in rambling along the Gulf of Napoule. This was to him a veritable revelation. He found the sunshine, the climate, the flowers he was seeking at Naples where he then was at Napoule. He went no farther; he bought an estate at

more rocky, and draw closer; on the right appears Viviers, dominated by its cathedral and tower, square below, octagonal above, and here the Rhone becomes more rapid as it enters the *Robinet de Donzere*, between calcareous rocks full of caves and rifts. Then, all at once, the line passes out of the rocky portal, and the traveller enters on another scene altogether, the vast triangular plain limited by the Alps on one side and the Cevennes on the other, and has the Mediterranean as its base. To this point at one time extended a mighty gulf, seventy miles from the present coast-line at the mouth of the Rhone. Against the friable limestone cliffs the waves lapped and leaped. But at some unknown time a cataclysm occurred. The Alps were shaken as we shake a tree to bring down its fruit, and the Rhone and the Durance, swollen to an enormous volume, rolled down masses of debris into this gulf and choked it. The Durance formed its own little *crau* along the north of the chain of the Alpines, and the Rhone the far larger *crau* of Arles, the pebbles of which all come from the Alps, in which the river takes its rise. But, in fact, the present *craus* represent but a small portion of the vast mass of rubbish brought down. They are just that part which in historic times was not overlaid with soil.

Then follows an alluring picture of the vegetation and the

\* "A Book of the Riviera." By S. Baring-Gould. (London: Methuen and Co.)

beauty of the coast, followed by a characterisation of its population, which will help the sojourner among its people to understand much of their ways and habits. First, there were the Ligurians; then the Phœnicians established trading depots at Marseilles, Nice, and elsewhere along the coast. They constructed the Heracleian road, afterwards restored by the Romans to connect all their settlements from the Italian frontier to the Straits of Gibraltar. Succeeding history is full of interest—exciting and romantic—and in no part of Europe did pagan customs linger on with such persistence as in the land of Provence, among the people of mixed blood, Ligurian, Phœnician, Greek, Roman, Saracen. Each race brought some strain of fancy to the common stock, and the Battle of Flowers, that draws so many from all nations to Nice, Mentone, and Cannes, is a direct descendant from the floral games of the Greek settlers. Its present decent character is a comparatively modern acquisition.

The descriptions of the towns of the Riviera are lucidly comprehensive and attractively written, as, *e.g.*, the references to Mentone and Aix, which we give below as typical of the author's style.

There is little of architectural interest in Mentone. The church, built in 1619, and added to in 1675, is in the tasteless style of the period, but tower and spire are effective from a distance. In the church is preserved a processional cross, the staff of which is formed out of a Turkish lance taken by Prince Honore I. of Monaco in the battle of Lepanto, 1571. But if Mentone be somewhat deficient in picturesque features, the same cannot be said of Roquebrune, which for so many centuries shared its fortunes. It is dominated by the castle of the Lascaris. At Roquebrune every year, on the first Sunday in August, the Mystery of the Passion is represented in a procession that illustrates the various scenes of the portentous tragedy. It starts from the chapel of N. D. de la Pansa, on the east side of the little town, a chapel decorated with frescoes of the fifteenth century. The narrow streets passing under vaults, the quaintness of the houses, above all the superb panorama commanded by Roquebrune, make it a place meriting a visit. Still more quaint and picturesque is Castellar, forming a quadrilateral fortress planted on a plateau commanding two valleys.

Aix is perhaps the most dejected of cities. At one time the life blood of the empire poured through it. The great road that left the Flaminian gate of Rome passed along the coast of the Ligurian Gulf, crossed the shoulder of the Alps at La Turbie, and then, going through Nice and by Cannes, reached Frejus. At that point it turned inland, left the sea behind, and made direct for Aix. Thence it stretched away to Arles, and from that city radiated the routes to Spain, throughout Gaul, and to the Rhine. Through the market passed all the trade of the West; through it tramped the legions for the conquest of Britain and the defence of the Rhenish frontier; through it travelled the treasure for the pay of the soldiery; through it streamed the lines of captives for the slave market at Rome. But now Aix is on no artery of communication. To reach it one must go in a loitering and roundabout fashion by branch lines, on which run no express trains, in company with oxen in pens and trucks of coal.

One extract more from a book that will form a charming companion to those who go to the Riviera and a pleasant memory to those who have made the visit. The Rev. Baring-Gould revels in descriptive writing as well as in legendary lore, and every chapter has its interest. With his aid the reader can revisit the scenes of the south, and his picturesque style enables those who have not been to the Riviera to conjure up its scenes of beauty.

A traveller must be very *blase* or very obtuse who is not spellbound by the exceptional beauty of the Esterel. This mountain mass, like the Chaine des Maures, is an interruption of the continuity of the limestone of the coast. It consists of a tremendous upheaval of red porphyry. Unlike the Maures, with its schists and granite, the porphyry assumes the boldest and most fantastic shapes, and the gorgeousness of its colouring defies description. These flame-red crags shooting out of a sea the colour of a peacock's neck, or out of dense woods of pine, afford pictures where form and colouring are alike of sovereign beauty. It is a region unique in Europe, extending something like twelve English miles from east to west, and as much from north to south. The medium height of its summits is 1,500 to 1,800 feet, so that the elevation is not great, but it is cleft by alleys that abound in scenes of the finest order of picturesqueness. Here and there the granite and gneiss appear; elsewhere serpentine, trap, basalt, and blue quartzite porphyry. Beside this is the new red sandstone and the Bunter sandstone. Variety of soil gives variety of vegetation; plantations of mimosa, not over a quarter of a century old, thrive on the primitive cork trees, umbrella pines, oaks, bushes of cistus, laurestinus, myrtle, rosemary, heath, broom, and in the spring gleam the white spears of the asphodel. It is a district in which geologist, botanist and artist will revel alike.

## CARE IN DRIVING.

IT may not have occurred to some that there is almost as much individuality in a motor as in a horse, but it is a fact which cannot be too highly appreciated. One will show a crankiness in running that will puzzle its builders, and another will run so smoothly and uniformly that it will prove a delight to its owner. Nearly every vehicle has its weak point, and it is the duty of the driver to find this out and to favour it just as he would a high-bred horse that possesses some slight defect which otherwise does not affect his standing as a good animal. The amateur and the novice always start and stop a vehicle by a series of short jerks, which is a strain to the mechanism; in fact, many drivers, no matter how much experience they have had, never overcome this novice-like method, simply because they do not understand the nature of their iron steed. If half the accidents and breakdowns to motor-cars could be classified, it would probably be found that a great number of such misfortunes were due either to poor driving or to the neglect



Mr. S. G. Gamble, Southern Divisional Officer of the London Fire Brigade, on his 16-h.p. Albion Car.

of some slight derangement. Creaking springs and noisy mechanism are the most common accompaniments of ill-kept motor-cars as they proceed along the public thoroughfares. Oiling does not suffice for this, and the incompetent driver waits for a favourable opportunity to send the vehicle to some repair shop, there to discover the cause of all the noise. A man with a fair knowledge of the construction of his motor-car could find out the cause of the noise in five minutes, and remedy it as quickly. The neglect which ignorance allows to progress means eventually a bill for repairs that astonishes the person who has to pay it. It also means the shortening of the useful life of the car by many months. Such experiences rarely happen to the expert motorist who knows the principles on which his machine is constructed, and has gone below the mere surface instructions in his driving of a motor-car.

THE Town Council of Harrogate is seeking a L.G.B. regulation to limit the speed of motor-cars passing through certain streets in the borough to ten miles an hour.

It was mentioned at the annual gathering of the Naval Volunteer Cruising Club at Brighton, that there was every indication of the coming season being a record one for club racing. It was hoped to arrange a series of competitions for motor-boats belonging to members.

## SOME CURRENT TOPICS.

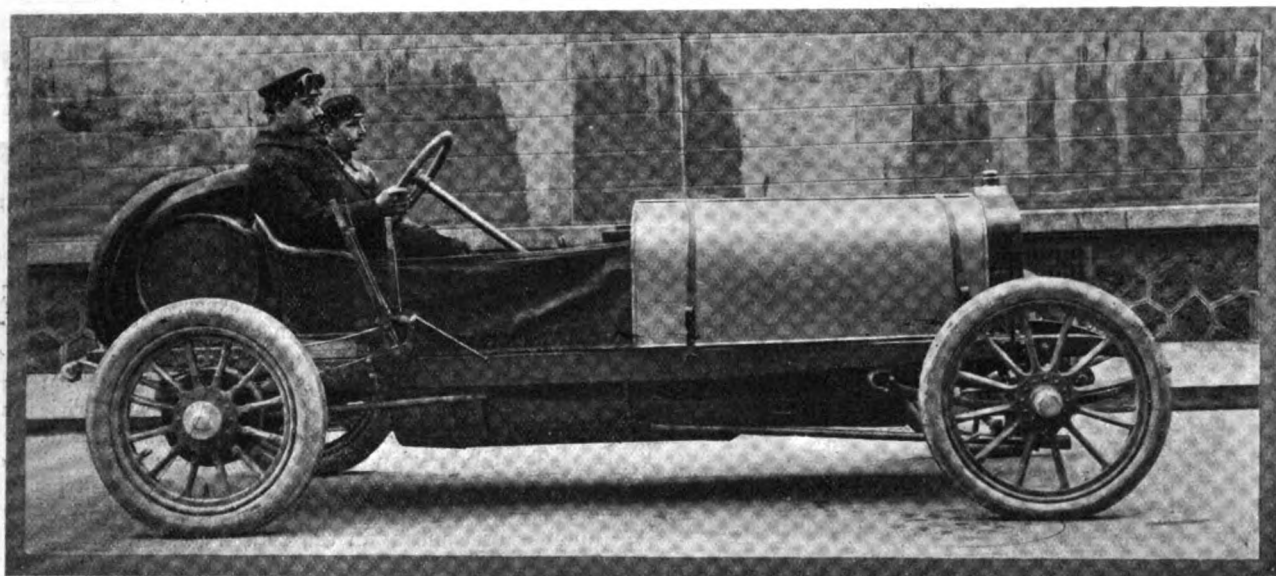
### A Run on a "Standard" Six-cylinder Car.

The Standard Motor Company, Ltd., Coventry, have been devoting attention for some time past to the production of a six-cylinder car, and recently we accepted an invitation of Mr. Budge, the designer of the vehicle, for a short run over a more or less hilly course. To be brief, the most notable features in the behaviour of the car were the extreme smoothness and sweetness of running at all speeds, varying from two to fifty miles per hour, and the wide range of control by the throttle. The car can be started on the direct drive—which is on the third speed, and not the fourth as usual—even on a slight incline, and will "pick up" on a gradient of 1 in 10. On ordinary roads and traffic there is no need to touch either the gears or the clutch, as the car can be controlled by means of the throttle lever only. No shock was experienced when slowing up or in the accelera-

within a period of about three months, ready for the Cordingley Show. Mr. Grimshaw added that at Bamber Bridge, near Preston, the Critchley-Norris Company had a well-equipped factory with plenty of room for extension, and that at the present time the erection of a new shop, 500 ft. long by 80 ft., was well in hand. The development of the motor-omnibus movement in this country has been so rapid that the demand has far exceeded the supply by home builders, hence the fact that the majority of those at present in service are of foreign construction. The number of British builders is, however, slowly but surely increasing, and with the addition of the Critchley-Norris Company we are a step nearer to the time when it will no longer be necessary for our 'bus companies to go abroad for their vehicles.

### British Production and Foreign Imports.

A good deal has been heard during the past month or so with regard to the relative value of the British output of motor-cars and the imports of foreign automobiles into this country. When first the subject was raised we expressed the opinion that the figures which had been advanced with regard to the value of



The New Clement-Bayard Six Cylinder Racer.

The Clement-Bayard Company are building three new racers for the contest for the Grand Prix de l'A.C.F. The above illustration depicts one of these vehicles with M. Villemain at the wheel. The car has a six-cylinder engine and live axle, and is stated to have, in the course of its preliminary trials, attained a speed of 97 miles per hour.

tion of speed. The car was fitted with test body and carried three passengers, including the driver.

### Motor-'Bus Construction in Great Britain.

An interesting function in connection with the motor-omnibus movement took place in London on Wednesday of last week, when the Critchley-Norris Motor Company gave a private dinner to celebrate the introduction of the Critchley-Norris motor-'bus, which made its public debut at the Agricultural Hall Show, and a description of which was concluded in the last issue of the M.C.J. Mr. J. S. Critchley, in a short speech, gave some interesting particulars of the inception of the vehicle, and made the satisfactory announcement that it was no longer necessary for British automobile engineers to go abroad for any of the raw material or component parts used in the construction of motor-'buses, everything being now obtainable in this country. Steel manufacturers, in particular, had, he mentioned, shown great enterprise of late in catering for the requirements of the automobile industry. Mr. Norris also recounted some interesting reminiscences of his early connection with the motor-car movement, while Mr. Geo. W. Grimshaw referred to the celerity with which the new 'bus had been put through. The designs of the vehicle were only commenced early in December, but by a great effort they had managed to complete the first machine

the home production were absolutely unreliable. Our opinion has since proved to be well founded, for it has transpired that the values given were largely estimated ones. A striking instance as to how wide of the mark these estimates were has just been brought to our notice by Mr. E. Lisle, sen., of the Star Engineering Company. Mr. Lisle was among those who did not see his way to make public to a competitor the extent of his output, and informs us that the figures credited to his company as the estimated value of their production of Star cars in January last were about equal to the actual profits of the month!

ON Tuesday last, at the Show at the Agricultural Hall, Messrs. R. Reynold Jackson and Co. duly dismantled the little Jackson dogcart which had covered over 15,000 miles at a very small cost of upkeep. The proceedings created much interest, and the excellent condition in which the change-speed gears and bevel pinions were found was not only a matter of considerable satisfaction to Mr. Jackson, but made a great impression on motorists of moderate means. We understand that the car is to be put together again for further daily use during the ensuing year, when, at the 1907 Cordingley Show, its internal condition will again be publicly inspected.

## CONTINENTAL NOTES.

### The "Elastic" Wheel Competition.

The "elastic" wheel competition which the "Auto" proposes to hold in France from the 17th to the 26th inst. promises to be of an interesting character, an excellent list of entries having been obtained, as will be seen from the following:—

Entrant.	Type of Wheel.	Car on which same is fitted.
Yberty and Merigori	Elastic Tyre	16-h.p. Decauville.
Ducasble	Ducasble Tyre	14-h.p. De Dion.
Le Securitas	Metallo-Elastic Tyre	16-20-h.p. Lue-Court.
Amelot	Wheel with double rim and springs between	Martin-Lethimonnier.
Hallé	Spring Wheel	35-h.p. Gobron.
Soleil	Cushion Hub	20-h.p. Renault.
Spherola	Spring Wheel	Not yet stated.
Cadignan	Spring Wheel	16-h.p. Boyer.
Hallé	Spring Wheel	24-h.p. Rapid.
Coaset	Spring Wheel	30-h.p. G.V.R.
Edmond Leri	Spring Wheel	24-h.p. Dietrich.
Garchey	Enclosed Rubber Tyre	24-h.p. De Dion.
Monnin-Damidot	Spring Wheel	Not yet named.

It will be seen from the above that two British productions are taking part in the trials—the Spherola and the Hallé.

### Another French Touring Exhibition.

The Moto-Club de Cannes is organising a touring motor-cycle competition for Sunday next, the 8th inst. The course is



A Motor Meet on the Lauteret, Dauphiné, France, 6,800 feet above sea level.

from Cannes to Grasse and back, *via* a 200-kilometre circuit. There will be classes for motor-cycles and tri-cars, and a minimum speed of 15½ miles per hour will be required.

### An Inventors' Exhibition.

Considerable interest is being shown in the Exposition des Petits Inventeurs, which was opened in Paris on Saturday last. Walking round the Show one comes across many interesting little novelties, among which may be mentioned a honeycomb radiator, which can be readily dissembled, shown by M. Choppy, and an instantaneous fixing for tyre inflators, by M. Lhuillery. Several new spring wheels, change-speed gears, shock absorbers, and syrens are also to be seen, among the latter being one which emits a sound that can be heard at a distance of over a mile.

### Miscellaneous Items.

A reliability trial of industrial motor vehicles is to be held by the Automobile Club du Nord de la France from the 7th to the 13th June next.—Twenty-one entries have so far been received for the Circuit Européen, the British contingent including a Wolseley and three Daimlers.—The Moto Club of Como is organising a motor-cycle race from Milan to Como for the 27th inst.

## HERE AND THERE.

AMONG the visitors to the Show last week was M. Jenatzky, the winner of the Gordon Bennett race in 1903.

THE A.C.G.B.I. badge is now being allowed to be used as an armorial bearing without licence duty being paid.

THE London County Council has just placed an order with Messrs. Merryweather for a third motor fire engine.

SOUTHAMPTON WATER will again be the scene of the Reliability Trials of the Motor Yacht Club. These will take place in July.

THE new underground trams from Kingsway to the Angel were a great convenience to many visitors to the Agricultural Hall Exhibition.

COPIES of the catalogue of Cordingley's eleventh motor-car exhibition can be ordered through any newsagent, bookseller, or railway bookstall.

MESSRS. DAYRELL AND GROOMBRIDGE, makers of the Dagro accumulators, have removed from Forest Gate to the Uxbridge Motor Garage, Uxbridge.

"So far as novelties go," says Mr. E. Campbell, writing in the "Morning Leader" with regard to the Cordingley Show, "I think it is admitted that there are actually more on view than was the case at Olympia."

IN connection with the Show the Lancashire Steam Motor Company, Limited, issued a handy little book in which visitors to the Commercial Vehicle Section might make notes and sketches of any item of interest to them.

THE Darracq Proprietary Company, Ltd., has been registered with a capital of £75,000, to acquire the land, premises, fixtures and fixed plant at Suresnes, belonging to A. Darracq and Co., Ltd. (incorporated in England in 1903).

THE Cardiff Watch Committee have accepted a tender for the supply of an 18-20-h.p. motor ambulance by Messrs. Straker and McConnell. The price paid by the authorities includes the training of a man to drive and manage the vehicle.

THE Federation of American Motor Cyclists has decided to offer three medals for mileage and touring this year. The medals will be awarded to the motor-cyclist visiting the greatest number of counties in the United States between April 1st and November 30th next.

A NEW soap for cleansing the hands of motorists has been introduced by the "K.C." Soap and Polish Company, Ltd. The active ingredient is a saponaceous earth, and it is entirely free from deleterious matter. In this preparation there is evidently high merit, and to motorists who have had difficulty with their hands the K.C. soap is to be commended.

THE Central Insurance Company, Limited, have issued a neat card of cautions to drivers for the prevention of fire, in a form sufficiently attractive to be hung in the garage. Among the nine important warnings is one not to be lightly disregarded, viz., "Put all cotton waste into a bucket or other metal receptacle provided for the purpose, and do not allow it to accumulate."

REFERRING to the non-stop run recently made by the Maudslay bus from Coventry to Edinburgh, it is of interest to know that the vehicle was fitted with the Hopkinson patent solid tyre. Several motor-buses had previously been despatched on similar non-stop runs from the Maudslay works, all of which were successfully accomplished without tyre troubles of any kind occurring on the journey.

A GOOD story is going the rounds of motoring circles. A new addition to the ranks of automobilists had purchased a Talbot, and had given instructions that it should be driven down to his residence on completion. When the happy news came that it had been despatched the owner prepared for a trial trip. But the car was somewhat late in turning up and the owner inquired the cause. "Well, I had a cylinder missing at the start, and—" "A cylinder missing? Why the — didn't they put in all the cylinders, I paid full price for the car!"



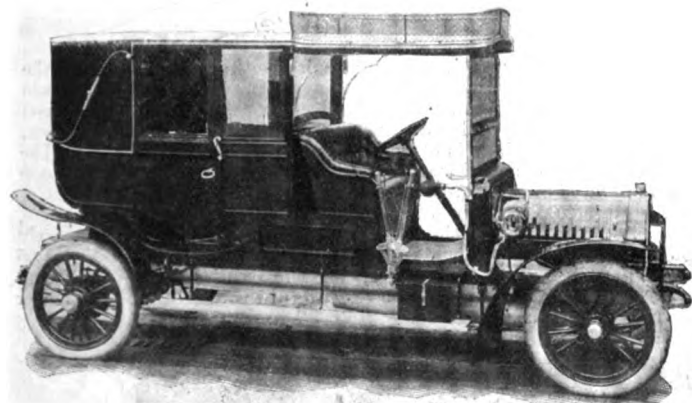
THE Wheel Construction Company, Ltd., has just been formed.

THE authorised capital of the Monde Motor Company is £1,000.

MESSRS. S. F. HEATH AND CO., of Birmingham, have opened up a new garage in Worcester.

THE nominal capital of the United Motor 'Bus Company, which was registered at the end of last month, is £100.

"MOTOR NOTES" are a regular feature of the "Madras Times" and other newspapers published in India and Ceylon.



The 20-28-h.p. Spyker Car built to the order of Mr. E. W. Casares for shipment to South America. It is fitted with a special six-seated Landaulet body by Meier, of Redhill.

MR. CHARLES JARROTT hopes to drive from London to Monte Carlo—excepting, of course, from Folkestone to Boulogne—in 48 hours.

MR. H. WAYMOUTH PRANCE, A.I.E.E., has commenced practising as a consulting automobile engineer at 39, Westbourne Gardens, Bayswater, W.

WITH a capital of £60,000 the Autoloc Syndicate has been formed to acquire the British patent for the Autoloc, which was one of the novelties at the Show.

THE New Leader Cars, Ltd., is the title of a company formed with a capital of £75,000 to acquire the business carried on by New Leader Motors, Ltd.

MR. MAX GRADDON is making a special feature of motor coach work at the Mildmay Motor Carriage Works, Mildmay Avenue, Newington Green Road, N.

A GARAGE has been established at the Royal Hotel, Leamington, the charges in connection with which are on a sliding scale, commencing at 3d. for motor-cycles, 6d. for cars up to 20-h.p., and 1s. for cars beyond that power.

MR. J. C. MITCHELL, who was lately with Messrs. Friswell, Ltd., has commenced business as motor salesman, auctioneer and valuer at 61 and 62, High Street, Shaftesbury Avenue, London, W.C., under the title of James C. Mitchell and Co.

MESSRS. H. ANDREW AND CO., of Athenæum Place, Plymouth, have recently enlarged their premises, so that they have now accommodation for fifty motor-cars. Their garage has been appointed the head-quarters of the South Devon Automobile Club.

WE learn that the Rykniel Engine Company, Limited, Burton-on-Trent, have decided to confine themselves entirely, for the present, to the manufacture of heavy motor-bus chassis. These will be in general similar to those supplied towards the end of last year to the Leeds City Tramways; but they have been improved and simplified in several respects, and also reduced in weight.

THE Clincher Motor Tyre list for 1906, just issued by the North British Rubber Company, Limited, is a well-prepared production, complete with regard to tyres and their accessories. In addition to the usual information concerning covers, inner tubes, etc., there are particulars and illustrations of the Clincher handy case fitted with repair outfit—a particularly useful speciality of which the touring motorist should take note.

THE Crown Prince of Germany has just ordered a 70-h.p. Mercedes car; it will be fitted with a six-seated touring body.

THE offices of the Societe des Automobiles le Passe-Partout are at 84, Bishopsgate Street Within, E.C. The capital is £6,000.

A NEW motor depot is being opened in the Kingston Road, Raynes Park, London, S.W., by the Dorian Motor and Cycle Company.

THE Baldwin Locomotive Works, of Philadelphia, have purchased a Winton car in which to carry visitors to and from their factory.

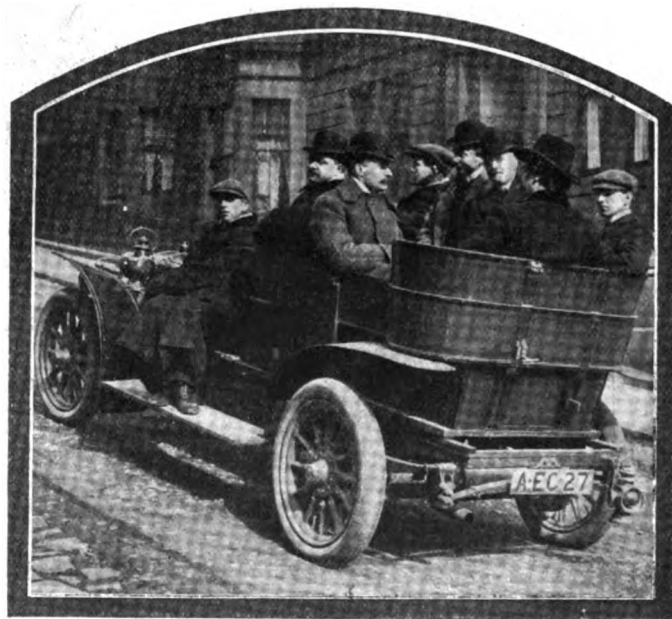
THERE will be no initial public issue of the British Mercedes Motor-Car Company, which has just been registered with a capital of £100.

THE Belfast Marine Motor Company, Ltd., has offices at 38, Waring Street, Belfast, and has been registered with a capital of £1,000.

WITH offices at the Belfast Chambers, Beak Street, London, W., the Motor Delivery Company has been registered. The capital is £5,000.

IN the annual report of the Fire Brigade Committee of the L.C.C., brief reference is made to the experiments with motor traction now being conducted.

THE Validus detachable non-skidding and unpuncturable band has just been put upon the market. This is rigid and does not creep on the tyre. It is easily adjustable and does not wear the tread of the latter, there being no metal resting on the cover of the latter. The rivets are only fitted through the renewable tread, and although there is a thickness of leather between the tyre and the backs of the rivets, no great weight is added to the wheel by the adoption of the Validus device.



A Delaunay-Belleville car ascending Girdner Street, Glasgow, a well-known hill with a continuous gradient of one in six. The Barlington Carriage Co., Ltd., inform that the same car had previously ascended Balmain Brae, another noted Glasgow hill, with fourteen persons on board.

GREATER efficiency is claimed for their engines by the Austin Motor Company, by the adoption of a device which allows of equal expansion to the cylinder. The majority of cylinders are, as a rule, cast in one with their water jackets, but in this instance a novel method is brought into use. The bottom of the cylinder water jacket is left open, and between this and the cylinder proper is screwed a cast iron ring, having on its inner face, and grooved into it, a Dermatone washer, which expands as it is forced into position. Whilst making a perfect water-tight joint, it also allows the walls of the cylinder to expand and contract at will.

## The Cordingley Show.

[Continued from page 101.]

ON Saturday last the 'Agricultural Hall closed its doors on the eleventh of Cordingley's Motor Shows. From the spectacular point of view it was, according to the daily press, a triumph, and congratulations were sincere and universal. That business was brisk throughout the week was evident from the anxiety of many of the leading firms to secure the same positions for next year's Exhibition. Our report is continued below, and we would remind readers who were unable to visit the display that catalogues can still be obtained from the office of the M.C.J.

### The Savage Steam Wagon.

Messrs. SAVAGE BROS. had on view two steam wagons, one with locomotive type boiler and one with water tube boiler. The Savage

working at 200 lbs. per sq. in. It can be fired either from the top or the left hand side, and a noteworthy feature is the provision of a hand hole for cleaning the scale and mud from the fire-box crown plate. The feed arrangements, engine, and gearing are all similar to the other wagon, but a rocking forecarriage is fitted to secure three point suspension. The wheels of the wagon are of wood, of the artillery pattern. This wagon has had mounted on the frame immediately behind the driver's seat, a combined lighting set, consisting of an engine similar in all respects, except its vertical position, to the driving engine, and directly coupled to it a 30 kilowatt dynamo, giving 130 amperes at 65 volts. This engine was running during the exhibition and lighting several electric lamps; it should be very useful to travelling showmen, or for search light apparatus.



A General View of the Show as it appeared on Sunday morning last.

water tube boiler is well known, having two drums, a water drum and a steam drum, connected by 120 tubes of 1 in. diameter. The peculiar shape of these tubes materially assists circulation, and the heating surface amounts to 110 square feet. The grate area is 3 feet. The exhaust passes through a feed water heater under the foot-plate, and the feed is provided by an automatic pump, gear driven off the crank-shaft, and by an independent donkey pump of the Morse type. The engine is compound, with cylinders of 4 in. and 7 in. diameter by 5 in. stroke, and is mounted horizontally under the wagon body. The high pressure cylinder has a piston valve and the low pressure an ordinary slide valve, actuated by a single, eccentric reversing gear. The final drive is by roller side chains from the differential countershaft. The engine and gears are all in an oil-bath, but the chains are unprotected. The spring ends slide on brackets, and the brake blocks are applied to both sides of the driving wheels, so as not to put any strain upon the axle. The wheels are built up of steel plates dished at the centre, and riveted to circular angle irons at the rim. The second wagon, which was staged at the further end of the Minor Hall, is provided with a locomotive boiler, fitted with unusually large tubes, 2 in. diameter, and

### The Ellis Steam Wagon.

Messrs. JESSE ELLIS AND CO., LTD., had on view a 5-ton steam wagon, with sanitary tipping body and watering tank. This firm have introduced the system of fitting the watering tank inside the body, so that, instead of changing bodies when required to be altered from scavenging work to street watering, the tank can be slung in complete with all attachments. The vehicle has attracted considerable attention from local authorities, and has been adopted in several districts on account of the economy that is shown over the use of horses for these purposes. The boiler fitted to the exhibition wagon is of the vertical smoke tube type, the tubes being curved and the top tube plate sunk below the water level, so that the tubes are never uncovered. The engine is a compound with cylinders 4 in. and 8 in. diameter by 6 in. stroke. Ordinary link motion is used, and the slide valves are balanced. The engine is enclosed in an oil bath and the transmission is by spur gearing, all of which is machine cut from steel blanks. The differential is on the live back axle, which is 4 1/2 inches in diameter, reduced to 3 1/2 in. at the journals. Stevens' patent compensating bar is employed to equalize the load on the back axle springs, and to ensure that the axle always moves parallel to the second motion

shaft, and that the gear wheels are equally deep in gear. This wagon is fitted with a steam tipping gear worked from the flywheel of the driving engine. A bevel spur wheel is attached to the flywheel, and a bevel pinion on the tipping gear can be brought into mesh with this when required. When the wagon reaches the unloading berth, the engine is thrown out of gear with the road wheels and the bevel is put into gear with the tipping apparatus. Much time can be saved by the use of this appliance.

#### The Sentinel Steam Wagon.

Messrs. ALLEY AND MACLELLAN, LTD., were showing a new sixteen "Sentinel" steam-wagon chassis. The design of this vehicle is quite original, and there are many points that well repay careful study.

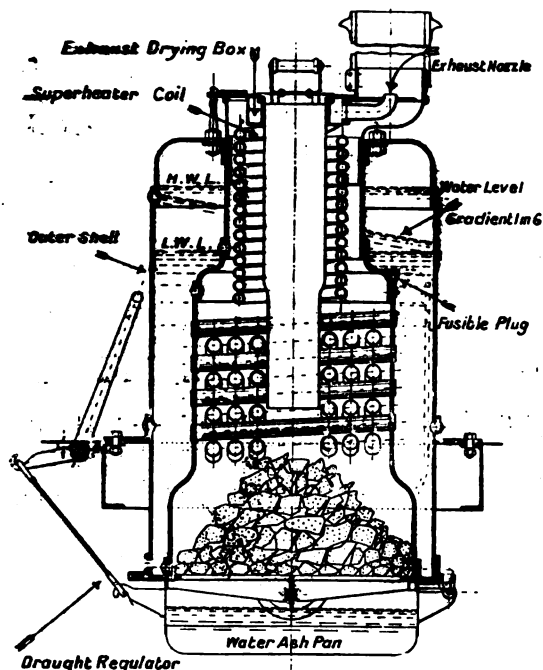


Fig. 37.—Sectional View of "Sentinel" Boiler.

without unshipping the boiler, provided, of course, that the wagon is standing over a pit of sufficient depth. In this way every portion of the fire-box plates and the water tubes can be cleaned free from scale. The boiler is fired through a central shoot, and instead of the usual ashpan damper door the whole ashpan is hinged at one side and lowered from the other, so as to regulate the draught. The boiler works at 250 lbs. pressure, and contains 61.3 square feet of heating surface. The feed is by automatic pump driven off the end of the crank-shaft, and by a Gresham and Craven injector. The engine is not compound, but has two equal cylinders, 6½ in. diameter by 10 in. stroke, the cranks being set at 90 degrees. The valve gear is similar in principle to that of a petrol engine, as a cam shaft passes underneath the cylinders and operates mushroom poppet valves, separate valves being used for admission and for exhaust, and, by moving the cam shaft axially, the cut off can be varied to give different degrees of expansion. The whole of the motion work and the cam shaft run in oil, in a

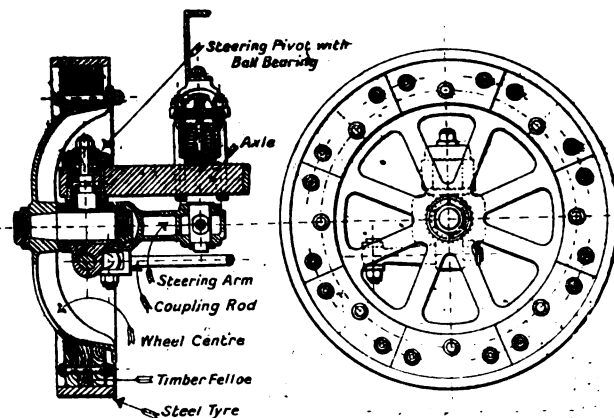


Fig. 38.—Section and Elevation of Front Wheels of "Sentinel" Motor Wagon.

dust-proof casing. The unusual dimensions of the engine have enabled the makers to dispense with a second-speed gear, as all variations of power and speed can be obtained by the throttle valve. The latter again is quite novel, the main regulation of the steam being by a stop valve, for, on turning the handle at the top, the valve is raised off its seat, but the orifice through which the steam passes can be instantly closed by a foot lever. In practice the driver regulates the

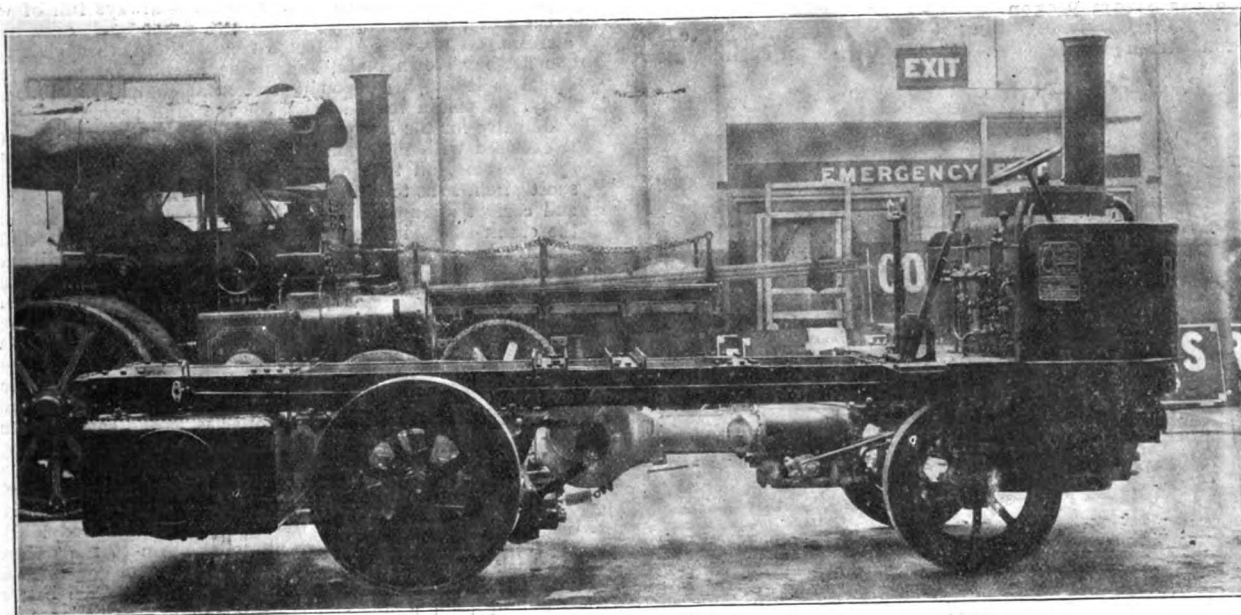


Fig. 39.—The "Sentinel" Sixteen Steam Wagon.

In the first place, the boiler (Fig. 37) is of the vertical cylindrical type with a square fire-box, crossed by forty-eight inclined water tubes. All these tubes are in the lower part of the fire-box, well below the water level, so that there is no chance of uncovering them even on the steepest inclines. The sectional view shows the water line on a gradient of one in six, which will make this point quite clear. The sixteen central water tubes are stouter, so as to act as stay tubes, and the upper part of the fire-box contains a superheater coil ensuring absolutely dry steam. The fire-box can be taken out by unbolting two flange joints, one at the top and one at the bottom, and removed

pace and power of the wagon by the hand stop valve, but any slow down or stoppage for traffic purposes is effected by depressing the pedal without taking his hands off the steering wheel. The drive is transmitted from the crank shaft to the differential on the live back axle by a roller chain. The differential can be locked by a catch on the off side driving wheel. The wheels are composite, with cast-steel centres and built up wooden felloes, and the front wheels (Fig. 38) have been dished so as to get the pivot on the centre line of the wheel tread. With this arrangement there is no tendency to turn when the wheel strikes an obstacle, and

load on the coupling rods and steering rods is reduced to a minimum. The steering is operated by a screw and nut working in an oil bath. Throughout the wagon special material has been used, and great care exercised that the proportions are ample. Before putting the "Sentinel" steam wagon on the market, the makers have subjected it to severe tests, and careful observations have been made of its performance. They are assured that it will give satisfaction in regular work with six ton loads on its own deck and an additional four tons on a trailer, ten tons in all, with which loads they have climbed gradients as severe as one in eight.

#### The Wellington Steam Tractor.

The tractor exhibited by Messrs. WILLIAM FOSTER AND CO., LIMITED, was a standard Wellington machine of the five-ton size. It is designed on traction engine lines, with locomotive boiler working at 210 lbs. per square inch, the feed pump being driven off the crank shaft by a 2 to 1 reduction gear, and a White injector is also fitted. Special provision is made for cleaning, in the shape of a hand hole in the fire-box casing, level with the crown of the fire-box, and another at the top of the smoke-box tube plate. The engine is a two-crank compound, with slide valves on the top of the cylinders, operated by ordinary link motion, and an auxiliary valve admits steam to the low-pressure cylinder for ease in starting. The tractor shown had "Gare" resilient wheels for both steering and driving. These wheels have given great satisfaction to all who have tried them, as they not only silence the engine, but they also greatly reduce wear and tear, by stopping the vibration that steel wheels transmit to the whole engine. They also make a speed of twelve miles per hour legal, when a trailer is not drawn, instead of the five-mile limit. A built up steel wheel off the traction-engine type was also shown. The manufacturers have given special attention to the water capacity, and large tanks are carried on either side, in addition to the tender tank. These side tanks are chamfered off along one vertical edge to allow plenty of room for the front wheels when in full lock. A patented arrangement is employed for the spring suspension of the back axle, whereby only one cross spring is employed, but the axle is bound to always move parallel to the other shafts.

#### The Stepney Spare Wheel.

Recent reports in our columns, notably that of Mr. R. M. Wright's run from Lincoln to London, have familiarised motorists with the advantage of the Stepney spare motor wheel which was shown by Messrs. DAVIES BROS. The device is really a skeleton wheel with inflated tyre spokes, with suitable arrangements for securing it to the iron flange or bead of the punctured car wheel. The fixing of this spare wheel is so easy that by simply screwing up two fly-nuts with the fingers it is made secure, thus enabling the motorist to continue his journey without any delay or inconvenience, nor damaging the deflated tyre, which remains in position on the car wheel, and can be repaired at leisure.

#### The St. Pancras Steam Wagon.

THE ST. PANCRAS IRON WORK COMPANY, LTD., exhibited a standard 5-ton steam wagon (Fig. 41), fitted with an entirely new

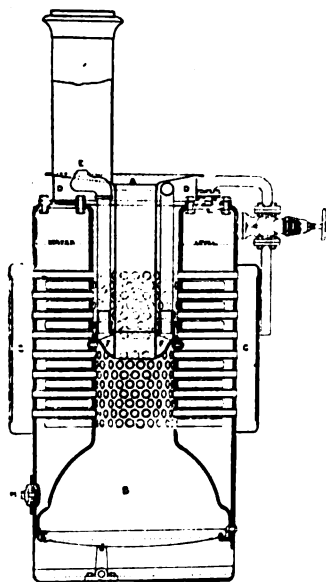


Fig. 40.—Section of St. Pancras Boiler.

boiler of novel design. It will be seen from the section illustrated that it is a vertical boiler fitted with horizontal tubes. There is a large central fire-box fired from the top through a central shoot, and at the bottom of the shoot is a baffle plate riveted to the fire-box plate, which completely cuts off the upper part of the central space from the fire-box. The products of combustion pass outwards through the lower eight rows of tubes to an annular smoke-box, and are returned inwards through the seven upper rows of tubes to the central space above the

baffle plate, from whence they rise to the funnel. The water level is well above the top row of tubes, even on a considerable incline. Advantage is taken of the position of the baffle plate to make it into an exhaust steam superheater, from which the exhaust is finally emitted through a nozzle in the base of the funnel. The casing or annular smoke-box is provided with doors so that all the tubes can be properly swept, and the top cover plate of the boiler can be unbolted to clean the outside of the tubes. The working pressure is 220 lbs. per sq. in., and the heating surface 93 sq. ft. The engine is horizontal, with compound cylinders  $4\frac{1}{2}$  in. and 7 in. diameter by 6 in. stroke. It is fitted with link motion actuating D slide valves. There is a central bearing to the crank-shaft, all the bearings being lined with phosphor bronze brushes. The drive is



Fig. 41.—The St. Pancras Steam Wagon supplied to the N. E. Ry. Co.

by spur gearing to the differential countershaft and thence to the back wheels by Renold roller chains. The engine and gearing run in a large oil bath under the wagon body. A rocking fore-carriage gives practically three point suspension to the vehicle, and the road wheels are of cast steel.

#### The Hindley Steam Wagon.

Messrs. E. S. HINDLEY AND SONS exhibited two steam wagons, one each of the five and three-ton sizes. The larger wagon, which is fitted with a covered van body, is one of a repeat order for Pickfords, Limited, the total orders placed for this make of steam wagon by these well-known carriers amounting to seventeen wagons. This is a standard five-ton wagon chassis, fitted with a boiler of the stayless locomotive type patented by this firm. The fire-box and outer fire-box shell are both circular, and the shell is carried up considerably higher than the top of the boiler barrel, so that the barrel is always full of water, and the tubes and fire-box crown are entirely submerged, even on the steepest inclines. The firing is effected from the top, through a central tube in the fire-box crown plate, and ample heating surface is provided. The steam is led to a compound horizontal engine, slung under the wagon body. A piston valve is used for the high pressure, and a balanced D slide valve for the low pressure, actuated by ordinary link motion, which is enclosed with the crank shaft in an oil bath. The transmission is by spur gearing, all the gear wheels being of great width and moderately short pitch, so as to run silently and smoothly. Two speeds are provided, and correct alignment of the back axle and second-motion shaft, with the crank shaft, is ensured by three plate links. The differential is on the live back axle, and is made so that it can be readily locked, should one of the wheels slip on a greasy road. A water tank of 180 gallons capacity is slung from the back end of the frame, and an automatic pump and injector provide for the boiler feed. The back wheels are 3 ft. 8 in. diameter by 10 in. wide, and the front wheels 2 ft. 10 in. diameter by 5 in. wide. They are built up of dished steel plates, but "Gare" or artillery type wooden wheels can be fitted if desired.

The three-ton wagon is a tipping wagon built to the order of Messrs. G. E. Maloney and Co. The boiler is of the same design, and differs only in dimensions from that on the larger wagon. The engine, however, is vertical, slightly inclined, and is mounted immediately behind the boiler, and above the frame. The change-speed pinions are on an extension of the crank shaft, and drive a short second motion shaft on the right hand side under the fore part of the body. From this the power is transmitted by a stout roller chain to the differential on the live back axle. The position of the engine and gear permits of a water tank immediately over the back axle, giving a much better distribution of weight than usual, and allowing an unusually large capacity tank. The tipping gear can be operated from either side.

#### The "Grose" Band.

The well-known "Grose" band was shown in the Gallery. In this the chrome leather band is formed into the exact curve of the tyre it is intended for, thus ensuring a neat appearance. The whole of the tyre is covered with leather, completely over the beaded edges, so that the band actually strengthens the tyre on which it is fitted, and prevents it from bursting above the beaded edge. This arrangement has also the advantage of preventing the damp penetrating to the tyre. Between the rubber tread of the tyre and the band an intermediate leather is placed protecting the former from any possibility of damage from the ends of the rivets. Without interfering with the resiliency of the tyre or the speed of the car, the "Grose" band has much to commend it to motorists.



**The Mann Steam Wagon.**

MANN'S PATENT STEAM CART AND WAGON COMPANY, LTD., exhibited a standard pattern steam wagon, fitted with flat platform body. This firm was one of the first to manufacture steam motor-wagons, and have from the first adopted locomotive type boilers and an all-gear drive. Though improvements have naturally been introduced from time to time, these fundamental details are still retained in the exhibition wagon. The boiler has been altered by shortening the tubes and barrel, but increasing the number of tubes and the diameter of the barrel. The



Fig. 42.—The Mann Winter Wheel for Motor Wagons.

firing is still done from the side, but the door is placed near the top of the fire-box, so as to allow of a deep fire, and not too frequent stoking. The working pressure is 180 lbs. per square inch, the heating surface 80 square feet, and the tubes, fifty in number,  $1\frac{1}{2}$  in. in diameter. The feed pump is placed on the outside of the plate frame, on the left hand side, and is driven through a reduction gear from the crank shaft. An injector is also fitted, and a duplex safety valve is mounted on the steam dome. The engine, of the compound horizontal type, has cylinders  $4\frac{1}{2}$  in. and  $7\frac{1}{2}$  in. diameter by 7 in. stroke, with a single eccentric reversing gear, actuating plain slide valves. The boiler forms part of the main frame, and it is extended back by steel plates riveted to the back of the boiler and forming the side sheets of the oil bath, and also of the water tank. The whole of the motion work and of the gearing is enclosed in this oil bath. All the gear wheels are fitted on to square shafts, thus avoiding the trouble and weakening caused by key ways; they are all machine cut from cast steel blanks. The fast and slow pinions are on the crankshaft, and the differential is on the back axle, which is therefore a live axle. Steel plate wheels were fitted to the exhibition wagon, but Mann's winter wheel, Fig. 42, with wooden tread, can be fitted. The front axle is centre-pivoted, but has a positive steering gear, a worm operating a worm quadrant on the upright stem. In addition to the usual tyre brakes there is a band brake on the second motion shaft, operated by a pedal on the foot-plate. The body or platform is supported at the front end, and again on the top of the water-tank, and therefore has its own frame quite independent of the engine frame.

**The Burrell Steam Tractor.**

Messrs. CHARLES BURRELL AND SONS, LIMITED, exhibited a steam tractor that is somewhat different from the usually accepted type. It follows the lines of the Burrell traction engines. The locomotive boiler, with single cylinder mounted on the boiler barrel, and motion work over the top of the fire-box, are common to all steam tractors; but in this case the fast and slow pinions on the end of the crank shaft drive direct on to the differential, and the two road wheels are driven independently, by separate pinions, on either end of differential countershaft, driving spur wheels secured to each road wheel. This makes a much easier drive, and also lends itself to the introduction of a device for instantly locking the differential gear from the foot-plate, directly one wheel begins to slip. The steering gear is also special to the Burrell engines, as, instead of the worm shaft and chains, a positive gear is introduced. The steering shaft ends in a worm which operates a worm wheel keyed to the top end of an upright shaft, on the bottom of which is a spur pinion meshing with a spur wheel bolted to the fore-carriage centre. This steering gear is quite irreversible, and cannot be snatched out of the driver's hand. When the constant working on a small sector of the spur wheel leads to wear and back-lash, the spur wheel can be turned round through 60 degrees and present a fresh portion for service. A special fly-wheel brake, operated by a wheel and screw from the foot-plate, provides an extra control over the engine. Large water tanks are provided, slung under the boiler barrel, and a winding drum is carried between the spur wheel and road wheel, on the left side of the engine.

**Motor Oils and Greases.**

As usual, the STERN-SONNEBORN OIL COMPANY had an attractive stand from which to introduce their specialties to the many prospective as well as actual motorists visiting the Exhibition. Oils for water and for air cooled cylinders were here shown, as well as motor greases and lubricants generally, the repute of these having been long established in the automobile world. These oils are entirely free from acids, gummy substances, and other impurities, while another factor of excellence is the absence of animal or vegetable matters. The cylinder oils are characterised by extremely high flash points, and will not carbonise at any temperature to which they are likely to be subjected. A new preparation just brought out by the Stern-Sonneborn Oil Company is a non-freezing liquid to supersede water in the cooling of engines. It has the merit of not depositing lime or other impurities in the pipes, jackets, or radiators, and is also non-corrosive. Soluble oils for engineering purposes were also to be seen at this stand.

**The Robertson Steam Wagon.**

MESSRS. J. ROBERTSON AND SON exhibited a standard steam wagon with hydraulic tipping gear. It is fitted with their patent tubular boiler, in which the tubes are disposed radially from a central fire-box to an outside circular casing which fulfils the function of a smoke-box. The tubes, which are 272 in number, are slightly inclined to the horizontal, and present 77 ft. of heating surface, the fire-box providing a further 3 ft. The boiler works at 200 lbs. pressure and is fired centrally from the top, and the grate can be lowered for cleaning. The exhaust steam from the engine passes through a feed water heater which heats the water to 190 degrees Fahrenheit, and the feed is by means of automatic pump gear-driven from the crankshaft, and by an independent steam pump. The engine is compound, mounted horizontally under the wagon body, the cylinders being  $4\frac{1}{2}$  in. and 7 in. diameter by 5 in. stroke. All the motion work is enclosed in an oil bath, ordinary link motion being employed to operate solid piston valves without rings. The change-speed pinions and the differential are enclosed in an oil bath, and the final drive is by roller chains from the sprockets on the differential countershaft to the back wheels. An improved arrangement has been introduced for locking the differential, consisting of a claw clutch on the left-hand end of the differential shaft, a most useful device to enable a driver to get out of a hole, or when one wheel is slipping on a greasy road. The back axle is of H section, the axle arms having a cut down them so that half goes on either side of the web of the girder, and then both halves are securely riveted together through the web. Both driving and steering wheels are Stag's patent with cast steel pocket rims and hubs and wooden spokes. The steering gear is in a dust-proof aluminium casing, and the hand brake is of the internal expanding type, acting on the inside of the large chain sprockets. The wagon is fitted with an hydraulic ram to tip the body, worked by the Moore



Fig. 43.—Front and Side View of Section of Robertson Steel Wheel with Twin Renewable Tyres.

steam pump, which also feeds the boiler. A model of a new design of driving wheel (Fig. 43) was also shown on this stand, in which provision is made for taking up the increase in the diameter of the tyre, which is usually known as "rolling out." The wheel centre is cast steel, on which are wooden felloes bedded on half an inch of rubber. The tyres are made in two halves, making practically twin tyres, which detail by itself reduces side-slip. The edges of the felloes are slightly bevelled and the inside of the half tyres are similarly inclined, so that as they roll out the two halves can be drawn together by the bolts that pass through the felloes and through square lugs on the tyres. It will also be noticed that there are claws cast on the wheel centre to transmit the drive to the lugs on the tyres, and to prevent any creeping of the tyre relative to the felloes.

**The Allchin Steam Wagon.**

Messrs. WILLIAM ALLCHIN, LIMITED, exhibited a five-ton steam wagon, with a lorry body having hinged sides. The locomotive type of boiler has been adopted with the fire-hole on the right hand side. There are sixty-five tubes of 1½ in. diameter, and the smoke box projects beyond the front of the wagon. The barrel is surmounted by a dome, on which the safety valves, set to 200 lbs. per square inch, are mounted. The engine is of the compound type with cylinders 4½ in. and 7½ in. diameter by 6 in. stroke, placed horizontally under the body. D slide valves are used, operated by link motion. All the motion work and gearings are enclosed in oil-tight casings. The change-speed wheels are mounted on an extension of the crank-shaft, and drive on the differential, which is on the second motion shaft, from which the power is transmitted to the

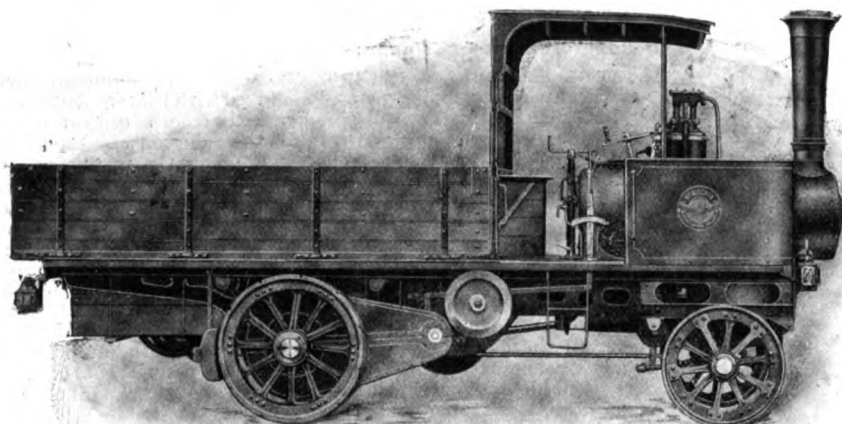


Fig. 44.—The Allchin Steam Wagon.

road wheels, by 1½ in. roller chains. The chains are entirely encased, so that much of the objection to side chains, arising from the wear due to mud and dirt, will be avoided. The fixed back axle is 3½ in. by 3½ in. deep, and the road wheels are of traction engine type, with hubs cast round the steel spokes, which are riveted to the irons, single in the case of the front wheels, and double on the back wheels. They are fitted with gun metal bushes, and the driving wheels are straked with wide diagonal plates. The front wheels are 2 ft. 10 in. diameter by 6 in. wide, and the back wheels 3 ft. 6 in. diameter by 10 in. wide. A very unusual form of main frame has been adopted, consisting of a deep plate, cut away where the material is not required, and carrying a rolled steel channel all along the top edge, and another short channel along the lower edge at the front end to carry the front spring hangers. Two water tanks are slung between the frames, a small tank at the front end and a larger at the back, with a total capacity of 220 gallons. The boiler feed is by an automatic pump, driven from the crank-shaft, and an independent steam pump. The exhaust steam is passed through a feed-water heater before it is led to the funnel.

**The B. and B. Steam Wagon.**

Messrs. BRETHERTON AND BRYAN displayed a 5-ton steam wagon (Fig. 45), of a new design now exhibited for the first time. Mr. Bretherton has had great experience as a user of both traction engines and steam wagons, and has embodied his experience in this vehicle. The designs were prepared eighteen months ago, and the first steam wagon was turned out twelve months ago, but the firm decided wisely not to put them upon the market until the pioneer wagon had had a prolonged test under ordinary working conditions. This vehicle, which was sold to Mr. H. H. Finch, the well-known wine and spirit merchant, has been working without a hitch, but the makers have noticed one or two minor details in which they could effect improvements, and have introduced these in the exhibition wagon, which will now be the standard pattern. The boiler is of the loco type, fired from the top, the annular space round the firing tube being utilized as a steam dome, to ensure dry steam. Mr. Bretherton was the original patentee of the top-fired loco boiler, which has been so largely adopted for steam wagon work. The barrel is comparatively short and contains thirty-nine tubes of 1½ in. diameter, providing 63 sq. ft. of heating surface, the fire-box and firing tube providing an additional 7 sq. ft. The working pressure is 180 lbs. per sq. in. The frame is secured to the back plate of the outer fire-box shell by gusset brackets, and is very stiffly braced. The engine is carried below the frame on the left-hand side and is of the com-

pound horizontal type. The cylinders are extremely large, viz., 5 in. and 7½ in. diameter by 9 in. stroke, and an ordinary link motion is employed to actuate D slide valves placed underneath the cylinders. The crank-shaft with the four eccentric sheaves is turned out of a solid forging, and the whole of the motion work is enclosed in an oil bath, at the same time that the glands are left very accessible for adjustment and repacking. The engine is so very powerful that the low gear is seldom required, and great economy can be obtained by driving with the reversing lever well notched up, and raising the steam expansively. The fast and slow pinions are on an extension of the crank-shaft, and gear with a large double spur wheel on the second motion shaft. On the other end of this shaft a pinion gears with another spur wheel, which contains the differential. The back axle closely follows traction engine practice, the differential coming outside the bearing, close up to the left hand wheel. The wheels on the show vehicle are cast steel, but wooden wheels can be supplied if preferred. The bearing springs to the back axle are spirals, which give very easy riding, and can be detached and replaced in a very few minutes. The axle boxes rise and fall between horn plates of very substantial construction, and a screw down tyre brake is fitted. The front axle is also of the traction engine type, turning about a centre pivot, and also oscillating on a pin, so as to provide three point suspension, but the steering is by a worm and worm quadrant, so that it is quite positive and irreversible. The vehicle is thoroughly workmanlike in all its details, and in appearance.

**The Granta Cars.**

The GRANTA MOTOR COMPANY exhibited two sizes of the Granta cars they have lately placed on the market. The vehicles follow the standard lines of live axle machines and appear to be of sound construction. The engine comprises four separate cylinders, 4 in. bore by 4½ in. stroke in the case of the 18-22-h.p. and 4½ in. by 5½ in. in the 28-34-h.p. model. The valves are mechanically actuated and the mixture is furnished by a special form of automatic carburettor. The clutch is of the leather-faced cone type, springs being introduced under the leather to allow of easy engagement.

The gear-box is adapted to give four forward speeds and reverse, actuated by a single lever working in a gate quadrant. Special attention has been devoted to the question of engine lubrication, this being effected by a small pump. Any form of side entrance can be fitted to the chassis.



Fig. 45.—The B. and B. Standard 5-ton Steam Wagon.

**The Westminster Cars.**

The WESTMINSTER MOTOR WORKS, LTD., had on view a 20-h.p. chassis which they have introduced to meet the demand for a reliable car at a moderate price. It is made in two forms, one having side chain transmission and the other a live axle. The engine comprises four separate cylinders 95 mm. bore by 120 mm. stroke. The valves are mechanically operated, and an oil pump driven off the cam shafts ensures the efficient lubrication of the engine. The transmission is through a leather-faced cone clutch and a gear-box giving three speeds and a reverse with a direct drive on top. Ball-bearings are fitted to all parts except the engine. The car has a wheel base of 10 ft. 2 in., which enables roomy side-entrance bodies to be fitted. The company, which has a garage conveniently situated in Westminster, is offering free storage for twelve months for users of their cars in the London district, and is also arranging for a monthly inspection of the vehicles during a similar period.

### The Stewart Steam Wagon.

Messrs. D. STEWART AND CO. (1902), LIMITED, displayed a five-ton steam wagon manufactured by them under licence from Messrs. Thornycroft and Co. In most of its features it is similar to the Thornycroft steam wagon, but there are several special Stewart details worthy of notice. The boiler is of the locomotive type working at 175 lbs. per square inch, and is fired through a central shoot over the fire-box crown. The engine is compound, with Joy valve gear, and balanced slide valves are used, placed under the cylinders. Instead of the fly-wheel in close proximity to the road-wheel, usually seen on Thornycroft wagons, the fly-wheel is close up to the crank chamber, and connection is made to a separate shaft, in continuation of the crank shaft, by a crossbar carrying two rollers which fit loosely into slots in the periphery of the fly-wheel. This not only allows for any want of alignment in the bearings, but also enables the portion carrying the fast and slow pinions to be taken down without affecting the engine. The second motion shaft is flexible, on the Thornycroft system, giving a gear drive to the live back axle. A novel feature is the introduction of a hydraulic brake acting on the back wheels. A small reducing valve can be worked by a pedal, and admits water from the bottom of the boiler to a ram cylinder over the back axle, which pulls on brake blocks on either side of each road wheel, thus avoiding any strain on the back axle. On releasing the pedal it returns by a spring, and releases the water, which is discharged on to the road.

### The Garrett Steam Wagon.

Messrs. RICHARD GARRETT AND SONS, LTD., were present with two vehicles, a 5-ton tractor and a 5-ton steam wagon. The tractor is of the standard pattern now manufactured by most of the well-known traction engine makers, it being thus only necessary to note the special points in its construction. It is fitted with Garrett's patent fire-box, in which the crown plate is both arched and corrugated, so that it requires no staying. It is provided with a single-cylinder engine, 5½ in. diameter by 9 in. stroke, and the back axle is mounted on laminated plate springs, the gearing being compensated by a special system. A large water tank is provided under the boiler barrel. The 5-ton wagon (Fig. 47) is very similar to that exhibited at the Agricultural Hall last year, but presents several features not to be seen in the practice of other manufacturers. The boiler is of the vertical fire-tube pattern, fired through a central tube from the top, and a clinker door is fitted in the side for cleaning the fire. All the tubes are entirely submerged, so that there is no risk of burning, and as the steam is not liberated from the water in the tubes

engine practice, and this can be effected from the foot-plate, in the same manner as the fast and slow gears. The engine, motion and gears are enclosed in an oil-bath, and the differential is of the planetary spur wheel type, instead of the more common bevel type. The engine, with the gear casing, is attached to the frame through a spring arrangement, which provides a virtually three point suspension. A foot lever is provided to actuate an extra brake on the differential countershaft, of the internal expanding type. The road wheels are cast steel, fitted with gun metal bushes. A tank is slung from the back of the tank carrying 160 gallons of water. The whole vehicle is of the high-class workmanship associated with the Leiston firm.

### The Pickering Omnibus.

THE PICKERING MOTOR AND WHEEL COMPANY, LTD., showed a double-deck omnibus with a 28-35-h.p. four-cylinder engine (Fig. 46).

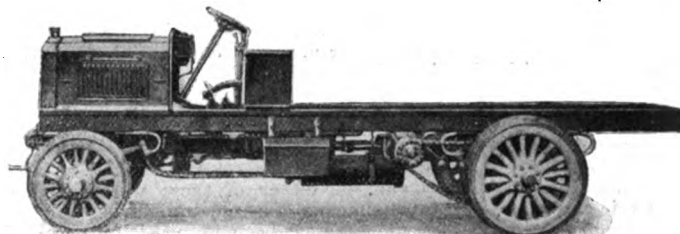


Fig. 46.—Chassis of Pickering Motor 'Bus.

The inlet valves are placed over the exhaust valves, and are operated by tappets from the same cam shaft. Duplicate high tension ignition is provided, with separate sparking plugs for the magneto and the accumulator and coil. The special arrangement for maintaining the tension on the fan-belt, by means of a long lever and coil spring, is worthy of note. The gears are of the Panhard sliding type, providing three forward speeds and a reverse, and the final drive is by roller side chains. The brakes are all of the internal expanding type, the pedal brake acting on the driving sprockets and the hand brake on the road wheel sprockets. The steering gear is very substantial, necessitated by the large overhang of the front wheels, viz., 10½ in. from the pivot to the centre of the steering wheel. Pickering patent

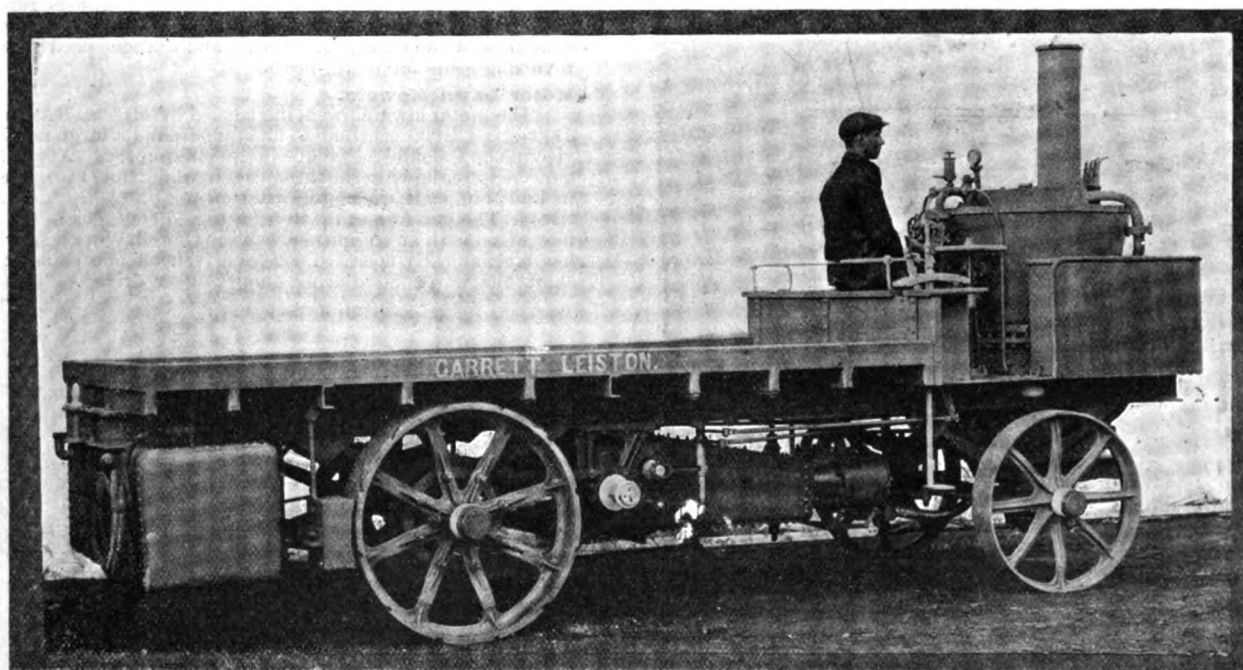


Fig. 47.—The Garrett Steam Wagon.

but in the enlarged space above the tube plate level, much drier steam is obtained. The outer shell can be removed by unbolting two joints, so as to thoroughly clean out the scale at intervals. The feed is provided by an automatic pump, gear driven from the second motion shaft, and with an injector in reserve. The unusually high working pressure of 225 lbs. per square inch has been adopted. The compound horizontal engine, which is slung under the wagon body, is provided with a piston valve for the high pressure cylinder and a D slide valve for the low pressure, worked from a non-reversible single eccentric. The crankshaft, with the eccentric sheaves, is turned from the solid. The reverse is arranged by bringing an idle pinion into gear, on the same principle as in petrol

twin driving wheels are fitted, in which a double set of spokes are employed, which are staggered, so that the spokes lead from the rim alternately to the outer and the inner half of the hub. This makes a very strong form of wooden wheel, specially suited for omnibus work.

Messrs. L. RENE AND CO., LIMITED, had a comprehensive display of sparking plugs, voltmeters, amperemeters, and electrical accessories generally, the large show of the latter including a new pattern voltmeter of Bonbonnier form, supplied on very reasonable terms. A neat charging set and portable inspection lamp were also exhibited by Messrs. Rene and Co., on whose stand were the Shamrock-Premier tyres for cars and motor-cycles.



### Motor Vehicle Wheels.

Introduced at these exhibitions a few seasons ago, the Gare patent tangent wheels have become well known to all engaged in the automobile industry. A foe to side-slip, this wheel has found favour with those intimately associated with the development of motor traction in the public service, and is being largely adopted on motor omnibuses, heavy motor wagons, tractors, and the like. The principle of the Gare patent resilient motor wheel is that the spokes are placed tangentially to the hub, thus preventing shock being conveyed to the axle. At the outer ends the spokes are cut wedge-shape instead of the usual "tang," and the felloe is cut so that each end rests on the wedge face of the spoke. Between the two faces a piece of sheet rubber is cemented so that the outer portion of the wheel is completely insulated from the inner part. The tread is formed with blocks of rubber, fibrous rubber and wood impregnated with rubber making a soft and elastic surface, as well as one that is non-skidding and durable. It is calculated that a vehicle fitted with this wheel secures an increase of nearly 50 per cent. in efficiency. The Gare wheel is placed on the market by TANGENT WHEELS, LIMITED, who are also introducing it as adapted for lighter vehicles than those for which it was originally brought out.

### Improved Electric Vans.

IMPROVED ELECTRIC TRACTION, LIMITED, exhibited an electric brougham and a delivery van. Neither of these were fitted with batteries, so that there was no means of ascertaining wherein the improvement lay, but as the company has been formed to let out on hire all forms of electric vehicles at prices greatly below those current, there is evidently some novelty in the system by which expenses will be much reduced. The delivery van staged is to be let out at £5 per week, to include the driver, and the batteries will run from forty to fifty miles per day with 25 cwt. loads. The company are prepared to build special bodies to suit customers, in consideration of a sufficiently long contract. The fore part of the brougham has been constructed with much greater consideration for the driver's convenience than is usually the case with these carriages.

### The Churchill Char-a-banc and Delivery Van.

One of the attractions of the Show was the huge motor char-a-banc exhibited by Messrs. DURHAM, CHURCHILL AND CO., of Sheffield. The vehicle, of which we give an illustration in Fig. 48, is intended for

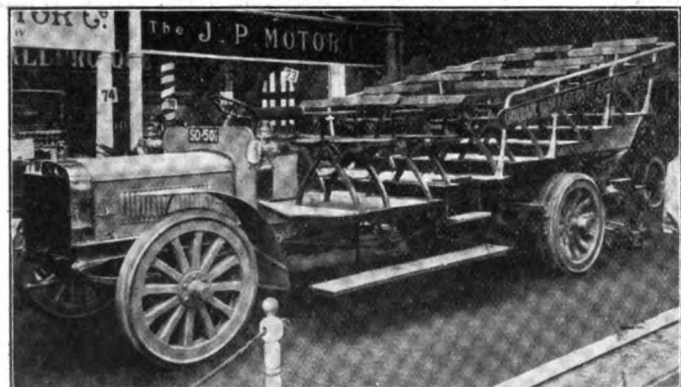


Fig. 48.—The Churchill Twenty-six-seated Char-a-banc.

a pleasure service between Girvan, Ballantrae and Colmonell, in Ireland; it has seating accommodation for twenty-six passengers, the rows of seats being arranged gallery fashion, so that everyone can have a clear view ahead. The motive power is supplied by a 24-30-h.p. "Aster" four-cylinder engine with two systems of ignition—high tension magneto and coil and accumulator. The transmission gear consists of a "Champion" friction clutch having metal-to-metal surfaces and a patent change-speed gear. Both of the latter we hope to illustrate in detail in a later issue. From the gear-box the power is conveyed by a universally jointed shaft to a differential countershaft, the latter carrying chain pinions which convey the power to sprockets fitted to the hubs and spokes of the rear road wheels. The "Champion" gear referred to above is an entirely novel mechanism giving four speeds and reverse, all changes being obtained by means of one lever. This gear is so constructed that the teeth of all the wheels are always in mesh and it is practically an impossibility for an inefficient or careless driver to damage the wheels in changing from one speed to another, a much-desired feature in the change-speed gear of any public service or commercial vehicle, where absence of repairs means increased earning power. The chain sprockets have very long bosses, which are lushed with phosphor bronze sleeves so arranged as to form oil reservoirs. The chains from these to the sprocket wheels are encased and run in an oil bath. The wheels are all shod with Sirdar tyres, 5 in. section twin tyres being used for the driving wheels and singles for the steering wheels. Special attention has been paid to the brake power, there being three different sets—a 4 in. wide contracting brake on the differential shaft, internally expanding

brakes, 18 in. diameter, working in drums attached to the rear wheel hubs, and emergency shoe-brakes on the back wheel tyres. A special feature of the char-a-banc is the seats, Fig. 49, which are made in accordance with Lee's patent, for which Messrs. Durham, Churchill and Co. are the sole licensees. The framing of these seats is rigid, but every passenger enjoys a separate hammock seat, which gives perfect freedom from vibration and road shock, while the back rest is carried by spring steel rods, the whole forming a most restful seat, which goes a long way towards the enjoyment of a long motor coach tour. These seats are well adaptable to all public service vehicles, as, in the event of only part of the number being occupied, all the others can be folded up clean and

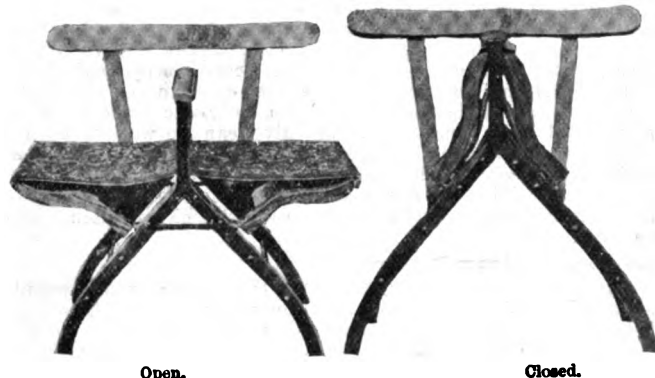


Fig. 49.—Lee's patent Folding Seats for Public Service Vehicles.

dry. It does not take half a minute to fold up all the seats, after which a hose can be turned all over the vehicle without fear of wetting them. A "Churchill" light delivery van, designed for loads of about 10 cwt., and similar to the one which was illustrated in connection with our report of the recent Sheffield show, was also on view. The engine is a two-cylinder "Aster," giving 14-h.p. Three speeds and reverse are provided by an unusually large change-speed gear, the power being transmitted from this to a strong live axle by means of a universally-jointed shaft. The two shafts of the back axle are carried on ball bearings at their inner ends; they have only to convey the power and do not carry any of the load, the hubs of the rear wheels running on large plain bushes on the external tubes. On the stand were also shown examples of the Churchill steering and change-speed gears for cars and reversing gears for motor-boats.

### Motor Lawn Mowers.

The motor lawn mowers introduced by Messrs. RANSOMES, SIMS and JEFFERIES, LTD., continue to find favour, and a large number are in service in the Colonies as well as in the old country. At the Show the lawn mowers were shown in the three sizes in which they are made, viz., 42 in., 30 in. and 24 in. wide, the motors being of 6-h.p., 3½-h.p. and 2½-h.p. respectively. The two former have water cooled engines and the large mower is now fitted with an engine made at the Orwell Works, Ipswich. The motor has mechanically-operated valves driven off one camshaft. From this shaft the water circulating pump is gear driven. The high tension

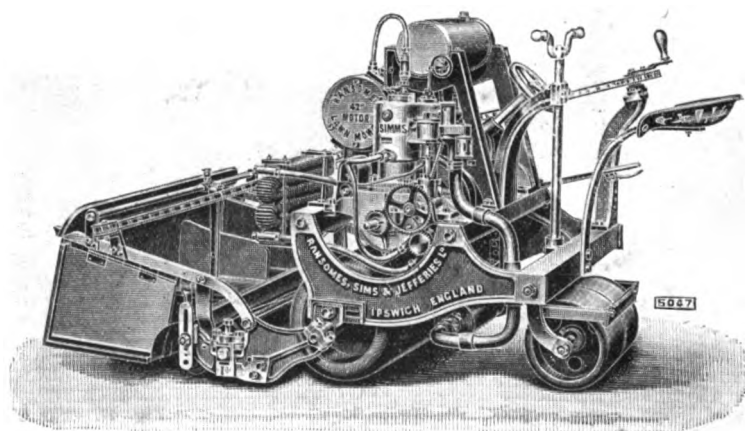


Fig. 50.—Ransomes' Motor Lawn Mower.

magneto is driven by chains from the other end of the camshaft. An air-cooled motor is provided for the smallest size, a partially enclosed fan assisting the cooling. The drive is through epicyclic reducing gear, and subsequently by chains both to the rollers and cutters. The steering is direct on the small hind roller, throttle and air-levers being situated well within the reach of the driver. The larger machines are provided with a seat. A neat arrangement, operated through chains, allows the box to be cleared without stopping the machine. When it is required to use the machine only as a roller the whole of the fore-carriage can be removed.



**The Wallis Steam Wagon.**

Messrs. WALLIS AND STEEVENS, LIMITED, exhibited a standard 5-ton tractor and a 5-ton steam wagon. The Wallis tractor has become such an everyday feature of road traffic as hardly to require description, but the firm have steadily improved their machine with such great experience to guide them, and the exhibition tractor represents the last word on the subject. The compound engine has cylinders  $4\frac{1}{2}$  in. and  $8\frac{1}{2}$  in. diameter by 9 in. stroke, with link motion operating slide valves on the outside of each cylinder so that the steam chests are readily accessible. The whole of the motion is enclosed, together with the change-speed gears. The special feature of the boiler is the provision of a top row of four large tubes,  $2\frac{1}{2}$  in. diameter, the others being only  $1\frac{1}{2}$  in. diameter, and a smoke box damper which closes the small tubes but not the large ones, so that the fire does not become too dead. The 5-ton steam wagon is the first exhibited by this firm, and it is rightly described by the makers as their standard tractor put between shafts. The boiler, engine, and countershaft, together with the front axle and steering gear, is identical with that on the tractor. The channel frames of the wagon are riveted to plates secured to the fire-box shell plates, and are continued to the smoke-box, where they fit into brackets, but are not fastened rigidly to the latter, so that the boiler is free to expand independently of the channels. The drive is transmitted from the second-motion shaft by a Renold roller chain to the differential on the live back axle. The road wheels are of the traction engine type, built up with cast hubs, and steel spokes riveted to angle iron rims, and straked tyres. So completely are the tractor details retained that a shallow tank, corresponding in position to the tender tank, is to be found under the foot-plate, but is supplemented by a long tank between the frames over the back axle. A neat cab is fitted, and a very stout body with hinged sides has been fitted to the show wagon.

**The Lanchester Cars.**

THE LANCHESTER MOTOR COMPANY, LTD., occupied a large stand, on which were shown several of their latest 20-h.p. cars fitted with different types of bodies. The engine, which comprises four vertical separate cylinders, is placed in the front of the car, dividing the footboard between the driver's and the passenger's seats, thus giving better dis-

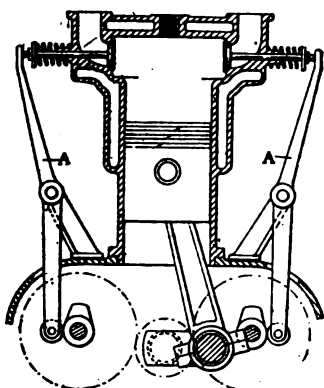


Fig. 51.—Sectional View of Lanchester Engine.

tribution of weight between the driving and steering wheels than if placed over the front axle, and permitting an ample side entrance body to be fitted without an unduly long wheel base. The crankshaft is provided with five bearings. The engine, which is carried on rubber buffers, has cylinders 4 in. in diameter by 3 in. stroke. It will be seen from Fig. 51, above, that while the cylinders are arranged vertically the valves are horizontal. The motor is exceedingly accessible, as when the bonnet is removed the engine presents a clean "broad side." The crank chamber forms an oil well, from which the whole of the engine is lubricated automatically under high pressure by a pump. Either low tension magneto or high tension by accumulators and coils can be fitted. The carburettor is of the Lanchester wick-saturation type; the speed of the engine is automatically controlled by a governor acting simultaneously on a separate throttle to each cylinder. The valves are mechanically actuated off separate cam shafts. The water circulation is on the thermo-siphon principle, no pump being used. The radiator is of special form, and is constructed from a number of flat cellular plates in which the cells run vertically. The clutch is of the multi-disc metal-to-metal type, and enables the driver to start the car on the top gear without shock to the passengers. Three speeds forward and a reverse are provided, the change-speed gear being of the epicyclic type and controlled by a single lever. From the gear-box the power is transmitted by worm gear to the rear axle. A patented arrangement is adopted for connecting the car frame to the under-frames. The ordinary type of carriage spring is departed from, and, instead of this, a single spring is used at each of the four suspension points acting on the cantilever principle; only half of the spring is visible in the ordinary way, the other half of the spring being concealed in the frame of the car body. The complete cars exhibited included a side entrance double phaeton, a four-seated landaulet, and a six-seated landau with unusually wide doors, the finish of which should amply maintain the reputation the Lanchester Company have built up for excellent carriage building, as well as high-class mechanical excellence.

**The "Billo" Change-speed Gear.**

An ingenious change-speed gear mechanism for use on motor-cars and boats was shown by Mr. T. W. DEANE, of St. Asaph, Wales. It is designed to give three speeds forward and a reverse, but the system can be adapted to any number of speeds. The pinions are always in mesh, the set on one shaft running quite loosely. The shaft on which these free pinions are mounted has a deep keyway groove, in which lies a long key, free to slide longitudinally in either direction. At a certain point



Fig. 52.—The Lanchester 20-h.p. Car.

in the key a specially-designed slot is formed, corresponding in size to small keys located in recesses in the inner surface of the pinions. As the sliding key is moved along the shaft, the pinion key, by means of a spring, is forced down in the keyway, a driving connection between the two pinions being in this way obtained. Any pair of pinions can be made to transmit the power according to the position of the sliding key, which is controlled by a change-speed lever in the usual way.

**The British Motor Company's Exhibit.**

THE BRITISH MOTOR AND ENGINEERING COMPANY, LTD., were present with a couple of cars, of respectively 64-h.p. and 10-12-h.p., which will appeal particularly to that class of people ranged under the phrase of the "man of moderate means." Fig. 53 illustrates the engine of the larger vehicle. The four-cylinder motor, with mechanically-operated valves, is mounted in the front end of a steel frame in the usual position; the ignition is by accumulators. The change-speed mechanism gives three speeds and reverse, the gears being always in mesh; the shafts are carried in a sort of skeleton frame, the covers being detachable to enable the pinions to be readily inspected without in any way disturbing the same. The transmission is by cardan shaft

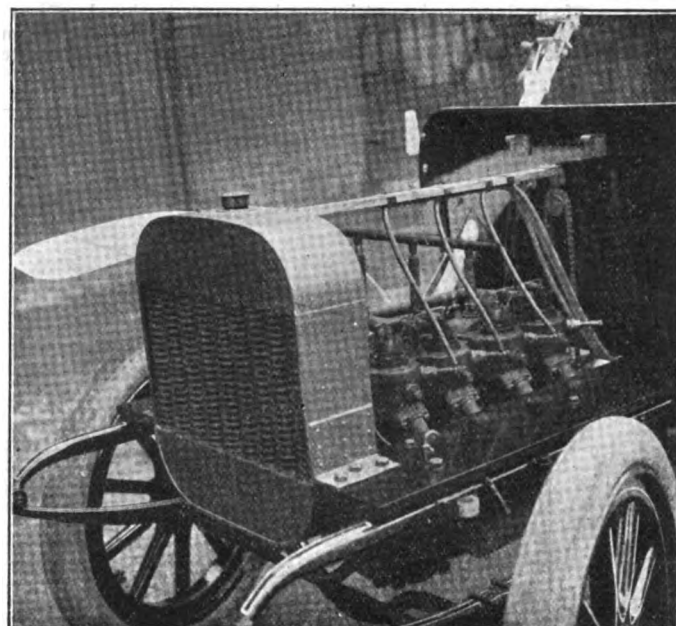


Fig. 53.—View of four-cylinder Motor on British Motor and Engineering Co.'s 10-12-h.p. Car.

to a live back axle running on ball bearings. There are three brakes of the internal expanding type; one on the countershaft is actuated by pedal, and the two on the back axle by a hand lever. A notable feature of the vehicle is the mounting of the starting handle on the dashboard, so that the driver may put the engine in motion without leaving his seat. The steering wheel is hinged so that it may be tilted out of the way to allow easy entrance from the driving side. The vehicle is fitted with a roomy body seating four persons. The two-seated car is provided with a 64-h.p. double-cylinder engine, but in other respects follows the lines of the larger vehicle.

**The Fiat Cars.**

Prominent on the stand of FIAT MOTORS, LTD., was the chassis of the new Fiat 12-16-h.p. car, which is, generally speaking, a reproduction in miniature of the more powerful cars built by this well-known Italian concern. The pressed steel frame is narrowed in front to allow of a larger lock to the front wheels. The four-cylinder engine has its valves mechanically operated off separate cam shafts. The ignition is by low-tension magneto, and the carburettor is of the automatic air-regulating variety, provision being made to control the degree of opening of the petrol spraying jet from the dashboard. The clutch is of the metal-to-metal disc type, with springs interposed between the discs. Four speeds

ing of two nuts. All the valves as well as the magneto rods are adjustable, and can be set to a hair's breadth, so that the efficiency of the engine is maintained. The carburettor is of an improved type, provision being made for the regulation of the flow of petrol through the jet as well as the quantity of air supplied to the mixture. Only a very light pressure is required to declutch, and when released the clutch, which is of the metal-to-metal type, runs on ball bearings. The connection between the clutch and the gear-box is made by a long tubular shaft of large diameter and very solid construction with universal joints at each end. Four speeds and a reverse are fitted with gate control. With the exception of the engine, ball bearings are

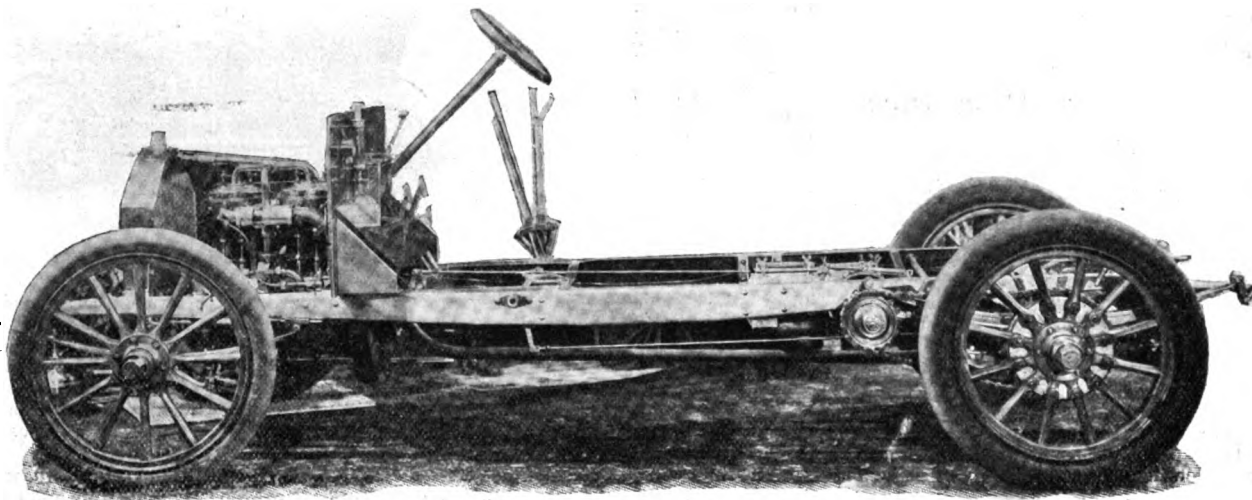


Fig. 54.—Elevation of Chassis of Fiat 12-16 h.p. Car.

forward and a reverse are controlled by a lever working in a "gate," the final drive being by means of side chains. The car has a wheel base of 9 ft. 5 in., permitting of the fitting of any type of side-entrance body. We may add that ball bearings are employed throughout with the exception of the engine.

**The Crossley Cars.**

One of the finest and most interesting stands in the show was that of Messrs. JARROTT AND LETTS, LTD., who were showing examples of the latest types of Crossley cars. Interest was largely centred in

provided to all the shafts and axles. The usual brakes are fitted, namely, an external contracting brake of large diameter on the cross shaft and internal expanding hub brakes to the rear road wheels. This steering gear is of the irreversible type, of a large and particularly strong pattern, special arrangements being made for easy adjustment. The axles are of H section, the front axle swivels rotating on ball bearings, the weight being supported on a ball or cup, thus rendering the steering easy and perfectly safe from any binding action through lack of lubrication. The latter is entirely automatic, oil being fed to all parts from a tank fitted

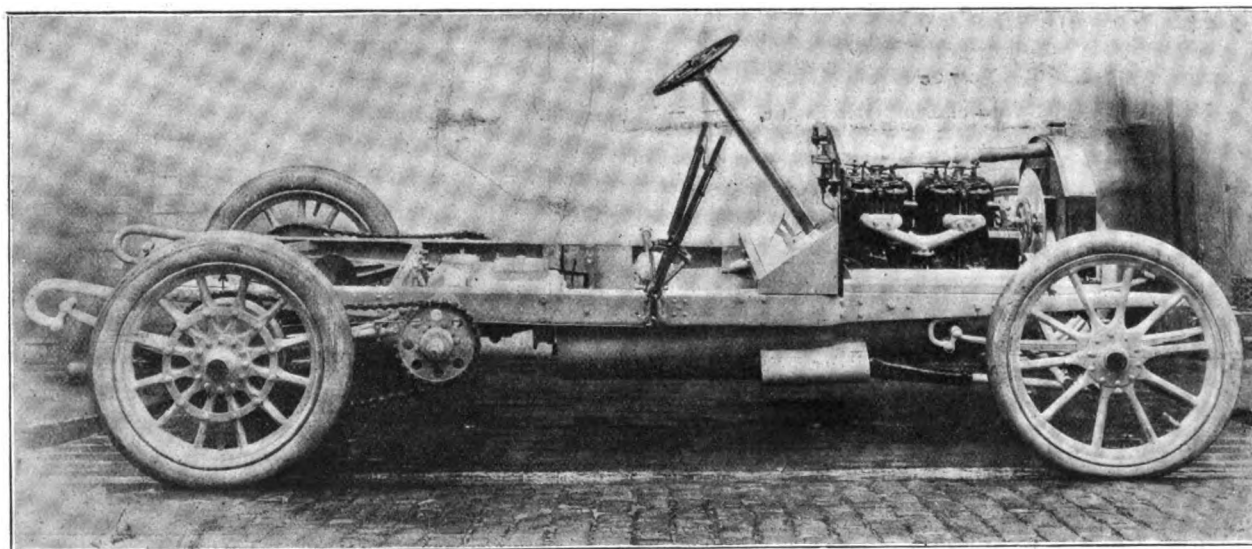


Fig. 55.—Chassis of Crossley 40-h.p. Car.

the fine polished chassis of the new 40-h.p. vehicle (Fig. 55). The engine, which has already been illustrated in the *M.C.J.*, and which develops about 45-h.p., is built on the same simple constructional lines as have always distinguished the Crossley motors, all bearings being ring lubricated and special wells provided in the base chamber into which the cranks dip at every revolution. Low-tension magneto ignition of the Simms-Bosch type is adopted, whilst the valves are mechanically operated, the inlet valves being on the opposite side to the exhausts, the valve chambers themselves having covers easily detached by the loosen-

to the frame, the oil passing through sight feeds on the dash board. The complete chassis is low, and it is fitted with 36 in. road wheels. The wheelbase is 10 ft. 3 in., and the length of frame available for fitting of carriage body from dashboard to rear 8 ft. 1 in. Another interesting exhibit seen for the first time was the 20-25-h.p. Crossley live axle car, which has been specially designed and constructed for town work and for the fitting of landaulet and limousine carriage bodies. The engine and clutch are on similar lines to those on the 22-28-h.p. The gear-box gives three forward speeds and a reverse with direct drive on top. The back

axle is of strong construction, the weight of the carriage and frame being carried on the outer sleeve, thus relieving the axle itself from all strain. Ball bearings are fitted on each side of the hubs of the road wheels, the rear pair being suspended between two rows of large ball bearings. The complete cars on view included a 40-h.p. demi-limousine, specially arranged for touring, and finished in dark red picked out with a black line edged with fine gold lines, and a 22-28-h.p. phaeton finished in dark blue picked out with white.

#### The Decauville Cars.

Messrs. H. M. HOBSON, LTD., confined their exhibit of the well-known Decauville cars to examples of the 12-16-h.p. and 16-20-h.p. models, both being fitted with four-cylinder engines. All the cars have the standard Decauville live axle, in which the rear road wheels are not fitted on the axle, but on a sleeve surrounding the same, the power being transmitted to them through "dogs" on the ends of the axle. Other features of the vehicles are the special form of carburettor, in which all the air has to pass round the spraying nozzle, and this, with the variable opening for the admission of air, gives an automatically-controlled perfect mixture at all engine speeds. Two ignitions are now provided, Simms-Bosch high tension ignition being now fitted in addition to that by coil and accumulators. The mechanical details of these well-known cars, which have been referred to in our reports of the Paris and Olympia shows, are too well known to need repetition. In connection, however, with this exhibit we would draw particular attention to the very smart French and English bodies mounted upon the three chassis. The complete cars on view included a 12-16-h.p. landaulet and a

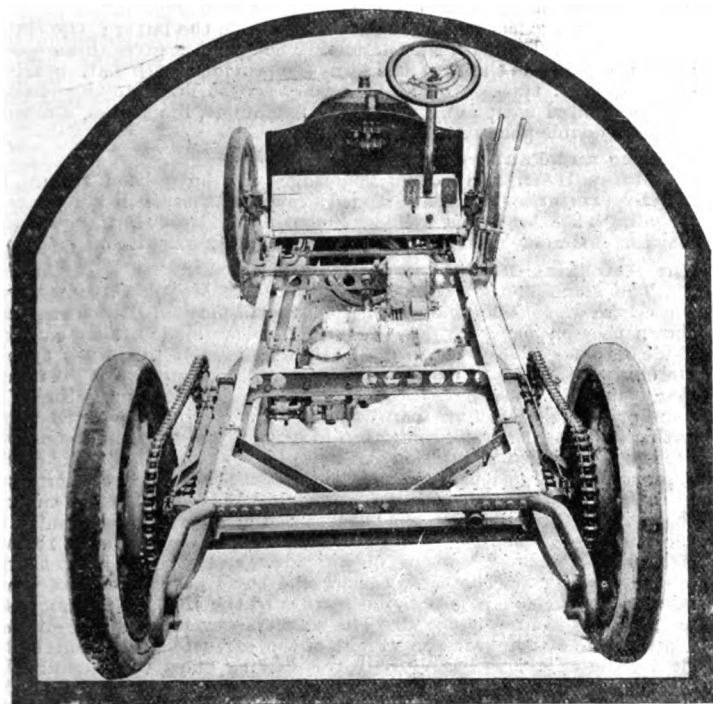


Fig. 56.—Rear View of Chassis of Crossley 22-28-h.p. Car.

16-20-h.p. side-entrance double phaeton, the body work of which was of a high order.

#### The Brouhot Cars.

Several examples of Brouhot cars were to be seen at the stand of the BROUHOT MOTOR COMPANY OF GREAT BRITAIN, LTD. The vehicles on view included a 24-30-h.p. chassis, a 20-24-h.p. demi-limousine, and a 40-50-h.p. touring car with racing body. They are on modern lines throughout, the frames being of pressed steel, the engines of the four-cylinder type, and the transmission by side chains. The valves are all interchangeable and mechanically actuated off a single cam shaft. The inlets are provided with a variable lift device, obtained by means of tapered wedge pieces which can be inserted between the valve push rods and stems, the arrangement being controlled by a lever on the steering wheel. Ignition is by low-tension magneto, with provision to retard the firing point; a gear-driven pump feeds the oil to the various points of the engine. The clutch, which is so constructed that it can be readily taken down when necessary, has an internal expanding movement obtained through arms linked up by springs. The gear-box is adapted to give four speeds forward and a reverse controlled by a single lever working in a "gate" quadrant. Other features of the Brouhot cars include the fitting of double brakes on the countershaft (Fig. 57) and the handy form of adjusting the tension of the driving chains, which have already been illustrated in these columns. Ball bearings are used throughout, with the exception of the engine, and it may be added that all the petrol, water, and lubricating

pipes have welded joints, and further, that all the spring hangers are detachable from the main frame, so that they may readily be replaced should they by any means become damaged.

#### The National Car.

Messrs. LAMB BROTHERS AND GARNETT were unfortunately unable to complete the National 50-70-h.p. six-cylinder car for the Show, so had to be content with a display of several well-finished examples of the well-

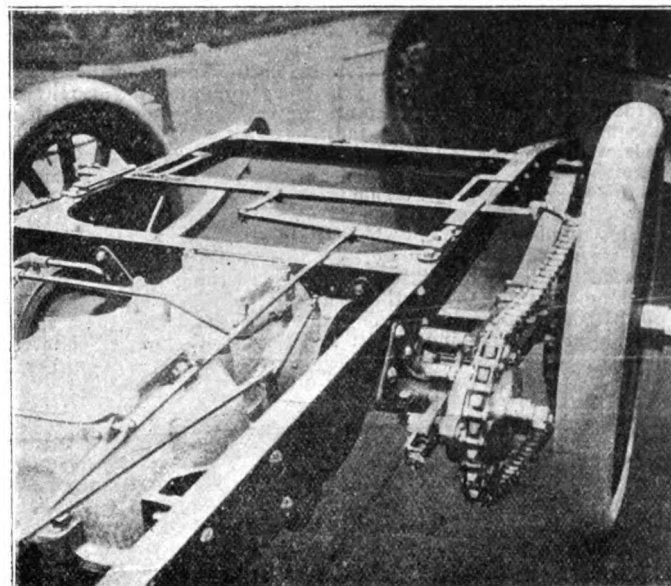


Fig. 57.—View of rear portion of Chassis of Brouhot Car. The illustration shows the differential shaft brakes and the special chain adjustment.

known 18-22-h.p. vehicle. The engine of the latter comprises three separate cylinders,  $4\frac{1}{2}$  in. bore by  $5\frac{1}{2}$  in. stroke, set in the fore part of a pressed steel frame. The distribution gear for the valves and the contact-breaker is comprised in the crank-chamber, but the wipe contact-breaker itself is driven by means of a pair of bevel pinions at the rear end. The inlet and exhaust valves are mechanically operated off a single cam-shaft. The inlet-valves have a variable lift, obtained by a horizontal rack, which engages with three similar-toothed segments, one for each cylinder, and by rotating which both the amount as well as the duration of the lift can be regulated. This is controlled by a lever on the steering wheel, a new departure being the fitting of a pedal

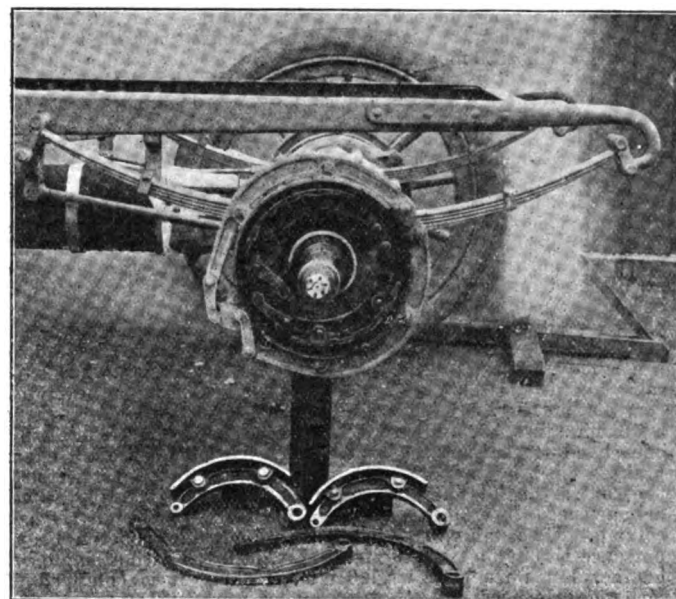


Fig. 58.—The Duplex Hub Brakes on the National Car.

by means of which a full lift can be temporarily given to the valves, and the speed of the engine consequently accelerated. The automatic carburettor is provided with a jet which can be adjusted from the steering



wheel, the degree of variation being marked on a notched plate. The supplementary air-valve is fitted with an easy means of adjustment. The base chamber is provided with hand holes to enable the big ends to be readily inspected. Cocks are also fitted in the bottom of the crank chamber, these being controlled from above by a miniature change-speed lever, working in a quadrant. The lever can take three positions: (1) shut, (2) open to allow the oil to be drained off, and (3) to allow any excess of oil above a certain level to pass away. The water circulation is maintained by pump and honeycomb radiator with fan. The clutch is of the leather-faced cone type. Three springs are interposed and provision is made for their adjustment by single nuts, which are made self-holding by means of a hollow and fixed washer. The change-speed gear is adapted to give three speeds forward and a reverse. The gear wheels are of large diameter, and on top speed the drive is direct to the rear axle. From the gear-box the power is transmitted by a cardan shaft, the universal joints of which are provided with renewable bushes, to a bevel pinion meshing with a large wheel on the back axle, which has only to transmit the drive, the weight of the car being taken by the sleeve. A pedal operates a pair of external band brakes on the rear wheels, while a side lever also actuates a couple of internal expanding brakes on the same wheels; the arrangement of the brakes is illustrated in Fig. 58. The control of the car is extremely simple, and we noted that every working part—springs, bolts, brakework—is provided with its lubricator, so that everything can be kept smooth working and free. Altogether the National cars, which are throughout of British manufacture, are on thoroughly sound lines, and, as will be seen from the foregoing particulars, comprise a number of interesting details.

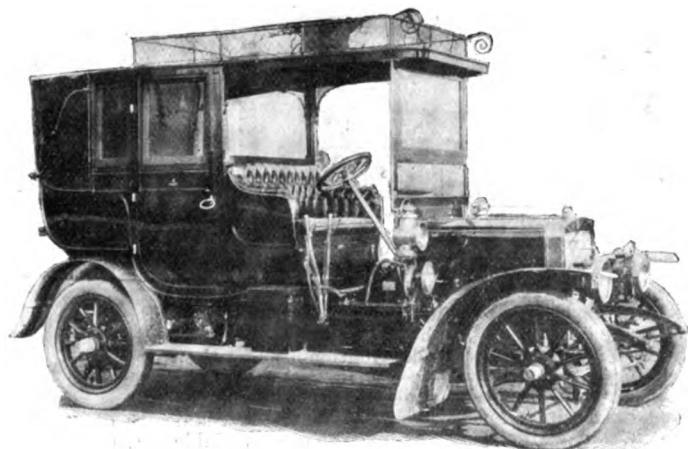


Fig. 59.—The National 18-22 h.p. Landaulet, built for Mr. C. L. Casalet, the well-known tennis player.

#### The Darracq Cars.

A. DARRACQ AND CO., LTD., had a large stand, on which were shown a full range of the 1906 Darracq cars—8-h.p., 10-h.p., 15-h.p., 20-h.p., and 40-h.p., the latter being exhibited for the first time. The features of the 1906 models have already been fully dealt with in these columns, so that it need only be briefly mentioned that one of the most important changes is the employment of a progressive clutch. The leather-faced clutch is retained, but four studs pierce its circumference near the outer edge, raising the leather very slightly. Within the cone are bolted four metal sleeves that contain the terminals of the studs and a spring of special construction. The pressure of the springs acting through the broad-faced studs on the surface of the female cone prevents the clutch being let in with too much force; even if the foot is suddenly released from the pedal these springs will, it is claimed, take up so much of the impetus as to prevent breakage. Press-down pedals have been abandoned for those of the push-forward type, which have been given a long leverage and been so placed that the foot is in a natural position when pressing home. The pedals are but two in number, the left one acting on the clutch and at the same time diminishing the supply of gas so as to prevent the motor racing when suddenly relieved of the load. The right-hand pedal withdraws the clutch and controls an internal expanding metal-to-metal brake acting on a drum just behind the change-speed gear. There is only one hand lever at the side, which controls internal expanding brakes on the rear wheel hubs. Everything connected with the control of the car is placed on or round the steering wheel, the change-speed lever being, as usual in Darracq cars, on the steering column. The 8-h.p. car, which has a double phaeton body with entrance through a swinging front seat, is fitted with a single-cylinder engine, 112 mm. bore by 130 mm. stroke. It is equipped with a governor which controls the speed of the engine by varying the lift of the inlet valves. Fig. 60 depicts one of the new 10-h.p. double-cylinder side-entrance cars, which are attracting much attention. The cylinder dimensions in this model are 100 mm. bore by 120 mm. stroke; the valves are all mechanically actuated off a single cam shaft, which is extended so as also to drive the pump and the high tension magneto where the latter is desired. In the standard car, however, the ignition

is by coils and accumulators. The well-known 15-h.p. Darracq was also prominent on the stand, and with the detail improvements which have been introduced should continue a popular type. Among the changes we note that the frame is raised at the rear end, a departure which is incorporated in the new 20-h.p. car. The latter has a four-cylinder engine on the lines of the twin-cylinder 10-h.p.; the bore and stroke is, however, slightly larger, being 112 mm. by 120 mm. Both

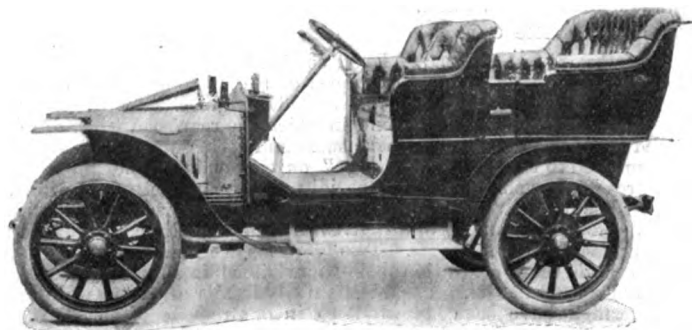


Fig. 60.—The new Darracq 10-h.p. Car.

high and low tension ignition are provided on this car; the engine is capable of developing up to 32-h.p. The throttle lever on the steering wheel is arranged so that it does not turn with the latter; the clutch is also connected up with the throttle. The gear-box gives three speeds and a reverse; the shafts of the same are provided with ball bearings of the D.W.F. type. Any style of body can be fitted to the chassis, those exhibited comprising tonneaux, landaulets, limousines, and side-entrance double phaetons.

#### Darracq and Panhard Cars.

Messrs. HALL AND CO., of Tonbridge, who have been agents for Darracq cars for several years, staged a couple of these well-known cars including a 20-32-h.p. four-cylinder limousine and a side-entrance double phaeton of similar power. A 10-h.p. Panhard car was also on view.

#### The Hotchkiss Cars.

The stand of the LONDON AND PARISIAN MOTOR COMPANY was the centre of considerable attraction, the display of Hotchkiss cars shown thereon being by far the largest so far made in this country. Pride of place was given to a fine show chassis of the latest type of Hotchkiss 30-35-h.p. car. While several features are retained, many modifications have been introduced. The engine, which has four cylinders, 112 mm. bore by 120 mm. stroke, is still fitted with a ball-bearing crank shaft, but in place of only three five bearings are now provided. Ignition is now by means of a gear-driven Eisemann high-tension magneto. The carburettor has been improved in so far that provision is made for varying the feed of petrol through the jet in accordance with the position of the hand and foot-controlled throttle valve. The gear-box gives four speeds forward and a reverse, controlled by a lever working in a "gate," and giving a direct drive on the top speed. The cardan shaft and bevel gear system of transmission is retained, a noticeable feature of the live axle being that no tension rods are employed. The axle, however, is of the enclosed type, and does not bear the weight of the car, which is taken by the sleeve, the axle thus having only the driving effort to sustain. The differential casing is divided horizontally instead of vertically, so that the bevels or the differential can be examined at any time by simply undoing a few bolts, and without in any way disturbing the axle. The complete cars on view comprised a handsome 30-35-h.p. with limousine body by Hooper, built for the Duke of Westminster; a

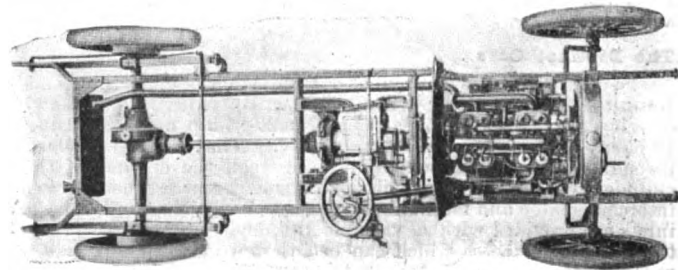


Fig. 61.—Plan of Chassis of Hotchkiss 30-35-h.p. Car.

30-35-h.p. phaeton, a 30-35-h.p. car fitted with a special body by Thorn known as the Corbet phaeton; and a 25-29-h.p. landaulet. Although not on the stand, great interest was shown in the first Hotchkiss six-cylinder car which was being used for trial runs. The vehicle is on the usual Hotchkiss lines, the engine being rated at 40-45-h.p. Reference was made in our last issue to the journey of this car by road from Paris to London, and we may mention that its quiet running and great flexibility has decided the builders to largely devote their energies to "sixes" in the future.



### The Gobron-Brillie Cars.

THE GOBRON-BRILLIE BRITISH MOTOR COMPANY, LTD., had on view two handsome 35-h.p. Gobron-Brillie cars, one fitted with a convertible limousine and the other with a landaulet body, and a chassis of the latest touring car. The special type of engine employed on these cars remains the great feature of the vehicles; it is already fairly well known to old readers of the *M.C.J.*, in the pages of which it has been fully described and illustrated. It may, however, be mentioned that while the motor comprises four vertical cylinders, there are two pistons in each, the explosion chamber being located

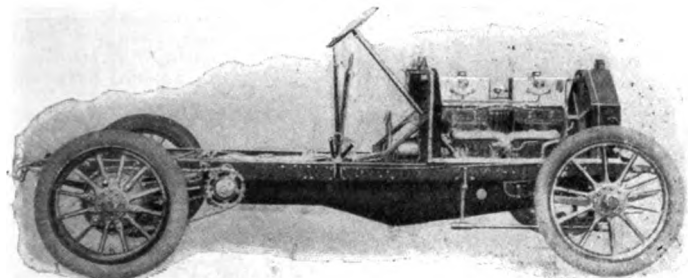


Fig. 62.—Elevation of Chassis of Gobron-Brillie 35-h.p. Car.

between each pair. The valves are all mechanically operated and interchangeable, the inlets being on the opposite side to the exhaust. Both accumulator and high-tension magneto ignition are employed. The water circulation is maintained by a gear-driven pump and a honeycomb radiator with fan. The clutch is of special design, being practically in duplicate, there being two cones. The smaller one, which is metal-to-metal, engages first, followed by the engagement of the large one, the cone of which is leather-faced. Both clutches are controlled by the same pedal; the advantage of the arrangement is that the engine is put into gear without shock, while, to further reduce any strain on the gear-box, a universal joint is introduced between the latter and the clutch. Four speeds and a reverse are controlled by a lever working in a "gate" quadrant. A 24-h.p. landaulet was also on view, being shown for the first time. It follows the general lines of the larger vehicles, but we note that all the valves are located on the same side of the engine.

not terminate at the bevel pinion, but is extended and passes over the axle. Motion is transmitted from one shaft to the other by skew-bevel gearing, consisting of pinions on the shaft meshing with wheels on the axle. As the two pairs of pinions and wheels are in different planes, the teeth of the latter are cut on the skew, to gear properly. The pinions for forward drive are always in mesh with their respective wheels, but are only fixed to the shaft one at a time by means of sliding clutches

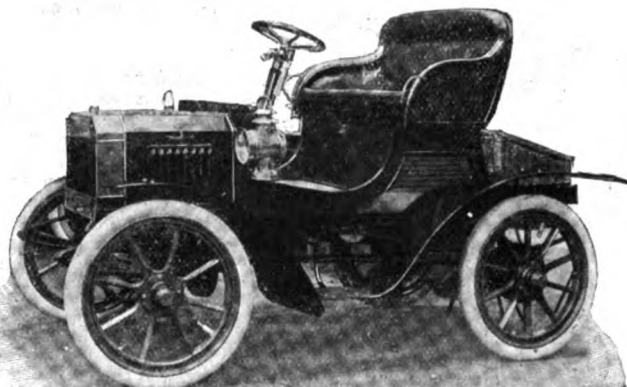


Fig. 63.—The Ridley Two-Seated Car.

which are coupled so that the engagement of one wheel is preceded by the disengagement of the other. The reversing pinion engages the low speed wheel and slides out of gear when not in use. The necessary parts are completely encased, in an oil-retaining gear case. Although the standard car is fitted with a two-seated body, it can be provided with other forms, the Ridley Company also showing one fitted up as a light van.

### The Vinot-Deguingand Cars.

An excellent display of the Vinot-Deguingand cars was made by the British agents, Messrs. T. J. HARMAN AND CO., the vehicles on view including a 14-20-h.p. polished chassis and a handsome double

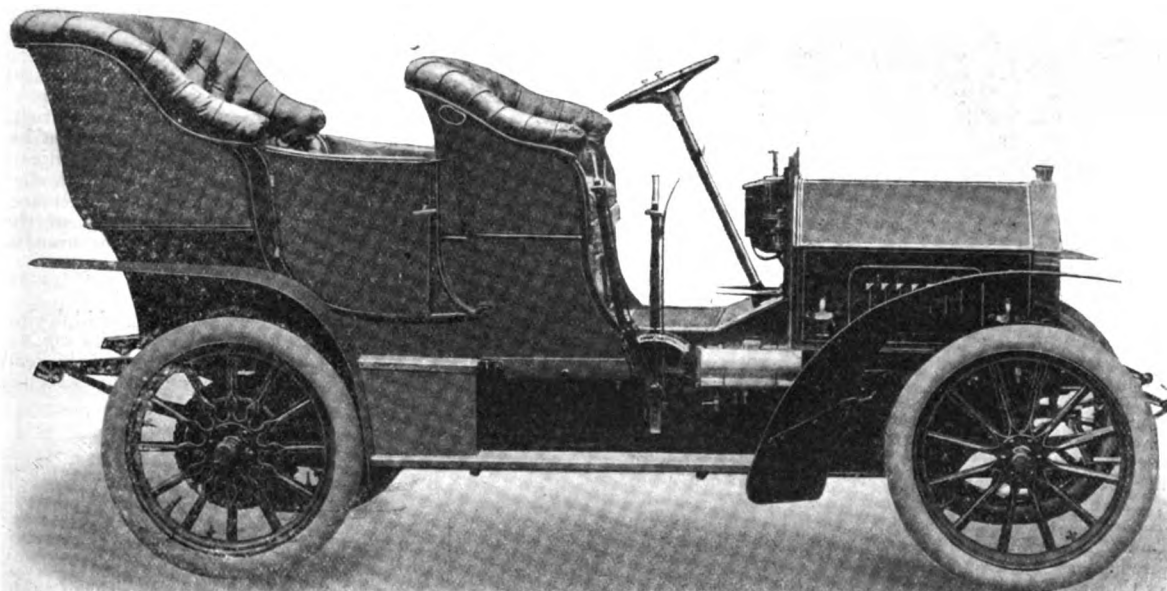


Fig. 64.—The Vinot-Deguingand 12-16-h.p. Side Entrance Double Phaeton.

### The Ridley Cars.

THE RIDLEY MOTOR COMPANY, Paisley, was among the exhibitors of cars which appealed to motorists of moderate means, the Ridley two-seater, illustrated in Fig. 63, attracting much attention. The motive power is supplied by a 6-h.p. single-cylinder engine set in the fore part of a tubular frame. The principal feature of the vehicle is found in the transmission arrangement, the whole of the drive being direct from the clutch to the rear live axle. Two speeds and a reverse are provided by a change-speed gear combined with the bevel gear drive. There is no differential gear in the ordinary sense of the word, the road wheels being fitted to the single piece axle by free-wheel clutches, so that the outer wheels can overrun when turning corners. The longitudinal shaft does

phaeton with Cape cart hood and similar power, and a 20-30-h.p. limousine. Both are fitted with four-cylinder engines with the inlet and exhaust valves actuated by separate cam shafts. The dimensions of the four-cylinders of the 14-20-h.p. engine are 90 mm. bore by 130 mm., and of the 20-30-h.p. 103 mm. by 130 mm. The lubrication of the engine is effected by a small pump operated by an eccentric off one of the cam shafts. The clutch is of the leather-faced cone type; it has already been illustrated in the *M.C.J.*, but we may mention that it is free to take any position within a certain angle round a spherical bearing, the drive being transmitted from the male member to studs formed on a boss mounted rigidly on the shaft which connects the clutch to the gear-box. The latter provides either three or four forward speeds and a

reverse, with direct drive on top speed, the control lever working in a special form of vertical gate quadrant. The final drive is by side chains. The brakes are of the internal expanding variety, and we note the rear dumb irons have been replaced by halves of semi-elliptical springs. The Vinot cars are a very popular type in France, and the excellent showing one made in the tourist trophy race last year has made them many friends in this country. Messrs. Harman also exhibited the Caron system of low-tension ignition, of which a description was published in these columns some time ago.

#### The "Eyre" Anti-Skid.

Differing in many respects from the familiar form of anti-skid, that shown by Messrs. EYRE attracted considerable attention. Its chief feature is a series of bands or loops which do not encircle the tyre but are secured to the spokes of the wheel by clips travelling in a parallel line with the course of the wheel. Should a side-slip be imminent the lateral motion of the wheel enables it to mount one or more of the loops, as each, when at its lowest level, presses the ground close to the side of the tyre. Thus the side-slip is avoided. The loops are formed of twisted steel cable, and are always ready for use without injuring the tyres. Economical and secure, the Eyre "anti-skid" has obtained many ardent advocates.

#### A New Wheel.

A fortnight ago we made mention of the varied display of wheel-work from the works of Messrs. SMITH, PARFREY AND CO. Included on their stand after the first day of the show was the Wilmot patent wheel for automobiles. In this a section of the flange can be taken off by the removal of four bolts to facilitate the attachment or detachment of the tyre, a good idea well worked out.

#### The Krieger Electrical Carriage.

A couple of highly-finished electric cars—a victoria and a landaulet, were to be seen at the stand of the KRIEGER ELECTRIC CARRIAGE SYNDICATE, LIMITED. The Krieger system has already been described in the *M.C.J.*, but it may be mentioned that two  $4\frac{1}{2}$ -h.p. compound electric motors drive the front road wheels through spur gearing. The electrical energy is furnished by a battery of forty-four Fulmen or



Fig. 65.—The Krieger Electrical Landaulet.

Société de Metal accumulators, one charge of which is stated to be capable of running the vehicle a distance of forty miles. The control, which is so arranged as to be easily manipulated, is adapted to give six forward speeds, two battery recuperating positions, one electric brake and a reverse motion.

#### Silencers, Etc.

Mr. G. ALDINGTON showed silencers for petrol motors of all sizes, cooling fans and the Kent variable gear, the latter being a gear for motor-cycles, tri-cars, etc., with a large diameter free engine clutch. This was first exhibited at the Stanley Show, when it was described in the *M.C.J.* Among the silencers on the stand we specially noticed the "Silent" silencer, which is constructed entirely of steel with the exception of the balls that are packed between the two chambers; these are made of aluminium. It is easily fitted to any machine, the nozzle being bored to desired size. By unscrewing the centre nut the nozzle can be taken out of the silencer for fitting on exhaust pipe. This will effectively silence the motor-car and is being used by many motorists.

#### Clarbun Bronze.

Those in search of a suitable metal for bearings were attracted to Messrs. CLARK, BUNNETT and Co.'s stand, whereon were exhibited several examples of Clarbun bronze, which has attained considerable favour. This is a comparatively new bronze, in which anti-frictional properties of a high order are combined with a uniform resistance to the load over its whole surface. The danger arising from the scoring of shaft journals is obviated by the use of this metal. Bearings formed of Clarbun bronze present to the load the same smooth surface throughout their life, while the low coefficient of friction of the bronze adds considerably to the efficiency of the motor by absorbing only the minimum of power, besides using only the minimum amount of lubricant and ensuring coolness of running.

#### The Sawyer Band.

Maintaining its popularity, the Sawyer Band was shown by Messrs. Sawyer and Co., who also had on view various specimens of tyres which had been repaired. Care is taken by the firm to examine old tyres

sent to be fitted with the Sawyer bands, so that only those likely to secure satisfaction in use are dealt with. The bands themselves are detachable and vulcanised on—those for motor-cycles being only vulcanised as near the bead as the rims will allow.

#### Motor Bodies.

MESSRS. MAYTHORN AND SON'S coach work was to be seen elsewhere than at their own particular stand. The landaulet-limousine illustrated in Fig. 66 was a striking vehicle shown by them, its extended

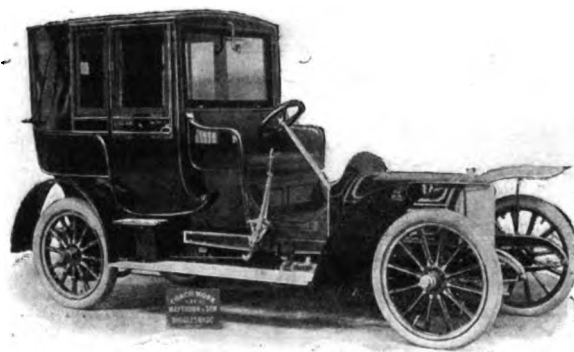


Fig. 66.—The Maythorn Landaulet-Limousine Body.

front and doors artistically picked out with black lines on a green background giving it a distinguished appearance. Another good exhibit was a stylish touring phaeton—all the different exhibits being evidence of good finish and construction.

Messrs. McNAUGHT AND CO. have attained distinction in connection with the automobile movement, their motor bodies being of good design and excellent workmanship. They showed a limousine body of high finish, the double motor landaulet on view being also characterised by a pleasing outline. At their Worcester headquarters the firm have an extensive garage, and are well equipped for repair as well as new work of a high order.

#### Motor Bicycles.

MESSRS. HAMMOND AND SMITH, LTD., showed the Clarendon 3-h.p. motor-bicycle, which has a long wheel base. The bottom head lug of the frame is all in one casting, thus reducing the likelihood of fracture at this vital part of the machine to a practical impossibility. The dimensions of the cylinder are 3 in. by  $3\frac{1}{4}$  in. The engine is fitted with a mechanical inlet valve and attached to the frame in a vertical position by four bolts, being supported by a loop tube. Taps are fitted to the head of the cylinder for the injection of oil for cleaning purposes, and to the bottom of the crank chamber for drawing off waste oil. Transmission is by belt, Longuemare or Brown and Barlow's carburettor being fitted. The capacity of the tank is 120 miles, and the general appearance of the machine is pleasing and attractive.

#### Coachwork.

Mr. WM. VINCENT had a large collection of high-class motor bodies, one of which is illustrated in Fig. 67. His works are well equipped for the production of good class work, and many of the leading gentry on the banks of the Thames have recognised his excellent facilities by

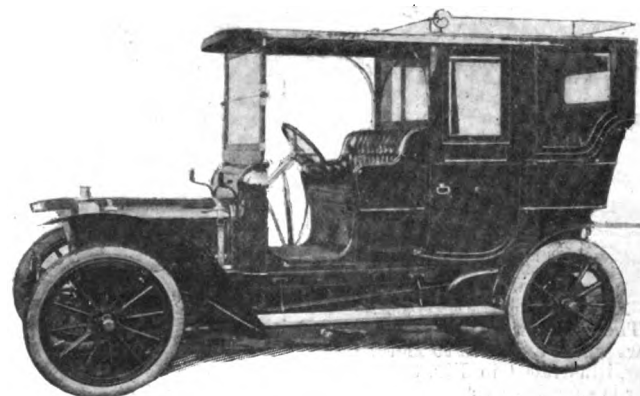


Fig. 67.—A Vincent Motor Car Body with Improved Limousine Top.

ordering carriage bodies from his works at Reading. One of the most attractive exhibits was an improved limousine top, provided with ordinary roll-over upholstery for ensuring a better appearance to the car when being used without the top. Mr. Vincent's practical experience of the requirements of motorists is evidently being utilised to their advantage.

**The Tyler Engines.**

Messrs. J. TYLOR AND SONS, LTD., of Belle Isle, N., who have put down a modern plant of machine tools specially suited to the manufacture of petrol engines, had on view several examples of the same which were noticeable for their excellent design and finish. Four sizes are being made, 10-h.p. and 20-h.p. two-cylinder, and 18-20-h.p., 24-28-h.p., and 35-40-h.p. four-cylinder. We give an illustration of the latter, which has been specially designed for motor-bus and other heavy work, in Fig. 68. The various types, except as regards the cylinders and the dimensions of the same, are on similar lines, so that the following description of the 35-40-h.p. may be taken as applying to all. The cylinders, which are cast separately, are 5 in. bore by 5½ in. diameter; the valves are placed on opposite sides, being actuated off separate cam shafts, and may be withdrawn together with their seatings by removing a bridge piece. The valve tappets are fitted with adjustable screw caps, while the

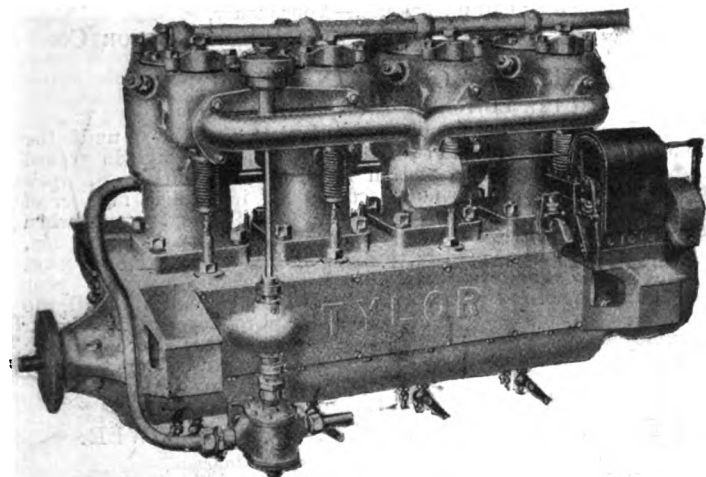


Fig. 68.—The Tyler 35-40-h.p. Four-Cylinder Engine.

cam shafts can be withdrawn from the crank case without dismantling the engine. The crank case is provided with a large inspection door on each side. The bottom half is also so arranged that it can be detached without interfering with the shaft bearings, which are carried by the upper part; the crank shaft has a bearing between each crank. The smaller engines are fitted with the ordinary contact maker, or with Messrs. Tyler's special form of high-tension distributor. On the larger engines provision is made for a high or low tension magneto, in addition to which battery ignition can be fitted if desired. The lubrication is on the splash system, oil ducts being provided to the various bearings. Partitions are also formed in the base chamber to ensure a proper supply of oil to each cylinder. We may add that all the castings, in iron, aluminium, and gunmetal, are made in Messrs. Tyler's own foundry, and that all parts are made on the interchangeable system.

**Marine Reversing Gears.**

Among the exhibits of special interest to motor-boatists was the "Ideal" reversing gear made by Messrs. DICKINSON AND BURNE, LTD., of Guildford. This has the initial advantage of being entirely self-contained, the clutch, reverse and thrust block being all in one frame. The method of engaging the ahead or astern gear is by one double-friction cone, self-contained, self-holding, and self-adjusting. When driving ahead the friction cone acts as an outer member of a clutch, engaging with an inner portion which is keyed on to the driven bronze shaft, thereby making the gear-box revolve with the shaft as a solid body. When driven astern, the gear-box has of course to be held, and this is done by the friction cone acting as the inner member of a clutch, and engaging with an outer member, which is rigidly fastened to the frame. The engagement is gradual and free from shock and the device allows craft propelled by internal combustion engines to be manoeuvred with the same facility as steam vessels.

**Accessories and Fittings.**

Messrs. ROSS, COURTNEY AND CO., LTD., had a good display of their accessories, fittings, etc., all of good class workmanship. Among the special exhibits was a new petrol pourer ensuring the free and rapid filling of a tank without the petrol bubbling or puffing around the tank filler or in the funnel, the latter accessory being, in fact, unnecessary when using the pourer. It is made to fit the two standard sizes of stopper on petrol cars, viz., 1 in. and 1½ in., and contains not only a strainer but also a filter through which the petrol passes on its way from can to tank. The firm have also a new sparking plug in which there are no exposed metal parts. Short circuiting to the hexagon gland-nut of the plug itself or to the near by parts of the engine or car is entirely eliminated. The internal construction is such that the full power of the current is conveyed to the points and an intense spark is assured. The points do not soot or get foul, and a misfire is quite unknown, even in an oil-flooded cylinder. Petrol gauges, greasers,

fitters for sight feed lubricators, control levers, pumps, connection swivels and bolts and nuts, with English and French threads, made up a very useful display highly creditable to British industry.

**Petrol Filler.**

Mr. W. PETTETT was able to show a long list of orders received for his combination funnel can and filler, known as the "Dripless." By the use of this filler it is impossible to overfill any tank, for as soon as the liquid comes up to the spout, from which it is being poured into another vessel, it stops running. In motor garages the device will be found a great boon, adding materially to the safety of the establishment. For use with petrol cans the safety filler is a capital little instrument adaptable to all tins. A piece of wire gauze within the filler prevents foreign matter reaching the tank, and the use of a funnel is entirely obviated. By its use the tank can be filled in the dark, thus minimising the risk of fire. The device is being placed on the market by Pettett's Patent Safety Filler Company.

**The Robeson Coat.**

Rugs have their use and also their disadvantages when on the car, and to obviate the necessity for their presence, so far as the driver is concerned, Mr. JOHN ROBESON has brought out a new coat which he introduced to motorists at the Show. The invention consists of divilin; the skirt of the coat for some distance up, and opposite to each leg. Flaps are inserted in each section, these flaps being of such a character that they are held by means of easy snap fastenings quite flat and securely against the skirt. When the coat is worn in a sitting position, the fastenings can be instantly undone; the flaps fall round inconspicuously, and fit in and envelop the knee. The effect of this is to cause the coat to hang down low in front, forming a "Mulum in parvo" apron, and the wearer, whilst possessing perfect freedom and ease of movement, is protected from exposure in every way.

**The Malcolm Car and Engines.**

THE YUKON MOTOR AND ENGINEERING WORKS, Balham, had on view a neat two-seated car, fitted with a 6-h.p. two-cylinder engine. The transmission is through a leather clutch and a gear-box, giving three speeds forward and a reverse with a direct drive on top speed, the final drive being by side chains. Our interest at this stand was, however, mainly centred on the display of the Malcolm four and six-cylinder engines of respectively 12-16-h.p. and 18-22-h.p. We give in Fig. 69 an illustration of the "six"; as the two sizes are made on similar lines, the following description may be taken as applying to both. As will be seen, the cylinders are cast separately, the bore being 80 mm. and the stroke 110 mm. The valves, which are interchangeable, are arranged symmetrically on either side, being operated off separate cam shafts. The crank shafts, which are of nickel steel, have the cranks set at 180 degrees in the case of the four-cylinder engine and at 120 degrees in the six, a bearing being provided between each throw. The base chamber is made in three parts, the lower one of which can be readily removed to allow the big ends and the crank shaft bearings to be inspected without disturbing the same. A special

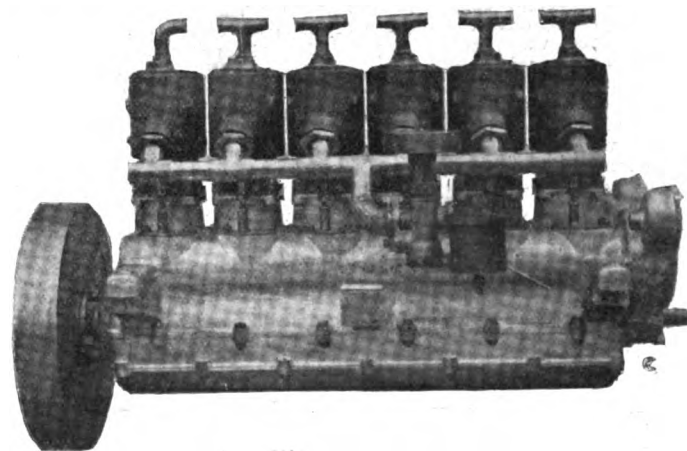


Fig. 69.—The Malcolm 18-22-h.p. Six-Cylinder Engine.

feature of the motors is found in the method of fixing the gudgeon pin in the pistons, which prevents it working out and scoring the cylinders. The pin itself is carried in a ring which is screwed into the piston block up against a flange turned in the latter. The threaded ring is partially sawn through at a point about half an inch from its lower edge, two small set screws binding the separated portion on to the internally threaded piston, the arrangement forming a lock nut. The four and six cylinder engines develop respectively 12-h.p. and 18-h.p. at a normal speed of 1,000 revolutions per minute, but the rate can be varied from 50 to 2,500 revolutions as desired by means of a variable lift to the inlet valves, which is obtained by a movable cam shaft. Altogether the Malcolm engines appear to be on sound engineering lines and bear evidence of careful design and attention to details.

(To be continued.)



[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, W.C.]

### OFFSET CRANKSHAFTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have several times carefully read the article entitled "Offset Crankshafts, an Adverse View," in your issue of the 31st ult., and each time with increasing wonder as to what the adverse view may consist of. Permit me, therefore, to briefly analyse what the writer has to say.

(1) "The matter is attracting some attention in various countries, and an American Professor states that one of the problems that has to be solved in motor design relates to the friction caused by oblique thrust on piston." Granted. (2) "The question is not entirely new. The advantages of this plan are apparent." Here he gives some reasons why—but by no means the most important. Still, once more, granted. (3) Investigation and adoption by a "few prominent firms" "not necessarily indicative of its overwhelming merit." No one who has studied the matter does claim overwhelming merit, but the firms who have adopted the system can prove certain advantages fully warranting the practice. (4) "There is much to be said both for and against it." Then why not give us a few cogent reasons for his adverse views? (5) "Spark Gaps" are instanced as prophetic of the fate in store for offset crankshafts! To anyone understanding the wide difference in the two subjects the want of logical comparison is obvious. (6) "Will the increased life of an engine built in this manner (offset crankshaft) compensate for the necessarily increased cost?" I have been designing and building engines on this system for some four years, and up to the present cannot discover that one farthing is added to the cost of production; but if ever there should be a slight additional expense, I contend that it is a very poor argument to condemn it on. (7) "Another side to the question" is "increasing homogeneity of the motor-car." A horrible suspicion here is forced upon me that the writer has not grasped what offsetting the crankshaft really means! Or else what does he wish to be understood by insinuating want of homogeneity? He concludes by mentioning the "absolute necessity" of "talking points" "for the sales department," and I would respectfully suggest that logical points are as necessary when engaged in the article writing department as loquacity.—Yours truly,

A. E. S. CRAIG.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I read with great interest the article on the question of offsetting crankshafts, which appeared in the *M.C.J.* of the 24th ult. The principle is, of course, very old, having been used over thirty years ago in the Bischof gas engine, where it was carried to an extreme. The piston rod, passing clear to one side of the path of the crank and the connecting rod was practically parallel to the piston rod when the engine was at the middle of its working stroke. While the system has undoubted advantages, there are also disadvantages, the most important of these being that by the offsetting of the cranks in a four-cylinder engine the kinetic balance is disturbed proportionately to the amount of offsetting with a given length of connecting rod, owing to the fact that the motion of the piston differs further from true harmonic motion, which is the ideal condition for a perfect balance.

Another disadvantage is that the top and bottom dead centres are no longer 180 deg. apart from each other, and this complicates to a certain extent the question of valve and ignition setting. There is, of course, no doubt that minimising the obliquity of the connecting rod on the working stroke, and thereby minimising the side thrust on the cylinders, is an important advantage, and it is quite probable that in the final type of motor-car engine there may be a small amount of offsetting, but I do not think that this will exceed  $\frac{1}{3}$  of the stroke.—Yours truly,

T. BLACKWOOD MURRAY.

### THREE-CYLINDER ENGINES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We would join with Mr. Lamb in protest of the wild assertion made recently about three-cylinder engines "rocking" owing to "impulses always turning from one end of the engine to the other." Not long since some anonymous critic wrote to a contemporary that three-cylinder engines had a "hop and go one" sort of action, and in reply to that letter we asked him to come to our works and permit us to disprove his assertion, on condition that he published the results of his visit. As a matter of fact, he took good care not to come near the place, but another gentleman came—an engineer from the Crewe works—who was desirous of investigating the matter for himself, and he went away entirely convinced of the merits of the three-cylinder engine. We need scarcely say we shall be pleased at any time to convince any of your readers who hold any of these fantastic notions that they are wrong, if they will have the courage of their opinions and pay us a visit at our

works, and if they will record the result of that visit in your columns, and we have no doubt Messrs. Lamb Bros. and Garnett will be very pleased to do the same for any gentleman who may be located nearer their works than ours.

Now, on this question of rock, if there is a rock at all, it is not with an engine such as ours, but with the ordinary motor engine as fitted today. The turning movement is all in the direction of swinging the engine round its crank bearings, and these stresses set across the car. That it is no fanciful theory anyone who watches a big 120-h.p. racing car start up can see for themselves directly the engine fires, and directly there is any acceleration of the motor the whole lot is seen squirming sideways, the springs on one side going down, those on the other going up. This action, of course, is more visible on a 120-h.p. than on a 12-h.p., but it is going on exactly the same and in exactly the same ratio. If people would look at facts as they are, instead of talking through their hats so much, we should have less absurd prejudice to fight against, not only about the three-cylinder engines, but about lots of other things which the public only half understand.—Yours truly,

THE DURYEA MOTOR CO.

### THE SIZE OF CHAIN WHEELS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I read with very great interest the letter appearing under the name of Mr. W. L. Hardman in the *M.C.J.* of the 24th ult., in regard to the size of chain wheels, and in reference to Professor Sharpe's opinion that chain wheels as now used had an insufficient number of teeth on them. I am interested because Mr. Critchley and myself, when considering the design of the Crossley cars, came to the same conclusion, and therefore it will be found in this year's Crossley car the sprocket chain wheels are very large indeed, and, as no doubt many of your readers will have noticed at the exhibition at the Agricultural Hall, the size of the two chain wheels on the 40-h.p. Crossley cars is as near as possible the same. That the result is beneficial I have already proved by the extraordinarily silent running of the car.—Yours truly,

CHAS. JARROTT.

### CYLINDER CAPACITY AND HORSE-POWER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to your note in the last issue of the *M.C.J.*, re Cylinder Capacity and Horse-power, it may interest you to know that the Eastern county makers of portable engines even now stick to the old plan of describing their engines as of so much nominal h.p. The old rule was  $\frac{(\text{cyl. diam.})^2}{10} = \text{n.h.p.}$ , and one n.h.p. = approx. three effective (or brake) h.p. There is one exception, namely, the firm of Messrs. Richard Garrett and Sons, Ltd., of Leiston, who long ago discarded this very unsatisfactory classification, and I believe they list their engines as so many indicated h.p., so that one knows what one is buying. It is news to me to learn that these engines were ever rated to work up to six times their nominal h.p. I was connected with the trade for some years, and I think three times is, at any rate, now the accepted figure among makers who still employ this prehistoric method of classification.—Yours truly,

A. VON STRALENDORFF.

### NOT PLAYING THE GAME.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—When visiting the Show at the Agricultural Hall last week I was somewhat surprised to find several concerns doing what I consider anything but playing the game. I refer to those firms who, in order to more forcibly impress the advantages of their productions on visitors, made use of their competitors' goods by way of comparison. This is a procedure which I venture to think no old-established firm indulges in. I have no grumble to make at any one extolling his own product as much as he chooses, but comparisons are odious, and never so much so as when a rival's goods are unfairly made use of.—Yours truly,

BRIXTONIAN

### DOES LOW TENSION MAGNETO IGNITION GIVE GREATER POWER THAN HIGH TENSION?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Re the above subject, we have not had the opportunity of making the actual tests which Mr. Jarrott has, but the German Daimler Company have evidently found from their tests that the high tension magneto gives the greater power, or it is hardly likely they would have abandoned the low tension magneto on their racing cars in favour of the high tension, their new six-cylinder racing engine being fitted with the Eisemann magneto.—Yours truly,

G. T. RICHES AND CO.

### THE COURTESY OF THE ROAD.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I desire to call attention to the necessity of owners of cars giving their drivers strict orders to observe the usual etiquette of the road as observed amongst coachmen. Many drivers have not had training as grooms or coachmen, and, in consequence, make themselves



through ignorance mainly, a nuisance to other road users. The special point which I wish to emphasise is the matter of making up to and passing other vehicles. Unless on the very widest roads, no car should pass any horse-drawn cart or carriage at more than the legal speed; before passing any vehicle of whatever kind going in the same direction the horn should be sounded several times; and, still more important, no motor-car should pass another going in the same direction at over eighteen miles per hour, in a street or narrow road where there is traffic. These may seem to be very obvious recommendations, but anyone living on or near the Brighton road sees them constantly broken.

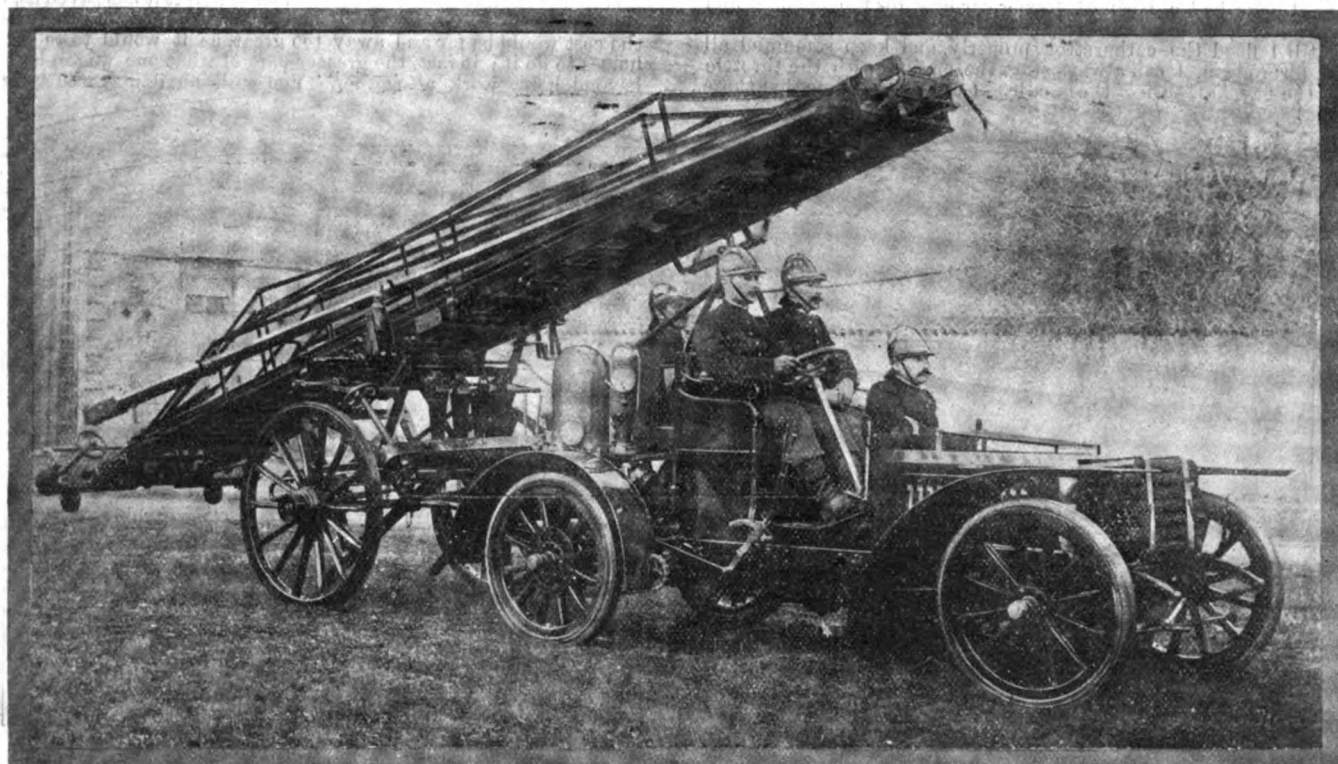
I was proceeding recently from Crawley to Three Bridges station, and going at the maximum safe pace of about eighteen miles per hour, a large limousine type car endeavoured to rush past whilst I was passing horse drawn traffic in the narrow street of the village. Fearing an accident, I ordered my driver to put on speed, and, in fact, was chased to the station by the car in question. I told the driver there that I would have reported him to the police had he passed me, and I regret that an occupant of the car appeared to regret my interference. Should I be summoned for exceeding the limit, would it be a good defence to say I was being chased?

The foregoing is only a sample of the annoyance and danger to

stand for several months without being used. Would it be best to partially discharge these and then recharge them? I understand it is injurious to accumulators to let them stand without being charged and discharged. I should also like to know whether accumulators should be entirely discharged before emptying the acid in order to clean them. If so, how should they be discharged?—Yours truly,

F. J. CLARKE.

[An accumulator which is to stand idle can be treated in two ways, either of which can be selected to suit the convenience of the user. It should either be thoroughly discharged or kept thoroughly well charged, in which latter case it is, of course, always ready for use. In the first instance, proceed as follows:—Thoroughly discharge the accumulator by connecting it to a 4-volt lamp or a coil of iron wire until it has discharged down to 1½ volts per cell, or 3·5 volts for a 4-volt set. Immediately after discharge, empty the acid out, and rinse the cells with water until they are quite free from acid in the plates or in the cell. Then drain it out and thoroughly dry the terminals and top of the case. Carefully vasoline the terminals and rubber bands to keep the latter soft, and put away in a card box to prevent dust settling on the top. In the second instance, charge up the accumulator so that it can be said to be thoroughly well charged. If there is a connecting wire joining the two cells together at the terminals, take this away, as it leaves the two



The Motor Fire Engine and Escape Tractor used by the Fire Brigade at Nancy, France.

In addition to the Fire Engine, a motor vehicle for the rapid conveyance of firemen, hose, etc., is in use at Nancy. The chassis was supplied by Messrs. De Dietrich, the equipment being furnished by Messrs. Morin-Gugumy, a French firm of fire engine builders, in conjunction with M. Drouville, the De Dietrich agent in Nancy.

which careful and law abiding motorists are exposed on the Brighton road especially.—Yours truly,

H. B. COLLINS.

### OVERHEATING TROUBLE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reference to J. Barton's troubles, in a recent issue, the cause is due to the following:—1. The defective circulation is due to either a steam or an air lock generating in pipes between tank and pump, or a blocked pipe or joint between same points. 2. Misfiring in exhaust "box" it is not usual to switch off going round corners, &c., the best method being to retard the speed of your car previous to turning corners. The reason of the explosions is when the ignition is switched off unfired charges of gas are swept into exhaust-box, and fired through it, being hot, and also when switching on the exhaust gases firing the unexploded charge in exhaust-box.—Yours truly,

J. W. MORRIS.

### THE CARE OF ACCUMULATORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be obliged if you or any reader of the *M.C.J.* would give me some hints as to how an accumulator should be treated which is not in constant use. I have two accumulators, and they often have to

cells with their pressure divided. See that the top of the cell is very clean and vaseline the terminals and rubbers; take out the vent corks, as they cause spraying. After three months charge up again if the accumulator appears to have lost its voltage. After an accumulator has been once properly formed, it is not necessary to charge and discharge it when standing, provided it has received a good charge before standing. The easiest method of discharging is by connecting a lamp up to the terminals and leaving it until quite out.]

### MORE ENGINE TROUBLE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The trouble mentioned by "Xenophon" in the last issue of the *M.C.J.* is by no means uncommon with some types of carburettor. I have experienced it with several makes of cars, and have always found it to be due to the following cause. When the engine is running throttled down considerably there is sufficient vacuum in the mixing chamber to make petrol flow from the jet, but the velocity of the air passing the latter is not sufficient to carry all of this petrol to the engine. The result is that a pool of petrol collects in some part of the carburettor, and when the throttle is suddenly opened this petrol floods the cylinders, causing so rich a mixture that it will not fire, and if the engine has been running slowly for very long, it will actually stop before the mixture becomes sufficiently weak to fire again.

A considerable improvement can often be effected by warming the

air which passes the jet, if this is not already done. This can be managed in most cases by drawing this air from a casing fitting over an exhaust pipe of the engine. The air should not be heated too much—only sufficient to warm the mixing chamber of the carburettor. If this by itself is not enough to cure the evil, it can be further decreased by boring some holes into the mixing chamber and so decreasing the draw on the jet. These holes should be fitted with a sliding collar or other means of regulating their size. It will then be found that by adjusting the size of these holes the engine can be made to speed up more readily when the throttle is opened, and as the carburettor has an automatic air valve, they will not appreciably affect the mixture at full power. It may not then be possible to run the engine as slowly as before, but this is a much less evil than that complained of by your correspondent.—Yours truly,

H. R. LIEBSTEIN.

### LOW TENSION IGNITION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Having read a letter a short time ago from a correspondent who was evidently prejudiced against low tension ignition in motor-cars, and who described the difficulty of starting a car with this ignition, contemptuously referring to the undignified turning of the starting handle for some time and the useless labour of doing so, I find it quite different. I have had a Richard-Brasier car now for ten months, and have driven over 4,000 miles. It is my second car, and I keep no mechanic. I find that if I flood the carburettor properly, and keep same and all pipes and filter clean, I can always start the engine, with the throttle closed, on the first half-turn of the handle. I can only assume that those

### MOTOR QUERIES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Will you kindly inform me, through the medium of your valued journal, what should be the relative distance from the bottom of the stroke that the exhaust valve should begin to open? In my motor it begins to open when the piston has descended seven-eighths of its stroke and finishes closing exactly as the piston reaches the extreme end of its upward stroke. Should it close also at seven-eighths of the upward stroke?—Yours truly,

SILENCER.

["Silencer" may rest assured that his valve is set quite correct so long as it is not held open over the top of the stroke. In the case of an inlet valve it should commence to open immediately following the closing of the exhaust, and close at the bottom of the stroke.]

### STEAM V. HORSE TRACTION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We have pleasure in giving you particulars of our Foden steam wagon for the past year. It has run over 6,000 miles, and, over some of the roughest roads in the country, carried nearly 5,000 tons of bricks, at a total cost in wages of £145; coal 36 tons; repairs. £23 15s. As regards the question as to the number of horses it has saved us, we could not attempt to do the work with horses that the steam wagon has done, the cost would be far and away too great, as it would take eight good horses to do it; in fact, the greater part of what our wagon has done is beyond horse work altogether. You will, no doubt, understand that

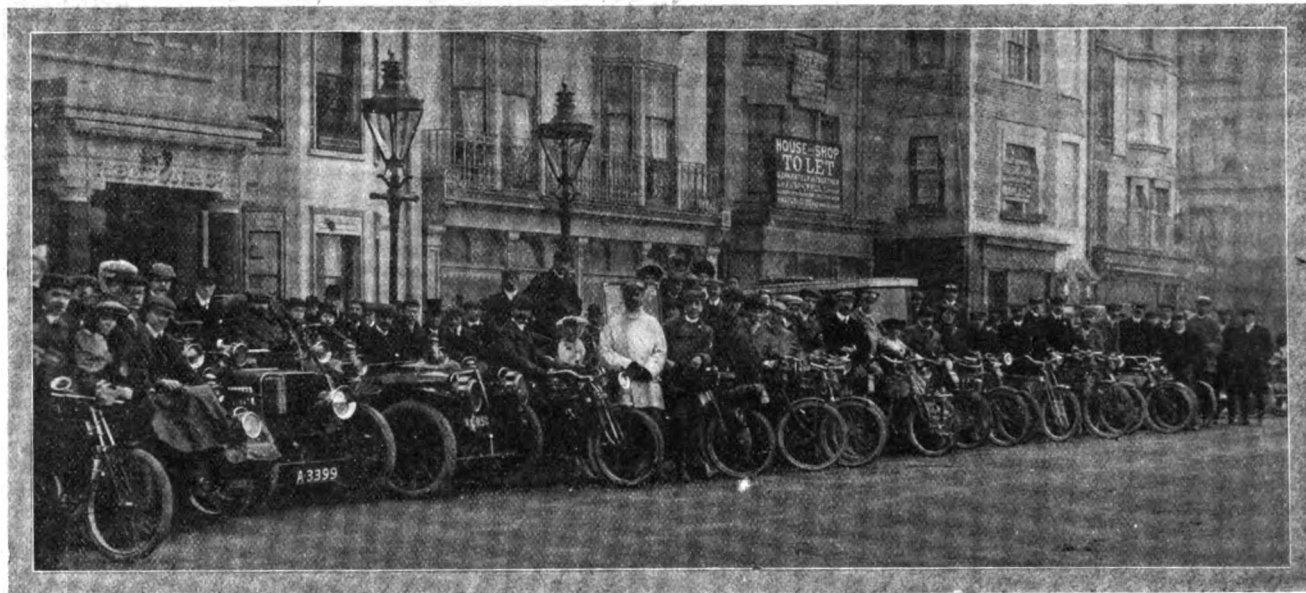


Photo by]

The opening Meet of the Motor Cycling Club at Brighton on Sunday last.

[E. W. Ashworth.]

who complain of low tension ignition—which, in my opinion, is the only one worth having on any car—either do not know how to manage it, or they have a bad magneto fitted to their car.

My last car was a De Dietrich fitted with Simms-Bosch low tension magneto, and I have not for a moment known what ignition troubles are in either car.—Yours truly,

TALLY-HO.

### AUTOMATIC CARBURETTORS AND WORN VALVE STEMS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The following may be of interest regarding your article on automatic carburettors in the last issue of the *M.C.J.* I have run a two-cylinder car for two years. The first year the petrol consumption was 17.5 miles per gallon. I then fitted an automatic air valve and enlarged the air inlet on induction tube, which was almost choked by gauze wire. The result the following year has shown petrol consumption 25.7 miles per gallon. My engine is an Aster, and I find the valve stems have worn down a quarter of an inch, and I conclude the tappets which operate them are similarly worn. Can you suggest any remedy for this, so that the tubes may get their original lift?

C. M.

[A good method to lengthen the valve stems when worn is to drill a piece of metal up a short distance to fit the end of the stem and allow a solid piece at the bottom to rest on the tappets; this need not be made fast, or it will not be possible to get valve stem through the guide; the spring of the valve will be quite sufficient to hold it in place.]

brick hauling is one of the roughest and heaviest jobs an engine can be put to, as new buildings are usually hard to get at, bad roads often leading to them.—Yours truly,

OAKLAND BROS.

ADDRESS WANTED.—We have an inquiry for the address of Messrs. Apin, Thackeray and Co., Ltd.

MR. H. C. NELSON wishes it to be known that he has never had any financial interest in the Motor Car Company (1905), Ltd.

VANS ON HIRE.—We have sent the names of several firms who have replied to the recent query to the firm making the request.

DIXI CARS.—"Ex-cyclist" writes:—"I shall be glad if you or any of your readers could give me their experience of 12-15-h.p. four-cylinder Dixi car, 1905 pattern; whether it is up to its nominal horse-power and is a reliable and economical car to run."

LETCHWORTH.—Inquirers are informed that the Garden City estate is thirty-four miles from London and that a considerable population is being attracted to the estate, where several factories, including a motor engineering works, have already started operations.

RENOLD CHAINS.—Messrs. Hans Renold, Ltd., write:—"A report has somehow got abroad that our projected new works are for the purpose of building motor-cars. This is an entire mistake and is calculated to embarrass us with valued friends in the motor-car trade. The new works are intended solely to enable us to cope with the largely increased and ever growing demand for our chains, and we shall, as hitherto, manufacture chains only for cycles and motors and for other driving purposes."

## CLUBS AND ASSOCIATIONS.

### THE MOTOR UNION.

At the Agricultural Hall, on Wednesday of last week, was held the annual meeting of the Motor Union, which now numbers over 11,000 members.

The Hon. Arthur Stanley, M.P., presided, and in reviewing the work of the past year referred with satisfaction to the influence which the union had brought to bear on various local bodies in respect of applications for restrictive speed limits in borough areas. On the question of inconsiderate driving Mr. Stanley said that one of the things from which motorists had suffered most was the fact that absolutely untrained and unskilful drivers were occasionally to be found on the road. It was very difficult to know how to remedy that state of things in a short space of time, but the Motor Union had gone into the matter, and a valuable report had been drawn up, which was on the point of being submitted to the committee. Referring to the question of the granting of driving certificates upon examination, Mr. Stanley contended that it was much better that this should be undertaken by the Automobile Club and Motor Union than by the Government. Once a certificate of proficiency were granted by the Government it would be difficult for them to take it away, whereas the club and union could say to a man whose conduct had proved objectionable, "You may be a skilful driver, but you are not the sort of man who is a credit to automobilism, and we shall not have you any longer on our register." That was the only way in which they could put down the curse of inconsiderate driving.

As regards dust, which was the chief cause of the unpopularity of the motor-car, the union was co-operating with the Roads Improvement Association, and was carrying out experiments in several places in order to see whether some form of dustless material could be obtained for road construction which, if it did not entirely remove, would at least minimise, the dust nuisance. Dealing with the question of the chances of fresh legislation this year concerning motor-cars, Mr. Stanley said that, speaking without political bias, he believed that the Government thought that they had got quite enough on their hands this year without going into the question of the Motor Car Act. Various opinions would be entertained as to whether it would be a good thing or not that there should be no legislation. He was inclined to think that it was a good thing. If there were to be any legislation this year, it was unlikely that the principal object which automobilists had in view—namely, the removal of the arbitrary speed limit, would be attained. Any addition, moreover, now made to the Motor Car Act would probably be of a permanent kind, instead of for a short term of years only. Every year, however, the motor-car became more widely used, and motorists, he hoped, would become more and more popular, so that the longer legislation was delayed the more likely they were to get a better Bill in the end.

The annual report, extracts for which have previously appeared in our columns, was adopted, and officers were elected for the ensuing twelve months.

The following motorists have been elected vice-presidents of the Motor Union:—Sir George Newnes, Bart., M.P., Mr. Rufus D. Isaacs, K.C., M.P., Mr. J. Muir Astbury, K.C., M.P., Col. H. C. L. Holden, Capt. J. A. Cole, J.P., Mr. W. Birtwistle, J.P., Dr. Hopkins Walters and Mr. T. W. Grace.

Sir George Livesey, Sir Francis Burdett, Bart., Mr. Alec Ogilvie, Mr. R. H. Hunter Weston (New Zealand), and Mr. T. L. Boyd have been elected life members.

### AUTOMOBILE MUTUAL PROTECTION ASSOCIATION.

The annual general meeting was held at Cordingley's Exhibition at the Agricultural Hall on Friday of last week, the president, the Earl of Shrewsbury and Talbot, in the chair. There were a large number of members present. The report for the year ending December 31st, 1905, was submitted and approved. There are now 104 members of the Association. The available funds show an increase of £132 over that of the previous year.

The Association has taken an active part on behalf of the trade during the past year and tendered evidence to the Royal Commission on Motor Cars, and has supported its members in resisting four specific attempts to foist master patents for essential details in car construction upon the trade.

The cordial relations between the Association, La Chambre Syndicale de l'Automobile de France and L'Association General de l'Automobile de France have been improved and strengthened, with the result that those associations agreed to support the English association in their various efforts for the benefit of the trade.

A great experiment is in hand with regard to the dust nuisance, to prove by practical demonstration that dustless roads can be made at a cost to the ratepayers of considerably less than the present system of dusty roads. In conjunction with the Kent County Council, a length of

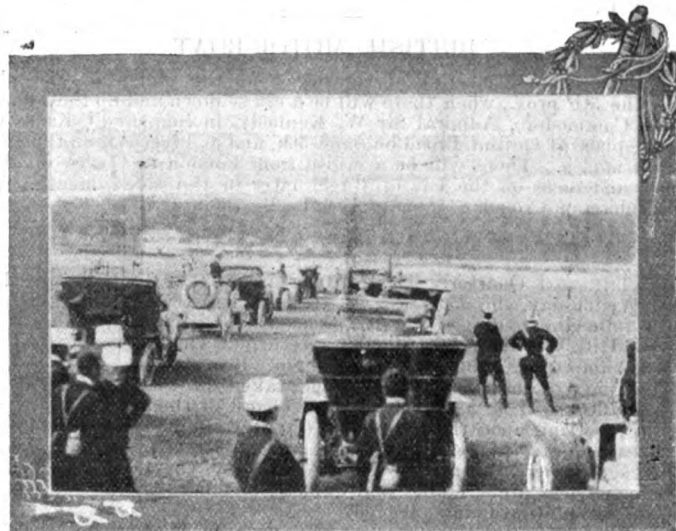
the London-Maidstone roads is to be laid with contiguous sections of various dustless materials, so that the surface and relative wear can be carefully compared under identically the same traffic and similar conditions. These sections will be an object lesson to highway authorities throughout the country, and every information on the subject of cost will be placed at their disposal by the officers of the association. The association has become affiliated to the Roads Improvement Association.

At the council meeting held immediately after the general meeting, the representatives of Messrs. Moss and Woodd and James Robertson and Son were elected to the council. Mr. E. Shrapnell Smith tendered his resignation as secretary and was appointed a member of council of the association, and the assistant secretary, Mr. Douglas Mackenzie, A.M.I.Mech.E., was appointed secretary as from March 31st, 1906.

The association decided to tender evidence on behalf of the trade to the Royal Commission on Canals and the Royal Commission on Cabs and Omnibuses. The correspondence with regard to various patent actions was considered in detail. The meeting concluded with a cordial vote of thanks to the president, the Earl of Shrewsbury and Talbot, for his kindness in presiding at the annual general meeting and at the council meetings during the past season.

### AERO.

The Aero Club balloon was aloft again on Saturday with Captain Corbet, Messrs. Frank Butler and Moore-Brabazon, and the Hon. C. S. Rolls. The ascent was made from the Wandsworth Gas Works at a quarter past three, and a number of motor-cars started with the object of keeping in touch with the balloon, but although the aeronauts purposely kept at a low altitude—1,000 feet to 1,500 feet—the motorists had some difficulty in threading their way out of London, and the



The Inspection of the Motor Volunteers at the Recent Italian Military Manœuvres.

balloon was lost in the haze, though travelling at a very low rate of speed. A light northerly wind took the aeronauts over Sutton, Reigate, and Crawley. Seeing a pack of dragmonds hunting along their route the aeronauts descended to within a few hundred feet of the earth and with shouts of "Tally ho!" seemed for a few moments to be joining in the pursuit near the Brighton road. The final descent was made between Shoreham and Henfield, a few miles from the sea. Before deflating the balloon, the wind having fallen almost to a dead calm, Mr. Rolls landed his passengers and took up a number of persons for short ascents to view the neighbourhood, a rope a hundred yards long being used to convert the balloon into a captive one for the purpose.

### MOTOR VAN, WAGON AND OMNIBUS USERS' ASSOCIATION.

The title of the Motor Van and Wagon Users' Association will, as already announced in our columns, in future be the Motor Van, Wagon and Omnibus Users' Association. This alteration has been found necessary in view of the fact that all the principal companies operating motor-buses have joined the association. The chairman of the association is Colonel R. E. Crompton, C.B., M.I.C.E., and the following committee have been elected for the ensuing year:—Messrs. L. H. Baxendale (Pickfords, Ltd.), W. Worby Beaumont, M.Inst.C.E. (Hon. Engineer to Automobile Club), A. J. Clay (Bass, Ratcliffe and Gretton, Ltd.), F. C. A. Coventry, (Great Western Railway), Dalziel (the West of Scotland Carrying Company, Ltd.), J. L. Farmiloe (T. and W. Farmiloe, Ltd.), Col. H. C. L. Holden, R.A., F.R.S., M.I.E.E., H. Howard Humphreys, M.I.M.E.,

W. Rees Jeffreys, W. G. Lobjoit (W. and J. Lobjoit and Co.), H. Thomason Lyon, M.I.E.E. (Chairman Traffic Committee Westminster City Council), Douglas Mackenzie, A.M.I.M.E., C. C. Mitchell (the London Road Car Company, Ltd.), L. G. Oldfield (London Omnibus Owners' Federation), Arthur Paterson (Carter, Paterson and Co.), R. R. Robbins (Wild and Robbins), E. Shrapnell Smith, A. A. Campbell Swinton (the London and District Motor Bus Company), the Hon. Arthur Stanley, M.P. (Chairman Motor Union), W. H. Willcox (W. H. Willcox and Co., Ltd.), and Dr. Hels Shaw.

### YORKSHIRE.

THE Yorkshire Automobile Club has arranged further free garage for its members at the following garages:—Hull City Garage, North Street, Hull; T. Smurthwaite, Romanby Road, Northallerton; E. A. Colby, Trinity Yard, Dewsbury; Edgar Smith, Weymouth Street, Halifax.

### NORTH-EAST LANCASHIRE.

THE Burnley Automobile Club and the North-East Lancashire Club are to amalgamate forces, the members of the Burnley Club coming to that decision the other night. Should all the members of the Burnley club enrol themselves with the North-East, the latter will become an important club in the north of England.

The club is able to report that there are no police traps within the area of its influence.

### AUTOMOBILE ASSOCIATION.

THE Automobile Association during the Cordingley Motor Exhibition week enrolled sixty-six new members, whose subscriptions total £152 4s.

### BRITISH MOTOR-BOAT.

THE opening meeting of the season for this club will take place on the 5th prox., when there will be a cruise down and up the Thames, the Commodore, Admiral Sir W. Kennedy, in command. Races will take place at Oulton Broad on June 5th, and at Liverpool on the 8th of that month. There will be a cruise from London to Cowes on July 7th, and races off the Isle of Wight later in the same month. The Burnham-on-Crouch events are fixed for September.

### AUTO-CYCLE.

THE next Quarterly Trial of the Auto-Cycle Club will be held on Wednesday, the 25th inst., starting from Uxbridge at 9 a.m. over the following route:—Uxbridge, Beaconsfield, High Wycombe, Dashwood Hill, Wheatley, Islip, Banbury, returning via Bicester, Aylesbury, Berkhamstead, Chesham, Amersham, Beaconsfield, to Uxbridge. The times of the competitors will be taken up Dashwood Hill, and certificates will be awarded giving a record of the performances, and also reporting upon the following: (1) Accessibility, (2) hill-climbing, (3) ease of starting and control, (4) brakes, (5) silencer, (6) stand and luggage carrier. Entries close on Wednesday, the 18th inst., and the entrance fees are: Trade, one guinea; members of the Auto-Cycle Club and affiliated clubs, 10s. 6d.

Entries for the International Cup close on Wednesday, the 18th inst., at the following fees: Trade, for the first machine, ten guineas; each additional machine, five guineas. Private owners, not receiving payment from any person in connection with this event, two guineas.

Up to the time of going to press, forty-four entries have been received for the Land's End to John o' Groat's trial.

### LINCOLNSHIRE.

THE annual luncheon given by the Lincolnshire A.C. to inaugurate the season, held on Saturday, was of a somewhat novel character. The mayors of the towns in the county, the chairmen of the County Councils, the chairmen of the Rural District Councils and Highway Surveyors, and other officials were entertained. The guests were taken to Lincoln in cars, there being fifty cars at the Great Northern Hotel, the headquarters. Sir Hickman Bacon, Bart., president of the club, presided. Major J. A. Cole, J.P., in proposing "The Guests," described the club as more of an association for the encouragement of motoring. They were at the beginning of the new force, which would do as much benefit for the public as had railways. They had established the most sincere and hearty relationships between automobilists and the governing bodies of the county. The club would do all they could to promote experiments with new methods for road-making.

Mr. W. Embleton Fox, chairman of Lindsey County Council, in responding, said by accident or design the guests that day were the road-menders of the county, and thought there was a feeling of gratitude for favours in the past and anticipation for favours to come. He thought it was a good thing that the county authorities had a clean record so far as motorists were concerned. Motor-cars did not add to the amenities of the road, but he could say, from the action taken by the various authorities, the motorist had as much right to the road as they, and so long as drivers behaved like gentlemen and with due regard to the rights of other people, he thought they would get on very well together. He then referred to the absolute uselessness of the speed limit, and said that he detested the necessary corollary, which is the police trap.

Mr. W. Rees Jeffreys, answering for "The Motor Union," said they relied upon the promise of support. He thought they might be congratulated on the honour the chairman of their club, Major Cole, had attained by election as vice-president of the Motor Union. He was pleased to say that, having considered the case taken by the Lincolnshire Club, in which Dr. Millar was the defendant, and that a principle was involved, the Union had decided to defray the expenses of that case. They had found that the cost of motoring was twopence per mile, and their object should be to reduce this to at most three-half-pence per mile. Col. J. S. Ruston, Mr. A. C. Newsum, Mayor of Lincoln, Mr. A. A. Padley, and Mr. C. W. Pennell also spoke.

### HEREFORDSHIRE.

ENTRY forms are now available for the climbing competition on Frome's Hill, Hereford, on May 24th. Neither steam cars nor petrol vehicles of more than 35-h.p. will be permitted to compete. The distance to be covered (from the upper gatepost of gate on right side of Frome's Hill, starting from Ledbury and Bromyard main road, to cyclists' danger board at top) is 1,289 yards, and will be timed from a standing start to a flying finish. The total rise is 344.61 feet, the average gradient 1 in 11.22; at the steepest part it is 1 in 6.37. Capt. Inglefield will be the judge, Mr. A. Townsend starter, Mr. Quintin Miller marshal, and Mr. Wilfred Groom, of Wroxeter, Hereford, hon. secretary of the meeting.

### KENT.

THE annual general meeting of this club was held at the Loyal Star Hotel, Maidstone, on Saturday last, when there was a large attendance of members and friends. Mr. W. W. Willis, of Brasted Chart, took the chair, and after the passing of the report and accounts, which were very satisfactory, Dr. Firth, the chairman of the club, proposed that ladies should be eligible for members. Mr. Cobham seconded the motion, and after some discussion it was resolved that ladies should be able to become members, and so obtain the privilege of full membership to the Motor Union. Certain alterations in the rules to facilitate the procedure of the club were recommended by Mr. Kenyon and adopted. Mr. Willis proposed in a few words a vote of thanks to Dr. Firth (the chairman of the club), the members of the committee and the hon. sec. for the work done on behalf of the club, duly seconded by Mr. Bailly, and carried unanimously. Dr. Firth then proposed a vote of thanks to Mr. Willis for taking the chair that day, which was carried with acclamation. The following were elected for the ensuing year. Dr. Firth, chairman of the club; Mr. G. M. Kenyon, hon. sec. and treasurer. The committee for the year consists of:—Dr. C. Firth, Dr. Dowding, Dr. Tamplin, Messrs. A. Gurney Preston, A. Booth Hearn, A. H. Reed, T. H. Nash, J. E. Austin, Jesse Ellis, W. Willis, R. C. Morgan, and H. J. Fraser.

### BRISTOL.

THE annual general meeting of this club was held at the Royal Hotel, College Green, on Friday of last week, Mr. T. Ruding Davey presiding. The chairman stated that the report showed that much useful work had been done during the past year. The adoption of the report and accounts was carried unanimously.

THE Hon. Arthur Stanley, M.P., has been re-elected chairman of the A.C.G.B.I.

MR. H. AUSTIN has been elected president of the Birmingham Motor Cycle Club.

A MOTOR-CYCLE club is being formed for Leicester by Mr. J. Hughes Kirby Muxloe, Leicester.

MR. H. R. MAYO, St. George's Park House, Great Yarmouth, is forming a motor-cycle club for the district.

The South Herts Automobile Club, which has its headquarters at the Falcon Hotel, Waltham Cross, has issued a list of advantages of membership, which the hon. sec., Dr. H. W. Spaight, Holmewood, Waltham Cross, will be pleased to send to prospective members.

### MOTOR-CAR MISHAPS.

A MOTOR-CAR has been destroyed by fire in the motor garage of Baroness Gray, at 14, Bolton Mews, South Kensington.

AT Southwark an inquest has been held on the body of Henry Crowther. He was crossing the road at the Elephant and Castle when a motor-bus came round the corner into the Walworth Road at about two miles an hour. Startled by the sound of the horn the man went to step back out of the way of the bus, but he slipped on the greasy road and one of the wheels passed over his leg, causing injuries from the effect of which he died in Guy's Hospital. The jury returned a verdict of accidental death.

AT the inquest on the Rev. A. G. Baldwin, vicar of Burnopfield, who was killed whilst riding a motor-bicycle, by colliding with a young cyclist, a verdict of "Accidental death" was returned. The coroner commented on the danger of boys learning to ride on the main road. Had the lad been older he would have been held responsible for the fatality.



## MOTOR-BUSES v. TRAMWAYS.

At the A.C.G.B.I. last week, Mr. Edward Manville gave a valuable paper on the above subject, in the course of which he said:—The phenomenal development of the motor-bus within the Metropolitan area had produced such a burst of enthusiasm in the promoters of this system of traction, that he feared that an inflated view was being taken of the merits of the motor-bus as against the older and well-tried system of the propulsion of tramcars by electricity. In order that a fair comparison might be made the lecturer pointed out that it was essential in the first place to realise those conditions which were of primary importance in dealing with the problem of the transportation of large numbers of the public in crowded centres. There were two such main considerations: (1) What system would provide the travelling public with the best and cheapest facilities for reaching their destinations with the least discomfort and inconvenience to the non-travelling public; and (2) what system, whilst embodying the first requirement, was the most profitable to the promoters of the undertaking? In Mr. Manville's opinion the relative advantages and disadvantages of these two methods of traction may be summarised as follows:—

## MOTOR OMNIBUSES.

## ADVANTAGES.

1. Probably greater speed from point to point, owing to their being free to move about the roads, avoiding other traffic *en route*.
2. Ability to vary the service from one road to another, thus enabling the most profitable routes to be ascertained without loss of capital.
3. Ability to draw up by the pavement, so as to facilitate passengers entering or alighting without proceeding to the middle of the road.
4. The absence of any rail in the roadway.
5. Where the roads are exceptionally narrow non-interference with other vehicles desiring to stop by the pavement.

## DISADVANTAGES.

1. High cost of operation.
2. Great noise and corresponding inconvenience to other users of the road and residents.
3. Smell, and the prevalence of the smoke of burnt lubricating oil.
4. The ever-present danger of side-slip.
5. The danger of fire.
6. Vibration.
7. Danger to other vehicle users on the highway.
8. Unreliability.

## ELECTRIC TRAMWAYS.

## ADVANTAGES.

1. Lowest known cost of operation.
2. Great comfort, cleanliness, and good lighting.
3. Comparative absence of noise and vibration.
4. Reliability.
5. Absence of danger from fire and side-slip.
6. The great improvement of the surface of roadway.

## DISADVANTAGES.

1. Running on rails, and thus experiencing delay from other traffic.
2. Need for passengers crossing to the middle of the road when entering or leaving cars.
3. The need for rails in the roadway objectionable to other traffic.
4. In narrow roads interference with other vehicles desiring to stop by the pavement.

## THE AUTOMOBILE CLUB TRIALS.

THE trials organised by the Automobile Club, which were in progress during the past month, were concluded on Saturday. All the cars were made to run slightly over the 4,000 miles. The performance of the Dennis, which made no involuntary road-stops after 85½ miles of the first day's journey had been covered, establishes a new record for an officially observed run. The road tests began on March 1st, and amounted to twenty-five days' running. In brief, the performances over the whole trial were as follows:—20-h.p. Dennis car, non-stop throughout except on first day, when petrol filter choked at 85½ miles. The 36 in. and the 34 in. Collier tyres each made non-stops on twenty-two days, and the 815 mm. made non-stops on twenty-three days.

Lamps: Tail-lamps, Ryta and Hoult. Burnt well throughout. Went out only five times during entire run, due on two occasions to lack of attention to wick. Metallic Mirrors: Burnt well throughout. Went out only six times, on one occasion due to jolt from back spring of car breaking. The Worsnop headlights were unfortunate in suffering from obstruction of the pipes and damage to burner, otherwise they burned well.

The speedometers were tested over 2,000 miles, one batch running the first half of the trial and the remainder the second. The Vulcan was removed for alteration of the bracket, but had non-stops throughout. The Warner lost only five minutes for adjusting of the driving gear, and once the flexible shaft broke, otherwise non-stops throughout. The Kirby and Cowey Recorder made non-stops throughout except that each once broke its flexible shaft. The Staunton made non-stops all through, except for breaking its flexible shaft on the 27th ult., and not recording on the 28th ult. The Elliott, Jones, Gratz, and Cowey Indicators made non-stops every day.

## SCOTTISH RELIABILITY TRIAL.

For these trials, to be held from the 13th to the 16th June, the following entries have already been made. These are arranged in the order of entry, which is the order of start from Glasgow on June 13th. Entries at ordinary fees close on May 2nd.

Name.	Car.
The Albion Motor Car Company, Ltd., Glasgow	24-h.p. Albion Tonneau.
The Albion Motor Car Company, Ltd., Glasgow	16-h.p. Albion Tonneau.
Claud Hamilton, Ltd., Glasgow	Gladiator.
John Hunter, Bearsden	12-15-h.p. New Arrol-Johnston.
The New Arrol-Johnston Car Company, Ltd., Paisley	12-h.p. Arrol-Johnston Dogcart.
John S. Napier, Paisley	16-h.p. Arrol-Johnston.
Wm. Beardmore, Alexandria	24-30-h.p. New Arrol-Johnston.
Thos. Shaw, Dundee	25-h.p. Siddeley.
The Gladiator Company, London	24-32-h.p. Gladiator.
Thos. Chas. Pullinger, Beeston	16-20-h.p. Beeston Humber.
The Kennedy Motor Company, Ltd., Cathcart	12-h.p. Darracq.
Ed. Powell, North Wales	10-12-h.p. Coventry Humber.
The Sunbeam Motor Company, Ltd., Wolverhampton	16-20-h.p. Sunbeam.
Western Motor Company, Glasgow	10-12-h.p. Argyll.
W. M. Wallace, Denny	12-14-h.p. Argyll.
Argyll Motors, Ltd., Alexandria	14-16-h.p. Argyll.
Western Motor Company, Glasgow	16-20-h.p. Argyll.
Rennie and Prosser, Ltd., Glasgow	15-h.p. Siddeley.



A French Motor 'Bus Service. A Snapshot from Honfleur.

T. Masui, London	14-20-h.p. "Germain."
Buchanan Shiell, Perth	20-30-h.p. Maudslay Phaeton.
R. L. Jefferson, Coventry	Rover.
J. K. Starley, Coventry	Rover.
C. S. Rolls and Company, London	20-h.p. Rolls Royce.
C. S. Rolls and Company, London	30-h.p. Rolls Royce.
Swift Motor Company, Ltd., Coventry	9-10-h.p. Swift.

## SEQUEL TO A MOTOR-CAR COLLISION.

In the King's Bench Division, before Mr. Justice Lawrance and a special jury, Mr. James Gourlay, an auctioneer, residing at Isleworth, claimed damages from Major-General Sir Henry Edward Colville for an accident to himself, his horse, and governess cart, due, as he alleged, to the negligence of the defendant's driver.

The plaintiff's case was that on Whit Monday, 1904, he was driving a governess cart on Bell Hill, near Hampton Court, accompanied by two friends. Sir Henry's motor-car, containing Lady Colville, another lady, and the Earl of Kintore, ran into the horse, knocked it down, broke the shaft, and damaged the harness to such an extent that a new set had to be obtained. The horse was cut about the legs, but fortunately the occupants of the cart only sustained a rather severe shock.

The defence was that the accident was caused by the gross negligence of the driver of a pair-horse wagonette. As the car reached the Bell Hotel yard the driver of the wagonette pulled into the yard without warning, thus completely blocking the roadway. The driver of the car, to avoid a collision, did the only thing possible; he turned to his wrong side, and to avoid other traffic he drove the car on to some waste land. In doing this the driver was unable to avoid a collision with Mr. Gourlay's vehicle, which was coming down the hill at a

smart trot, with the result that the cab was slightly cut and other slight damage was done. The Earl of Kintore, Lady Colville, the chauffeur, and others gave evidence to this effect.

His Lordship, in summing up, referred to the items of damage claimed, which he said were exaggerated. They were a disgrace to the person who put them forward, and a disgrace to the person who perpetuated them.

The jury returned a verdict for the plaintiff, with £5 damages.

#### MOTOR VAN v. CAB.

At the Clerkenwell County Court, Messrs. A. W. Gamage, Ltd., sued Owen Macklin, jobmaster, of Fulham, for £3 3s. in respect of damage to a delivery van. Plaintiff's driver, Frederick Lawes, said that on January 2nd he was returning with his motor delivery van from Hammersmith. When he had passed Hyde Park Corner he noticed two stationary cabs in front of him. Just as he approached the horse of the second cab suddenly pulled out. He sounded the horn and applied the brake, but the sudden action of the cabdriver made it impossible for him to avoid a collision. He ran into the cab, and as a result one of the motor-car's new lamps was broken. The off-side stay was also damaged. There was a counter-claim for damages in respect of the collision. The amount was £3 18s. The judge found in favour of plaintiffs both on the claim and counter-claim, with costs.

#### PUBLIC MOTOR SERVICES.

THE Dundee authorities are considering the advisability of applying for powers to enable them to run a motor-omnibus service.

THE Brighton Watch Committee are recommending the Town Council to agree to the proposed extension by the Brighton, Hove, and Preston United Omnibus Company, Ltd., of the motor-bus route between Hove Station and Old Steine. The new proposals provide for the running of four motor-omnibuses to Kemp Town.

A SERVICE of motor-omnibuses is being proposed in order to link Nottingham with Hucknall, Long Eaton, Ilkeston, Daybrook, Arnold and Netherfield. Those serving Hucknall would start from the tram terminus at Bulwell; those running to Arnold would begin at Sherwood; and those for Radcliffe would start and finish at Trent Bridge.

THE full summer service of motor-omnibuses has commenced at Eastbourne.

THE London and Westminster Motor Omnibus Company has been registered with a capital of £20,000.

THE Manchester Tramways Committee have purchased three Leyland motor-omnibuses to use by way of experiment this summer on the services from Palatine Road to Cheadle and to Northenden.

#### POLICE TRAPS.

A POLICE TRAP about half a mile south of Edgware is in fairly frequent operation, and early on Monday morning a well-known London motorist was caught therein. The police in the vicinity of Leeds are becoming active; three traps were noticed on Saturday last by the chairman of the Yorkshire Automobile Club (Mr. E. H. Hepper), who motored from Leeds to Harrogate for the purpose of acquainting himself with all the streets that the Corporation is desirous of placing a speed limit upon. The main traps are at Moortown and Spacey Houses, on the Leeds and Harrogate road. The Moortown trap extends from Moortown Church (an officer being stationed in the churchyard) to the cross roads some 220 yards away. The Spacey Houses trap is about two miles from Harrogate, and extends from the top of the hill just beyond the Spacey Houses Hotel to the foot of Humphrey Bank. There is a very active police trap at Potter's Bar, on the Great North Road, just by the station. There is also one on the Edgware road and two in the Biggleswade district. About 400 yards on the Ripley side of Wisley there is a police trap, the "trappists" in connection with which conceal themselves behind a tree.

THERE is every probability of police traps being started again in the Crawley district, on the main London to Brighton road, over distances which proved very useful to the police under the old twelve miles per hour limit. Motorists would therefore be well advised to take care approaching Crawley from about two miles out on the London side and half a mile on the Brighton side of the town.

MOTORISTS should be very careful when passing through the following roads in Kensington, where police traps are in constant operation:—High Street, Kensington, Church to Addison Road Railway Bridge, Earl's Court Road, Melbury Road, Addison Road, Holland Road to Uxbridge Road; and Holland Villas Road.

#### CASES AGAINST MOTORISTS.

AN interesting point to motorists was brought before the Kingston-on-Thames magistrates when Mr. F. W. Webb, of Barnes, was summoned for using a motor-bicycle without having registered the machine. The defendant had taken the registration number off an old machine and attached it to a new one. This it was pointed out was illegal, as according to law each machine must be registered. The importance of the point was emphasised by the fact that unless the law was carried out registration was useless for purposes of identification. Mr. Webb had acted in

ignorance of the law, and the magistrates inflicted a nominal penalty of 10s.

MISS MARGARET SCOTT-ELLIOTT, of Chelsea, was the defendant at Brompton County Court in an action for damages brought against her by Sydney Passy and Geo. Dix. It was alleged that the defendant, while driving a 15-h.p. Panhard on the Kempton road ran into the plaintiffs' trap. That vehicle, which belonged to Passy, who was uninjured, was smashed, and the horse hurt. Dix was crushed beneath the overturned trap. Miss Scott-Elliott, who was firmly convinced that the accident was due to Passy's carelessness, said she had her invalid sister, her nephew, and her mother, an old lady of ninety-four, in her car on December 26th. She did not go to see if Dix were killed or not because she had her own party to look after. In returning a verdict of £50 for Dix and £25 for Passy, the jury registered its opinion that the defendant might very properly have taken a little more kindly interest than she did in the injured man Dix.

HUBERT GRAY, of Sydenham Park, S.E., summoned at Shoreham denied driving a motor-car to the danger of the public, along Albion Street, Southwick, on the 18th March. P.C. March said that about 6.40 p.m. on the day in question defendant drove a motor-car along Albion Street at a speed, he estimated, of about twenty-two miles an hour. Defendant gave no warning of his approach, and there were complaints. When he signalled driver to stop, defendant had some difficulty to do so, owing, witness thought, to the greasy condition of the roads. Defendant cross-examined witness, and then asked for an adjournment as his principal witness was ill. The evidence of six witnesses on behalf of the police was taken first, however. Defendant said he did not see anybody on the road. He had a very good reason for driving slowly through Southwick, as, last year, his brother was stopped there and heavily fined. He always drove with caution through that part, because he knew the constable on duty there, and did not think he was too well disposed towards them. Defendant, questioned, said he still asked for an adjournment. He wished to call the lady who was with him in the car. The Bench decided that that was not sufficient reason for an adjournment. A penalty of £7 13s. costs, and £1 13s. 6d. witnesses expenses was imposed.

AT the Limerick Quarter Sessions, before Judge Adams and a county jury, Martin Carroll, a farmer, sought to recover damages from Mr. James Goodbody, for injuries alleged to have been sustained by plaintiff owing to the negligence of defendant, on July 29th. Plaintiff deposed that as he was driving a horse and cart round a corner Mr. Goodbody's motor-car came rapidly round and frightened plaintiff's horse, with the result that he was thrown from the car and his leg broken. After hearing evidence His Honour, in summing up, said there was no doubt that the motor-car frightened the horse, but that would be no cause of action. He (His Honour) hated motor-cars with a bitter hatred, either as a method of conveyance or a source of pastime, but the owners had certain rights which must be respected. The jury found that there was no negligence, but that the motor-car was the cause of the accident. His Honour said that was a verdict for the defendant. It did not debar the plaintiff from the right to appeal.

AT the petty sessions at Stevenage, on Thursday last week, Arthur Cole appeared to answer two summonses; first, for driving a motor-car at a speed dangerous to the public at Stevenage on February 10th last, and secondly, for allowing the back number plate to be obscured. Mr. Staplee Firth, who defended, submitted that there was no case to meet, as no witness was called to say that he or she was imperilled or endangered by the speed of the car; indeed, the witnesses for the prosecution admitted on cross-examination that they were not, nor was anybody else, endangered, neither were there any passengers or vehicular traffic on the road to be endangered, and this was even borne out by the police themselves. The Bench ultimately adopted this view, and dismissed the summons for driving to the danger. On the second summons, for allowing the number plate to be obscured, Mr. Firth submitted to the Bench that this was a trivial offence, and as there was a severe storm at the time it was impossible to keep the plate clean, and called evidence to prove that the plate was cleaned at Cambridge. The Bench, however, convicted and a fine was inflicted of £5 and costs.

Place.	Summoned for	Result.
Grantham ... ..	Driving dangerously	Dismissed.
Eddisbury ... ..	Reckless driving	£6 10s.
Gloucester ... ..	Fraudulent use of motor-car mark	£3, etc.
Heanor ... ..	Dangerous driving	Dismissed.
York ... ..	Dangerous driving	Dismissed.
Briggwater ... ..	Driving a motor-lorry without rear light	£1, etc.
Dublin ... ..	Excessive speed	£10, etc.
Eccles ... ..	Excessive speed	20s., etc.
Kingston ... ..	Exceeding legal limit	40s., etc.
Marylebone ... ..	Furious driving of motor-bus	£5, etc.

THE Kennard Motor Company, Ltd., have opened a motor garage in the City Road, Cardiff.

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## COMMENTS.

### Easter Experiences.

EASTER properly opens the touring season of the year, and many motorists whose ardour was cooled during the winter months will be seen upon the road making their first long journey of 1906. From the reports on the condition of the roads in various centres, which we publish elsewhere as a regular feature of the *M.C.J.*, it will be seen that the local authorities are recognising their duties to travellers, and that, as a general rule, the season of road repair is nearly over and good running may be expected. We shall be glad to hear from readers who have interesting experiences during Easter, either with police, or roads, or hotel-keepers, so that attention may be drawn to any delinquencies that may be noted, or praise bestowed where such seems due.

### Supply and Demand.

THE coming of the holidays has been characterised by a wonderful spurt in the inquiry for cars, and, as the "Standard" says, "with the close of the show season buyers and sellers of motor cars are face to face with a situation which has become chronic at this time of the year for many seasons past. Day by day and week by week the number of unfilled orders grows larger and larger as the promises of early delivery mature, only to meet with disappointment. The eleventh hour flood of orders during the recent Cordingley Show has only served to increase the congestion, and it has now become a question whether the impatience of buyers will be able to hold out until the physical possibilities of factories catch up with the promises made by agents and salesmen months ago." This is a decidedly irksome condition of things for many concerned in the British industry.

### Help or Obstruction.

OUR Comment of last week on the case of the kindly-disposed gentleman who sought to prevent other persons from breaking the law prepared motorists for reading the report of the case, which was heard just after we had gone to press. He has been charged with obstructing the police, whereas he was only assisting the spirit of the law. Fortunately the magistrate was not inclined to adopt the police view without thought, and his decision will now be awaited with interest.

### Experiments in Dust Prevention.

THE surveyor to the Farnham (Surrey) Urban Council, who has during the past two years carried out a series of experiments for dust prevention, has presented an interesting report to the Council. He stated that the cost of treating 800 super yards with tar macadam was £120, whilst the expenditure on 12,200 super yards of tarred and oiled surface was only £101 10s. 8d., so that tar macadam cost eighteen times as much, and at the same time had not proved a success in any sense of the word, there being no evidence that tar macadam would

improve or prolong the wear of the surface of the road thus treated. The tarred surface, on the other hand, had effected a considerable saving in scavenging and road maintenance, and for the second year the saving effected by the process had more than paid for the cost of treatment. The materials used in the mixture included tar, grit, lime, pitch and oil, an improvement being effected by occasionally dressing or sprinkling the surface with a mineral oil. From an hygienic point of view the surveyor pointed out that a marked diminution of infectious disease in the town almost exactly synchronised with the time during which this process had been employed, and seeing that the period covered nearly two years there was a strong inference that the treatment tends to prevent the spread of infection. The experiments with tar macadam had not been successful, as in the wet weather the sections treated had been exceedingly dirty, and had required a great deal of scavenging, whilst in the dry weather the surfaces were dusty and somewhat unsound. A section of another road was treated with a patent dust preventer. He estimated the cost of this to be £60 or £70 per mile for application only, and the great drawback was its destructive action on the surface of the roads treated. The process would necessitate all surfaces treated by it being retailed on the first approach of winter.

### A Hint to Yorkshire Motorists.

THE Town Council of Richmond (Yorkshire) applied recently to the Local Government Board, through the County Council of the North Riding of Yorkshire, for the closing to motor traffic of a portion of the road known as Quaker's Lane, in Richmond, this road being on the direct route from places on the east of the town to Swaledale, which lies to the west. As the result of representations made by a deputation from the North Eastern Automobile Association, the Town Council have agreed to withdraw their application for the present, and are removing the existing direction notices which have tended to send the traffic through this particular road, and are placing the same or similar notices on a parallel road, which is much wider, and very slightly longer in distance. The Association desires through our columns to urge all motorists passing through Richmond to very carefully observe any direction notices they may see, and not to pass down this portion of road, which there is no necessity to do in view of the alternative route.

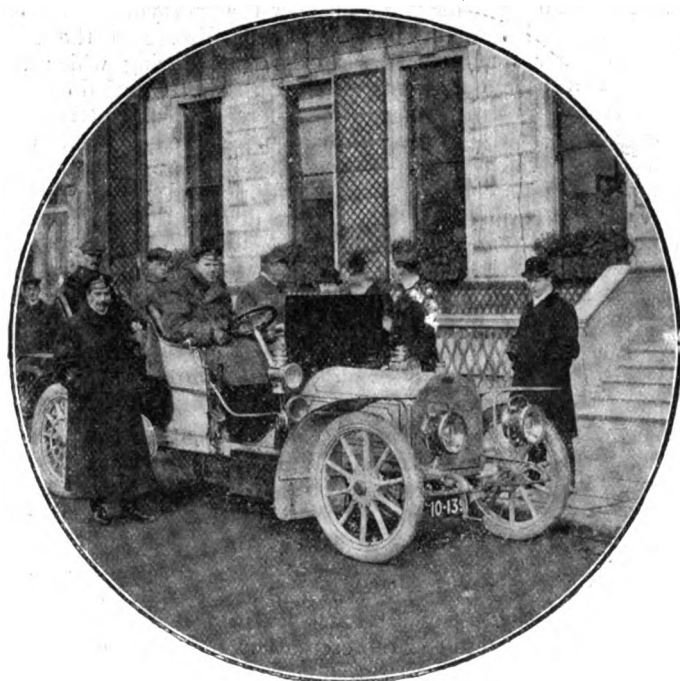
### The Harrogate Inquiry.

AFTER having been the *locale* of a provincial gathering of the Motor Union, we should have thought the automobile education of the town of Harrogate would have been complete, and that motorists would have been welcome guests in a place which relies upon visitors for a great measure of its prosperity. Surprise has been expressed that the authorities should have made application to the Local Government Board for power to restrict the speed of motor-cars in several streets to six miles an hour. Headed by the Motor Union, the Yorkshire Automobile Club and the Harrogate

branch, earnest opposition has been organised to the proposal, and at the inquiry by the Inspector last week the anti-motorists made a poor defence of their proposals. Since the Motor Car Act came into force there have only been seven prosecutions in the borough, which seems clear testimony as to the needlessness of the suggested restraint. Mr. Rees Jeffreys said that the application had raised a great deal of interest and opposition amongst automobilists, and of all the applications put before the Local Government Board the present one was absolutely the most unreasonable. They had known towns, such as Dover, Winchester, Bury, Todmorden, and others put forward applications for ten-mile limits for streets which were far busier than those in Harrogate, and in every case the application had been refused. A similar fate should befall the Harrogate application.

#### London to Monte Carlo.

THOUGH he has retired from the racing arena, Mr. C. Jarrott still revels in adventures by automobile, and on his trusty Crossley car has again drawn attention to the reliability of the modern motor and the joys of the up-to-date car. He has succeeded in beating his own schedule on a journey from London to Monte Carlo—an exploit in travelling that is really



**Mr. C. Jarrott starting from the Automobile Club.**

notable. The intention was to negotiate the distance in 48 hours, including the time occupied in crossing the Channel and in embarking and disembarking the car. Starting at 8 a.m. on the 5th inst. from the Automobile Club in London, Mr. Jarrott set out on his 40-h.p. Crossley prepared to make a record run over the thousand miles that separate the British capital from the southern resort. Keeping well within the speed limit the trip to Folkestone was uneventful, the car appearing as fit for the journey as was the driver.

#### On the Other Side.

Two hours after noon Boulogne was left, and all went well till Beauvais was reached at 4.50, half an hour sooner than had been anticipated. There an incompetent guide misdirected the party, and a run of fifty kilometres was made on a wrong road. Travelling through a cold stinging rain which pelted on car and driver alike through the night, the roads were found to be very heavy, and it was with some satisfaction that Mr. Jarrott and his friends found themselves at Dijon by 5.20 a.m. the next morning. Five hours later they were at

Lyons, where the weather showed signs of a welcome improvement. From Lyons to Valence on to Orange and Avignon the roads improved, and travelling was at a great pace. By the time it was again dark they had got to Frejus. The last piece over the Esterelles was very trying, the twists and turns of the mountain road making it hard work, and then on they went through Cannes and Nice to Monte Carlo, doing the whole run in 37½ hours—an extraordinarily good trip, and one of the most successful drives that Mr. Jarrott has ever undertaken.

#### A Notable Performance.

WITH regard to the exploit it would have been impossible to have done the journey in the time chronicled had there been the slightest trouble with the car, which, the driver says, "went through like a dream and ran like a racing car." The engine ran continuously for over 31½ hours, and they averaged 45 miles per hour over one part of the distance—needless to say on the other side of the Channel. Mr. Jarrott was at the steering wheel the whole of the way, 900 miles by road—a piece of endurance only to be gauged by comparison with a race at top speed for thirty consecutive hours. The Continental tyres were a great success, and, all things considered, the run was a triumph for the Crossley car and its driver. When we remember that, providing the railway people maintain exactitude all along the line, Monte Carlo cannot be reached from London in less than 28 hours, the exploit appears all the more noteworthy.

#### Change of Address.

THE case at Woolwich, reported on another page, suggests a note of warning to motorists who may have removed from the place of residence they occupied when originally registering their vehicle. It follows in its main lines a similar case recently heard at Bow Street, where the magistrate decided, as did the stipendiary at Woolwich, that a change of address "affects the accuracy of any particulars entered as respects that car in the register of motor-cars,"—to quote from Article V. of the Regulations of the Local Government Board. Until the Bow Street case there were many owners of cars who had carefully studied the Act without discovering any clause insisting on acquainting the authorities with the change of address. In future legislation such a necessary provision will have to be clearly stated.

#### Cause of Accidents.

TWO motor-car accidents which have lately taken place in the south of England have resulted in coroners' inquiries. Without setting forth all the details, we may mention that the juries have exonerated the drivers in both instances—upon which the solicitors for the motorists, Messrs. Kenneth Brown and Co., are to be congratulated. In each case the unfortunate victim deviated from his ordinary path with dire results, and in one of the accidents it was clearly shown that the deceased took no heed of the warnings given by the driver. In nine cases out of ten it may be taken for granted that the carelessness of the pedestrian is the cause of collision.

#### Some Statistics.

UNFORTUNATELY Government figures are generally belated, and the return which the Home Secretary has just furnished to Mr. T. Davies, M.P., with regard to the deaths caused by mechanically operated vehicles in England and Wales is as dilatory as usual. It deals only with the years 1903 and 1904, with totals of 141 and 177 respectively. As being nearer our own time, we give the following analysis of those for 1904, which shows that the argument as to the safety of the tram as compared with the ordinary motor vehicle has little foundation. The accidents recorded were as follows:—Motor-car, 59. Motor-cycle, 16. Motor-omnibus, 2. Electric tram, 55. Steam tram, 2. Traction engine, 29. Motor dray, wagon, etc., 9. Steam roller, 5. Total, 177.



**Conversations  
from the  
Clouds.**

A BALLOON race which promised to be of an exciting nature took place on Saturday in London. One balloon was that of the Aero Club, which was in charge of Mr. C. F. Pollock, having as passengers Mr. Frank Butler, Mr. G. F. Pedley, and a lady, the starting-point being the Crystal Palace. The other was a new balloon constructed by Messrs. Gaudron, in charge of the Hon. C. S. Rolls, with Captain Corbet, Mr. J. Williams, and Professor Huntington as passengers. It made its ascent from the Wandsworth Gas Works. Owing to the direction of the wind Mr. Pollock's balloon was given forty minutes' start. When the excitement of the race was at its height it was found that the club balloon had expended nearly all its ballast, and a descent was made in an enclosure adjoining the Guards' polo ground at Wimbledon. Mr. Rolls's balloon travelled for two hours without exceeding an altitude of 500 ft., and a constant conversation was carried on between the aeronauts and the villagers. The latter, thinking the balloon was descending, ran after it with great energy, but one by one they stopped from sheer exhaustion. The descent was made in

The resistance offered to this by the weight of the car caused a bent crankshaft, a result not always ascribed to this cause, but sometimes loosely regarded as the effect of a collision.

**Action against a  
Tram Company.**

A CASE in which the owner of a horse-drawn vehicle has obtained a verdict against a tramway company for damages to a van caused by skidding against the tram lines, is of interest to motorists, who continually run risks consequent on the neglect of tramway authorities in keeping their tracks in reasonable repair. The evidence for the plaintiff was to the effect that the tramline was protruding above the roadway for a distance of fifty-five feet. The vehicle skidded, with the result that the axle was bent and the wheels cut into the sides of the van. Police evidence was to the effect that the track was in good condition, but the county court judge at Brentford came to the conclusion that the depth of the sunken wood about the lines was such as to render the defendants partially liable for the accident, and consequently gave a verdict against them.



Photo by]

The Royal Marine Artillery Motor Students receiving instruction in driving at the Granada Garage, Southsea.]

[W. & A. Son.

Bulstrode Park, near Beaconsfield, the property of Sir John Ramsden, at 6.30 p.m., and several of the household were given captive ascents by means of trail-ropes.

**Bent  
Crankshafts.**

BEFORE the Coventry Engineering Society Mr. T. W. Lanchester has been explaining some points of motor-car construction, including the gyroscopic action of the flywheel. In connection with this he said that in the usual system of transmission, popularly known as the Panhard, where the engine crankshaft is set longitudinally in the frame, the rotation of the flywheel had no effect upon the steering of the car. When, however, the steering direction was suddenly altered, such as is the case in swinging rapidly round corners, or in trying to avoid collisions, the gyroscopic tendency of the flywheel was to rotate the flywheel about a transverse axis, with the result that, according to the direction of steering, the car tried, as he termed it, "to stand on its back legs," the opposite direction of steering tending to make a car stand on its head.

**The Essex Club.**

FOLLOWING our usual custom of calling special attention to the inaugural meets of new clubs, we make special mention of the successful run of the Essex County Automobile Club on Saturday last, the rendezvous being the county town of Chelmsford. Elsewhere we mention the names of those who were present at what was a really enjoyable function, and which should have a splendid effect upon the membership of what is destined to be a very important organisation in the eastern counties.

**A Welsh Trap.**

MOTORISTS in South Wales must beware of police traps; this southern form of persecution having now penetrated into the Principality. The Hon. Stephen Coleridge and several other gentlemen driving cars have just been captured in a trap at Coedkernew, where "a measured half-mile" is worked by means of police constables and cheap stop-

watches. One of these "experts" said, in reply to questions from the magistrates, that, with the exception of 140 yards about the middle of the length, the whole of the distance could be seen from where he stood. Witness was questioned with reference to his stop-watch, and he illustrated the method of timing. The watch in its present condition was not reliable, because it had recently been worn by a man playing football, but on the date in question it was quite dependable.

#### Co-operation and the Motor-Car.

THIS week has seen the inauguration of a new system of business in the automobile movement—an adaptation of the plan pursued with so much success in the Civil Service Stores, and also among the operatives of the North of England. In both the latter cases economy in cost has resulted to the customer, while the price obtained by the producer has not necessarily been lessened. The gain by bulking orders, and so eliminating some of the expense of isolated trade, has been a direct reduction of expense, resulting in a more satisfactory condition of things. The introduction of a combination of these plans into the motor-car trade will be watched with interest. The Automobile Co-operative Association, Ltd., has been registered under the Provident and Industrial Societies Act, by which the amount which each shareholder can have in the society is limited to £200. Those who invest money elect a committee of management and generally direct affairs.

#### A New Scheme.

So far as the development of the scheme is concerned, we are assured that it is likely to be welcomed by trade and public alike. Representatives will be appointed in various towns, and these will render assistance in the way of repair work, guidance on routes, and similar matters, to any members of the Association requiring such help. At the inaugural luncheon held on Monday to launch the movement, Mr. J. Walker, M.I.C.E. (a director of Robert Stephenson and Co., Ltd.) said that the Association would place its members in a position to buy cheaply, and to know exactly what they were buying. It would also be of service to the manufacturers, the factors, and even to the small dealers in provincial towns or villages. To the manufacturer who could secure his manufacturing profit by dealing with the Association, they offered the advantage of immediate payment and absolute security. To the factor who, representing foreign houses or others, was willing to be satisfied with a moderate merchant commission, they gave a similar advantage. The development of the Association will be regarded with interest by all concerned in the motor movement.

#### The Motor Union Defence Fund.

THE demands upon the Union Defence Fund are heavy and continuous. The extent, to which the Union is able to grant financial assistance in legal cases is, of course, dependent upon the manner in which automobilists contribute to this fund. During the last few days grants amounting to over £120 have been made from the fund. These include £30 towards the expenses of an appeal against the decision of a High Court jury in a civil case in which heavy damages were awarded against a member; a grant of £20 towards the cost of a successful application to the High Court to quash a conviction on the grounds of bias and prejudice on the part of the magistrates; a grant towards the expenses of a member of the Union who had successfully defended a charge brought against him of driving to the danger of the public; a grant towards the cost of the Local Government Board inquiry into the application of the Harrogate Town Council for a ten-mile speed limit; and the expenses of an appeal against the conviction of a member by the magistrates at Stevenage of allowing the index marks of the car to become indistinguishable, when it was shown that all reasonable precautions had been taken by the driver.

#### The Law of Mechanical Traction.

DOUBTLESS the general feeling that there will be no fresh legislation this year with regard to automobiles has encouraged writers on the subject to continue their expositions of the law as it stands. A new volume on the subject of "The law of heavy and light mechanical traction on Highways in the United Kingdom," has been published by Sir Isaac Pitman and Sons, Ltd., the authors being Messrs. C. A. Montague Barlow and W. Joynson Hicks, whose collaboration has resulted in an important volume. The first part consists of nine Acts of Parliament, including the two Motor Car Acts, with notes; then follows a summary of the cases decided in England and Scotland, an appendix containing all the various Orders which have been promulgated by the Local Government Board in accordance with the wishes of Parliament. As a work of authoritative value the volume has considerable value.

#### The Cab Radius.

WITH the passing of the crawling horse the narrow confines of the present cab radius in London will disappear, and the Metropolis will be regarded as an entity by those who wish to reach a given spot in a given time. The arbitrary division which has encircled London with a four-mile circle has long since been an anachronism, but none have thought it possible to interfere with so ancient a boundary. But the coming of the motor-bus, to be followed by the cab of the same variety, will change present arrangements. Now that travel has become reasonably speedy the four-mile radius will seem as confined to the motor cabby as is the orthodox glass globe to the familiar goldfish. The radius will have to be extended so that the occupant of the motor-cab may be entirely independent of tube, tram, or train, and pursue his journey to the end at a reasonable fare and in reasonable time. When the radius is extended there will be room for the 11,000 cabs now meandering within the charmed circle. Or will the motor have become the successor of the horse by then?

AMONG recent candidates for the driving certificates of the A.C.G.B.I. have been several members of the Metropolitan police.

MESSRS. DENNIS BROTHERS, LTD., have just completed three motor-omnibuses to the order of the Southend Motor Omnibus Company. The vehicles went down by road on Wednesday in order to be ready for the service, which commences on Good Friday.

WE were among those who were favoured with a view of the Boat Race on Saturday last from Messrs. Thornycroft and Co.'s works at Chiswick. The firm had gone to a great deal of trouble in preparing for its visitors, and the interest was increased by a display of the various sizes of Thornycroft petrol engines for motor-car and boat propulsion purposes.

CAPTAIN KAYSER conducted our representative through the Austin Motor Company's works at Longbridge, near Birmingham, the other day, who found this firm very busy getting their new models through. The factory is an extensive one, well lighted, and is all on the ground floor. Being situated on the main Birmingham and Bristol road, they have fitted up a large repair shop. The company intend making everything in connection with their cars on their own premises, including body building, wheel building, etc.

THE Granville Motor Engineering Company, of which Mr. H. J. Doughty is proprietor, is attaining distinction with motorists in southern London. As specialists in overhauling cars and repair work much useful experience has been gained, which is ever at the disposal of new clients, while the opening of the garage and showrooms at 132 and 205, Clapham Road, S.W., is an event of more than local importance. With increased facilities for garaging cars the company should now become even better known in metropolitan circles.

## MOTOR-'BUS MATTERS.

SOMETHING of the early days of the railroad is recalled by the advance of the motor-'bus, and, principally in London, companies to further the new locomotion on the highroad are following each other with boomlike celerity. Questions are being asked in Parliament, where the Home Secretary, Mr. H. Gladstone, assures the country that opportunity of controlling motor-omnibus traffic will have to be found in connection with future Bills relating to London traffic and to motor-cars; the borough councils of Holborn, Westminster and Marylebone are asking committees to consider the ways of motor-'bus drivers and the vibration of their vehicles; scientific societies are gravely discussing the advantages of motor-'buses over tramways, and the points where the latter gain over the former; the public is becoming a little scared at the rapid advance of the new form of traction, while enjoying the exhilaration associated with speed; and now the coroners are darkly suggesting that the advent of the motor-'bus opens up new considerations to which the public authorities will have to give heed.

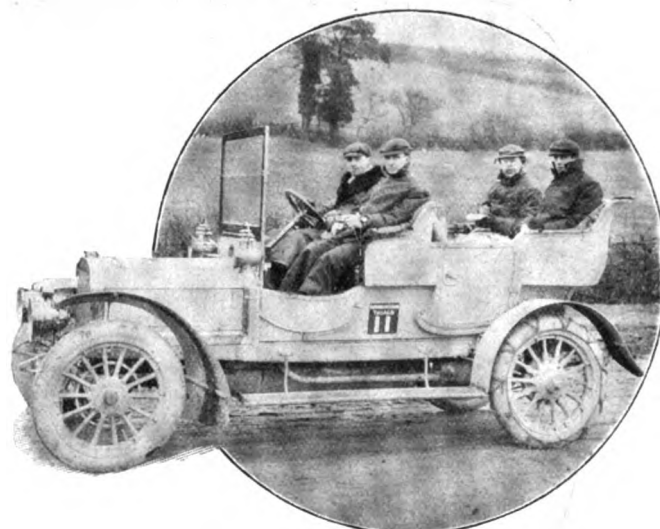
In drawing attention to some of the problems gathering around the motor-'bus, we would emphasize the fact that those at present in service do not represent the Omega of the matter. As the gears grind harshly while the 'buses travel along the streets, all must feel improvement is necessary; the greasy state of the roadway where the 'buses stop and start suggests a new danger of the streets; the racing that undoubtedly takes place on certain routes reveals the want of a code of conduct among drivers. And so long as several companies are running on the same lines of traffic this latter evil is likely to continue in a more or less marked degree. Then, too, the question of tyres, with resiliency and non-skidding as factors of importance, has yet to be settled, and the cost reduced to within profitable dimensions. Even the most determined advocate of the motor-'bus must feel that while the future personal traffic of the streets will be carried by such vehicles, the whole matter is still in the experimental period. Mechanical details have to be perfected, and until these reach more nearly to the final stage financial schemes should be carefully launched and as charily scrutinised before being endorsed by the public.

Then, too, the matter of driving must be regarded with greater concern than has been the case. A woman was killed the other day by being knocked down by a motor chassis, and at the inquest it transpired that whilst endeavouring to pass two other vehicles the driver of the chassis "lost his head," and, dashing on to the path, knocked down and ran over the deceased. The pace was stated to be about six miles an hour. The driver, who had been engaged in driving a horse-'bus, and was out for instruction under the charge of a competent driver, had only been on the vehicle on two previous occasions. The instructor said that he had no control over the steering gear. The jury returned a verdict of "Accidental death," adding a rider that the company should see that there was some arrangement by which the instructor could have some control over the motor when a learner was steering. They also thought that a longer period of instruction was necessary before a learner should be permitted to drive in a busy thoroughfare. Of course, this case is too isolated upon which to found a general indictment; but it suggests the question as to whether the crowded thoroughfares of London are suitable training grounds for motor-'bus drivers. Our own view is that such work should be done in the suburbs, and not until the driver has become proficient in controlling his mechanism should he be let loose upon busy roads. This point, too, is recognised by all who are engaged in putting such vehicles into service.

Last week we gave Mr. Manville's comparative statement of the *pros* and *cons* of the motor-'bus and tramcar. Some further opinions may be useful to those readers who are following the subject with care. According to Mr. Campbell Swinton the cost of tyres is being reduced, and has lately fallen from 2d. to 1½d. On the other hand, Mr. Schenk declares that those firms that had contracted for tyre maintenance at 2d. per car mile had

lost money, the only gain being the experience that has enabled them to produce more durable tyres. Experiments must be continued, and we should like to hear of more on similar lines to those made by Mr. G. de Preme, who found vibration quite disappear on such bad roads as that at Bow Bridge, between Middlesex and Essex, when pneumatic tyres were fitted on the back wheels.

The importance of carrying out further trials in this direction is apparent when we remember that the Highways Committee of the London County Council is considering the advisability of applying to Parliament next year for powers to run motor-omnibuses as feeders to its tram system, and that a Committee of the House of Commons have granted a concession to the Todmorden Corporation, giving power to provide and run motor-omnibuses within and beyond the borough. Although the Lancashire and Yorkshire Railway Company, which pays heavy rates to the borough, strongly-opposed the measure, the Committee have granted the powers asked for, excepting those which dealt with a service outside the borough. They have fixed the capital of the corporation's service at £6,000, with power to apply to the Local Government Board for any further sums which may be necessary for the undertaking, providing they show that it is working on a paying



The 20-h.p. worm-driven Daimler Car which established a new non-stop record in the recent Tyre Trials.

The vehicle made a non-stop throughout the 4,000 miles with the exception of 1½ min. lost in the first 86 miles through the petrol pipe choking. By the courtesy of the A.C.G.B.I., the car was allowed to run a further 86 miles under official observation; so that it now holds the unique record of 4,000 miles without an involuntary stop of any kind.

basis. This decision will be communicated to 800 councils throughout the country, and scores of Bills on similar lines will doubtless be promoted.

All things considered, a few main points may be clearly established. Firstly, the preponderating part that the motor-'bus will take in the street locomotion of the future; and, secondly, private companies will have the competition of municipal services in many places. The latter consideration should be fully recognised by those interested in the flotation of companies. Much remains to be done, both with regard to tyres, mechanical details, and drivers. The movement is young; hence the great need for caution and the insistence with which those responsible for existing services must impress upon their drivers the necessity of cautious driving and the avoidance of the risky running and racing that goes near to mishap. A few collisions in the streets would lead to panic legislation. Upon the behaviour of the men during the present year depends the development of the motor-'bus in the future.

GENERAL BOOTH's next motor trip will take place in the month of August, starting from Inverness and proceeding by the west coast route into England and on to Plymouth.

## A FARMER TURNS MOTORIST.

HOW Mr. Poskitt bought a motor-car is pleasantly told by Mr. J. S. Fletcher in the "Daily Mail." He had been to London, and returning home to Yorkshire on the vehicle driven by a "chuffer," had an enjoyable trip, the delight of which was alloyed somewhat by the police. "'T'chuffer let hisself get a bit elated, or else I did, wi' th' pleasure o' flyin' thro' the air, and theer wor some police cam' on t' scene, and thou Mrs. Poskitt mustn't be surprised if I get a summons in th' morning for travelling above t' limit speed. It'll be £5 and costs (and happen £10)," said Mr. Poskitt, ruefully.

The car was stabled "at the Red Lion at Sicaster," and the sturdy Yorkshireman thus explained to his spouse how he became a motorist. "We shall have to start what they term a gayrage out in t' garden theer, to keep it in. And as to why I bowt it—it were i' this way. Thou sees, owd love, when I were i' London just afor Christmas I went down to a motor-car exhibition at that theer Olympia place, and I were sore tempted to buy summat o' t' sort at that time—but I refrained. Varry well—now then, this time theer wor a Motor-Car Show at t' Agricultural Hall—where all t' prize cattle comes from, or

## CONTINENTAL NOTES.

## The Circuit European.

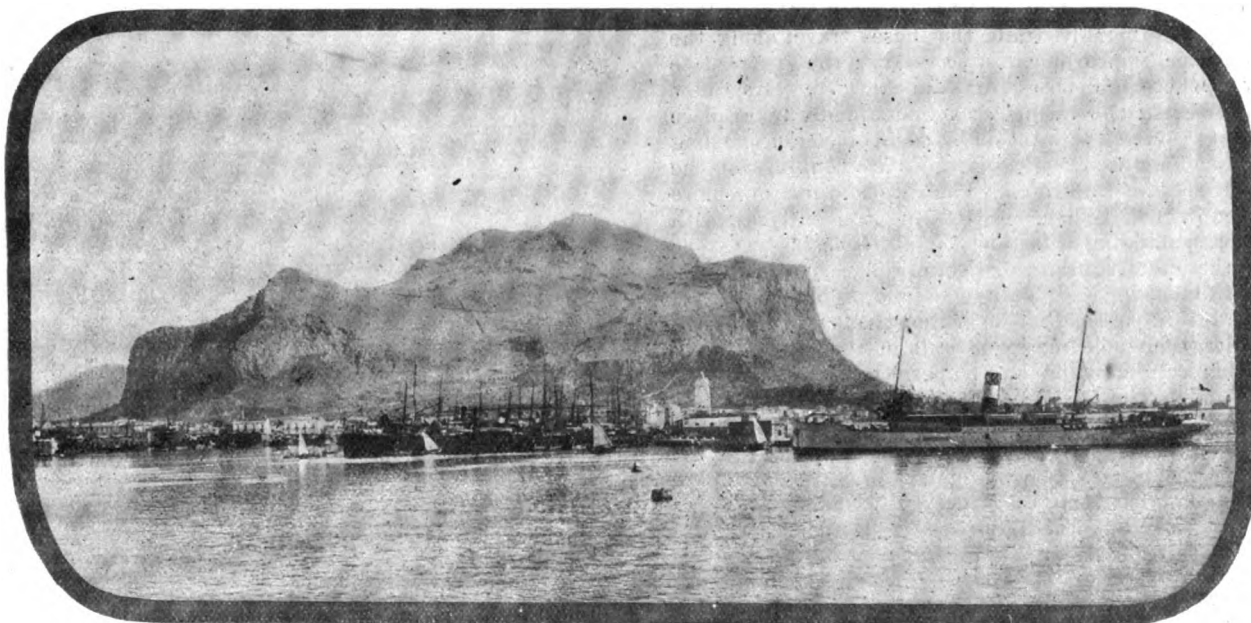
A meeting of motor spirit dealers was held in Paris last week, when it was agreed to establish temporary supply depots at the entrance to all the leading towns in France passed through by the competitors in the Circuit European. Here a large stock of essence will be kept, which will be supplied at a uniform rate of 4d. per litre.

## Public Services in Germany.

Negotiations are in hand with regard to the establishment of a public motor-car service between Posen and Dembsen. Arrangements are also being made for the formation of a new company to organise a service of motor-omnibuses between Berlin and the suburbs of Treptow, Tegel, the Grunewald, etc. The municipal authorities of Durg are interested in a scheme to give communication between that town and Welster by a motor-omnibus service. The municipal authorities of Kiel are considering the question of introducing motor-'buses' in the town.

## La Coupe Provinciale.

A reliability contest for the Coupe Provinciale is to be held



A View of Mount Pellegrino, Palermo, Sicily, where the Motor-boat Race, known as the Pearl of the Mediterranean, is to start on the 17th inst.

rather, where they go to, poor things, and I thowt I'd just go up and see it. An' so I went—and I fell a victim to t' persuasions of what they call the Modern Sperrit. It didn't cost no more nor what I've paid for a reight, first-class, well-bred horse and a smart dog-cart."

"How much did it cost, Martin?" inquired Mrs. Poskitt. "And what use is it going to be?"

"Well, thou sees, owd love, it were just here," replied Mr. Poskitt. "Ye see—I got up theer to t' Show. An' theer were Lord Castletop, our member o' t' Parlyment—Lord Norman-caster's son, as ye know. He catches sight o' me. 'Now then, Poskitt,' he says, getting ho'd o' my arm, 'come an' buy a nice little run-about to carry you and the missis round the country when you want to give the mare a rest.' 'And who's going to drive it, my lord?' says I. 'Why,' says his lordship, 'they'll lend you a chap that'll teach you how to drive th' whole thing in a day or two, and then you and Mrs. Poskitt will be able to career all over the countryside, and be as happy as sand-boys. A man like you, Poskitt,' says his lordship, 'a man that made money in the good old days, when one could get a decentish price for a quarter of real English-grown wheat, ought to patronise modern industries.' An—I didn't say owt—but I rade home in it."

on June 17th next. It is being organised by the Federation of Automobile Clubs in South-eastern France, and will be held on a circuit near Marseilles, which, starting at Baraque Fuveau, takes in Chateauf-neuf-le-Rouge, Peynier, and La Pailladon, this having to be covered three times. The contest will be open to light and heavy cars, and also motor-cycles, the event including a speed trial on a level kilometre and a hill climbing contest over a similar distance on the Jaliot Hill.

## A Competition for Motor Street Sweeping Machines.

In connection with the forthcoming International Exhibition in Milan a competition of motor machines for street sweeping and cleaning purposes is being organised. The vehicles must have a capacity of not less than 35 cubic feet, and be suitable for all road surfaces, and have an effective speed of 6½ miles per hour on gradients up to 1 in 33. The contest is confined to manufacturers, whose machines must be presented not later than July 31st, and be at the disposal of the committee up to December 15th. First and second prizes of respectively £160 and £80 are being offered in connection with the event.

## The Italian Coppa d'Oro.

No less than fifty-one cars have been entered for the great touring competition known as the Coppa d'Oro, which is to be



held by the Automobile Club of Milan, from the 15th to the 25th May. Italy will be represented by three Fiats, five Franchinis, 5 Diatto-Clements, three Zusts, one Bianchi, three Italas, two Florentias, five Rapids, an S.A.L. and three Marchands; France by three De Dions, an Aries and a Krieger; England by three Napiers, two Argylls and a Daimler; Germany by three Benz; Switzerland by three Martinis, and America by two Oldsmobiles and a White steamer.

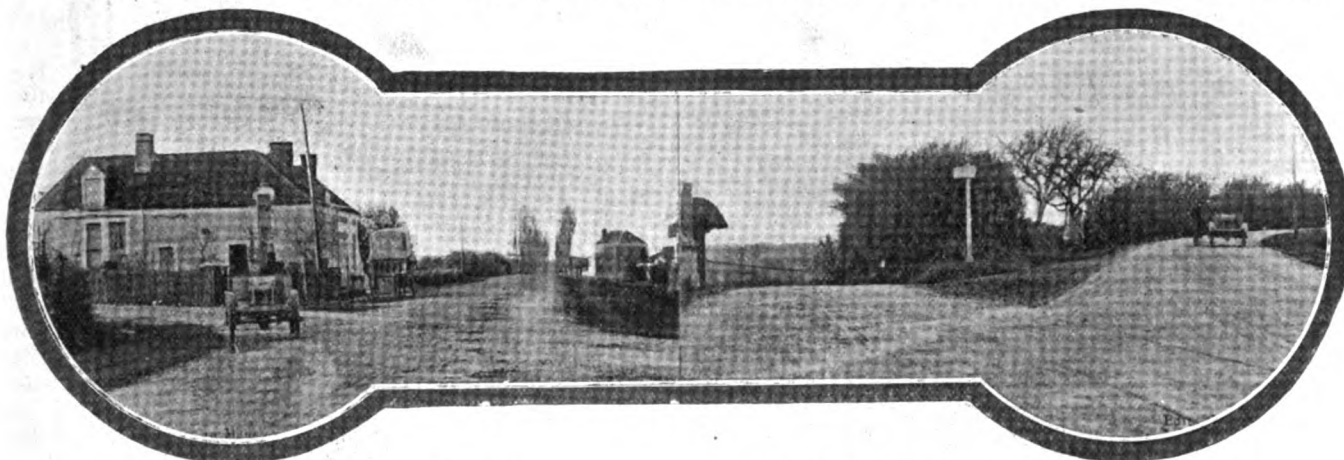
#### A Voiturette Competition in Italy.

A touring competition for voiturettes was held in Italy last week. The course was from Milan to San Remo, a total distance of 310 kilometres, divided into two daily stages of respectively 136 and 174 kilometres. The competitors were divided into two classes: (1) cars the chassis of which cost under £160; and (2) cars the chassis of which cost between £160 and £320. Twenty entries had been received, but of these only eleven started, nine of which completed the whole distance. In Class 1 the order was (1) Maffei on a Maffei, total time 10 hr. 32 min.; (2) Orsi on an O.T.A.V., 12 hr. 2 min.; and (3) Longoni on a De Dion, 12 hr. 35 min. Class 2: (1) Tamagni, on a Marchand, 9 hr. 16 min.; (2) Gagliardi, on a Diatto-Clement, 9 hr. 17 min.; (3) Ferrari (Ford), 9 hr. 47 min.; (4) Alby (Taurina), 9 hr. 54 min.; (5) Canfari (Taurina),

rounds. In the afternoon a 50 kilometre contest for 26 ft. racers was held. Out of six entries only four started, and of these two broke down. The event was won by Antoinette IV., Levavasseur motor, time 1 h. 5 min. 23 sec. Rapière II., with Panhard engine, was second in 1 h. 11 min. 55 1-5 sec. On Monday the first race was for cruisers between 21 ft. and 26 ft., with engines up to 3½ litres cylinder capacity. Eight boats started, but only two completed the course, the winner being Excelsior VIII., built by Celle, with a Picker-Mocand motor, the time for the 50 kilometres being 2 h. 19 min. 36 sec. Janus II., with Janus engine, was second. In the afternoon a 50-kilometre contest, for racers up to 40 ft., caused some excitement. Only three boats started, Yarrow-Napier getting away first, followed by Martini III. Mr. Lionel de Rothschild's Siola could not start her engines, and only got away just as Yarrow-Napier had completed the first round of the course. During the second round of the vessel a mechanic was washed overboard, and ten minutes were lost in picking him up. The race was won by the Yarrow-Napier in 2 h. 0 min. 41 sec.

#### Miscellaneous Notes.

The Berlin German Omnibus Company is reported to have placed an order for no less than 150 German Daimler buses for delivery by the end of June, 1907.—The German Daimler



The Village of La Ferte-Bernard.

The Treize Vents Corner, near Saint Calais.

VIEWS OF THE SARTHE CIRCUIT, ON WHICH THE RACE FOR THE GRAND PRIX DE L'A.C.F. WILL BE HELD.

10 hr. 18 min.; and (6) Salvioni (Rapid), 10 hr. 49 min. The cup offered by Count Biscarette was awarded to Raggio.

#### The Dutch Reliability Trial.

The Dutch Automobile Club is organising a reliability contest to be held from 21st to the 25th May next. On the first day the run is from Nymegen to Luxembourg via Aix-la-Chapelle, 335 kilometres; on May 22nd from Luxembourg to Baden Baden, 340 kilometres; May 22rd will be devoted to an exhibition, the trial re-commencing on the 24th by a run to Frankfort-am-Main, 315 kilometres. The trial will be brought to a close on May 25th, the day's journey being from Frankfort to Arnheim, 350 kilometres.

#### Motor-Boat Racing at Monaco.

The annual motor-boat race meeting at Monaco commenced on Sunday last. Of the eighty-eight entries which had been received for the various events, fifty-six boats put in an appearance during last week. The first race was one of 50 kilometres for cruisers under 21 ft., and with engines having a maximum cylinder capacity of 2½ litres. There were sixteen starters, but a number quickly fell behind. The winner proved to be the Mendelsohn, with Mutel engine, its time for the 50 kilometres, being 2 h. 1 min. 3 1-5 sec. Mr. Miall Green's Takumono, the only British representative, was second in 2 h. 28 min. 6 3-5 sec. The performance of this boat, which is fitted with a Blake engine, was noteworthy, in that during the run five times round the course there was not 15 sec. difference between any two

Company is stated to be interested in a new company which is in course of formation in Vienna to manufacture the Lohner-Porsche combination petrol electric cars on a large scale.—A motor-bus service is shortly to be started between Roubaix and Watrelos, and between Herseaux and Watrelos.—M. Megevet, of Geneva, has presented a cup to the Swiss Automobile Club as the prize for a touring competition to be held during the coming summer.—The Spanish War Department has recently acquired a German Daimler 18-h.p. motor-wagon.—King Alphonso of Spain is reported to have placed an order for a 24-h.p. car with the Sociedad Hispano-Suiza, of Barcelona, the only motor-car building firm in the country.—A motor-car exhibition was opened in Budapest on the 4th inst.—Prince Henry of Prussia has entered his 60-h.p. Benz car for the Herkomer Touring Trophy contest, and will probably drive the vehicle himself.

THE foundation stone of a new clubhouse for the Automobile Club of America in Fifty-fourth Street, New York, was laid on the 21st ult. in the presence of a large number of the members. The building will have a frontage of 131 ft. and will be eight stories high. The ground floor, reached by a large entrance and a separate exit for cars, will serve as an immense garage in which many cars can assemble. The top floor, made exceptionally light by skylights, will be fitted up as a model repair shop, and will contain the Club dynamometer, designed for measuring the power and the efficiency of cars under all conditions.

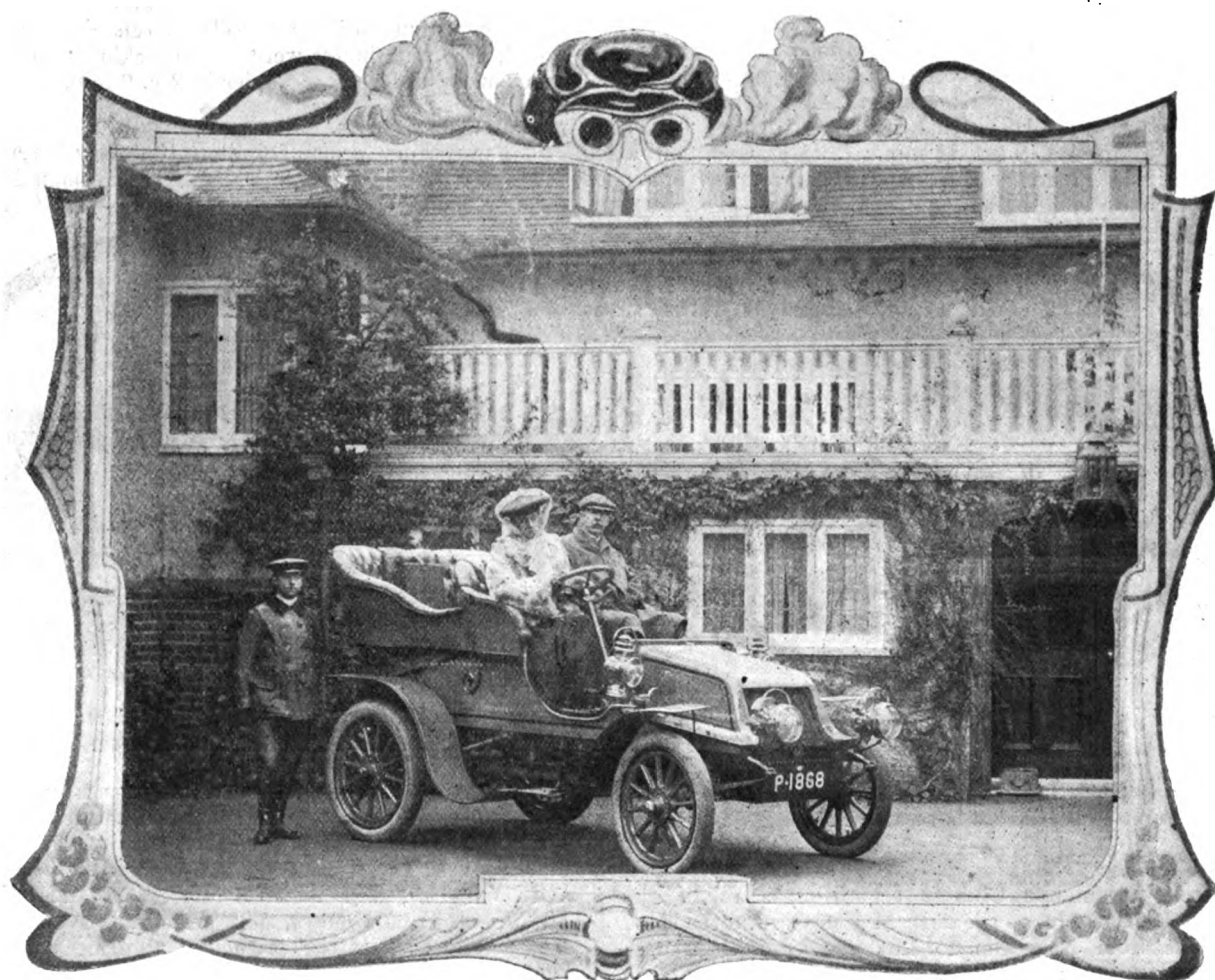
## SOME CURRENT TOPICS.

### The Time for Overhauling.

Like nearly all mortals, motorists are prone to procrastinate—to put off until some other day the work that should be done to-day. Spring is now with us, and, if not already done, the work of overhauling and putting in running order one's car ready for the coming season should be put in hand without delay. Such work will have to be done, and it is simply a question of having it done now, when repairers have plenty of

### The B.A.C.S. Motor 'Bus.

A new addition to the list of firms catering for the heavy demand for motor-buses is the British Automobile Commercial Syndicate, at whose depot on Monday last we had an opportunity of inspecting the first of the new chassis. The vehicle, which is being built in France to special design, appears to be of very strong construction. The frame is built up of pressed steel, with a sub-frame of channel steel on which the engine and gear-box are supported. The motive power is supplied by an Aster 30-h.p. four-cylinder engine. The cylinders are cast separately, a feature being the arrangement of the pipes to ensure a good water circulation. The lubrication is effected by a pump, with pressure feed. Two forms of high-tension ignition, magneto and coil and batteries, are provided, these being controlled by separate levers. The speed of the engine is



Major-General Sir Henry and Lady Colville on their 20-h.p. Winton Car.

time, or of rushing it through a few weeks hence, when pleasant, sunny days tempt the motorist forth, and every shop is crowded with urgent work. There are many motorists who will say that their cars do not require overhauling; that they are as ready to run now as they were last year. This is true in a measure, but they would give vastly better service if they were gone over by competent hands and put in the pink of condition. This is especially essential with cars that have been laid up for the winter. All machinery is the worse for disuse. Dust and dirt penetrate to the working parts, however great the efforts to exclude them, and should be carefully removed. No machinery will run long without requiring some adjustment, no matter how slight, and the parts which have been cleaned, lubricated and adjusted will perform their allotted functions in a manner infinitely superior to machinery which has been left to itself, even although the latter has nothing radically wrong with it.

regulated by a lever above the steering wheel, the clutch pedal being also so coupled up to the throttle valve that as the clutch, which is of the leather-faced cone type, is withdrawn, the speed of the engine is cut down. The gear-box, which is adapted to give three speeds forward and a reverse, is located well forward and is connected with the differential shaft by a universally-jointed shaft, on both ends of which large contracting brakes operated by one pedal are mounted. The final drive is by side chains to the rear road wheels, the hubs of which are fitted with hand-controlled compensated brakes. The latter are so arranged that the bands can be readily removed and renewed without disturbing any other part. The change-speed pinions are unusually wide, while the axles are also of liberal dimensions, the object of the designers having been to provide a chassis of great strength, so as to withstand the heavy shocks to which motor-buses are subjected.

A MOTOR garage is being erected at 6, Church Street, St. Helens, by Mr. J. Stewart.

THE Syndicat d'Initiative de Valence-sur-Rhone et de la Drome, of Valence, has sent us a copy of an illustrated guide to this interesting part of France. A copy will, we understand, be sent to any motorist contemplating a tour in the district.

AMONG the recent applications for membership of the Federation of American Motor-Cyclists is one from a rider in Esterhazy, Saskatchewan.

THE new catalogue of "Castle" accumulators, commutators, coils, and other motor accessories, just issued by the United Motor Industries, Ltd., is a comprehensive trade list which has reached the eighth year of publication.

THE Jamaica Motor Union has been formed to persuade the Government to relax its present restrictive regulations with regard to motor-cars.

ON the day of the polling in the Eye division of Suffolk Lord Graham and Lady Mary Hamilton covered 130 miles on a motor-car, making calls at fifty-six villages and hamlets.

THE Coventry depot of the United Motor Industries, Ltd., has trebled the capacity of its recharging facilities within the last few months to cope with the development of business in that department.

MESSRS. PRIDEAUX AND SONS, coachbuilders, of Bear Street, Barnstaple, have opened a motor branch of their business. They have a competent staff of repairers, and garage accommodation for a score of cars.

MR. J. O. HUNT, jun., of Addlestone, Surrey, has in the past six months covered 3,184 miles on his Argyll car, a fairly long distance for the winter season. The vehicle has taken Guildford High Street on the top gear with a load of four passengers, three of them weighing over 13 stone each.

THE "Roberts" detachable non-skid tyre protector deserves attention, having a renewable tread, and being capable of instantaneous adjustment. Full play is permitted to the walls of the cover, so that the natural resiliency is retained. The new tread can be fixed on the body of the band when worn, thus returning the non-skid to its original degree of utility. The Roberts Non-Skid Band Company make and vulcanise their device on to old tyres of any make, and have ample facilities for assisting motorists in difficulties with the tyre problem.

THE London Motor Tyre Company, of 151, Oxford Street, London, W., have, owing to the great increase in their business, taken larger premises in Newman Yard, Newman Street, W., where they are prepared to undertake vulcanized motor tyre repairs of every description. This firm make a speciality of motor tyre work. The offices of the company in Oxford Street, W. will be continued.

## HERE AND THERE.

covers and tubes. One department of the concern is devoted to the repair of motor tyres.

THE attention of the Commissioner of Police is to be drawn by the Holborn Borough Council to the noise made by motor-omnibuses and wagons in Southampton Row, London, W.C.

THE registrations of the Mercedes Daimler Company, the Vivinus Company, a Gearless Motor Omnibus Company, and several other interesting ventures are referred to on a later page under the heading of New Companies Registered.

THE capital of Messrs Straker and MacConnel (1906), Ltd., is £250,000. Agencies for Italian cars will constitute an important factor in the firm's business.

MESSRS. TURTLE have removed to 72, High Street, Croydon, where they have put down more plant and machinery to cope with their increasing business in motor-car repair work.

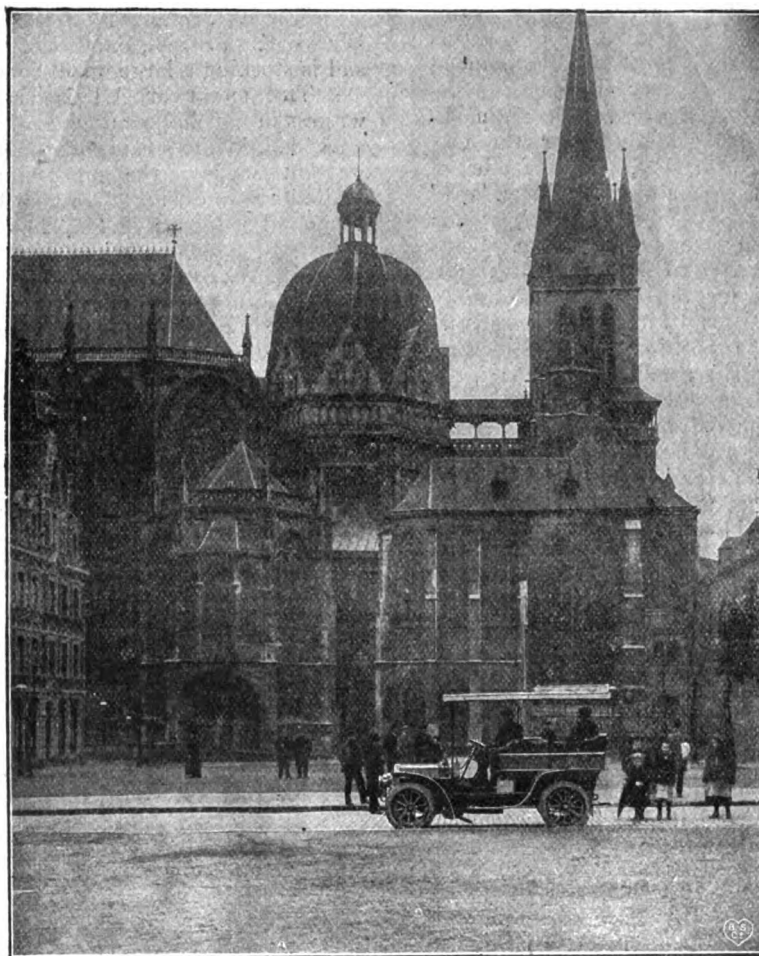
IN connection with the establishment of a motor mail service between Bandarawela and Lunugala, in Ceylon, it has been decided to import the parts and assemble the first car in the railway workshops there.

A COPY of the E.I.C. 1906 catalogue has reached us from Messrs. Brown Bros., Ltd. This is a very handy list, with complete descriptions and prices of all E.I.C. ignitivities. We notice this list contains particulars of the new E.I.C. solid accumulator as well as complete information respecting the E.I.C. generative system.

THE Car and General Insurance Corporation, Ltd., has introduced some new features of excellence into its comprehensive policies. More liberal terms are now given in connection with accidental damage, and lamps are covered without extra premium.

The makers' statement as to horse-power is accepted by the corporation, and when a range of two horse-powers is given, the premium is calculated on the lower—thus, on a car stated to be of 24-36-h.p., the premium charged is that for 24-h.p.

THE Automobile Club of America is offering a gold cup as the prize for a Two Gallon Efficiency and Distance Test, to be held next month. As is implied by its title, the test will be a competition to ascertain the amount of work a car is capable of doing with this amount of fuel, and to give makers an opportunity to prove the efficiency of their vehicles. In order that all the competing machines shall run on an equal basis a system of awards is being devised whereby points will be allowed for weight, cylinder displacement, distance travelled, percentage of efficiency shown, and such other factors that may have a direct bearing on the result.



Touring in Germany.—A Cudell Car in front of the Cathedral of Charlemagne, Aix-la-Chapelle.

THE first Austin car made its appearance on the road on Saturday last.

WE reserve a review of the new edition of the Motor Year Book to our next issue.

A NEW depot has been opened at 4, Bute Street, South Kensington, by Messrs. A. Haswell and Co.

A CAR belonging to the South Wales Motor Company was used in connection with the A.C.G.B.I. examination at Cardiff.

WITH offices at 34, Norfolk Street, Strand, the Spring Wheel Company, Ltd., has been registered. Its capital is £1,000.

THE Palmer Air-tube Protector, shown in the accompanying illustration, will be a boon to the motorist who does not always carry a spare tyre. In case of the cover being badly punctured or cut, this protector is slipped over the spare or repaired tube immediately under the cut, and, being made of strong "Palmer Cord" fabric, it withstands

the usual riding pressure without any tendency to bulge. Thus protected, the tyre can be run for 200 to 300 miles if necessary before the cover is removed for repair. The protectors cover the air-tube for a length of about 12 inches. There is no need to solution the protectors in position, the air-pressure within the tyres holds them effectually; and, consequently, the same protector can be used as often as necessary.

So far seventeen cars have been entered for the American elimination trial for the 1906 Vanderbilt Cup race. It is reported in New York that a 100-h.p. English Daimler car is being built for the contest.

LORD DUNRAVEN has just ordered a 40-h.p. Crossley car from Messrs. Jarrott and Letts, Ltd. The vehicle will be fitted with a handsome touring Roi des Belges carriage body by Messrs. Thrupp and Maberley.

MR. F. D. UNDERHILL, the president of the Erie Railroad Company, who is now in California, has had his 45-50-h.p. Pope-Toledo touring car fitted with flanged wheels to run on rails. He intends to make the trip from Los Angeles to New York along the railway track.

THE Non-Exploding Casks Vessels Company are making casks and vessels which are guaranteed safe from all risk of explosion, and eminently suited for use by automobilists. One of the company's specialties is a motor canister for petrol, which can be had in any shape or size.

MESSRS. B. BARLING AND SONS, of Park Street, Camden Town, N.W., have brought out a motorist's pipe of undoubted convenience. To all who enjoy a pipe, and who have previously found it a source of trouble on the car, Messrs. Barling's excellent device comes as "a boon and a blessing."

MR. W. HARVEY HILLIARY, of Stockwell, S.W., has written to Messrs. R. Reynold Jackson and Co. that he has added up the distance done by the 9-h.p. Jackson dogcart he bought in June last year, and finds that up to the 7th ult. it had covered 14,230 miles. His best run in one day was 130 miles, and the average consumption of petrol works out at twenty-six miles per gallon.

JOHN MURPHY, a motor-car driver, has been indicted at the Middlesex Sessions for breaking and entering a warehouse at Salusbury Road, Kilburn, and stealing a motor-car and accessories to the value of £254 18s., the property of Richard S. Currie. Prisoner was in the act of getting away with the car when the police received information and surrounded the warehouse. The police found identification plates which he had made from black boards, the letters being of white paper, which could have been easily removed and altered. A sentence of nine months' imprisonment was passed.

THERE are at least five motor-bicycles in use in Central Africa.

A PRIMITIVE Methodist chapel at Long Sutton (Lincs.) is being converted into a motor garage.

THE Ridley Motor Company has been registered with a capital of £5,000 and offices at George Place, Paisley.

THE capital of the Mills Motor and Marine Engineering Company, Ltd., just registered, is £5,000.

NEXT year the Irish Automobile Club will participate in the welcome to the annual Conference of the Institute of Journalists in Dublin.

THE London General Omnibus Company have secured a licence to store 6,000 gallons of petrol at their garage at Dollis Hill, Willesden.

At the Royal Dublin Society's Show, Argylls, Ireland, are exhibiting three cars of 10-12, 14-16, and 16-20 h.p. respectively. They will also show the 14-16-h.p. chassis.

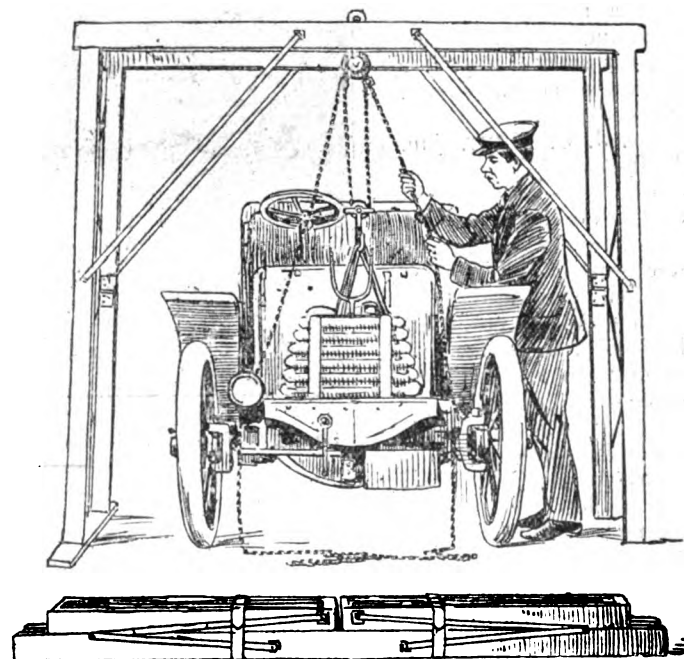
MR. A. J. ALLGOOD, of the Cinque Ports Cycle and Motor Works, High Street, Sandwich, has opened a new motor garage, and is stocking a large quantity of spare parts.

THE motor-car A.1 is very well known, according to a witness in a police court recently, on the Ripley road. This is an 18-h.p. White steam car, the property of Earl Russell.

THE value of the motor-cars and parts exported from the United States during February last is returned at £66,542, as compared with only £56,026 in the corresponding month of 1905.

MR. W. BALLIN HINDE has just returned from a long tour through Europe, covering a distance of between seven and eight thousand miles, on a 22-28-h.p. Crossley car. In conversation he mentioned that some of the roads over which he had travelled were of the vilest and most impossible description, but that the car stood up splendidly right through. In his wanderings he went through France, Italy, Austria, Croatia, Dalmatia, Herzegovina, and Switzerland.

WE illustrate herewith a collapsible trestle which has recently been introduced by Mr. R. Raitt, of the Strathmore Motor Works, Blairgowrie, N.B. It is intended for use in

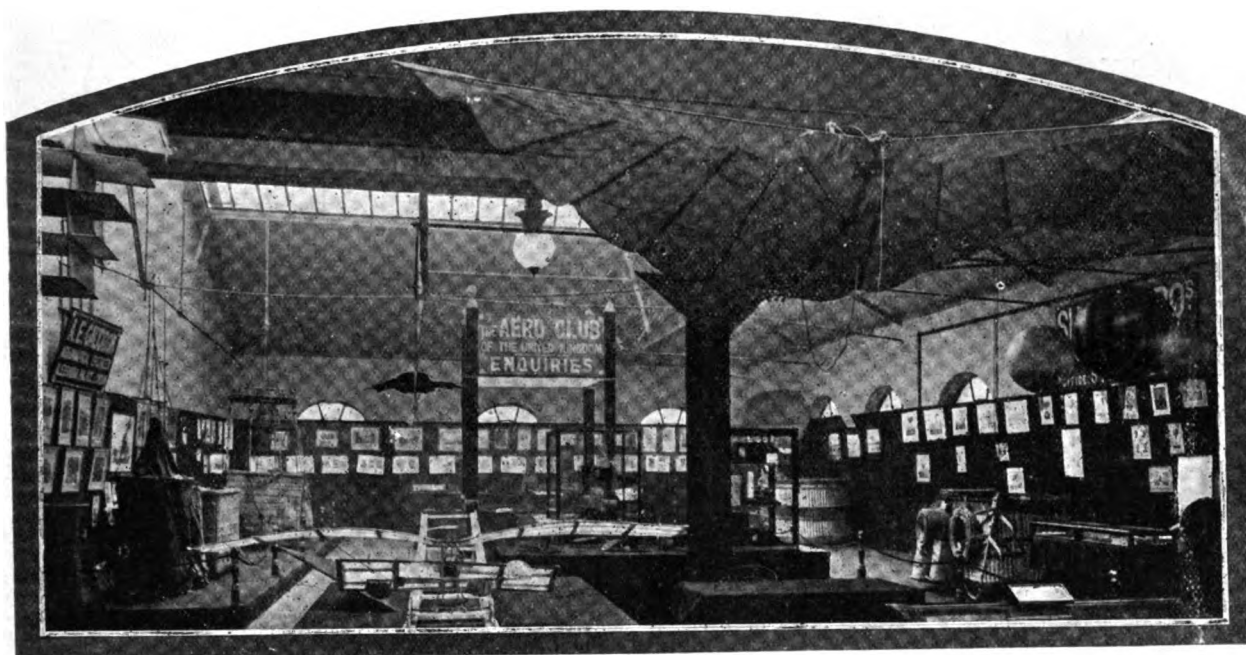


motor repair shops and private garages to facilitate the removal of engines and other parts of the mechanism of motor-cars from the chassis. The trestle, which is fitted with lifting tackle, is made to collapse in a very small space, as shown in the lower illustration. It can thus be stowed away under a bench, and when required can, it is claimed, be erected in two minutes, no loose bolts or nuts being employed. Two sizes of the trestle are being made, one to lift 5 cwt. and the other up to 10 cwt.



# The Cordingley Show.

[Continued from page 129.]



A View of the Aero Section of the Exhibition.

## The Prima-Monde and Bolide Cars.

A four-cylinder car which attracted considerable attention on account of its relatively low price was the Prima-Monde, exhibited by the MONDE MOTOR COMPANY, LTD. The motive power is supplied by a 12-h.p. engine comprising four cylinders 80 mm. bore by 90 mm. stroke. The valves are mechanically actuated off a single cam shaft, and the ignition is by coil and accumulators to a special form of contact maker working in oil. The feature of the chassis is that the clutch and change-speed gear is contained in a casing forming an extension of the base chamber of the engine. The transmission is by cardan shaft and bevel gear to a well-supported live axle, and there are three forward speeds and reverse, with direct drive on the top speed. Any type of carriage body can be fitted to the chassis, ranging from a two-seater to a landaulet. The Monde Company also exhibited a 16-h.p. Bolide chassis; this follows the usual lines of live-axle cars. The four-cylinder engine, 90 mm. bore by 120 mm. stroke, is fitted with high-tension magneto and a special form of automatic carburettor. The lubrication of the engine is maintained by a pump, which forces the oil from a tank fixed in front of the engine through sight feeds on the dashboard.

## The Herald Cars.

Three sizes of Herald cars, 10-12-h.p., 16-24-h.p. and 30-40-h.p., were shown by the HERALD MOTOR COMPANY. The 10-12-h.p. vehicle, which is fitted with a cab or landaulet body, represents the type supplied to the Metropolitan Motor Carriage Company; the motive power is supplied by a two-cylinder engine having mechanically-operated valves and both magneto and accumulator ignition. The transmission is through a gear-box giving three speeds and a reverse and side chains. Passing now to the 16-24-h.p. and 30-40-h.p. cars (Fig. 70), except that in the former the four-cylinder engine has only one cam shaft and in the latter the valves are located on opposite sides, the following particulars may be taken as applying to both. Both magneto and accumulator high tension ignition are provided, while the engine lubrication is maintained by a pump. The carburettor, which is pressure fed, is of the automatic variety and is provided with a hot water jacket. The clutch is connected by a cardan shaft with the change-speed gear-box; the latter has two sliding sleeves and "gate" control, four speeds and a reverse being provided. The final drive is by side chains. Ball bearings are used throughout except in the engine. Double elliptical springs are provided at the rear, these being supported from a bar extending across

the pressed steel frame. Altogether the modern Herald cars are excellent specimens of automobile engineering.

## The Milano Car.

Another of the new Italian cars at the Show was seen in the Milano, a vehicle which is built by the Societa Milanese Industrie Meccaniche, and is being introduced into this country by MILANO MOTORS, LTD. The chassis shown was of 22-28-h.p., the four-cylinders, which are cast in pairs, measuring 180 mm. bore by 125 mm. stroke. The ignition is by high-tension magneto; the valves are on opposite sides of the motor and operated off separate cam shafts. The radiator is circular in form and is of a special design, the tubes being extremely flat, so that if any leakage occurs the tube in which it is taking place has merely to be squeezed together, instead of being soldered, the circulation generally not being interfered with. Another novelty is a turbine fan, which is cast on the periphery of the flywheel. The clutch, which is of the leather-faced cone type, is connected with the gear-box by a universally-jointed shaft. The change-speed gear gives four forward speeds and reverse, with direct drive on the top speed, the transmission being by a countershaft and bevel gear to a live axle. Ball bearings are used in the gear-box and axles and also on the half-time shaft of the motor itself. The lubrication, water circulation, and petrol supply are all under pressure. The springs are of special design, the top leaf of the same gradually thickening towards the ends, where they turn up to increase the strength of the dumb-irons. A special feature of the car is found in an arrangement by which the steering column can be set at any angle to suit the requirements of the individual drivers. The end of the column lies in a cradle and runs between two slides, the driver being able to lock it in the position which suits him best.

## Springs.

Messrs. HERBERT TERRY and SONS had a large selection of springs of every description for all purposes such as are required by the motorist. A set of springs to suit any special motor can be supplied in a box, so that the user has a handy selection of assorted inlet, exhaust and other springs ready to hand. The display also included an assortment of steel motor springs designed to stand heat and strain without injury, a spring belt for driving motor fans, pumps, etc., an interesting collection of springs, clips, and wire-work of all descriptions for use in connection with the automobile industry.

**The Mass Cars.**

The exhibit of the LANCASTER MOTOR GARAGE was of a unique character, inasmuch as no less than seven models of the Mass cars, ranging from a single-cylinder to a 28-32-h.p. four-cylinder, were on view. The 8-h.p. is fitted with a De Dion engine and three speeds and a reverse, with direct drive on top speed. The power is transmitted to the rear axle through a cardan shaft and bevel gear. The details throughout are very complete, the little car, which can be supplied without a detachable tonneau body, having all the features of more powerful touring vehicles. The 10-12-h.p. chassis, which has a sufficiently long wheel base to receive side-entrance bodies, has a four-cylinder engine, 85 mm. bore

expanding type, and has special holes cut in the drum to allow any oil to escape. The lubrication is by a gear-driven pump to drip feeds on the dash. The whole of the working parts are very accessible, the clutch in particular being so arranged that it can easily be dismantled. Some very luxuriously-finished complete vehicles were included in the exhibit, one of which, a 28-32-h.p. limousine, painted yellow with black and red lines, was among the most admired cars in the show.

**The Hallamshire Cars.**

Messrs. DURHAM, CHURCHILL AND COMPANY exhibited two sizes of their Hallamshire cars of respectively 12-14-h.p. and 24-30-h.p. Both are fitted with Aster engines of the latest type. The clutch is

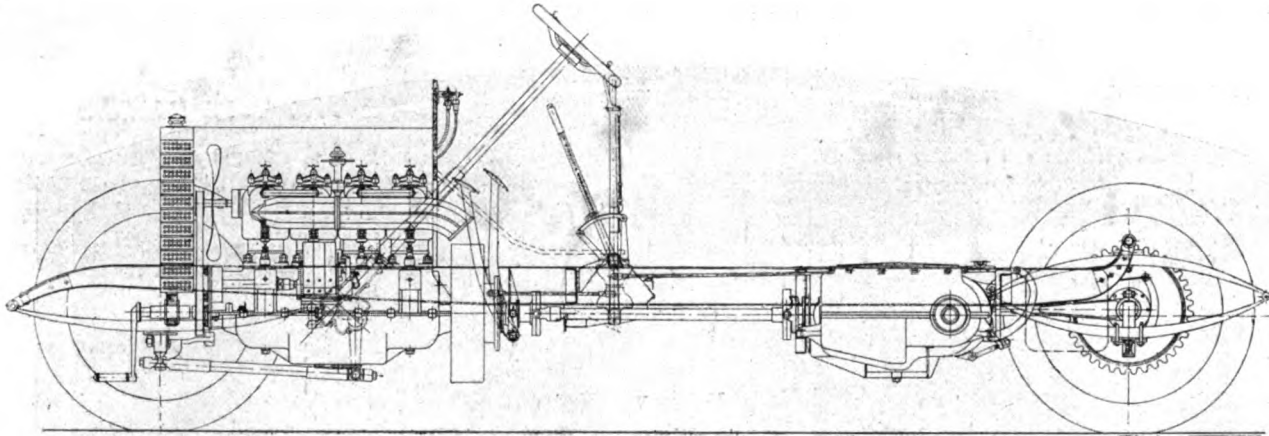


Fig. 70.—Elevation of Chassis of Herald 30-40-h.p. Car. (See page 147.)

by 100 mm. stroke. The valves are all mechanically actuated off a single cam shaft. The drive is through a three-speed gear-box and a cardan shaft and bevel gear to the live axle, the latter being well supported by a special torsion rod. Ball bearings are fitted to all the bearings except those of the engine. The 14-h.p. car is on similar lines to the 10-12-h.p. The clutch is, however, of the Hele-Shaw disc type. The 16-20-h.p. car (Fig. 71) is of the chain driven variety, a feature being the great strength of the axles. Universal joints are introduced on the shaft between the clutch and the gear-box and between the latter and the differential shaft, which has been placed well to the rear in order to admit of a short chain drive. The 28-32-h.p. is an entirely new model. The motor comprises four-cylinders, 115 mm. by 135 mm. The carburettor is of the Mercedes type, with plunger control, and an extra air inlet, closed from the dash when starting. The ignition is by low-tension magneto. The moving member of the ignition forms the fulcrum of a lever, at one end of which is fixed a spring, keeping the ignition points together. The other end fits

of the Champion metal-to-metal type, and three forward speeds and a reverse, with direct drive on top speed, are available, the power being transmitted through a cardan shaft and bevel gear to a live axle. The latter has only the driving effort to withstand, the weight of the car being taken by the sleeve, the power being transmitted to the road wheels through dog clutches in the hubs. The motor is controlled by levers on the top of the steering wheel, the sector being, however, so arranged that it does not move with the steering wheel, and is therefore always conveniently located. The bodies, which are of a roomy side-entrance double phaeton type, are built by Messrs. Durham, Churchill, and Co. in their own works.

**The Beaufort Cars and Vans.**

A handsome specimen of the well-known Beaufort cars was exhibited by the CENTURY MOTOR COMPANY, of Willesden Junction. It was of the 18-22-h.p. chain-driven type and fitted with a Princess-side-entrance double phaeton body, painted green. The engine

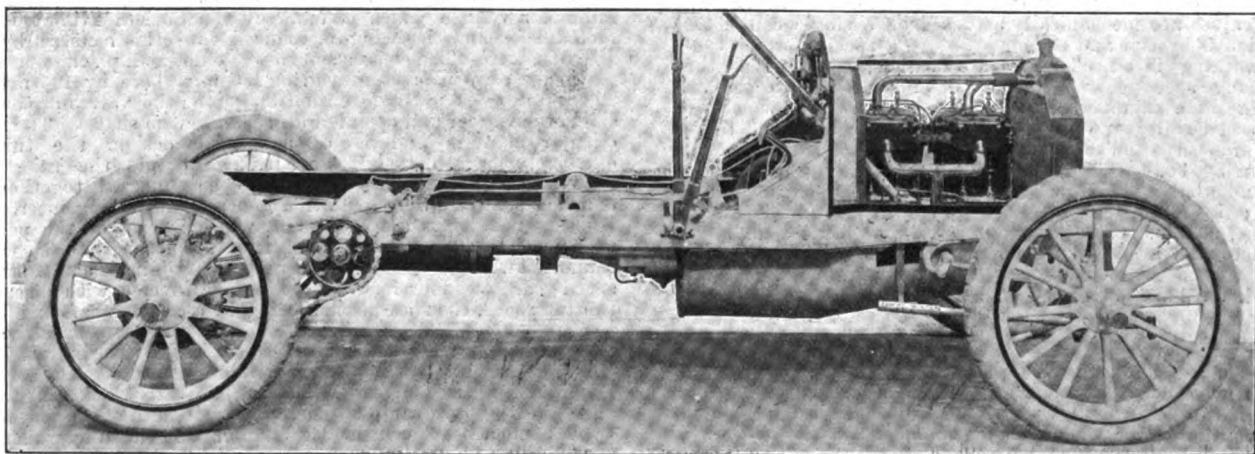


Fig. 71.—Chassis of Mass 16-20-h.p. Car.

into an adjustable spanner head, screwed on the tappet rod, and capable of the minutest adjustment by means of a milled nut. On the fly-wheel are marks for the correct setting of the ignition. The positive wires are brought to a bridge, and fixed by spring plugs. The fly-wheel has blades formed in it to act as a fan, and the power is taken through a leather-faced cone clutch by a short universally jointed shaft to the gear-box, which gives three speeds and reverse by the usual sliding pinions. A short cardan shaft connects the gear-box with the differential shaft, from which the power is transmitted by side chains. The pedal-operated brake, placed behind the gear-box, is of the internal-

comprises four cylinders 95 mm. bore by 115 mm. stroke, with the mechanically-operated valves arranged on opposite sides. A feature of the motor is the variable lift of the inlet valves, the lever controlling which is so interconnected with the ignition that when the valve is opened slightly the time of firing is retarded. The ignition is by low-tension magneto, and a special form of automatic carburettor furnishes the mixture. The male member of the clutch, which is of the leather-faced cone type, is held up to its work by three springs so arranged that no end thrust is exerted either on the crank or gear shaft. Three speeds forward and a reverse are provided. A service-

able looking Beaufort delivery van was also on view; it is designed for loads up to 30 cwt., the motive power being supplied by a 18-h.p. two-cylinder engine. The transmission is by side chains, and the rear wheels are shod with solid rubber tyres.

#### Convertible Bodies.

The display of the AUTOCARS AND ACCESSORIES, LTD., of West Norwood, was one of considerable interest to tradesmen, as they were showing a little car the feature of which is the provision of two bodies, either of which can be mounted on the chassis in a very short time. One is a van designed for loads from 2 to 3 cwt. and the other a neat body for two persons. Thus the vehicle can be used during the week for delivery purposes, and, when desired, for pleasure purposes. We give

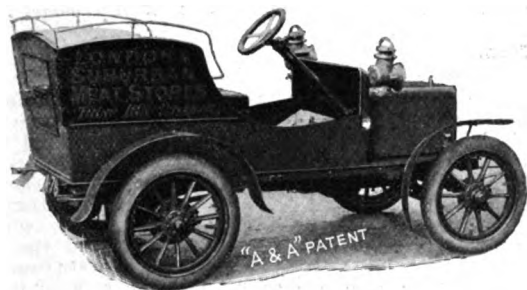


Fig. 72.—The 6-h.p. Rover as a Delivery Van.

herewith illustrations (Figs. 72 and 73) of a Rover 6-h.p. car provided with the alternative bodies. Other types of cars can be equipped in a similar way, the idea being one which should prove acceptable to a large number of prospective motorists.

#### The S.P.Q.R. Cars.

A new series of British-built cars was shown by ELSWICK MOTORS, LTD., which attracted considerable notice on the part of the visitors. They are known as the "S.P.Q.R.," the name being derived from the four words—speed, power, quietness, and reliability—four qualities which the vehicles are claimed to possess in the highest degree. We first inspected the chassis of the 15-20-h.p. car. This has a pressed steel frame narrowed at the forward end to increase the lock of the steering wheels. The engine comprises four separate cylinders  $3\frac{1}{2}$  in. bore by  $3\frac{1}{2}$  in. stroke. The valves are all operated off one cam shaft the inlets being located in the cylinder heads. The water circulation

which does not carry the weight of the car, the road wheels being mounted on the axle casing and receiving the power through dog clutches in the hubs. The foot brake acts on a drum at the rear of the gear-box, while a hand lever controls internal expanding copper-lined brakes on the back wheels. Passing now to the 26-30-h.p. car (Fig. 74) this is, generally speaking, on similar lines to the 15-h.p. The four cylinders of the engine are, however, cast in two pairs, the dimensions being  $3\frac{1}{2}$  in. bore by 4 in. stroke. A novel feature is found in the fact that the petrol tank, which is of a curved pattern, is so arranged as to form the dashboard. The arrangement of the brake control is also the reverse of that usually adopted, the pedal actuating the rear hub brakes and the side lever a contracting brake behind the gear-box

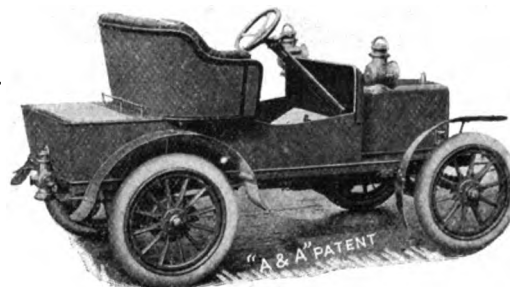


Fig. 73.—The 6-h.p. Rover as a Two-seater Car.

the latter being also connected up to the clutch. The pressure of oil and water circulation are indicated by two pressure gauges on the dashboard, which is otherwise quite clear of the usual array of lubricators, etc.

#### The Horbick Car.

Two excellent examples of the Horbick 12-16-h.p. four-cylinder cars, one fitted with a side-entrance double phaeton body and the other as a landaulet, were shown by the HOLLAND PARK MOTOR COMPANY. The vehicles have armoured wood frames, in the fore part of which is set an engine comprising four separate cylinders. The inlet and exhaust valves are interchangeable and mechanically actuated off separate cam shafts. The mixture is furnished by an automatic carburettor, and the ignition is by coil and accumulators. The power is conveyed through a cone clutch to a gear-box, giving three speeds forward and a reverse, with a direct drive on top speed through a telescopic cardan shaft and

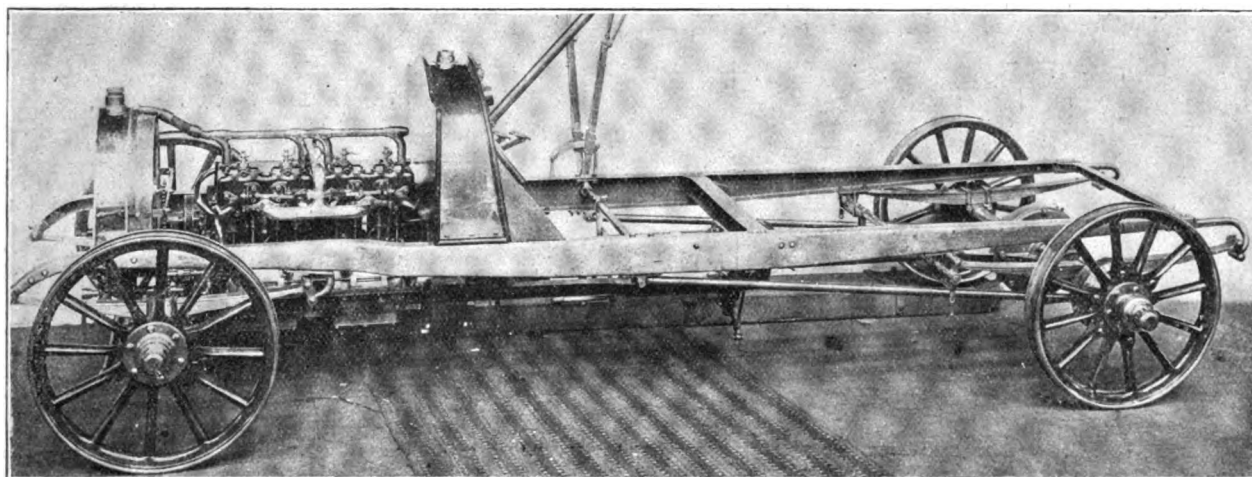


Fig. 74.—Chassis of "S.P.Q.R." 26-30-h.p. Car.

is maintained by a gear-driven pump and a honeycomb radiator set in a circular shaped frame forming the tank. Behind the latter is an air-inducing fan driven by a chain and free wheel clutches, so that the fan can overrun the gear if occasion arise. The engine is controlled by special self-locking levers mounted over, but not fixed to, the steering wheel. An automatic governor is also provided. Ignition is by high-tension magneto. The exhaust gases are carried away by four large-sized pipes running direct from the valve pockets to the main silencer pipe below the engine, from whence the gases pass to the silencer proper, placed transversely at the rear of the chassis. The power is transmitted through a large leather-faced cone clutch and a universally-jointed shaft to a gear-box giving three speeds and a reverse. The change-speed gear shafts are of unusually large diameter, while the clutch spring can be readily adjusted by means of a milled-edge collar, which has a ratchet locking arrangement. The final drive is by a cardan shaft and bevel gear to a live axle

bevel gear to the rear live axle. The brakes are of the metal-to-metal type, the foot brake contracting on a drum on the differential, and those applied by a hand lever expanding inside drums connected with the hubs of the rear road wheels. The throttle and ignition levers are mounted on the steering wheel in such a way that they do not move with the wheel, and are consequently always close to the driver's hands. A foot accelerator is also provided. The Horbick cars enjoy a high reputation in the north, and now that a London agency has been established they will, no doubt, quickly become equally as popular in the South. The Holland Park Company, also exhibited a 24-h.p. chain-driven Argus car fitted with double phaeton body.

#### Cars for Hire.

AUTOMOBILES DE LUXE, LTD., which make a speciality of hiring out motor-cars, had on view a number of the Darracq vehicles they keep on hand for this purpose, these including a 30-h.p. limousine and a 12-16-h.p. side entrance double phaeton.



**The Fairfax Car.**

A car which departed somewhat from the usual lines was the Fairfax (Fig. 75) exhibited by Messrs. J. S. FAIRFAX AND CO., of Chiswick. The engine is set somewhat low in the front end of a pressed steel frame in such a way that it lies under the driver's footboard; this, together with the steering pillar, having but a moderate rake, enables a roomy side-entrance body to be fitted on a frame of moderate length. The engine, which is of 7.9-h.p., comprises two vertical cylinder 3 5/32 in. bore by 3 9/16 in. stroke, with the mechanically

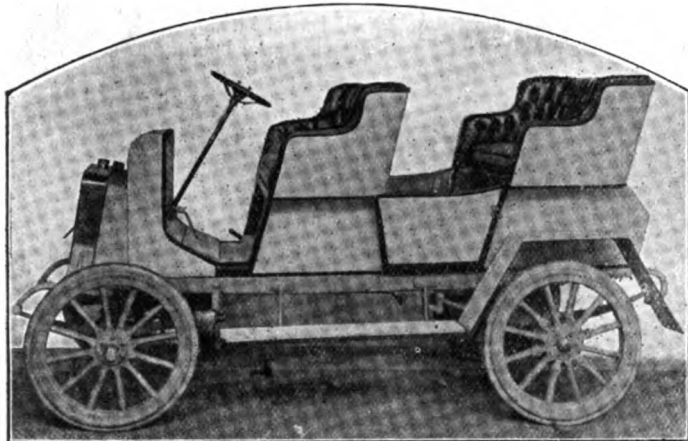


Fig. 75.—The Fairfax 7.9-h.p. Car.

operated valves arranged on opposite sides. The water-cooling is on the thermo-siphon system, no pump being used. The usual ignition by coil and accumulators is provided, and the mixture is furnished by a Longuemare automatic carburettor. From the motor the power passes through a leather-faced cone clutch to a special gear-box giving three speeds forward and a reverse with direct drive on top. The change-speed gear is of a special form, the various pinions being always in mesh and operated by a single lever. The final drive is by a cardan shaft and bevel gear to a live axle. The car, which has a wheel base of 6 ft. 9 in., is well sprung, which enables solid rubber tyres to be fitted to the road wheels.

**The West Cars.**

Among the new exhibitors at the show were Messrs. WEST, LTD., who had on view a 20-22-h.p. chassis which comprises a number of interesting features. The frame is of pressed steel construction

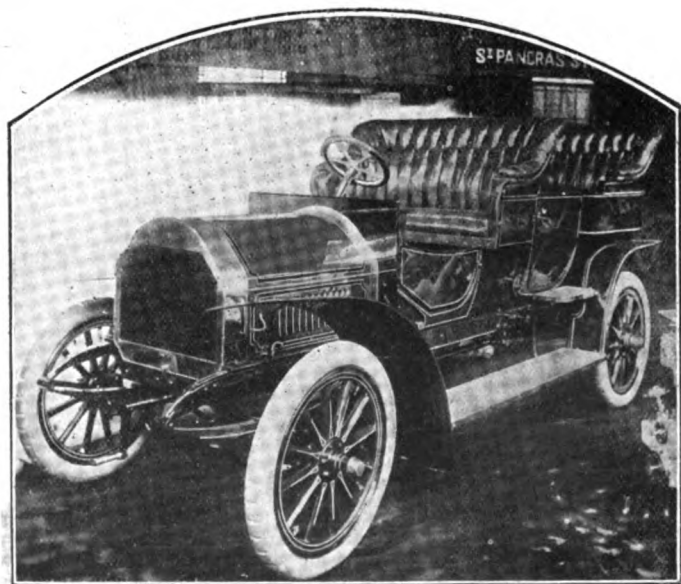


Fig. 76.—The West 16-20-h.p. Double Phaeton.

narrowed in front to increase the lock of the steering wheels. The motive power is supplied by one of the latest types of Aster four-cylinder engines having separate cylinders and the valves arranged on opposite sides. Dual ignition is fitted, both high-tension, while the mixture is furnished by a Longuemare automatic carburettor. The clutch is of novel design; it is of the disc variety, and designed to run in oil. The discs are of phosphor bronze, with a steel annulus between them, and the three are pressed against the flywheel by the clutch spring. The change-speed gear gives three forward speeds and reverse

with the secondary shaft entirely out of operation on the top speed. A cardan shaft and bevel gear transmit the power to the rear live axle. The latter is provided with ball thrust bearings in the centre, and the load is carried on long roller bearings, one on each side of the differential. The road wheels, which run on extensions of the axle sleeve, are on long plain bearings with hardened steel bushes. Special provision is made for the lubrication of the universal joints. A neat system of engine control is fitted on the centre of the steering wheel, not unlike the Panhard in appearance, the connection between the controlling thumb rollers and the throttle and ignition being effected by Bowden wires, which pass down the centre of the steering column. Messrs. West also exhibited a 16-20-h.p. side entrance double phaeton (Fig. 76) and a car of equal power fitted with a luxurious demi-limousine body by Meier, of Redhill. The mechanical details of both of these vehicles are, with a few exceptions, similar to those of the 20-22-h.p. model referred to above.

**The Benz Cars.**

Messrs. BENZ AND CO., one of the oldest builders of motor-cars in the world, are now turning out a large number of powerful touring cars, which in design and construction are of a notably high order. The British agency for these vehicles has recently been acquired by the Cannstatt Automobile Association, who had on view three cars which attracted considerable attention. We first inspected the chassis of the 28-h.p. car; this has the standard pressed steel frame, fixed in the fore part of which is a four-cylinder engine. The cylinders, which are cast in pairs, are 105 mm. bore by 130 mm. stroke, and the valves are arranged on opposite sides, being actuated off separate cam shafts. The water circulation is maintained by a pump and a large radiator. The latter, although very similar to the honeycomb type, is of the flat tube variety; a fan is provided to induce a current of air, the belt being kept at the requisite tension by mounting the

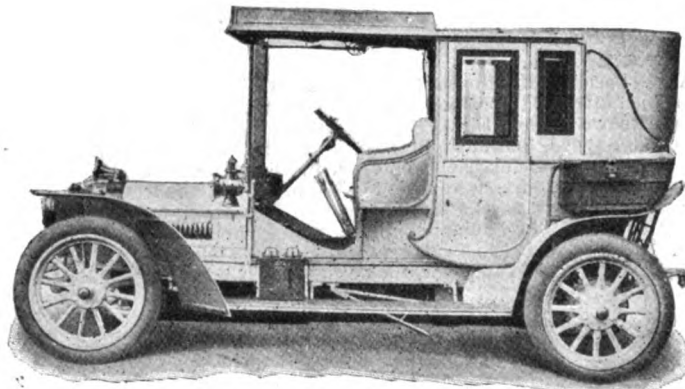


Fig. 77.—The Benz 28-h.p. Landulet.

pulley on a swinging spindle which is kept up to its place by a spring. The mixture is furnished by an automatic carburettor, a lever being provided by means of which the supply of petrol can be regulated and the float chamber flooded from the dashboard. Dual ignition is provided, low tension magneto and high tension by accumulators. No governor is fitted, the speed of the engine being controlled by hand and foot levers. The clutch is of the leather-faced cone type and the shaft which connects it with the gear-box is provided with a sliding joint. The gear is adapted to give four speeds and a reverse, the final drive being by side chains. Two contracting brakes are mounted on the differential shaft, both being water cooled; the rear brakes, which are of the expanding type, are provided with a simple means of adjustment. Ball bearings of the D.W.F. type are fitted to all the shafts and axles, except on the engine. A 40-h.p. car was also on view; this is similar in general arrangement to the 28-h.p., and was fitted with a handsome limousine body. Finally reference may be made to a 28-h.p. live axle car—both types being made by Messrs. Benz. The vehicle is fitted with a double phaeton body, the rear portion of which is of novel design; the seat is made complete with its own back rest and is arranged so that it can slide forward. Between the back of the movable seat and the extreme portion of the body is a shelf on which small bags can be carried. There is also room under the seat for two large trunks, the vehicle being thus noteworthy for its large luggage carrying capacity.

**The Gnome Car.**

GNOME, LTD., were present with a couple of Gnome cars, which appear to combine simplicity of design with sound construction. The vehicles exhibited were of the 18-24-h.p. and 24-30-h.p. types. Both are provided with pressed steel frames and Gnome four-cylinder engines, the dimensions of the smaller one being 98 mm. bore by 130 stroke and of the 24-30-h.p. 110 mm. by 130 mm. The valves are all mechanically actuated. The transmission is through a leather-faced cone clutch to a gear-box giving respectively three and four forwards speeds in addition to the reverse. Thence the power is conveyed by a cardan shaft and bevel gear to a live axle, squares on the end of the latter driving the rear road wheels. The tension rods to the axle are of unusually liberal dimensions and special attention appears to have been devoted to the brakes. We may add that ball bearings are fitted to all shafts except on the engine.



### The Peugeot Cars.

An interesting display of the Peugeot cars was made by Messrs. FRISWELL, LTD. The principal features of the 1906 models have already been dealt with in the *M.C.J.*, but we may briefly mention that they include 8-h.p. single-cylinder, 10-12-h.p. double-cylinder, and 12-16-h.p., 18-24-h.p., 30-40-h.p., and 50-60-h.p. four-cylinder cars. Compared with last year, the smaller vehicles show little change. In the larger types, however, there are a number of modifications. The motors have the four cylinders cast in two pairs, and all the valves mechanically

used on Peugeot cars. Another improvement in the 1906 models is that ball bearings are used throughout, except in the engine. The complete cars on view included the handsome 30-40-h.p. double phaeton illustrated in Fig. 79 and an 18-24-h.p. limousine. Considerable interest was shown in the new "Baby Friswell" car (Fig. 78), which has been introduced to take the place of the well-known Baby Peugeot. The frame, which is of pressed steel construction, is well sprung, the rear springs being set outside the frame. The motive power is supplied by a 6½-h.p. De Dion engine, carried in a specially designed

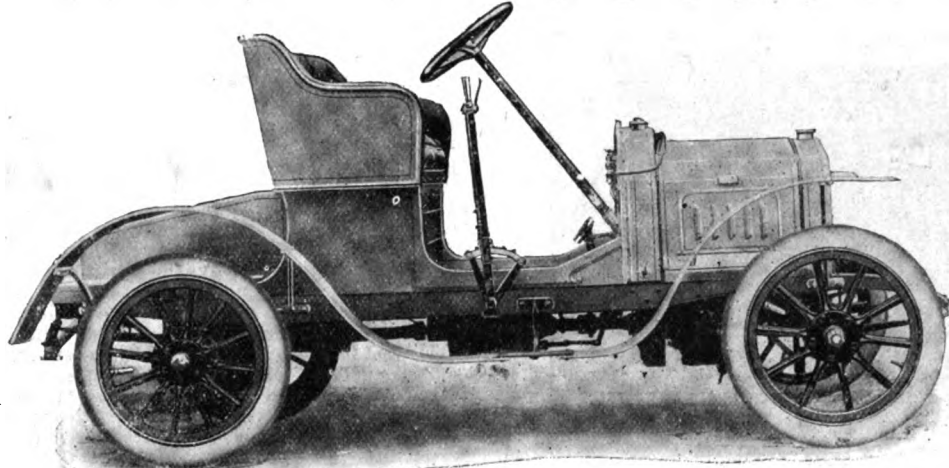


Fig. 78.—The New Baby Friswell.

actuated, the inlets being on one side and the exhausts on the other. Low-tension magneto ignition is employed, provision being made for fitting the high-tension system by coil and accumulator as a reserve. Attention may also be drawn to the fact that the magneto, which is gear driven, is so arranged that it may instantly be removed from its place whenever necessary. The clutch is of the leather-faced cone type; the shaft which connects it with the gear-box is so constructed as to compensate itself to any want of alignment between the two parts. The

cradle. The mixture is furnished by a De Dion carburettor. The ignition is by coil and accumulators, and the water circulation is on the thermo-siphon system, no pump being used. The power is transmitted to the gear-box through a leather-faced cone clutch. The gear-box gives three speeds forward and a reverse, the top speed being a direct drive through a cardan shaft and bevel gear to a live axle. A hand lever controls a brake on a drum at the rear of the gear-box; a pedal applies internally-expanding segmental brakes within drums on

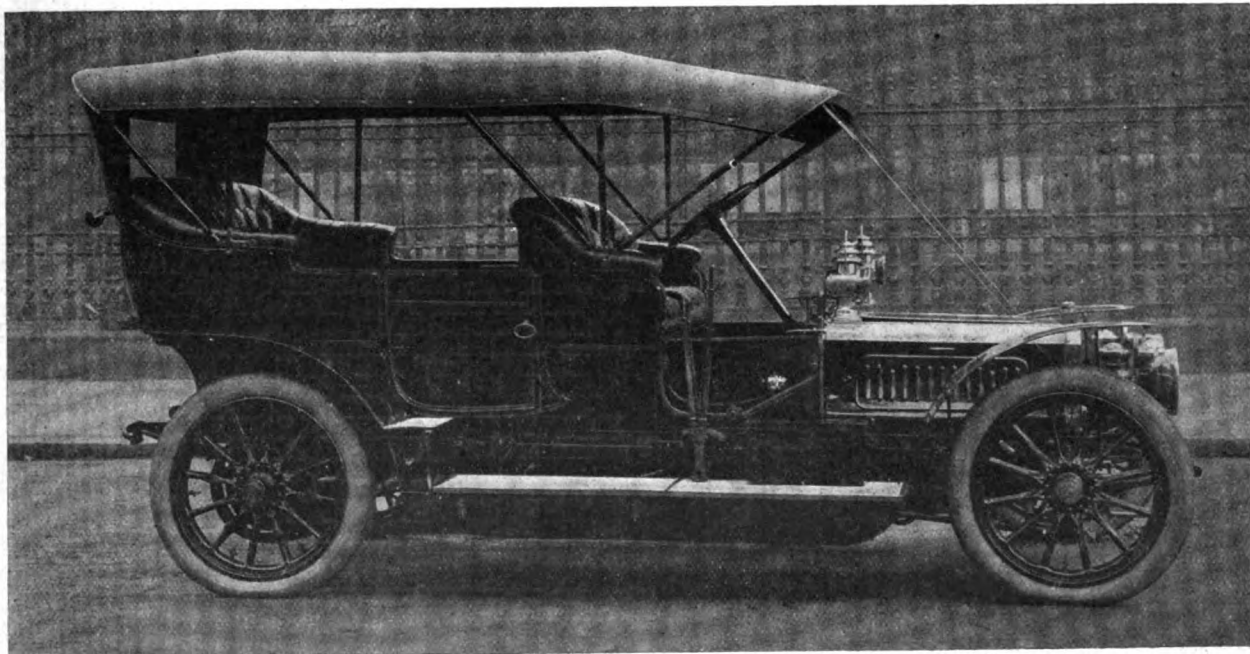


Fig. 79.—The Peugeot 30-40-h.p. Side Entrance Double Phaeton with Cape cart hood.

change-speed gear, which is adapted to give four speeds forward and a reverse, is now on Mercedes lines, the lever working in a "gate" quadrant. The gear-box has been separated from the differential shaft, which latter, as will be seen from Fig. 79, has been placed further to the rear to permit of a short chain drive. All the brakes are of the internal expanding metal-to-metal type, that on the cross shaft being enclosed in the differential case. Special attention has been devoted to the question of lubrication of the various bearings, which is automatically effected, it being pointed out to us that there is not a single grease cup

the rear wheels, the usual practice being thus reversed. The ignition and throttle levers are mounted on the steering wheel, and a small pedal between the clutch and brake pedals is provided for temporarily slowing down the engine in traffic. All the shafts and wheels run on ball bearings with the exception of the engine shaft. The petrol and oil tank are formed in one, and placed in front of the dashboard. The wheelbase of the car is 6 ft. 3 in., the wheel gauge 3 ft. 6 in., and the length over all 9 ft. Altogether the little car is one which should be given close inspection by those looking for a reliable little vehicle.

### The "Armada" Tri-cars.

Considerable interest was shown in the exhibit of TOBOGGAN MOTORS, LTD., who were showing several of their "Armada" tri-cars, the feature of which is the friction drive. They are made in two sizes, 5-h.p. single-cylinder and 7-8-h.p. twin-cylinder. The frame is of channel steel; the back wheel is suspended upon semi-elliptical springs. The ends of the rear wheel spindle run in specially-designed guides, which act in the same manner as locomotive horn plates. The transmission is brought about by a leather-faced wheel mounted on a square driving shaft being brought into play against the face of the



Fig. 80.—The Armada Delivery Tri-Car.

outside flywheel of the engine. By moving the leather-faced wheel across the flywheel, in to, or out from, the centre, a complete variation of speed is obtained, while by sliding the leather wheel past the centre a reverse motion is secured. The final drive is by a stout roller chain. In addition to the passenger tri-cars, which have accommodation for two or three persons, and also a luggage platform over the back wheel, a tradesman's machine (Fig. 80) built for the "Evening News," was shown. The machine, which can carry about 3 cwt., has been specially designed with the view to enable the driver to deliver newspapers or goods without stopping the engine, or even dismounting. The lid of the carrier opens from back to front, and is operated by a pedal. The back of the box acts as a dashboard, on which the petrol and oil tanks, lubricating pump, and accumulators are carried. A display of the Stevens petrol motors which are used on the Armada machines was also to be seen at this stand.

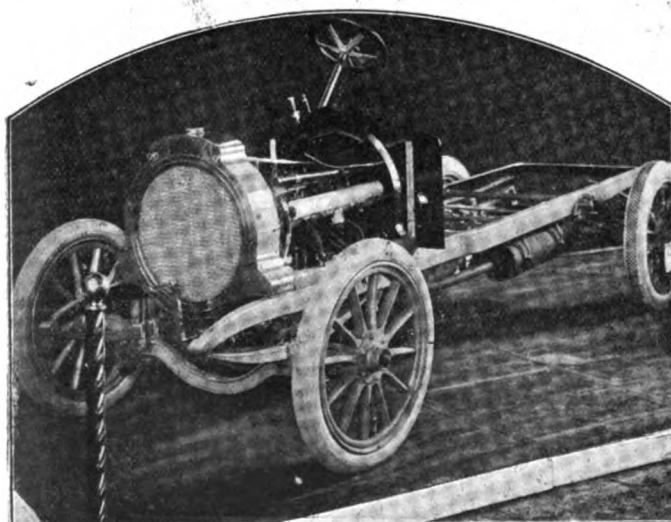


Fig. 81.—Chassis of Gracile 30-h.p. Car.

### The Gracile Cars.

A new series of cars known as the Gracile was shown by the GRACILE MOTOR CAR COMPANY, LTD. Pride of place was given to the 30-h.p. chassis, illustrated in Fig. 81. The engine comprises four cylinders cast in pairs, with all the valves operated off a single cam shaft. The ignition is by magneto with high tension distributor, a novel feature being the automatic advancing and retarding of the time of firing the charge. The governor is also connected up to the automatic carburettor. The transmission is by a leather-faced clutch to a gear-box giving four speeds forward and a reverse, controlled by a lever working in a gate, and thence by a cardan shaft to a well-supported live axle

The latter has only to withstand the driving effort, the weight of the car being carried on the external casing. The universal points of the cardan shaft are of a special form, while a noteworthy feature of the vehicle is the great braking power provided. We may add that, with the exception of the engines, ball bearings are employed throughout. Three examples of the Gracile 18-24-h.p. cars, including a chassis, were also on view. Except that the ignition is by accumulators and coil, and is not automatically controlled, these are practically on the same lines as the 30-h.p. car above described. The wheel base is sufficiently long to allow roomy side-entrance bodies to be fitted. The body of one of the cars was hinged at the rear and provided with Thomas' patent lifting device, by means of which all parts of the mechanism are rendered easy of access.

### The Pope Tribune, Service and Minerva Cars.

In addition to a 10-h.p. Minerva two-cylinder car with tonneau-body, the CIVIL SERVICE MOTOR AND CYCLE AGENCY, LTD., had on view one of the latest Pope-Tribune 7-h.p. two-seated cars. The engine is of the single-cylinder vertical type, 4½ in. bore by 4 in. stroke. The cylinder, cylinder-head, and valve chamber are entirely surrounded by water circulated by a belt-driven steam pump. The transmission is of the sliding-pinon type, giving two speeds forward and one reverse, with direct drive on the high gear. A propeller shaft with two universal joints conveys the power from the gear-box to the rear live axle. The car has a neat appearance, and is well worthy of the attention of those looking for a two-seated vehicle at a moderate price. A new model of the Pope-Tribunes was seen in the 14-h.p. double phaeton illustrated in Fig. 82. The motive power is supplied by an engine comprising two separate cylinders, having accumulator ignition. The drive is through a leather clutch to a gear-box, giving three speeds and a reverse, and thence by a cardan shaft to the live axle. Lubrication is effected by a rotary bucket device driven off the crankshaft. Both

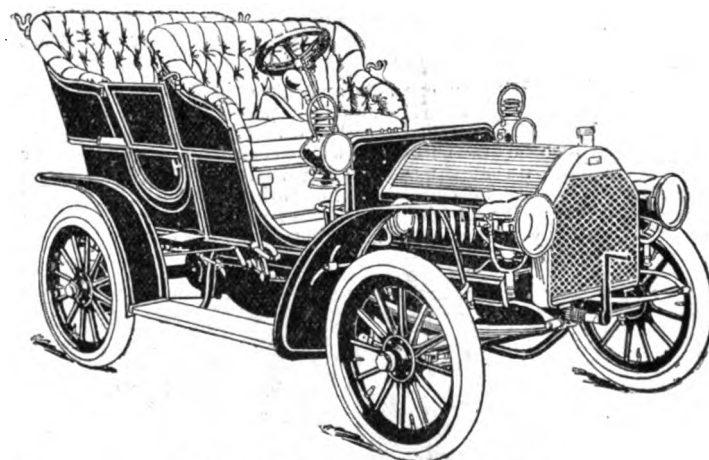


Fig. 82.—The Pope-Tribune 14-h.p. Car.

foot and hand operated brakes are provided, and ball bearings are fitted to all the shafts except those of the engine. Another new car shown for the first time was the "Service," which can be provided with either a two-seated or four-seated body. It is fitted with a Gnome double-cylinder 7-8-h.p. engine, 85 mm. bore by 100 mm. stroke, with honeycomb radiator and fan, the water circulation being on the thermo-siphon system. Three speeds forward and a reverse are provided, with direct drive on the top speed. The little car is well worth the attention of those looking for a reliable vehicle at a popular price. A little novelty which attracted considerable attention was seen in the "Turbinamo," a device by means of which motorists may charge their ignition accumulators at home; it consists of a small direct-coupled turbine and dynamo arranged to be driven by means of a hose-pipe attached to the domestic water tap. A display of the "Service" and "Service Billet" detachable non-skid bands and tyre protectors was also included in the exhibit.

### The Mercedes and Leon Bollee Cars.

The CANNSTATT AUTOMOBILE ASSOCIATION had a large stand, on which were shown two well-known high grade makes of cars, Mercedes and Leon Bollee. Dealing with the former, the cars on view included an 18-23-h.p. landaulet, with body by Hooper and a chassis of the latest type of 35-h.p. car. The dimensions of the four-cylinder engine are 110 mm. bore by 140 mm. stroke. The carburettor is of a special type, provision being made for varying the feed of petrol through the spraying nozzle. The clutch is of the metal-to-metal type, while the gear-box gives four speeds forward and reverse. The drive is direct on top speed, this being obtained by the employment of an additional pair of bevel wheels, there being one on the ends of the two shafts in the gear-box and two on the differential shaft. Ball bearings are used throughout, while all the other leading features of Mercedes cars are retained in the latest models. Turning now to the Leon Bollee cars, those on view were of the 25-30-h.p. type, one being fitted with a removable top landaulet body, and the other with a side-entrance double phaeton, with Cape cart hood.

**The Starling Cars.**

Prominent among the small cars in the Show were the Starlings exhibited by the STAR CYCLE COMPANY, LTD., Wolverhampton. Designed for two people, the little cars appear to be of substantial construction, and their moderate price should make them many friends. The motive power is supplied by a 6-h.p. single-cylinder engine 4 in. bore by  $4\frac{1}{2}$  in. stroke, with accumulator and coil ignition, hand pump lubrication, and the thermo-syphon water circulation. The engine is set across the frame, the starting handle being carried through the side-frame member. We noticed that three speeds are now provided, as against only two formerly, supplementary to the reverse. The transmission throughout is by chains, one connecting the clutch with the gear-box, and another conveying the power to the rear live axle. Ample brake power is provided, and with inclined wheel steering, bucket seats, and other handy fittings, the vehicle forms a smart little turn-out for the motorist of moderate means.

**The Rex Exhibit.**

In addition to examples of the Rex single and twin-cylinder motor-bicycles, the REX MOTOR MANUFACTURING COMPANY, LTD., had on view samples of the Rex 5-h.p. Triette and the well-known 8-h.p. Rexette. The chassis of the latter has been strengthened and improved since last season, and the steering gear is now of the rack and pinion type. An improved form of two-speed gear has been adapted, the trans-

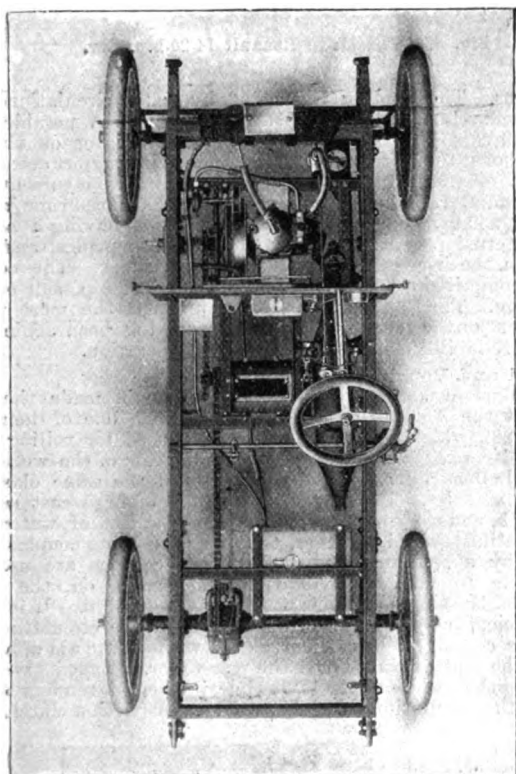


Fig. 83.—Plan of Chassis of Starling 6-h.p. Car.

mission to the rear road wheel being by a single chain. Fig. 84 gives a plan view of the Rex Co.'s latest production, the 8-h.p. Airette, it having been introduced to meet the demand for a four-cylinder machine capable of carrying two or three persons, at a moderate price. The frame is of channel steel, and springs are attached to the ends of the same much in the same way as on a car. The engine is of the four-cylinder type arranged in the shape of a double V. The cylinders are water-cooled on the thermo-syphon system. The engine is situated at about the centre of the frame, the crankshaft and gear-box being placed parallel to the axle. The gear-box is adapted to give two speeds, the wheels being always in mesh, one or other of the speeds being locked to the driving shaft by means of dog clutches. The final transmission is by chain to the rear wheel. The road wheels are 24 in. diameter, and the front seat is made wide enough to carry two passengers.

**The Rochet-Schneider and Florentia Cars.**

Messrs. DONNE AND WILLANS, LIMITED, occupied a large stand, on which were shown specimens of the latest types of Rochet-Schneider and Florentia cars. The cars exhibited included a 30-35-h.p. Rochet-Schneider with chain drive. Fig. 85 shows a plan view of the chassis of the 1906 18-22-h.p. car, with live axle drive, a form of transmission which is a new departure for the Rochet-Schneider firm. The engine has four cylinders, 100 mm. bore by 140 mm. stroke. The make and break gear of the low-tension magneto ignition has been considerably improved in the way of ease of adjustment. The transmission is by

internal expanding metal-to-metal clutch, through a small and neat gear-box, giving three speeds forward and a reverse with direct drive on top speed, and thence through a cardan shaft and bevel gear. The pressed-steel frame is raised over the rear wheels in order to allow extra clearance for the differential. Ball bearings of D.W.F. type are employed throughout, except on the engine crank shaft. There are many points of interest in the new car, not the least of which is the

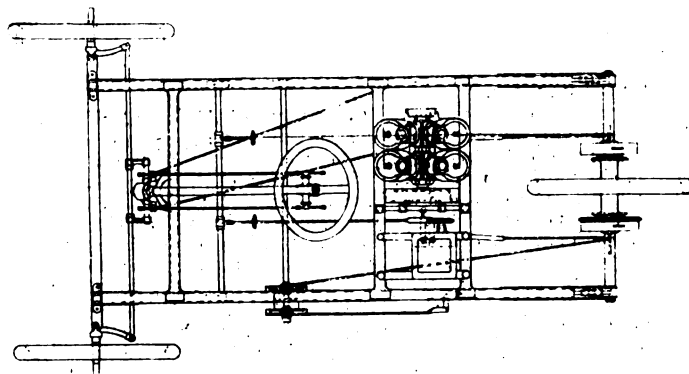


Fig. 84.—Plan of Rex Co.'s 8-h.p. Airette.

clean dashboard—clean from the point of view of being unencumbered with a host of levers, lubricators, and other engine adjuncts. Of the Florentia vehicles a chassis of the 18-22-h.p. model was on view. This vehicle is built in Italy under licence from the Rochet-Schneider Company, and in general design and construction follows the lines of the car described above. Both makes have an excellent reputation for sound

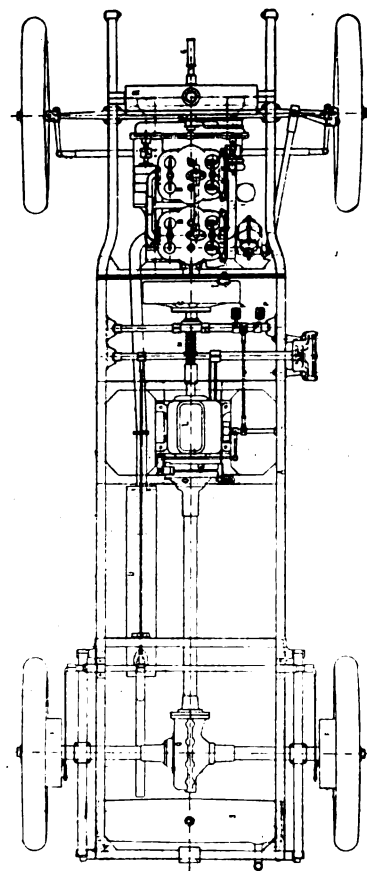


Fig. 85.—Plan of Chassis of Rochet-Schneider 18-22-h.p. Live Axle Car.

construction and reliability, which should be more than maintained by the 1906 models.

**Motor Boats.**

The exhibit of Messrs. JOHN WILESMITH AND CO. was of much interest to those who are following the motor-boat movement. They showed a finely made launch 30 ft. long with 5 ft. 8 in. beam, intended for river and estuary cruising. Messrs. Wilesmith also drew attention to their system of multiple skin construction for motor launches, and a mechanical syren worked off the fly-wheel.

**Cort's Band.**

Type No. 2 of Mr. W. S. CORT'S "Economy" detachable non-skid band was shown for the first time at this Exhibition. This band is made of the same quality of rubberised chromed leather as that previously introduced, and the tread is studded with precisely the same class of studs. When worn down it can be retreaded at half its original cost, making it equal to new; in fact, the only difference in this band to the original one is in the fastening. No. 2 is fitted with steel clips, which fit into the rim. For safety against side skids or punctures, for durability, and for economy this is a capital band, and can be attached or detached in a very few minutes.

**The "C.O.C." Chassis.**

The CHASSIS CONSTRUCTION COMPANY, of Taunton, who are making a speciality of turning out chassis to which any type of carriage body can be fitted, exhibited examples of their 16-20-h.p. live axle and 24-30-h.p. chain-driven machines. The majority of the component parts are the manufacture of the well-known French firm, Messrs. Malicet and Blin, while the engines employed are those known as the Ballot. We give a sectional view of the 24-30-h.p. motor. The four cylinders, which are cast separately, are 110 mm. diameter by 130 mm. stroke; the valves are arranged on opposite sides, being actuated off separate cam shafts. The lubrication of the engine is maintained by a mechanical pump driven off one of the camshafts and constantly circulating oil to the crankshaft bearings. The pump sucks from a special chamber below the crank case, but before reaching this chamber the big ends of the connecting rods dip into the oil bath for splash lubrication of the cylinders in the usual manner. Means are provided for a separate supply of oil from the reservoir on the dashboard beneath the bonnet in case of failure of the pump. The Hele-Shaw metal-to-metal disc clutch is employed for transmission between the engine and gear-box. Three

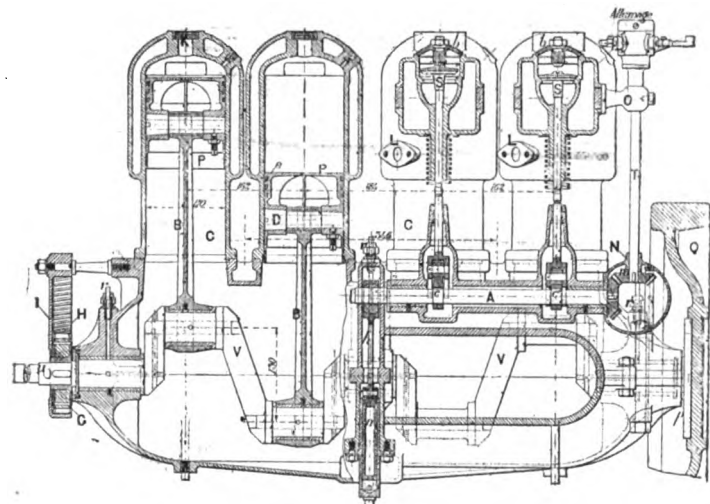


Fig. 86.—Section of Ballot 24-30-h.p. Four-cylinder Motor.

- |                     |                                      |
|---------------------|--------------------------------------|
| A. Cam shaft.       | L. Water inlets.                     |
| B. Connecting rods. | m. Bevel gear driving contact maker. |
| C. Cylinders.       | n. Piston of Oil Pump.               |
| c. Cams.            | V. Crank shaft.                      |

speeds and a reverse are provided. A short universally-jointed shaft is interposed between the gear-box and the differential shaft so as to keep the chains of moderate length. Except for the transmission the 16-20-h.p. car is on similar lines to the 24-30-h.p.

**The Conveyance of Cars.**

Messrs. HENRY JOHNSON AND SONS had a model of a crate used in the transport of automobiles, and took advantage of the opportunity of reaching the automobile public, giving those interested particulars of their methods of packing and transporting automobiles.

**The Insurance of Cars.**

The GENERAL ACCIDENT ASSURANCE CORPORATION, LTD., drew attention to the policies issued covering accidents to owners, drivers, the public, and the car, reductions on premiums being made to members of the Motor Union.

**The Renault Cars.**

An interesting display of several of the 1906 models of Renault cars was made by Messrs. A. GAAL AND COMPANY. The new 8-9-h.p. double-cylinder car is, as might be expected, as good a piece of work as can be found of its size, and the well-known lines are retained as in the other models. The carburettor has been again modified, a single jet with an auxiliary air-valve rising and rotating, but always partly open, being its chief points. The cylinders are 90 mm. bore by 120 mm. stroke, and the valves are mechanically actuated. The gear is of the Renault and Co.'s special type, giving three speeds and reverse, the drive passing through a cardan shaft and bevel gear to a live axle. The vehicle is made in two lengths of chassis, one having

a wheel base of 7 ft. 10 in. and the other 8 ft. 8 in. A chassis of the 14-20-h.p. model (Fig. 87) was also on view. The dimensions of the four-cylinder engine are 90 mm. by 120 mm. A governor is provided, this acting on the admission; it can be cut out when desired by means of an accelerator pedal. Ignition is by a Simms-Bosch high-tension magneto; a special fastening of the ignition wires allows each cylinder to be easily tested at once. The carburettor is of the automatic type; the supplementary air is obtained through a movable cylinder working up and down a fast screw through the suction

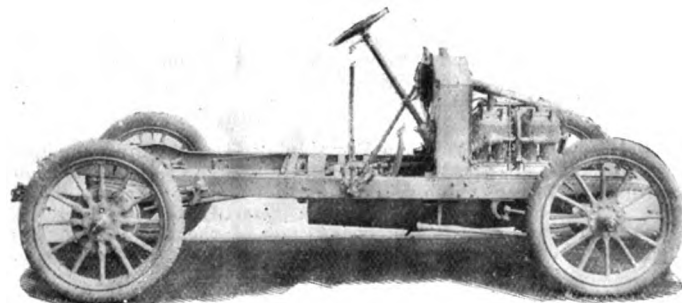


Fig. 87.—Chassis of Renault 14-20-h.p. Car.

of the pistons. The cooling is effected by water circulation on the thermo-siphon system, which dispenses with pumps. A notable feature of the Renault cars is the fitting of a double tank radiator on the dashboard instead of at the front end of the engine, giving perfect accessibility of the latter. A fan is fixed on the flywheel to induce a current of air through the radiator. The clutch is of the leather-faced cone type; it abuts against a flange connected with the flywheel, having a series of slits in the internal periphery. These slits act as springs, and, as the clutch is let in, the drive is taken up without any shock. The complete cars on view comprised a 14-20-h.p. limousine and 20-h.p. side entrance double phaeton. The Renault vehicles are amongst the most popular types at present on the market, this position having been achieved by their general reliability and wonderfully silent operation.

**The Barford and Perkins Motor Roller.**

Messrs. Barford and Perkins, of Peterborough, made their first appearance at the Agricultural Hall display with one of their motor rollers (Fig. 88), which are being extensively used for rolling lawns, cricket grounds, etc. This machine is a combination of the well-known patent water-ballast roller with a petrol motor of the same class as is used in motor vehicles. The rear roller is made of hard cast metal of ample strength, and the smallest size holds half a ton of water. The iron frame is stiffly braced together, the fore part being coupled to the front rollers by a steering head and bridge. Springs are used over the back axle to minimise vibration and strain on the frame. The motor is of the single cylinder vertical type, of 8-h.p. It is water-cooled, a sufficient body of water being carried in the circulating tank to enable the cooling to be efficiently done without the aid of a fan or radiators. The tank is placed over the rear roller, so that its weight is in a useful position, while at the same time its height renders a pump unnecessary, the circulation being by gravity. A friction clutch on the

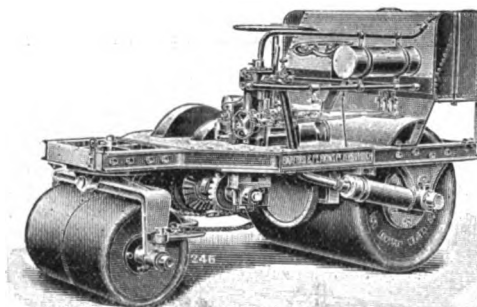


Fig. 88.—Messrs. Barford and Perkins' Water Ballast Motor Roller.

motor spindle allows the engine to run free for starting. Two speeds, either forward or backward, are arranged for, viz., one mile and three miles an hour, the change being conveniently made from the driver's seat. By varying the number of revolutions made by the engine intermediate speeds can be obtained. The steering is controlled by a hand wheel in front of the driver. The bridge spanning the front rollers allows a considerable oscillation of the latter when passing over stones or other obstructions without affecting the level of the main frame. All levers for controlling the motor are within easy reach of the driver. We understand that Messrs. Jarrott and Letts have just placed an order with Messrs. Barford and Perkins for a 14-h.p. roller for Lord Dunraven, the machine being intended for use on the latter's estate in Ireland.



### The "Scout" Cars.

Two interesting examples of the "Scout" cars, of respectively 14-17-h.p. and 17-20-h.p., were shown by Messrs. DEAN AND BURDEN BROS., LTD. The frames of the vehicles, which are of British construction throughout, are constructed of wood and steel. The motive power is supplied in each case by four-cylinder engines, the 14-17-h.p. being 83 mm. bore by 115 mm. stroke and the 17-20-h.p. 90 mm. by 115 mm. The cylinders are all cast separately, and the ordinary suction type of inlet valve is retained. The carburettor is of the float-feed spray variety, and a noteworthy feature, and one which is undoubtedly on right principles, is the provision of separate admission pipes for each cylinder from the point where the throttle valve is fixed. Ignition is by coil and accumulators, or by high-tension magneto, as desired. The radiator is of the framed ribbed-tube variety, the water circulation being maintained by a gear-driven pump. The throttle lever is mounted on the steering wheels, while the ignition and air-control levers are fixed to the pillar below the wheel. An accelerator pedal is also provided, to put the governor out of action when desired. On referring to the illustration of the "Scout" chassis it will be seen that a large silencer is fitted at the rear, with a long exhaust pipe leading to it; each cylinder exhausts its burnt gases in a chamber, where it expands, and thus relieves the cylinders of all back pressure;

### Mobiloil.

THE VACUUM OIL COMPANY, LTD., has established a reputation in connection with lubricants, oils and greases for automobiles, several of its specialities being shown in a handsome case at the exhibition. Prominent among these was the Vacuum graphite grease for chains, Autovanols for motor-omnibuses, special oils for motor-boats, with heavy oil motors as well as "Mobilubricant" for pressure, grease cups, in addition to the standard mobiloils for motor-cars, cycles, and boats.

### The Cassell Gaiter.

On the stand of the GLASGOW MOTOR TYRE COMPANY a new motor tyre gaiter appeared during the Show, this consisting of a fabric band, which, being clipped on to the rim, should enable the motorist to continue his journey with security. To show the contrast between the effect of water on this fabric and on leather, specimens of each were kept in water during the Exhibition, demonstrating that the former was entirely unaffected.

### Carburettors and Petrol Gauges.

Messrs. BROWN AND BARLOW, LTD., had a good display of their well-known productions, including the carburettors fully described in our columns in the Show reports in November last. An interesting exhibit at this stand was a petrol gauge for gravity and pressure feed which is

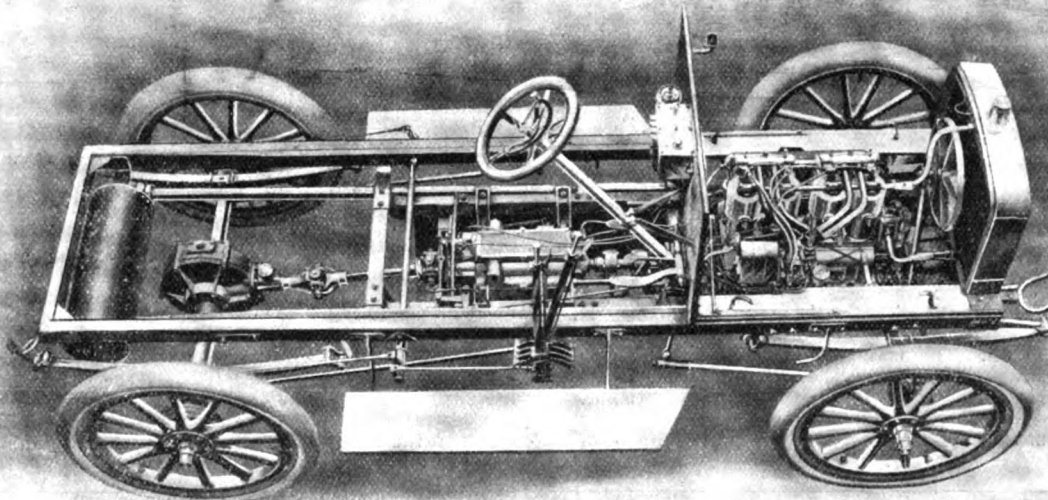


Fig. 89.—Chassis of Scout 17-20-h.p. Car.

the gas then travels down the exhaust pipe to the silencer, where this is so directed as to still further cool and contract, finally emerging with scarcely a perceptible noise. The clutch is of the leather-faced cone type; one of its main features is the employment of three springs which can be adjusted externally. A jointed shaft connects the clutch with the gear-box, which is adapted to give three forward speeds and a reverse. The final drive is through a cardan shaft and bevel gear to a specially strong live axle. The cardan shaft is provided with a special form of universal joint, in which the connecting pin runs in case-hardened bushes, both being so arranged that they may be readily removed. At the rear of the gear-box is mounted the foot-controlled brake, combined with which is a ratchet sprag to prevent the car running back on hills. Messrs. Dean and Burden Bros. also exhibited examples of their 3-h.p., 6-h.p., and 12-h.p. petrol motors for motor-boat work, and of their 15-h.p. and 30-h.p. commercial marine engines.

### The L'Electrophone.

On the same stand whereon Messrs. GAUTHIER AND Co. exhibited the Longuemare carburettors and Basseé-Michel electrical ignition specialities they also enabled the public to judge of the value of their Electrophone, a new automobile horn worked on the principle of the electric bell from a battery. There is no rubber bulb or tubing, and the horn emits a distinctive sound by merely pressing a button without the hands of the driver being taken from the steering-wheel.

quite independent of the position of the tank. The  $\frac{3}{4}$ -in. tube supplied is fitted into the petrol tank, reaching to within about  $\frac{1}{4}$ -in. of the bottom. The top of this tube is provided with a union, and the small copper pipe fitted to connect the union to that at the bottom of the petrol gauge. When pressure feed is used for the petrol, another union is provided at the top of the petrol gauge, which must be connected either with the top of the tank or to some portion of the pressure system between the pressure valve and the tank. Altogether the exhibits of Messrs. BROWN AND BARLOW represented a high standard of British manufacture.

### Lamps, Horns, Etc.

As usual, Mr. G. GOLDSCHMIDT had a good display of his specialities, mainly in lamps and horns. The Zanardini head and tail lamps were objects of considerable interest, having now won a good position in the British market. Some good types of square lamps for voitorettes and landaulets were also on view as well as some new tail lamps for larger cars. The G. G. lamp was a particularly notable exhibit. Horns of deep sound were another feature of the stand as well as the anti-splash funnels which have been previously referred to in the M.C.J., and goggles, accumulators, voltmeters, etc.

THE "Dagro" accumulator was shown by Messrs. Dayrell and Groombridge, who are giving special attention to ignition cells for motor-cars and the like. They have special facilities for quickly and thoroughly charging and repairing accumulators.

**The "Leyland" Motor-Bus.**

The new motor-bus chassis exhibited by the Lancashire Steam Motor Company, Ltd., attracted considerable attention. It differs in several respects from last year's model, the changes having been made as a result of the experience gained with the vehicles in actual operation during the past twelve months. The frame is of channel steel having a depth of 4½ in. by 2½ in. wide. The four longitudinal springs, which are exceptionally long and wide, are supplemented by a transverse one at the rear. The motor, which is rated at 30-40-h.p., is designed to run at a normal speed of 800 revs. per minute; the rate can, however, be varied from 200 to 1,250 revs. The cylinders are 4½ in. diameter by 5½ in. stroke. The

of the engine are provided with ring lubrication. The main oil-tank is fitted to a sight feed distributor on the front of the dashboard. The speed of the engine is controlled by means of a lever fitted in a convenient position, operating the throttle valve. The clutch pedal is also so connected up with the throttle that as the clutch is withdrawn the speed of engine is automatically down to about 200 revs. per minute. The petrol tank, which is situated under the driver's seat, is cylindrical in form and has a capacity of twenty-four gallons. The clutch is of aluminium, of the ordinary cone pattern. The spring is separated from the clutch in a position easily accessible for adjustment. Between the clutch and the gear-box a double universal joint is

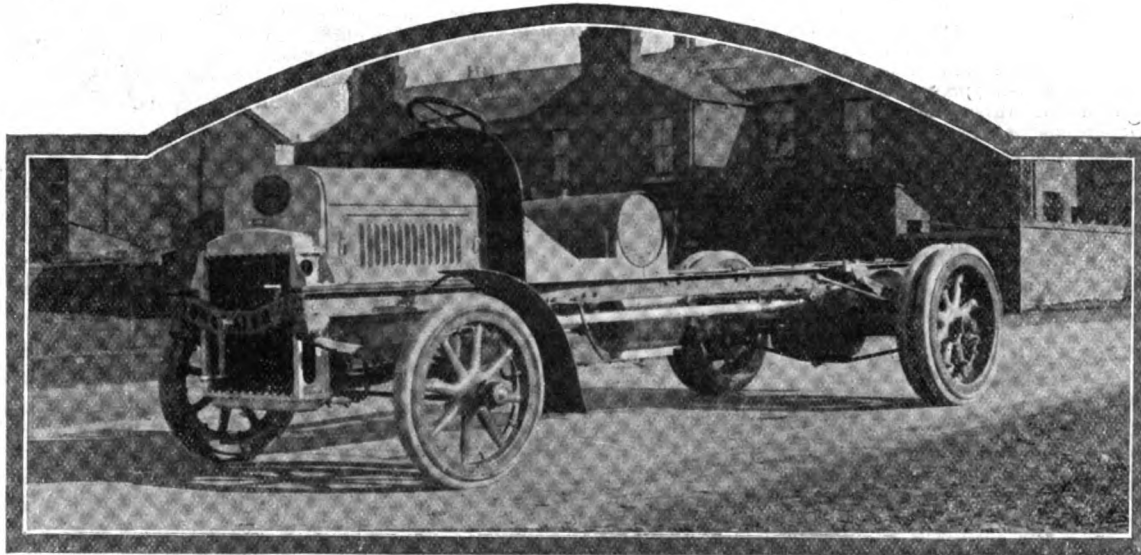


Fig. 90.—Chassis of Leyland Motor 'Bus, showing New Arrangement of Radiator.

water jacket provides an abundant supply of water around the combustion and valve chambers and is of such a length that the piston rings do not at any part of the stroke pass below the water jacket. The base chamber is of aluminium cast solid with lateral arms extending to the side members of the main frame; it is fitted with inspection doors and special arrangement for lubrication, and also useful fittings for collecting any surplus lubricating oil. The main crankshaft bearings, which are of phosphor bronze, are independent of the bottom casting, so that the latter can be readily removed to allow of inspection and adjustment. The inlet and exhaust valves, which are of nickel steel, are mechanically operated off separate cam shafts. The water circulating pump is of

provided, which prevents undue strains being set up when travelling over rough roads. The gear-box, the shafts of which run on ball bearings, is adapted to give three speeds forward and a reverse, operated by a single lever, working in a quadrant the notches of which are clearly lettered first speed, second speed, etc. The transmission is on entirely new lines. The power from the gear-box is conveyed by a cardan shaft and bevel gear to a short differential shaft located in and carried by the casing surrounding the back axle. A feature of the cardan shaft is that it is supported at about the centre in a patent spherical thrust block which takes the thrust direct to the frame, and also forms a three-point support to the axle,

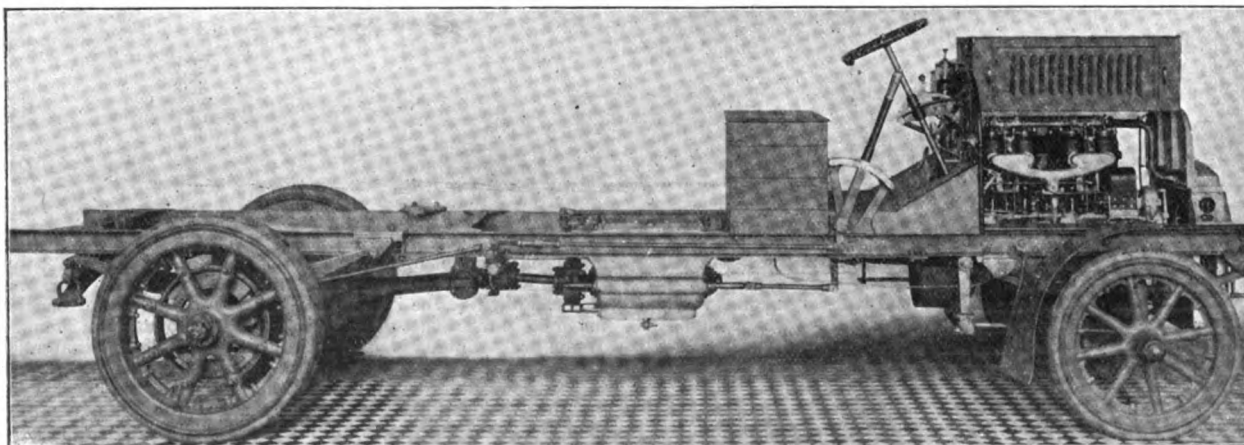


Fig. 91.—Side View of Chassis of Leyland Motor 'Bus.

the centrifugal type, and is gear-driven and of very large capacity. Large pipes are employed, they being 1 in. internal diameter, so that the friction of the water through the same is reduced to a minimum. Ignition is by Simms-Bosch low tension magneto, provision being made to test the firing in each cylinder separately. The radiator, which is of the ribbed-tube type, is now located at a lower level than last year. It is provided with a fan running on ball-bearings direct on the engine crankshaft, so that the use of a belt is avoided. The induction and exhaust pipes are fitted with registers, so that not only are they perfectly fitted to the cylinders, but, in addition, the joint or packing is properly protected and cannot be blown out. All the main bearings

thus preventing any strain due to uneven roads being transmitted either to the engine, gear, or frame. As mentioned above, the differential is mounted in front of the rear axle. Short shafts project on each side, and on these are mounted straight tooth pinions which mesh with corresponding spur wheels on the live axle, a reduction of three to one being obtained in the drive. The casing enclosing the driving gear is fitted with a cover which enables it to be readily inspected and removed without it being necessary to take the axle casing down. Double acting brakes are fitted on the gear shaft and on drums on the rear road wheels. The pedal brake, which is of wide dimensions, is of the locomotive type. The side brakes, which are of the internal-expanding

type, are actuated by a hand lever; they are compensated one with the other, so that the pressure on each is equalised. Special attention has been paid to the steering gear, which is of the usual worm and segment enclosed in an oil-tight box. The front road wheels are properly trammed so that they automatically compensate themselves on either lock. The axles, which are made of vanadium steel, are provided with large wearing surfaces, while the road wheels are of "Leyland Composite" pattern, having steel centres and wooden felloes, 5 in. single rubber tyres being used at the front, and 5 in. twins at the rear. The vehicle has a wheel base of 13 ft. 3 in., the overall length being 22 ft. 9 in.

#### The Royal Windsor Delivery Van.

A serviceable motor delivery van (Fig. 92) designed for loads up to 20 cwt., was exhibited by the INDUSTRIAL MOTOR CO., of Windsor. The

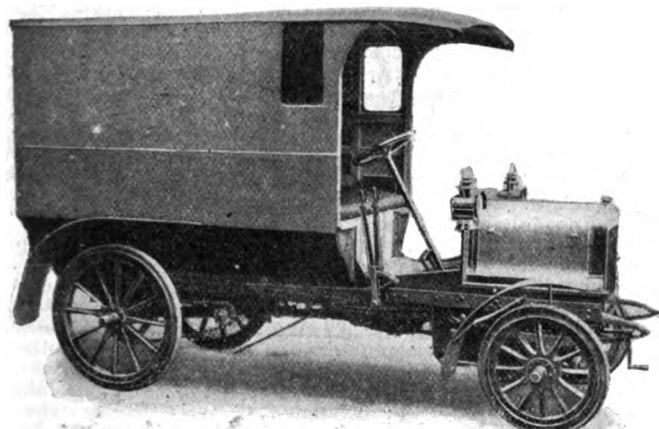


Fig. 92. The Royal Windsor Delivery Van.

frame is built up of angle steel having a vertical depth in the centre of 5½ in., bolted to a stout ash frame, the combination resulting in very great strength. The engine comprises two vertical cylinders, 4 in. bore by 5½ in. stroke, and develops 12-h.p. at a normal speed of 950 revolutions per minute. The inlet and exhaust valves are mechanically operated off one cam shaft and are interchangeable. The lower part of the base chamber is so arranged that it can be removed without disturbing the crank shaft, and the upper portion is fitted with a large inspection door. The water circulation is maintained by a gear-driven pump and flat tubular radiator with fan. The power is transmitted through a leather-faced cone clutch of extra large diameter and width to a gear-box made of gun-metal instead of aluminium as usual. The change-speed gear is of the sliding type, giving three forward speeds and reverse, with direct drive on top speed. A universally-jointed shaft connects the gear-box with the ball bearing differential shaft, side chains conveying the power to the rear road wheels. The ratio of gearing is adapted to give a top speed of from twelve to fourteen miles per hour. The road wheels are of artillery type, the front being 32 in. and the hind 36 in. in diameter, shod with solid rubber tyres. This large diameter has been adopted to enable the wheels to bridge over road depressions instead of bumping into them. Two independent brakes are fitted: the foot brake acts powerfully on a drum located at the back of the gear-box, and the hand brake acts on drums fixed to the back of the rear wheels. The ignition and throttle levers are mounted above the inclined steering wheel, but do not turn with it. Special attention has been paid to the lubrication as well as to the bearings, the latter being of such a length as to ensure a long life to the vehicle.

#### The Motorium Buses.

THE MOTOR CAR EMPORIUM, LTD., exhibited two omnibuses and an observation car. The first omnibus was of the D.M. or Ducommun-Muff type, having a four-cylinder engine of 110 mm. diameter by 110 mm. stroke, designed to give 24-h.p. at 1,000 revolutions per minute. The cylinders are cast separately, but the special point is that the camshafts are two in number, they being disposed crosswise, and are driven by skew gearing from the crankshaft. The valves are on opposite sides and are operated by tappets. Ignition is in duplicate by accumulators and coil. There are four forward speeds and a reverse, operated through a gate, and a live axle drive with a special double drive to the differential to obviate the thrust of the bevel drive. The body is London made and is painted with the name "Reliance," and intended to work on the same route as the "Rapid" omnibuses, from Hammersmith. Next to this was staged a 22-seated observation car, with an "S.B." type chassis, having a two-cylinder engine of 15-18-h.p. with accumulator ignition. It has a large cone clutch and gate change-speed, providing four forward speeds and a reverse. The final drive is by roller side chains. The third vehicle was an "S" type omnibus of Swiss manufacture, with a 30-35-h.p. engine having four cylinders 115 mm. diameter by 140 mm. stroke, cast in pairs. The valves are on opposite sides, and

the ignition is high tension in duplicate, by Simms Bosch magneto and by accumulator and coil. The special point is the provision for using the engine as a brake. The throttle lever first closes the throttle valve through which the carburetted air is admitted to the induction pipes, and then by a further movement pushes the cam shaft forward so that the lift is gradually reduced, and if the lever is moved to the full extent, the valves, both inlet and exhaust, do not open at all. The engine is thus converted into a very effective air-brake. The fan is mounted on a bracket on the engine casting, with a strong spring in the stem, so that a uniform tension is kept on the fan belt, and it is even possible to use an endless belt if desired. A leather-faced cone clutch is employed, and three pedals are provided, one operating the clutch only, the second the clutch and brake combined, and the other operates the brake alone. The channel frames are quite straight, thus obviating the weakness due to the usual set in at the driver's seat. Four forward speeds and a reverse are provided, worked by a single lever through a gate, the highest speed having a direct drive to the countershaft. The final drive is by roller side chains from the differential countershaft to the road wheels.

#### The Scowen Automatic Change Speed Gear.

Messrs. SCOWEN, LTD., exhibited a Gregoire 8-h.p. two-cylinder chassis, fitted with a new automatic change-speed gear by means of which the usual side change-speed lever is entirely dispensed with, the change being effected by simply declutching, a small indicator, which is conveniently fixed to the steering pillar, having previously been set at the desired position. The gear formed one of the novelties of the show and attracted considerable attention. Without drawings it is hardly possible to describe the arrangement, but we may state that the indicator fixed on the steering column is connected up by a series of universally jointed rods to what is known as a selector spindle. The latter is located in a side chamber in the gear-box and is provided with a number of teeth or stops. As the indicator is set for any one of the speeds the selector-spindle is rotated so that, as the clutch is fully withdrawn, the sliding sleeve on which the change-speed pinions are mounted, and the shifting mechanism of which is connected up to the clutch pedal, is moved along automatically as far as it is allowed by the stop, and the requisite pair of gears brought into mesh. As the sliding sleeve is moved along to give the higher gears, a spring is compressed, the force of the latter being relied upon to bring the sleeve back when it is desired to drop down from the third to the second, or from the latter to the first speed or reverse. The gear, which is exceedingly ingenious, is claimed to be fool-proof and can be adapted to almost any form of sliding change-speed gear. So far as could be gathered from the demonstrations on the chassis it appeared to work very satisfactorily, and we shall look forward to the development of the idea in practice with much interest.

#### The Helios Lamps and Acetylene Generators.

The Helios lamps and acetylene generators, handled in this country by Mr. EUGEN BAEDEKER, have points of merit conducive to the continuance of their popularity with motorists.

#### The Glover Delivery Van.

Messrs. GLOVER BROS., LTD., exhibited a serviceable motor delivery van (Fig. 93) designed for loads up to 20 cwt. The vehicle is fitted with an Aster 14-h.p. double-cylinder engine, located under the driver's seat,



Fig. 93.—The Glover Motor Delivery Van with Detachable Body.

the transmission being on the usual lines of chain-driven machines, the top speed being about 17 miles per hour. A feature of the van lies in the method of fixing the body on the chassis; it consists in mounting it on rollers, so that, by undoing a few bolts, it can be rolled back on the frame to give free access to the engine and other parts of the driving-gear. We understand that Messrs. Glover have a large number of orders in hand for vans of the type illustrated, they being able to show that, as compared with horse traction, considerable economy in the cost of delivering goods can be effected by the use of automobiles.

### The Primat Alterno Rotary Motor.

Reference has already been made to the fact that, from a motor engineer's point of view, one of the features of the Show was the alternorotary petrol motor exhibited by Messrs. A. PRIMAT AND CO. Fig. 95 gives a general view of the engine, while Fig. 94 shows on the left the arrangement of the valve gear and on the right a sectional view through two of the cylinders. There are altogether four curved cylinders formed in a single casting, within which work pistons of corresponding form, each having its own combustion chamber. Only one of the pistons is provided with a connecting rod, the lower one on the right in Fig. 94. The power developed in the other cylinders is

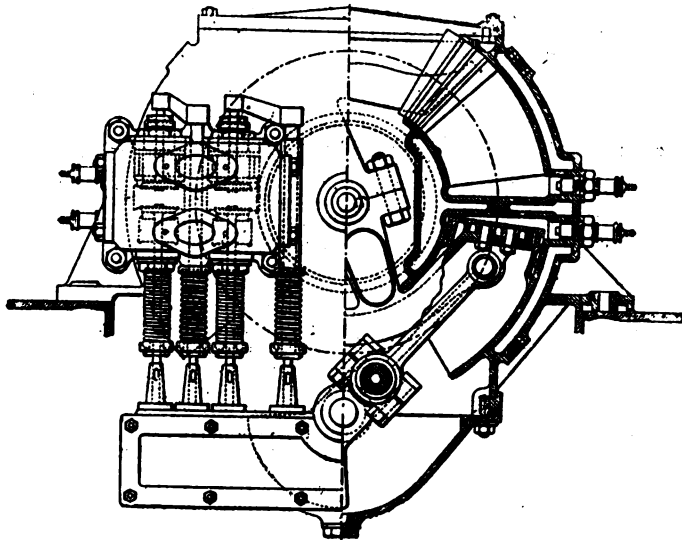


Fig. 94.—Part Sectional Elevation of Primat Motor.

transferred to the crank shaft by connecting them in pairs by two bridge pieces, the latter being in turn attached to an arm, the whole forming a kind of I shaped piece which can oscillate on the central spindle. The action in each cylinder is similar to that of a four-cylinder motor, each having its own sparking plug, inlet and exhaust valves, the latter being all mechanically actuated. The principal claims made for the arrangement are its light weight and small size, the engine occupying a much smaller space than the usual engine with four vertical cylinders. Messrs. Primat are building these engines in sizes from 10-h.p. upwards, a special plant having been installed for turning the curved cylinders and pistons; they are also making a motor on similar lines but fitted with a special camshaft by means of which the direction of rotation of the crank shaft can be reversed.

### Frames, Etc.

Of general interest to the public and particular value to the trade was the stand occupied by Messrs. BEARDMORE AND CO., LTD., whose facilities of production have come to the aid of the motor-car maker at an opportune time. They are making hydraulically pressed frames and channels in nickel or mild steel for cars, omnibuses and wagons, cast steel wagon wheels, rolled solid steel weldless rings for wood wheels, steel castings, etc.

### Motiphos.

MILLENNIUM, LIMITED, made a bold display of the B.S.T. motor oils and grease, calcium carbide and other preparations for the comfort of motorists. Included in the display was a selection of Motiphos, which has made great progress in the favour of motorists since first noticed in the *M.C.J.* in November last. As a compound for dealing with slipping belts and friction clutches it has proved most efficacious and a useful preparation.

### The "Warley" Spring Wheel.

Having been previously described at length in the *M.C.J.*, the "Warley" spring wheel need not be referred to in detail on the present occasion. It was shown by Messrs. Estler Bros., who also made a good exhibit of aluminium alloy castings, jacks, etc., as well as of the "Warley" tyre, which is made up of a series of rubber blocks attached to a rim of ordinary channel section with sloping sides, and forming a device of considerable merit, in which, it is claimed, the danger of side-slip is eliminated. The "Warley" spring wheel has lately attracted much notice, and its presence on the road will be watched with interest during the coming season.

### An Inflated Rim.

To avoid some of the roadside troubles incidental to motoring, the Cave Quick Change Tyre Rim has been lately introduced. In November last we suggested that the future of the device would be closely followed by practical motorists, and from the attention bestowed on the stand whereon it was shown at the Exhibition it is evident that favour has been gained. Briefly stated, the system may be described as one of interchangeable rims. Any standard make of pneumatic tyre can be fitted and all spares are carried ready inflated.

When the tyre is punctured it can be easily removed and a new tyre mounted on the felloes in a couple of minutes with the aid of only a box spanner. The security bolt has been improved since the first appearance of the device, as the head is now affixed by a bayonet joint instead of a screw—a conspicuous advantage.

### Accessories.

Messrs. MESTRE AND BLATGE, of Paris, took advantage of the opportunity to favourably introduce themselves to the British market, showing a representative collection of horns, lamps, jacks, and other accessories of importance to motorists. Several good types of sirens were on view, as well as the Imperator non-skid and a selection of electrical devices of interest.

### The Paradox Variable Gear.

An ingenious variable speed gear for use on motor-cars in place of the usual sliding pinion type was exhibited by the PARADOX GEAR COMPANY, of Bournemouth. The gear is of the epicyclic type, which, in contradistinction to the ordinary form, is not confined to two speeds only, but gives any speed. Without drawings it is not possible to clearly describe the mechanism, but we may state that the locking and releasing action is performed by means of worm gear, this in turn actuating a variable friction-disc and roller mechanism. The gear is so arranged that none of the engine power is transmitted by the friction mechanism, the sole function of the latter being to release an active thrust, but never to drive. All the gears are always in mesh, and, run in oil; the whole mechanism is very compact and on the top speed gives a direct drive.

### The "Unedalite" Lamps.

Messrs. WILSON, BROWNE AND SON were among the lamp firms who found plenty of business at the show, particularly with a new pattern headlight of taking design. In this the generator is contained in the body of the lamp behind the reflector, which is detachable. To get at this the top of the lamp swings back on a hinge, preserving its shape and unbroken appearance. There were several other new types on the stand, one being a lamp that can be used either as a paraffin or electric side-light. A neat design of brass tail lamp was also included among the exhibits. Besides having the usual number plate illuminator and rear ruby light, it has an opposite reflecting side which enables the driver of the car to easily perceive that the light is burning, a decided advantage that will be appreciated by the victims of tail lamp troubles. The "Unedalite" lamps, which is the name given these excellent productions, are made in several varieties, and there is a good demand for the firm's small size for tri-cars, fore-carriages and similar vehicles. This has jewelled side-lights as well as the back light, and is fitted with Messrs. Wilson, Browne and Son's special locking attachment, so that the container is absolutely secure and cannot be lost.

### The "Perfect" Tyre.

Messrs. D. MOSELEY AND SONS, LTD., had a good display of their motor tyres, the quality of which has been demonstrated on the road for several seasons. Their "Perfect" tyre naturally attracted much notice from visitors, its ease of attachment or detachment being made clear by attendant operators on the stand. The rim is fitted with a side ring in which is a turn buckle by which it can be expanded or contracted. When covered by the clip the turn buckle is hidden from

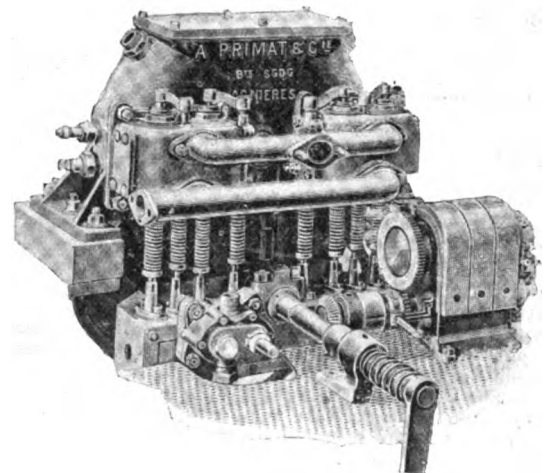


Fig. 95.—General View of Primat Motor.

view. The result of this arrangement is that the tyre can be removed from the rim on the road by a novice, and a new inner rim inserted in five minutes without physical exertion. Rim-cutting is impossible, and the risk of nipping or pinching the tube is obviated. The simplicity of the "Perfect" tyre is such that no security bolts are needed and a small steel tommy bar is all that is required to assist the removal or the attachment of the tyre. When in position the tyre will not creep, and the experience of users has given them confidence in recommending this tyre to fellow motorists. The Moseley non-skid tyre shown on the stand has been recently illustrated in our columns.



**Auto-Lubrine.**

The AUTO-LUBRINE COMPANY had a comprehensive display of their specialities, including auto-lubrine—a pure hydro-carbon with a very high flash point. Having given the oil a trial during a period of varying weather, we can testify to its freedom from acids and impurities and to its general excellence. Included among the exhibits of the Auto-Lubrine Company was a capital preparation for removing grease and dirt from the hands, as well as graphite motor grease, pure flake graphite, gear oil, yellow motor grease, etc.

**"Selvyt."**

"Selvyt" has become a standard article among motorists, and the display in the Arcade revealed its manifold uses. The exhibit was thoroughly comprehensive, and reflected credit on those responsible for the

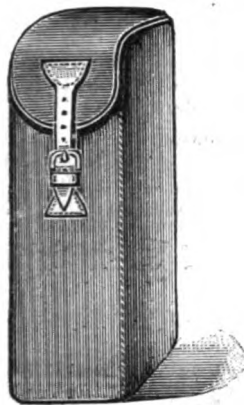


Fig. 96.



Fig. 97.

effective showing of the "Selvyt" specialities. The fabric has the advantage of leaving no lint when employed as a duster. For the painted work of cars it is a splendid cloth with which to wipe the bodies after hosing and sponging, as it will take up and absorb any grease remaining, leaving a bright and glistening surface without spreading the grease and leaving a smear—a result sometimes found with other cloths. "Selvyt" is made in single and

**Messrs. Pullman's Specialities.**

At every exhibition the exhibits of Messrs. R. and J. PULLMAN, LTD., grow in number and variety. The non-skid bands, of course, continue to be the prominent feature of the display, their good wearing qualities finding their latest attestation in a letter received from Mr. F. F. Wellington. The bands are made in various types to suit different sizes and weights of cars. Emergency and non-skid gaiters were also on view, as well as the Pullman type lever previously illustrated in our columns. Having been associated with the leather trade many years, the firm are naturally able to cater well for the wants of motorists, and their gloves and gauntlets are of particularly attractive quality. Mention may also be made of Messrs. Pullman's "electric chamois leather," for cleaning the metal work of cars, a delightful material to handle and one that will remain soft and supple after long wear and frequent wetting. A new graphite lubricant lately brought out by the firm was also shown.

**The See Non-Skids.**

The See non-skidding bands were shown by the OTTO-BENNETT MOTOR AND ENGINEERING COMPANY, whose exhibit also included the See gaiters and the See vulcanising fluid, this latter being a capital preparation for vulcanising patches to inner tubes. They also exhibited a good tool kit, in which a number of essential tools can be assembled within a neat leather case. The See gaiters are made from chromed leather and are provided with a double thickness on the tread, the shape being carefully fashioned so that it can be adapted closely to the cover. The fastening is simple and secure and they can be usefully employed for weak places on the cover until the tyre can be sent for repair. An important part of the Otto-Bennett Company's operations is that relating to tyre repairs, a special plant having been laid down for dealing with such work.

**The Durandal Non-Skid.**

The Durandal detachable band was shown by Messrs. H. CINTRAT, LTD. The main features of this device are well known. Suffice it now to say that it affords protection to the outer cover and prevents the tyre bursting or puncturing, while also serving as a guard against side-slip, owing to the presence of hardened steel studs. The Durandal band can be fitted to worn covers as well as to new ones. Those who have not hitherto employed non-skids will be interested to know that this has stood the test of four years' experience.

**The Peter Union Tyre.**

Of general interest to motorists was the display of the PETER UNION TYRE COMPANY, LTD., including tyres for heavy and light cars as well as puncture proof bands for all classes of tyres. Mention may first be made of the Peter Union studded motor-cycle tyre, in which the studs are firmly inserted in the outer cover itself, by which means durability and lightness are retained, and, in addition, the fear of puncturing and side-slipping possibilities reduced to a minimum. Generally attractive to a

large section of visitors was the solid tyre for heavy vehicles and motor-omnibuses. This has an endless steel band, which is vulcanised into the hard rubber to hold the tyre tightly on the rim and thus prevent creeping. It also prevents the tyre stretching. Owing to its particular location in the hard rubber, and its great strength the steel band cannot either tear or cut the soft rubber. Each of the tyres are made in a separate mould, therefore have no joint, and, being endless, always remain exactly the same size as when first manufactured. In the construction of the patent rim the makers have departed from the present system and have divided the rim into two parts, viz., the iron rim, which is attached to the wood felloe of the wheel in the usual manner; the detachable side flange or tension ring, made detachable from the outside. As the iron rim is provided with a groove about 3 mm. deep, and the tension ring with a projection, or shoulder, which fits exactly into this groove, it is impossible for the rim to get loose or spring off. The puncture proof bands shown by the company are made in one endless circle of red rubber, and are intended to be placed between the outer cover and the inner tube.

**The Spherola Spring Wheel.**

Of considerable interest and great attraction was the display of the SPHEROLA SPRING WHEEL COMPANY, which included working models of the speciality of the company, as well as specimens of the wheels, which were fitted to a 30-h.p. car utilised for trial runs outside the Hall. The important feature of the Spherola spring wheel consists in the transmission of the vertical load to horizontal springs, through the medium of hardened steel balls rolling between pairs of shallow hardened steel cups, situated at the points of an equilateral triangle surrounding the axle. Three pairs of these cups are placed back to back in the central plate, to which the spokes and rim are attached. Opposite each face of this central plate is a loose triangular plate, with a steel cup let in at each corner. One hardened steel ball keeps each pair of opposing cup faces asunder, and coiled springs press the triangular plates strongly towards the central plate. The triangular plates are prevented from moving by means of radius rod or links, and an axle load tending to lower these plates, rolls the balls out to the shallower portions of the cup and compresses the springs until they carry the entire load. Any reasonable horizontal strains are taken care of by the springs acting as buffers, and when these are closed home suitable stops prevent further movement. The curved surfaces of the cups are the result of careful experiments and rigid mathematical analysis. At present they are designed to exactly imitate the resiliency of a pneumatic tyre, both in amount of travel and in load carried at any given deflection. The results obtained, however, are claimed to be superior to those associated with the ordinary tyre.

**The Darracq Cars.**

A varied range of Darracq cars was exhibited by the LONDON AND PARIS AUTOMOBILE AGENCY, LTD. The models on view were all of the 1906 type, and included examples of the 8-h.p. single-cylinder, 10-h.p. double-cylinder and 15 and 20-32-h.p. four-cylinder cars, all of which have already been described in these columns.

**The Pioven Shield.**

A distinctly attractive novelty was the Pioven rain and wind shield shown by the company of that name. Instead of glass celluloid is employed thus avoiding the risks that arise when stones are flying. It

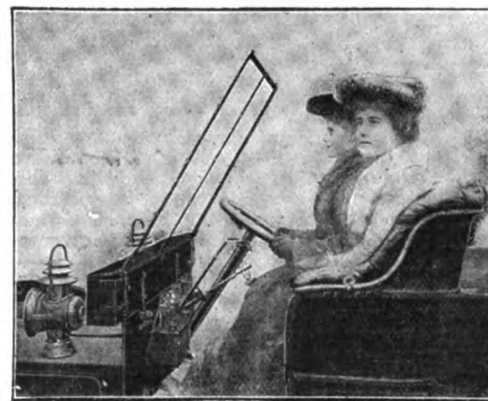


Fig. 98.—The Pioven Wind Shield.

can be mounted in position for use and dismantled in two minutes. When in use there is a clear space in the line of sight, so that the driver can proceed in rain, hail or snow with no inconvenience. It is shown in Fig. 98 sloping back to reduce windage. The shield can be let down to any desired height. The operation of mounting in position or dismantling need not take more than two minutes, and its elegance and strength combine with lightness to give it favour. Folding into a small box, which can be set on any square dashboard without special fitting, the Pioven shield is one of which much should be heard in the early future.

(To be concluded).

## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, W.C.]

### MOTOR NOTES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Will you be good enough to allow us to lodge an emphatic protest against the absurd writing of the "Motor Notes" contributors associated with the general Press? We know that in a few exceptional cases the "Motor Notes" contributed to one or two of our metropolitan daily newspapers are written by gentlemen who have a thorough grip of the subjects on which they write. As a rule, they are well informed and their criticisms are invariably of a practical character. On the other hand, there are many "journalists" now contributing motor matter to weekly and other papers whose knowledge of motor-cars and motor tyres is obviously very meagre, since the most stupid criticisms and suggestions are published by these men from time to time. Every paper, of course, has a perfect right to make a feature of "Motor Notes" just as it made a feature of "Cycling Notes" when the cycle boom was on, but what we

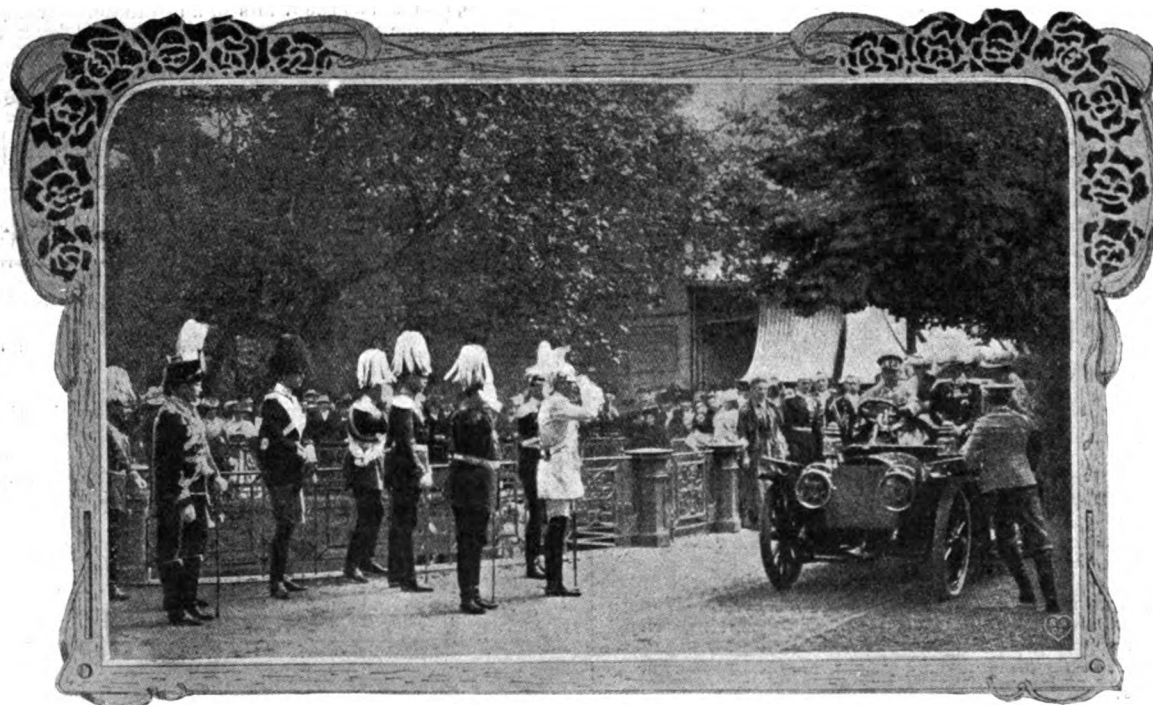
for the "necessarily increased cost," and he thinks this must be answered in the negative. Will you permit us to say there is no increased cost; therefore, as it is admitted there is an increased life, that is one to the good of the offset crank shaft, instead of the other way about. The whole difference consists in the shape of the crank case casting and the altered position of the bearings in it, and it costs no more to build an engine this way than in the ordinary method. Even supposing, however, that there is an increased cost, it cannot possibly be very much, and seeing that there is a definite increase of efficiency, or, conversely, a definite saving in power to effect the same result, it must necessarily follow that there will be, all other things being equal, a corresponding economy in fuel consumption. This may be small, and doubtless is, but it is going on all the time, and in the aggregate will certainly very greatly exceed any possible increased cost in first construction.—Yours truly,

THE DURYEA MOTOR COMPANY.

### DOES LOW TENSION MAGNETO IGNITION GIVE GREATER POWER THAN HIGH TENSION?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have read a good deal lately in your valuable paper *re* high tension and low tension magneto ignition, and should like to give my experience with both these forms. Four years ago I bought a 12-16-h.p. car with low tension magneto, and very soon got sick of it, as, unless the break was exactly right with the place of the shield



The Crown Prince and Princess of Germany arriving at a Military Reception at Homburg.

complain of is that the notes contributed are so misleading that a great deal of harm must be done among a certain section of the public by the misrepresentation of facts and the reiteration of arguments which have absolutely no foundation. In our capacity we have, perhaps, had more opportunities of discovering this lack of motor knowledge than any other firm, since our business is necessarily associated with quite a new phase of the motor industry, and so many writers nowadays discuss the question of tyres and their upkeep, recognising as they do the importance of the question. Just to show you what ignorance exists among some of the "Motor Notes" contributors, we may tell you that we have lately had several of these gentlemen down at our demonstrating departments, and have discovered in course of conversation that they know very little about motor-cars or motor tyres. It seems to us a very great pity that editors of reputable publications do not take greater care in the selection of their motor contributors, for many of them are frequently off the rails, and the most absurd opinions are expressed, to the constant bewilderment and suspicion of the people who read them.—Yours truly,

H. HARVEY FROST.

### OFFSET CRANK SHAFTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Permit us to say a few words with reference to Professor Hunsicker's article in your issue of the *M.C.J.* of the 31st ult. This is headed "An adverse view," but we are unable to see anything adverse in it. The article asks if the increased life of the engine will compensate

the power of the engine was greatly diminished, which meant that if the tappets are the slightest bit worn the break was too soon, and meant re-timing very frequently, so I put in the Eisemann high tension and swept away all tappets and camshaft; the engine pulled better than it ever had before and was also quieter, as there was no make and break mechanism. Lately we have got a 24-30-h.p. car, and very soon got tired of the low tension for the same reason and have fitted high tension (Eisemann). The car was decidedly quieter and most certainly pulls better than it ever has before. Personally, I would never think of having low tension magneto while high tension magneto exists.—Yours truly,

J. H. L. SOAMES.

### THE AUTOMOBILE ASSOCIATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—May I ask the hospitality of your columns to appeal to the motoring community for contributions in the shape of maps and road books, a compact library of which is urgently needed at our offices, in order to cope with the rapid expansion of our cyclist organisation?

It is hardly necessary to dilate upon the hundred and one reasons why the Automobile Association should henceforth be included in the list of happy recipients of motoring publications "With the author's compliments," and I can promise that all such gifts will be most gratefully acknowledged and used.—Yours truly,

STENSON COOKE.  
Secretary.

## MOTOR QUERIES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice, in reply to "Silencer" in the *M.C.J.* of the 7th inst., you state that the inlet valve should close at the bottom of the stroke and open immediately the exhaust valve closes. This is incorrect. The inlet valve should close on the compression stroke. Messrs. Panhard set them in their 18-h.p. engine, 100 mm. bore 130 mm. stroke, to open at 2 mm. down on the induction stroke and to close at 10 mm. to 14 mm. up from the bottom of the compression stroke. This is correct and agrees with gas engine practice. I have mentioned this matter before in other journals without getting an opinion from any recognised authority. Would you kindly have the matter considered by a technical expert, as I now deliberately challenge you that you are wrong.

The setting of the inlet valve is, I contend, an absolute fixed position, independent of bore, stroke, piston speed, carburettor, or ignition. We know that an engine will run with wide variations in the setting of the inlet and exhaust valves, and that your opinion is the general one. The object of delaying the closure of the inlet valve until after the compression stroke is chiefly to prevent throttling the passage into the cylinder towards the end of the suction stroke and to take advantage of the acquired momentum of the mixture in the suction pipe. As the crank passes the centre the momentum of the mixture produces a ramming effect and to some extent increases the density of the charge in consequence.—Yours truly,

W. A. B.

## MOTOR-BUS SERVICE

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Several reports have lately appeared in the Press with regard to a projected motor-bus service from London to Romford, but all have been so indefinite that I venture to write and ask if any of your readers know when the service will be inaugurated. There is no doubt that the venture would be a success, as the route traverses so many populous suburban districts, including Seven Kings, Goodmayes, Ilford, and Forest Gate, from all of which passengers would be obtainable to and from the City. Running at reasonable fares such a service would be of undoubted utility.—Yours truly,

ESSEX.

## MOTOR-CARS FOR THE MEDICAL PROFESSION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have pleasure in sending you a photo of my car, which has now been in constant use for eleven months. The vehicle, which is a 14-h.p. worm drive Dennis, is the second I have had during the last three years, and so satisfactory have I found their use that I have



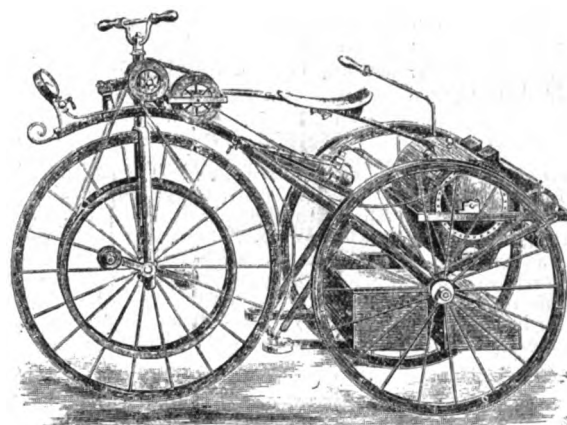
gradually entirely given up three horses I kept previously. As regards cost of running and upkeep, I am not able as yet to make a definite statement, as it is only recently that I have parted with my last horse. The glass screen and Cape hood with which this car is fitted is wonderfully snug in all weathers, and I am kept perfectly dry and comfortable. The man shown in the picture has been my coachman for fifteen years, the last three of which he has acted as my chauffeur.—Yours truly,

W. H. JALLAND, F.R.C.S.

## AN EARLY STEAM MOTOR TRICYCLE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am sending you an illustration of an early steam motor tricycle, which you may consider of sufficient interest to reproduce. I came across it in going over some old papers recently. The machine is of French origin, having been designed by a M. L. G. Perreaux, about 1882; as will be seen, it consists of an ordinary tricycle combined with a small steam-engine and boiler. The motor and accessories are supported mainly by the two hind wheels, and the front wheel is used for a driving and steer-



ing wheel. I take the following particulars from the original description:—The steam is produced by the burning vapours of alcohol heating the boilers. The alcohol is warmed to give off its vapour better by means of a little spirit-lamp, whose power can be regulated by hand, so as to increase or diminish the production of heat under the boilers. The steam produced in the boilers is repassed through the spirit-flames in copper tubes, so as to superheat it before it passes into the cylinder of the motor. This adds to the economy of the machine, and there is little or no danger of explosion, as the pressure never exceeds four atmospheres, as can always be seen by referring to the manometer placed in front of the person riding. The motor is a little single-cylinder steam-engine, and its power is communicated to the front wheel by cords and pulleys. Steam is let off under the seat, and water is fed to the boiler by means of a little pump from a reservoir capable of keeping up a three hours' supply before being replenished. The rider has all the stopcocks and apparatus necessary for working the tricycle under his immediate command, and in this way he can traverse the country at a rate of fifteen to twenty miles an hour, with little or no expenditure of his own energy.—Yours truly,

TREMONIA.

## IGNITION TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Being the possessor of a somewhat similar car to that which "Forwards" mentioned in a recent issue of the *M.C.J.*, and having experienced somewhat similar troubles, I should strongly advise him, or anyone else using large accumulators, to invest in a Boron charging set. My accumulators are 50 amp. hours. I find they keep in first-class condition by using my six cell set, which I have had in constant use now for over twelve months.—Yours truly,

H. BERRINGER.

THE A.A.—The address of the Automobile Association is 18 Fleet Street, E.C.

MUDGUARDS FOR TRI-CARS.—"Newport" asks for the name of a reliable firm who roll or make mudguards for tri-cars or quads.

REAR LAMP.—A nickel-plated rear lamp was lost on the 6th inst., on the Gloucester to London road. The finder should communicate with G. S. Morden, Brockhampton Park, Andoversford, Glos.

THE ADAMS HEWITT CAR.—A. H. C. writes:—"Might I ask, through your paper, if any of your readers have had any long experience of the "Adams Hewitt" car, and if it has proved satisfactory?"

## AERONAUTICS.

THE judges in connection with the Aero Club Exhibition, held with the Motor-car Show at the Agricultural Hall, Islington, have made the following awards:—Aero Club first prize, Messrs. Short Bros., 6 Saville Street, London, W., for excellence of construction. Medals have also been granted to Messrs. Negretti and Zambra, Messrs. Joseph Levi and Co., M. A. Gaudron, Mr. F. H. Butler, Sir David Salomons, and M. E. Vauden Driepche. Amongst those who paid lengthy visits of inspection to the exhibition were Lord Armstrong, Sir William Goff, Col. Templer (Aldershot), Col. Capper (head of the Balloon Section, Aldershot), Sir Hiram Maxim, Lord Llangattock, Sir Dudley Duckworth King, Bart., and Lord Vaux, of Harrowden, as well as the members of the Aero Club, whose enthusiasm for aeronautics is doing so much for the sport and business.

## CLUBS AND ASSOCIATIONS.

### A.C.G.B.I.

To various committees of the A.C.G.B.I. the following have been appointed chairmen:—Competitions, Col. H. C. L. Holden; Touring, Mr. Henry Edmunds; Expert and Technical, Mr. W. Worby Beaumont; House, Mr. J. F. Ochs.

### ESSEX.

At a committee meeting of the above club, held at the Liverpool Street Hotel, London, on the 4th inst., where there were present Mr. Burnett Tabrum in the chair, Messrs. R. P. Davis, F. S. Hill, R. L. Curtis, J. Gurney Fowler, W. S. Argent and F. Lindus Forge, a letter was received from Mr. G. C. Tijou resigning his position as honorary secretary of the Club owing to ill-health. The committee accepted his resignation with regret, and a hearty vote of thanks was recorded for his services as honorary secretary and sympathy expressed with his illness. It was then proposed by the Chairman and seconded

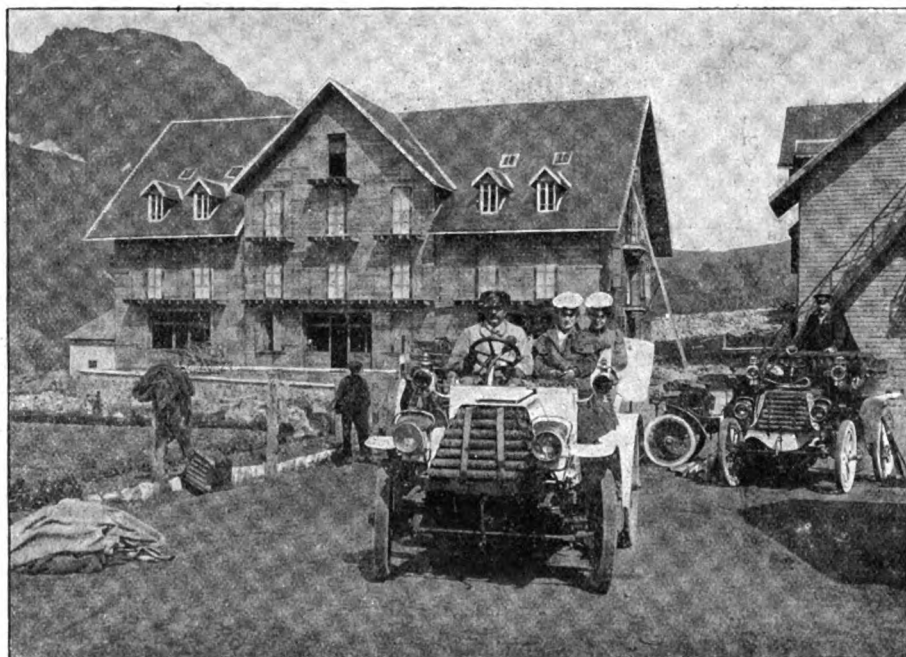
Mr. J. E. Busch, 7-h.p. Panhard; Mr. R. L. Curtis, 7½-h.p. Wolseley; Mr. E. P. Cayley, 7-h.p. De Dion; Mr. A. H. French, 7-h.p. Panhard. Luncheon was served at the White Hart Hotel, Mr. Burnett Tabrum, chairman of the club committee, presiding, Mr. J. Gurney Fowler proposing "Success to the club," coupling with the toast the name of the chairman. The local arrangements were in the hands of Mr. T. Clarkson.

### THE COVENTRY MOTOR CLUB.

At the annual meeting it was decided to change the title of the Coventry club to the above, and to include drivers of cars as well as motor-cyclists, and also to hold open competitions, for which two cups have already been presented to be won outright. It is hoped that the club will extend. Mr. E. W. Walford, of 18, Hertford Street, Coventry, was elected secretary for the coming year, whilst the existing officers were re-elected and added to as necessary. On Saturday, 31st ult., the opening run was held to Stratford-on-Avon, about twenty members and friends attending. For Easter Sunday and Monday a run has been organised to the Royal Hotel, Droitwich, and some interesting fixtures have been arranged.

### NORTH-EASTERN AUTOMOBILE ASSOCIATION.

The committee of the North-Eastern Automobile Association have made arrangements for the use of a small office for the convenience of the



Touring in France. At the Summit of the Lantoret, Dauphine, 6,860 ft. above sea level.

by Mr. W. S. Argent, that Mr. F. Lindus Forge, 28, Martin's Lane, E.C., be appointed honorary secretary, which was carried unanimously.

The club, which was only formed in November last, now numbers nearly eighty members, several of whom are Justices of the Peace for the county. The opening run took place on Saturday last, meeting at the White Hart, Chelmsford, for lunch, and the following programme has been arranged for the first half of the season, viz.:

- May 5th.—Hill Climb and Brake Test.
- May 27th.—Meet at Dunmow.
- June 9th.—Gymkhana.
- June 23rd.—Meet and Speed Judgment Tests.
- July 8th.—Meet at Maldon.

THE first meeting of the newly-formed Essex County Automobile Club, of which the Earl of Warwick is president, Mr. Wilfred Arkwright, J.P., is the hon. treasurer, and Mr. F. Lindus Forge, of 28, Martin's Lane, Cannon Street, London, E.C., is the hon. secretary, took place on Saturday at Chelmsford, where fifteen members assembled with their cars full of full of guests, the members and cars being as under:—Mr. Burnett Tabrum, J.P., 14-h.p. Wolseley; Mr. J. Gurney Fowler, J.P., 24-h.p. Panhard; Colonel R. P. Davis, J.P., 22-h.p. de Dietrich; Mr. F. Lindus Forge, 14-h.p. Star; Mr. Joseph Mason, Royal Enfield; Mr. W. S. Argent, 18-h.p. Mercedes; Mr. E. Colman, 10-h.p. Talbot; Mr. T. Clarkson, 16-h.p. Chelmsford; Dr. A. Butler-Harris, 15-h.p. Ariel; Mr. Liddle, 7-h.p. Panhard; Mr. R. W. Wakelin, 10-h.p. Panhard;

hon. secretaries of the various districts who may have any clerical work to do, and also for the general use of members desiring information on motor or touring topics. This is situated on the second floor in the Sun Buildings, Collingwood Street, Newcastle-on-Tyne, and will be open to members of the Association between the hours of 9 a.m. and 5 p.m. for five days in the week, and from 9 a.m. to noon on Saturdays. A large scale map of the counties of Northumberland and Durham is kept at the office, and, together with a large amount of other information, will be at the disposal of all members in the district.

### NOTTINGHAMSHIRE.

THE first club meet of the season was held on Saturday last at Ye Olde Belle, Barnby Moor, on the Great North Road. This hotel is under the supervision of one of the members of the club (Mr. Dundas), and a very pleasant afternoon was spent there.

### SOUTHERN.

ON Saturday the Southern Motor Club had its first open hill climb at Coast Hill, Westcott, no fewer than forty-five competitors taking part and the police rendering admirable assistance in keeping a clear course.

C. Patterson on a Daneville motor-bicycle fitted with a 7-8-h.p. Peugeot engine made the fastest time in his class, covering the course, —rather more than half-a-mile—in 43 3-5 sec. R. M. Brice was the winner of the handicap on a 3½-h.p. Brown machine. S. S. Hickson on a



4-h.p. C.I.E. tri-car won the handicap in that section the special club prize going to H. H. Jones, the sports secretary.

### AUTO-CYCLE.

THE Auto-Cycle Club have agreed to the proposal by the other motor-cycle bodies to the alteration of the International Cup race in Austria to July 8th.

The British eliminating trials will probably be run in June, over a private course yet to be decided upon, as the Isle of Man course is not available.

A SEPARATE section for motor-cycling members is being formed in the Hull A.C.

THE Reading and District Motor Cycling Club, of which Mr. L. J. Payne, 96, Basingstoke Road, Reading, is hon. secretary, has held its opening run to Winchester.

### WARNING MOTORISTS.

AT Croydon, William F. Little, of 145, London Road, Norbury, has been summoned for obstructing the police in the execution of their duty on March 4th.

Mr. Muskett, who prosecuted, stated that two constables in plain clothes were on duty in London Road, Norbury, where three spaces of a furlong each had been marked out for the purpose of timing motorists. One of the constables saw the defendant step into the road, and by putting his hands up warn an approaching motorist, who slackened speed at once. The same thing happened with other motorists, and the defendant was told that he would be reported. He replied, "Quite right."

P.C. Harris said that he and P.C. Souter, having stopped one car, took up their position again, and when a motor-car was approaching at a fast rate to one of the lengths, the defendant, who had a newspaper in his hand, went into the road and put his hand up, with the result that the driver at once reduced speed. As the car was passing the witness the driver said something to a man on the path. The rate of the car was more than twenty-one miles an hour, and while the witness was speaking to the driver the defendant signalled to two other cars, which also as a result slowed down. When another car came towards them the witness, who was on his bicycle, saw the defendant hold up his hand, and heard him call out, "Police trap!" The witness then spoke to the defendant, and told him he would be reported for obstructing the police by warning motor drivers of a trap. He replied, "I admit it." P.C. South also said that the defendant stepped in the road and shouted, "Police trap," to motorists.

The defendant said he was in the habit of walking along the road on Sunday morning, and had acted entirely on his own responsibility and out of pure good nature. He was there only about half an hour, and in that time he might have warned twelve to twenty motorists, but his object was not to obstruct the police.

The defendant's advocate said his client had as much right as the police to prevent persons breaking the law. The clerk said the point was—had the defendant prevented the constables executing their duty? In view of the fact that this was a test case, and the first of its kind, the Bench reserved their decision for three weeks.

### MOTORISTS AT MARYLEBONE.

SEVERAL motorists have lately appeared at the Marylebone Police Court, and after fining three drivers £10 each for speeding along the Bayswater Road, Mr. Paul Taylor, the magistrate, remarked that it was necessary to put down scorching in busy thoroughfares, for there were many people who, when they saw a car approaching them at a high rate of speed, got so nervous as not to know to which side of the road to run, and were as likely to run into the car as do anything else.

A motor-bus driver was also summoned for driving at a speed of sixteen and a-half miles an hour along the Maida Vale. In his defence he called an engineer, who stated that the bus was fitted with an automatic governor, which could not be manipulated, and which made it impossible for the vehicle to travel at more than "about twelve miles an hour." Mr. P. Taylor said such evidence was not sufficient to displace the positive testimony of the police, and in fining the defendant £5 and costs he added that many people regarded these huge cars as most terrifying objects. A second motor-bus driver, who was said to have driven on the wrong side of a refuge in the High Road, Kilburn, with the result that a woman had a narrow escape of being run over, was fined £3 and costs, for driving in a manner dangerous to the public.

### A DISMISSAL AT KINGSTON.

MR. ARTHUR CANDLER was summoned at Kingston for driving a motor-bicycle at an illegal speed. Frank Gattrell, park keeper in Richmond Park, estimated the speed at 19½ miles. The Defendant: You have seen me in Richmond Park scores of times?—I have. And you have seen me warning motorists not to exceed the limit?—Well, they go very slow after you pass, I notice. The defendant said he was travelling at less than ten miles an hour, because he was aware of the "trap." The last witness, an old man, could not possibly time correctly, as he could not see far enough on a misty day such as that in question. The summons was dismissed.

### ROAD REPORTS.

LEAMINGTON.—The roads within this borough are in good condition and there is nothing more than a few yards under repair, just by New Cubbington. The practice is to roll down the metal almost as fast as it is put on.

LOWESTOFT.—The roads in this district have had special attention the past year, and are now in as good and satisfactory condition as they have ever been known.

SOUTHPORT.—The whole of the roads in the borough are in very good condition, with the exception of a short length on the main road between Southport and Preston, at Crossens, within the borough but 3½ miles from the Southport Town Hall. At that point the width of the road for a short length of about 280 yards is being doubled. One half of this work has been done, but there is a short length about seventy yards where motorists should proceed carefully, as, although the road is in fair condition, cars will require careful manipulation owing to the quantity of materials about.

BOURNEMOUTH.—The roads in this borough are steam-rolled in construction, and metal is not left loose.

FOLKESTONE.—The main roads in Folkestone (with the exception of a portion of Canterbury Road, which is being widened) are in good condition, and will not be under repair during the Easter holidays.

DROITWICH.—A short section of the main road from Birmingham to Worcester, at a point inside the Droitwich borough boundary immediately south of the Great Western Railway Company's Stoke Branch bridge is in process of being raised so as to improve the gradients



A Juvenile Motorist.

[De Auto.

on the approach to the adjoining bridge over the river Salwarpe, but the road is open to, and quite safe for traffic, the only need being a careful look-out at the spot referred to. Apart from this alteration this main trunk route is in good order. All the other roads in Droitwich are in good condition for motor traffic, as also are all the roads over the fine surrounding country. There is a licensed petrol store, also garage, at the Raven Hotel.

DUST LAYING.—About fifty borough and district councils are now using Akonia for the purpose of dust prevention, and it will also be laid again this year at Newmarket and at Ascot.

### PUBLIC MOTOR SERVICES.

THE G.E.R. motor-buses between Chelmsford and Writtle resumed service on Monday.

A SERVICE of motor-omnibuses commenced between Lowestoft and Southwold on Good Friday.

THE London Standard Motor-bus Company proposes to establish services along popular routes, such as Kensington to the Archway Tavern, via Piccadilly and Tottenham Court Road; Tooting and Streatham to Camden Town, via Clapham Junction and Victoria; and from Hammersmith to the City, via the Strand.

THE London Central Company has been formed to purchase the undertaking of the New London and Suburban Omnibus Company, now running the "Kingsway" service from Chalk Farm to Waterloo, and to open up a service on several new routes.

THE London and North-Western Railway Company have started a motor-vehicle service between Holywell and Mold.

## NEW COMPANIES REGISTERED.

**ARIEL MOTORS** has been registered with a capital of £125,000 to take over the business of the Ariel Motor Company, Limited, of Long Acre, W.C., to acquire the freehold motor works at Selly Oak, Birmingham, to carry on the business of manufacturers of and dealers in Ariel and Ariel-Simplex motor-cars, &c., and to adopt agreements with the Ariel Motor Company, Limited, and Components, Limited.

**STRAKER AND MACCONNEL**.—Registered with a capital of £250,000 to take over the business of automobile engineers and factors carried on by Straker and MacConnel, Limited. The first directors are Messrs. J. MacConnel, W. H. Warlow, H. P. MacConnel, A. Willis, and Sir J. R. Heron-Maxwell, Bart. Registered office, 20, Avonmore Road, Kensington, W.

**VIVINUS MOTOR CARS**.—Capital of £120,000 (£1) to acquire the business of manufacturers of automobiles and motor vehicles carried on at Brussels and elsewhere by Les Ateliers Vivinus Societe Anonyme. The first directors are Comte Jacques de Liedekerke, G. Kerke, A. Vivinus, Sir Thomas Barclay, and J. Gardiner.

**MERCEDES DAIMLER OMNIBUS, LONDON SYNDICATE**.—Capital of £1,000 to become motor-omnibus, van, and cab proprietors, carriers, etc., 1, Broad Street Place, E.C.

**NORFOLK MOTOR TOURING COMPANY**.—Capital of £1,500 to carry on at Great Yarmouth or elsewhere the business of owners of and dealers in automobiles, etc. First directors are Messrs. H. R. Everitt and E. J. Bullard and the offices are at 5, Queen Street, Norwich.

**GEARLESS MOTOR OMNIBUS COMPANY**.—Capital £10. Motor omnibus, van, and cab proprietors and manufacturers, etc. No initial public issue. Registered without articles.

**LONDON STANDARD MOTOR OMNIBUS COMPANY**.—Capital of £250,000 (£1) as title.

## AN ULSTER HILL CLIMB.

FOR the first time since the inception of the Motor Cycle Union of Ireland, the committee of the Ulster centre opened their contests to motor-cars on Saturday. The fixture, a hill-climbing contest, took place at Gilnaberk, co. Down, the programme being divided into two parts—motor-cars and motor-cycles. Judging by the support extended to the venture, the action of the committee found favour with car owners who were present, and it may be expected that the future competitions under the same auspices will include the larger vehicle. The afternoon was fine and the attendance good.

The result was as follows:—

## MOTOR-CARS.

T. Dunlop, 5-h.p. Peugeot...	1 min. 33 2-5 sec.	1.
W. McCammond, 15-h.p. Darracq	1 " 39 1-5 "	2.
J. S. Garrett, 8-h.p. Rover...	1 " 42 2-5 "	3.
T. Clapham, 5-h.p. Cottrean	1 " 44 2-5 "	4.
S. P. Corry, 10-h.p. Humber	1 " 51 "	5.
J. B. Ferguson, 10-h.p. Speedwell...	1 " 51 3-5 "	6.
W. H. Green, 8-h.p. Rover	2 " 10 "	7.

## MOTOR-CYCLES.

A. Parker, 2½-h.p. Minerva	1 min. 15 2-5 sec.	1.
H. Ferguson, 3½-h.p. Riely	1 " 41 1-5 "	2.
C. Rey, 3½-h.p. Minerva	1 " 51 1-5 "	3.
J. Stewart, 3-h.p. Triumph	1 " 15 2-5 "	4.
H. A. Connell, 3½-h.p. Minerva	1 " 15 2-5 "	5.
L. Craig, 2½-h.p. Minerva	1 " 34 "	6.
A. Bullock, 2½-h.p. Rand. P.	1 " 41 "	7.
A. W. Hamilton, 3½-h.p. Ormonde	1 " 25 "	8.

## MOTOR-CAR MISHAPS.

AN inquest was held at Wansford on Saturday on the body of William Miles, aged 51, an organ builder, who was killed by a motor-car on the Great North Road on Friday. Frederick Hudson said that he walked with the deceased from the casual ward at Peterborough on Friday. After passing Wansford he called Miles's attention to the approach of the motor-car, and he said he would go to the other side of the road out of the dust. Miles did not cross the road then, but as the car came up he seemed to walk deliberately into it, though the driver sounded his horn, and tried to avoid him. The car was travelling at a speed of about twenty miles per hour. Mr. Nicholas Wood, of Aldwych Mansions, London, the owner of the car, said that he tried hard to avoid the man, who stopped in front of the car when it was only about fifteen yards away, but the wheel struck him. The jury returned a verdict of accidental death.

EMMA LAWRENCE, 74, was crossing Kennington Road near Brook Street, S.W., some distance in front of an electric car going to Westminster. She cleared the tram, and appeared at first not to notice a motor-car which was coming along. As soon as she saw its approach, however, she stopped, hesitated, and then stepped back. The motor-car driver, in trying to avoid her, turned sharply to his off-side, and in doing so ran into the tram. The car struck deceased with its rear side and ran over her. She died at St. Thomas's Hospital. In summing up at the inquest the Coroner said that it was still lawful for old ladies to walk about the street. Her conduct might be foolish in hesitating about her movements, but that did not affect the responsi-

bility of the motor-car driver. The motor-car driver made an absurd statement in saying that the tram ran into the motor-car, for the tram could not leave its track. The sounding of a horn was a questionable matter; it might be good as a warning, or it might do harm by frightening a pedestrian. The motor driver did not appear to have done all that was possible. The jury returned a verdict of "Accidental death."

## NOTIFICATION OF CHANGE OF ADDRESS.

AT Woolwich, a motorist, Samuel Whitfield Thackeray, of the Fish and Eels Hotel, Royden, Essex, was summoned before Mr. Kettle for failing to register his change of address as owner of car No. A 8,608. The police evidence was that the defendant had removed from 72, M'Leod Road, Abbey Wood, to Royden. A London County Council registration officer said that the defendant, when notified of the matter, replied expressing regret that he had not given notice. The defendant contended that he lived at both addresses. He was the owner of the house at Abbey Wood. Mr. Kettle imposed a fine of 10s., and costs 3s.

## APPEAL ALLOWED.

AT the Gloucester Quarter Sessions, Ernest Robinson Thorne, chauffeur, to the Rev. L. E. Mackinder, vicar of Wotton-under-Edge, appealed against a conviction by the justices of Chipping Sodbury, under which he was sentenced to three months' hard labour for driving, as alleged, a motor-car at a speed which was dangerous to the public. The chairman said they had come to the conclusion that the appeal must be allowed, on the ground that there had not been proper service of the summons. They made no order as to costs.

## APPEALS DISMISSED.

BEFORE Mr. Loveland, K.C., and other justices sitting at the Clerkenwell Sessions, on Friday of last week, Arthur Rainsdon, a chauffeur, in the service of Sir Gerald Hanson, of Cleveland Square, W., appealed against a fine of £10, for that he on February 2nd did unlawfully drive a motor-car in a manner dangerous to the public. Two policemen alleged that the appellant was drunk on the night of February 2nd, and that he drove a motor-brougham, which had no lights, rapidly in Jernyn Street, W., and nearly collided with the cabs on the rank. Rainsdon denied the allegations, but the Bench dismissed the appeal, and affirmed the magistrate's decision with costs.

AT the Surrey Quarter Sessions on Friday of last week Earl Russell appeared in support of an appeal by himself against a conviction by the Kingston justices under the Motor Car Act. It was stated by Superintendent Marks, of the Surrey Constabulary, that his lordship was convicted on February 26th for driving at twenty-eight miles an hour at Cobham, and that he had been three times convicted previously. His lordship urged that as the object of the Act was to safeguard the public and it was not shown that he had been driving to the danger of the public, the fine of £15 was excessive. The magistrates said they must take notice of the previous convictions and they dismissed the appeal.

## POLICE TRAP.

NEWPORT.—The now well-known measured half-mile of road at Coedkernew, near Newport (Mon.), has proved a trap for several more unsuspecting motorists, who were summoned before the Newport county magistrates on Saturday to answer charges of driving beyond the legal limit.

## CASES AGAINST MOTORISTS.

Place.	Summoned for	Result.
Lanark ...	Reckless driving	£5, etc.
Birkenhead...	Furious driving	Dismissed.
Westminster	Dangerous driving	40s., etc.
Croydon ...	Driving to common danger	£4.
Lincoln ...	Furious driving	10s., etc.
Bradford ...	No rear light	20s., etc.
" ...	Failing to stop when requested	£5, etc.
Newcastle ..	Reckless driving	£10, etc.
Northampton	No rear light	Withdrawn on payment of costs.
Lincoln ...	Furious driving	10s., etc.
Cardiff ...	Dangerous driving	Dismissed.
Hurst Green	Reckless driving	£10, etc.
Newport ...	Several charges of furious driving	£10, etc.
West London	Exceeding legal limit	£5, etc.

ON Easter Monday, C. R. Collier and G. A. Barnes will have a one hour motor-cycle race on the Canning Town track

# THE Motor-Car Journal.

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## COMMENTS.



THE sad accident on the Ripley road on Good Friday, by which a lady, thrown to the ground by the overturning of a trailer, was run over by a motor-car, suggests a question as to the whereabouts of the police. Instead of regulating the traffic at an awkward corner some of them were probably disguised and hiding behind hedges in order to catch motorists. As Lord Westbury told the coroner, "for the safety of the public on holidays the police would be much better employed in being stationed at dangerous places instead of lying in ambush to catch motorists going a little bit too fast." Two or three cases have come to our notice this Easter which show very clearly how the public interests are neglected, while the police seem mainly concerned with the capture of motorists. The Hon. Stephen Coleridge told one bench of magistrates that the Act under which he was summoned was for the protection of the public, and was not intended to be an instrument for collecting large sums of money from innocent wayfarers. Such plain speaking is necessary, and we are glad to learn that the magistrates in some parts of the country are objecting to the methods of the police in their display of hostility to motoring and motorists. Certainly they might be more usefully employed at holiday seasons in regulating traffic in busy places than in secreting themselves from public view.

### Home Defence.

SIR CONAN DOYLE'S motoring enthusiasm is well known, and anything from the motor-bicycle to the largest type of automobile is familiar mechanism to this novelist and politician. But it would have been well had his latest proposal for the utilisation of motor-cars in connection with coast defence been made in conjunction with the Motor Volunteer Corps. Lieut.-Col. Mayhew and those who are under his command have already made great sacrifices for the military authorities, and before pledging themselves to the support of the latest plan motorists should await the judgment of those already organised for a purpose not wholly out of line with the object desired by Sir Conan Doyle.

### The Dust Nuisance.

WITH the fine weather of Easter the dust nuisance has been revived, and residents on the main roads have found clouds of road surface giving a new colouring to green hedgerows and well-trimmed lawns. In the papers medical men have been attributing sore throats to the motor-car and its stirring of the dust, while county authorities have been bewailing the evil, which is one of almost universal extent. On the Bath road the experiments with tarred macadam have mitigated the nuisance somewhat, but in Brentford, Hounslow, Bagshot, Guildford and other southern towns of popular resort, the dust has come along in volumes as of yore. It would be interesting if readers would report their experience of some of the expedients that have been devised to deal with the matter. At Finchley and also at Romford trials of akonia are being made;

between Taplow and Maidenhead tarmac is the favoured material; at Ripley tar is being used as a coating for the road surface, and at Tonbridge similar experiments are being carried out. But the truth remains that scores of local bodies have yet to be awakened to a sense of their responsibility in making the roads tolerable.

### The South Herts Club.

WITHIN a short distance of the ancient Harold's Bridge and the famous Abbey of Waltham the South Herts Automobile Club have held their opening meet. This new organisation has its headquarters at the Falcon Hotel, Waltham Cross. A busy programme has been arranged, and a capital trip was made to Brighton and the south coast at Easter. On the last Saturday of the present month a joint meet will be held with the Essex Motor Club at High Beech—a district which is practically foreign land to many motorists on the south side of the Thames, but which has many natural delights, and is a place well worthy the run, save, perhaps, on Bank Holidays.

### Colonial Motor Volunteers.

ATTEMPTS are being made to introduce the motor-car and the motor-cycle into the military service of the Australian Commonwealth, and the Minister for Defence has promised to have the proposal inquired into. The motor-bicycle having found a certain amount of favour with the Army Council in England has given new life to the idea, and a suggestion has been made that they should be used for despatch carrying in Australia. Owners of motor-cars are joining in the movement, and the proposal made to the Minister takes the definite shape of an automobile corps, which shall provide cars for service with artillery and cyclists to carry messages. In Australia the utility of the machines has been demonstrated more than once. During a staff ride in Tasmania two years ago a civilian with a motor-cycle rendered excellent service to General Hutton and his staff over the well-made roads in the midlands, and again in September of last year Captain Arnott, with his motor-car, made a similar military exercise in the vicinity of Windsor. Hence the favour with which the matter is being considered by the Colonial Ministry of Defence.

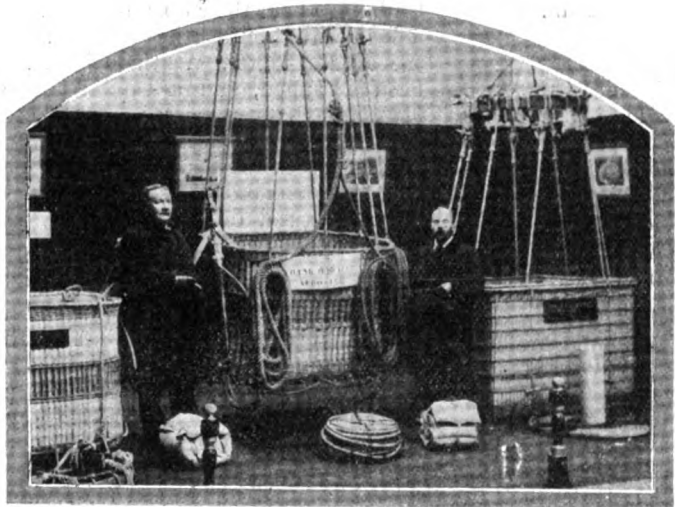
### Wind and Dust Shields.

SEVERAL new wind shields have lately made their appearance, and should the weather of last week continue for any length of time, there will be a number of dust screens coming into view to shelter the occupants of rear seats from those particles of the road that have capacity for leaving the surface. Many are deterred from the use of the wind shield owing to the presence of glass being regarded as a source of danger, as it doubtless would be were public anger to find vent in stones or other missiles. But, on the other hand, it must be remembered that hundreds of such devices are in daily service, and, so far, we have not heard of any serious risks being run. Screens composed of other material have their advocates and traducers, while that in which glass is combined with some other transparent material has not yet become a common object of the

car. There is, however, an important field of investigation in this department of the automobile, and consideration must also be paid to the distance of the screen from the occupants of the front seat. Devices are now being introduced in which an attempt has been made to have regard to this aspect of the matter, and the practical experiences of motorists should afford the groundwork upon which to promulgate the conditions essential to the success of such a necessary adjunct to the modern car.

### Journalism and Motorism.

IN connection with the recent international football match at Glasgow the motor-car played a prominent part in the supply of "copy" to one of the local evening papers. Great rivalry prevails amongst those journals, and competition is at its keenest on the occasion of an important football match. The "Evening Times," with characteristic enterprise, engaged three Argyll cars, and by this means they were enabled to cover the three miles between the scene of the match and the printing office in a minimum period. The cars were kept busy all the time of the match, and the paper was in the streets with a full account of the day's proceedings before the bulk of the hundred thousand spectators had returned to the city. This



Mr. Frank Butler and Mr. C. Spencer with their exhibit in the Aero Section of the Cordingley Show.

is not the first time that the automobile has thus been employed in journalism, our French contemporaries often utilising its services. It has also proved its value in the distribution of journals, as well as the despatch of copy; in fact, it is becoming ubiquitous in the newspaper world.

### Examinations.

ALTHOUGH we would not place too much emphasis on the value of a paper examination in connection with mechanical matters, the scheme of testing which is now being developed must have a good effect on the calibre of the motor-driver of the future. In view of the examinations officially conducted in various parts of this country special interest attaches to the questions for the "engineman" which have been set at an official examination in New York. "Automobile engineman" is the official title given to its chauffeurs by the City of New York. The successful candidates for a vacancy in the municipal motor service were selected from a list of applicants who were previously given an opportunity to display their knowledge of automobiles on paper. The examination was divided into three heads:—Experience, arithmetic, and technical knowledge—a percentage of seventy-five being required on the last named, and an average of seventy on all. The mathematical knowledge

required was of the most rudimentary order, not going as far as the rule-of-three; while the "experience" consisted in filling-in a blank accompanying the application and showing the would-be city-chauffeur's actual career behind the wheel. The technical paper is given on another page.

### The Right View.

ON this subject of the examination of motorists the writer of "Motor Notes" in the "Free Lance" quotes the view recently expressed in these columns as to giving the Club credit for its efforts to satisfactorily fulfil its self-imposed task, but suggesting that some authority of a more national character will ultimately be required. Our contemporary adds:—"The M.C.J. is undoubtedly right. After all is said, the Club is really a private body, and no private body can possess all the qualifications requisite to deal adequately with a problem of such dimensions that the Club itself will be compelled to recognise the advisability of seeking relief from its self-imposed responsibility. In the meantime the Club ought certainly to thoroughly overhaul the question of fees, and we are much gratified to find that our views are shared by so powerful a factor in motor politics as the *Motor-Car Journal*."

### Motor-Bus Driving.

SOME figures which Mr. Herbert Gladstone has given in the House of Commons in reply to Mr. Galloway Weir, emphasise the trend of our article last week on the motor-bus movement. During January the number of accidents in which motor-buses figured was 211; this advanced to 235 in February, and rose to 331 last month. Of course, we recognise that the majority of these were slight, and that the number of really serious cases was small, but the accidents which have followed the introduction of motor-buses in large numbers will, unless prevented in the near future, lead to some restrictive legislation not at all pleasing to the advocates of motorism. Hence the need for the managers of the motor-bus services severely warning their drivers to keep clear of anything which savours of racing—one of the most fruitful sources of trouble in the old days of omnibus rivalry.

### In the Wye Valley.

THE beautiful valley of the Wye is a delightful motoring country, and the roads on Monday and Tuesday were in perfect condition, cars passing through Chepstow, Tintern, Ross and the other prominent places on the landscape in an almost continuous stream. At the Beaufort Hotel, opposite the lovely ruins of the Abbey at Tintern, scores of cars were garaged during the day, while their passengers explored the beauties of the district. The sleepy old town of Hereford, too, was aroused by the rushing of cars and the blowing of horns, while variety was given to the automobile demonstrations in the Wye valley by a balloon ascent from ancient Monmouth, when Mr. Frank H. Butler was accompanied by the Hon. C. S. Rolls, Professor Huntingdon and Mr. John Holder. There was a dead calm, and so still was the air that two hours elapsed ere the balloon, at a height of 1,000 ft., disappeared behind a neighbouring hill.

### The Tyre Trials.

WITH commendable promptitude the A.C.G.B.I. has made known the awards in their Tyre Trials, and the Collier Tyre Co., Ltd., are to be congratulated on the uniform running of their entries. Gold medals have been awarded to the entries in the three classes, the 36 in. and 34 in. having made non-stop runs on 22 days, and the 815 mm. on 23 days. Although we cannot publish the actual times, readers can be assured that the average mileage was up to the legal limit, and the condition of the tyres at the conclusion of the run left no room for doubt as to the winners of the gold medals. The fact that no other tyres were entered does not detract from the value of this testimony,



to the excellence of the Collier tyres, the makers of which showed considerable spirit and enterprise in subjecting their productions to the test.

### Mr. Jarrott's Journey.

THE splendid run made by Mr. C. Jarrott, on his 40-h.p. Crossley car, recorded last week, has given Mr. Filson Young opportunity for some picturesque prose in the "Tribune." Their thoughts were with the car, "observing its sounds and its behaviour, listening to the song of the engine, and watching the play of the springs and mechanisms upon which depended our safety and success." On French soil there came a hard run through a pitiless rainy night into a bright morning. "Some magic had happened in the night and the day; we were no longer in the north, but in the south; new smells came up from the gardens and the vineyards, a new living green began to live and glimmer in the foliage. It was at Avignon that I first realised we were in another world—Avignon with its mighty walls and deserted palaces, its space and mellowness, its splendour and its ruin."

districts—if sellers would endeavour to get into touch with those whose business requires fairly rapid transit without too much regard to appearance.

### A Silencer Competition.

SERIOUSLY would we impress upon the authorities connected with automobilism the necessity of carefully planning their competitions before actually announcing them to the public. Otherwise a continuation of the difficulties associated with recent events of the kind will considerably irritate those in a position to help them to a useful conclusion. Just now the Auto-Cycle Club is soliciting entries for a silencer competition. We understand that the sub-committee that has the matter in hand has decided to purchase a 3½-h.p. water-cooled engine running at a speed of 1,500 r.p.m., and with an outside flywheel if possible. This engine will be fitted up in some testing shop, and in arriving at their decision on the silencers the judges will be asked to consider several points, including back pressure, noise, facility of attachment, weight and strength, capacity, means of cleaning, and maintenance and cost.



The Milan-San Remo Light Car Trial, the best time in which was made on a Marchand Car.

### Where Old Cars are Wanted.

THROUGHOUT the country motor-bus services are being developed, and although the volume of progress has, of course, been most pronounced in and about the Metropolis, Easter tours have resulted in the discovery of several services of which little had previously been heard. A journey in the West of England has led us to again emphasize the necessity of those who run public services, whether of 'buses or of cars, keeping to a scheduled time-table, which should be made public by prominent advertisement, so that those who journey may read, otherwise much expensive effort may be lost. Another point that has been brought out is the long life of some of the earlier cars that have long been discarded by the fashionable motorist, but are now doing useful service in station and hotel work. Even the tube ignition is not wholly obsolete, and at Cheddar finds daily demonstration, where a railway company's steam 'buses have already ceased to compete. Such little experiences are interesting and suggest something to arrest the too grievous depreciation of cars that takes place when finding new owners for cars. There is a demand for such in rural

### Joint Meets.

ON the last Saturday in this month there will be an important joint meet of automobile clubs at Ashby-de-la-Zouch. Half a dozen useful and influential motor organisations in the provinces have already notified their intention of being present, and only fine weather is now required to give great importance to the event. The clubs which are mainly interested in the meet are those of Leicestershire, Nottinghamshire, Wolverhampton, Dorbyshire, Northamptonshire, and the Midlands.

### Alleged Police Bungling.

SOME proceedings that have just taken place in the Stratford Police Court will do much to vitiate the reputation of the police of that district. True the victims were not motorists. They were ordinary cyclists, who, seeing the police were arguing with other cyclists, got off their machines to ascertain the cause of the controversy. For their curiosity they were marched to the police station and subsequently charged with riding to the common danger. In discharging the defendants, Mr. Carter,

the chairman of the Bench, pointed out that there was a discrepancy between the police evidence, and added that the opinion of the Bench was that the police thought they "would have someone," and therefore took the prisoners into the station. This desire to "have some one" is not only developed for the annoyance of cyclists; it may be at the root of much of the antipathy to motorists.

#### Garage Management.

THE management of motor garages is an important matter involving almost as much personal attention as farming. Proprietors who can give their own personal attention to all the details are, in some respects, fortunate; those who have managers in charge of their establishments who are prepared to regard the business interests of the owner as identical with their own are to be congratulated. A certain firm, which shall be nameless, but which has a somewhat extended reputation, recently advertised for someone to look after a new garage that they were opening in a town somewhat distant from their headquarters. They offered him a salary hardly averaging fifteen shillings a week, but which, supplemented by commission, might reach an amount equivalent to, after deducting £25 per year to be charged for rent of his apartments, a few pence more than three pounds a week. In favouring applicants for the post with these details, the firm also inserted a list of fourteen interrogatories, one of which was, "Are you willing to deposit £500 as guarantee?" Our readers can form their own opinions of such generosity, remembering that the manager will be required "to live on the premises, which are to be always open, so that a customer, by ringing a bell any time during the night, or on Sundays, can be attended to," and "to sign an agreement not to start in business, either for himself or anyone else, within twenty-five miles of our districts for a period of ten years from the date of leaving our service."

#### Canals as Motor Roads.

OWING, in great measure, to the action of the railway companies, our canals have been robbed of much of their usefulness, and neglected waterways, combined with exorbitant rates, have led to a grievous state of things in this respect. In many places the railways have a practical monopoly of traffic and can charge whatsoever they please. But, just as the passenger carrying motor vehicle is tending towards reduction of fares on railway lines with which it threatens competition, so the advent of the heavy lorry and the vehicle conveying tons of merchandise will ultimately have an effect on railway rates. Now that a Royal Commission is sitting on the subject of the canals seems an opportune moment for reviving a suggestion that the canals should be turned into tracks for motor vehicular traffic—not for passengers, but for the transport of goods. Whether there is sufficient commercial vitality in the idea to give it value we know not; but when the Commission is considering its suggestions this proposal might well be renewed. It is, at least, feasible; whether profitable, not even the expert can venture to affirm with any show of assurance.

#### Commissions

BOTH trade and amateur motorists will regard with favour any legislation likely to effectually stamp out the system of giving commissions to servants. Recently the Courts have revealed that the practice has crept into the automobile world, and that chauffeurs are sometimes in the habit of suggesting the advisability of presents being given them if orders are to be obtained. Business conducted on such a flimsy basis can never be really satisfactory, and we were glad to learn from conversation with several leading firms at the Show that they are endeavouring to discountenance the system as far as lies in their power.

#### Inland Revenue and Definition.

THE Board of Inland Revenue are now engaged in giving consideration to a point raised by Mr. D. Leechman in connection with the definition of a motor-car, and they are so appreciative of that gentleman's gratuitous services as to officially "express their thanks" to him "for calling attention to the matter." What it was is best described in his own letter to the Board, which read as follows:—"With reference to Inland Revenue Form 132, declaration for establishment, motor, and dog licences, in defining the term 'motor' it is stated that the duties charged include those payable on a light locomotive as defined by the Locomotives on Highways Act, 1896 (59-60 Vict. Cap. 36). A motor that weighs not more than one ton or upwards of five tons, unladen, is not a light locomotive within the meaning of the Act. While agreeing that, as a rule, motor-vehicles weighing upwards of five tons, unladen, are not light locomotives within the Act of 1896, I am not aware that a motor-car weighing not more than one ton is also outside the definition referred to, and I shall be obliged if you will kindly favour me with your authority for this assertion. If it be correct, the inclusion of motors weighing, unladen, not more than one ton, under heading Carriages (b) (i) (3), on page 1 of the form, is an error, and the appended duty of £2 2s. is not payable thereon."

#### Canadian Regulations.

CANADIANS have been worried by occasional American invasions. Motorists have rushed down into the eastern townships of Quebec from the American frontier in order to speed along the highways, utterly regardless of the convenience or safety of those who use the highway in a fair and proper way. To circumvent these outrageous proceedings a new law is now being enforced by which owners of cars who do not reside in the Dominion are required to furnish a satisfactory bond to the Provincial Treasurer for the sum of £100 as security for any damage that may be caused by them in operating their motor-cars in the province of Quebec. So much for the regulation with regard to strangers within the territories of Canada; but the new law also regulates the speed of all users of automobiles to six miles per hour for cities and towns, and fifteen miles for the open country. When approaching sharp turns, bridges, steep descents, and the like, the pace must be reduced to four miles per hour. Altogether the new law in Quebec is one of severity, consequent—be it remembered by every British motorist—on the inconsiderate driving of a minority of the owners of cars.

AMONG the new M.P.'s who seem to be interested in motor car questions, Mr. Fell, the representative of Yarmouth, has been noticeably active.

A TALBOT 12-16-h.p. four-cylinder car, with three persons up, was successfully driven up the steep ascent known as Netherall Gardens, N.W., on the third speed one day last week.

THE Harrogate Corporation, whose application for a ten miles per hour speed limit in certain streets was referred to last week, describes those "narrow and dangerous streets" as "broad and level and of easy gradient" in its official guide book.

THE British Automobile Commercial Syndicate, Ltd., have just issued a new catalogue of the dustless Spyker cars. It gives particulars and illustrations of the various sizes of these well-known vehicles, and also of the leading components. An article on "How to Drive the Spyker Car," by Mr. F. F. Wellington, forms a useful appendix to a noteworthy production.

VISITING Hastings during the holidays, we made use of the Central Motor Works and Garage in Queen's Road, and found them well adapted to meet the requirements of motorists. Accumulators can be quickly recharged, tyres can be vulcanised on the premises, while a somewhat novel form of daylight inspection pit is available. Mr. E. Stally, the proprietor, is the local official repairer to the A.C.G.B.I.

## A RECORD OF PROGRESS.\*

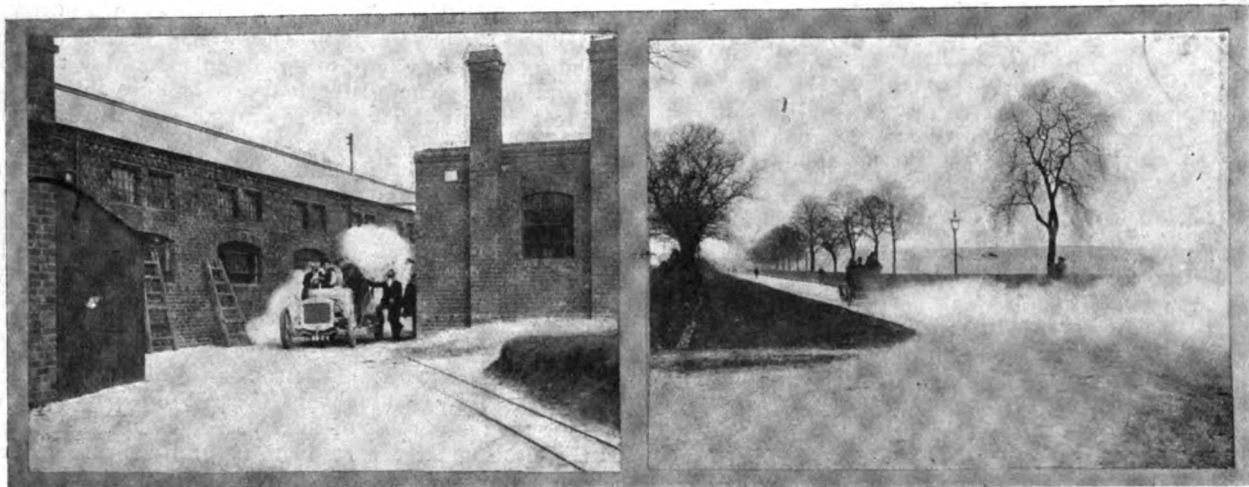
OCCUPYING a unique place on the bookshelf of the motorist, the Motor Year Book unfortunately arrives just as the enthusiast has arisen from his winter sloth and is prepared to travel long distances away from books and newspapers, only caring to scan—may we say it with due humility—those journals that assist his progress on the way. Truth to tell, the book should be issued not later than February. Had it come along when evenings were longer, its excellent features would have found universal appreciation. Our criticism is, however, immaterial so far as the quality of the work itself is concerned.

As has already been said, it has no rival, being neither over-weighted with ponderous technical chapters nor laden with dull statistics. It forms a really comprehensive and readable retrospect of all branches of motoring activity during the past year. The plan adopted by Mr. Massac Buist, who has been responsible for the work, has been to range about him a group of writers each of whom treats of a division of the subject with which he is specially competent to deal. "To ensure sincerity on the part of the writers," says the editor, with a keen insight into the weakness of human nature, "all contributions have been signed, nor have any pen-names been adopted." That, however, does

attached, whilst my companion was assisting by holding the handle-bars. As we got level with the driver of the cart I jokingly remarked, "Isn't that a fine horse I've got, Pat?" "It's not bad for an ass," was the reply. My friend and I had a discussion as to which of us was so pointedly referred to, but I think the meaning was obvious."

The part of the Year Book dealing with the competitive and sporting element of motorism has a trio of authors who have followed the matter from various points of view. Mr. Buist chronicles the progress of the Gordon Bennett race, perpetuating the erroneous hyphen as though the donor of the famous trophy had a double-barrelled name, and revels in the tabular records which he prepares with such assiduity and accuracy. Mr. T. H. Woollen's impressions of a timekeeper have historic as well as current interest, for that gentleman has retired from the tent of the official and is now a distinguished member of the industry. His vivid descriptions of some famous races are a good bit of journalism, while the opinions recorded as to the systems of timing in vogue have practical value:—

The Blackpool speed trials, from a timekeeper's point of view, were worked without a hitch of any kind. Immediately before the events for racing cars I had all the chronographs synchronized, and checked at the finish, and am confident that no races have ever been timed with greater accuracy. At the Blackpool meeting W. Clifford Earp tied the world's record for the flying kilometre, and he can rest assured that no one has ever been more keenly or accurately timed. Six watches were held on him—three at the start and three at the finish—and there, was not



The above illustrations depict the first Austin car leaving the works at Northfield, Birmingham, on the 7th inst. The car is fitted with a 25-30-h.p. four-cylinder engine, and is chain-driven.

not prevent one contributor locating the Agricultural Hall (page 75) in Kensington.

The introductory chapters on motoring in England, Wales, Scotland and Ireland are contributed by Lord Montagu, Sir J. H. A. Macdonald, Bart., and Mr. R. J. McCreedy, each displaying his distinct nationality in the pages under his name. We select a quotation from the latter's article:—

A typical Irishman is at heart conservative, strange as it may appear, and is consequently hard to move, especially when the movement is of a very radical nature. For this reason the motor-car was at first very slow in making its way in the country, and my earliest efforts in automobilism were mainly evangelical. They were focussed on endeavouring to persuade the public that motor-cars would "mote," and might be relied upon to bring their owners home with some degree of certainty. Though I have mentioned that the Irish are slow to take up a new idea, they are instant in repartee, and the man who tries to "take them on" generally gets more than he bargains for. As a case in point, I remember we were descending a long hill in Kerry, when we came on an old woman standing open-mouthed by the roadside. My fellow-tourist pulled up at once, and, with the object of having a joke at the old lady's expense, said, "I beg your pardon, ma'am, but did you see two horses on in front?" "No, sir," was the prompt reply; "it's asses drives thim yokes." I had another example of this trait in the Celtic character only last week, but under different circumstances. I had gone mountain-climbing on a tandem push bicycle, and while walking a very severe pass overtook a cart. At the time I was pulling the tandem with a rope

the slightest variation at either end. I do not believe in the old system of keeping the watch out of sight and asking the other officials to take one's reading of the same for granted. My three Stauffer split-seconds chronographs are fitted in one case, and I always place the same on a table where my colleagues can see and read them if they wish. An expert timekeeper holding a reliable chronograph has nothing to hide away—he is simply there to time the duration of an event and he ought to have no further interest in that event—he should be *sans peur et sans reproche*. On the invitation of the joint committee of the Automobile Club of Great Britain and Ireland and Motor Union, I timed the London traffic at many points for the Royal Commission. The system I adopted was to chain out 110 yards, standing at the starting point, and taking the finish from a signal given by my colleague. This method is directly opposite to that adopted in working police traps, and the difference is this. By my method, any delay in signalling the finish, or in seeing the signal, lengthens the time; whereas the police method shortens the time, because the officer does not start his watch until he sees the signal. By that time the car may have travelled a considerable distance, sufficient, in fact, to put the speed outside the legal limit, although the driver may be quite conscious that he is passing through the trap well inside twenty miles an hour.

Of the first hundred pages of the work the one that will occasion most surprise is written by Mr. Charles Jarrott, who records the feelings of the spectator. This from a winner of the Circuit des Ardennes race in 1902 and one of the British team in the Irish Gordon Bennett contest seems strange, but full of interest withal. We remember his tussle with Gabriel in the Ardennes, emulated by Heath and Teste two years later, and his criticism of the driving of others has therefore a value

\* "The Motor Year Book and Automobilist's Annual, 1906," edited by H. Massac Buist. London: Methuen and Co., 7s. 6d. net.

beyond that of the dilettante who writes without having felt the thrill of the gladiator.

When Thery gained his place in the French team for the Gordon Bennett race, I saw how his dogged perseverance carried him home a victor, and never shall I forget the meteoric and brilliant driving of Wagner in the same race in his splendid attempt to place his Darracq in front. Lancia's driving in the Gordon Bennett race, his look of triumph as he passed Thery, and the philosophy of the latter as he started off in pursuit, I would not have missed for a great deal of money, and I thanked fortune for placing me at the particular place of Thery's stoppage at that particular moment. Later on, in the Circuit des Ardennes, Hemery was another revelation. Consummate skill with splendid devilry secured him a magnificent victory. It was worth travelling a long way to witness all this, and how I should have regretted had I not been there. It was all so novel—new impressions and new ideas. I saw the game under a different aspect—as a spectator instead of a competitor—and I appreciated it as few other spectators could appreciate it. And what were my impressions? Firstly, of speed. Have you stood at the bottom of a long slope when a mass of metal, steered, controlled, and directed by human hands, has hurtled by at 90 miles an hour? Has it not appalled you? Did you not wonder how it was possible that such a struggle between machine and man could go on for hours without disaster, and with the ultimate victory of the man over machine? All this I marvelled at. It seemed incredible and impossible, and yet I knew from my own experience that the man on the car was coolly noting each varying circumstance of the road and car, physically feeling but little strain, and eager to travel faster and faster towards the



Motoring in Mexico on a White Steam Car.—A Halt by the Wayside

distant finish, not the least bit appalled, but enjoying the fight as only an expert can enjoy it. That hair-raising skidding at the corners, so horribly dangerous as it looked, was done deliberately, and was calculated to a nicety. The appearance of the car as it dropped down hill, with the front wheels apparently swaying in mid-air, was merely usual, and all quite ordinary to the man on the car; but how horrifying it look from the spectator's position.

Of considerable value are the succeeding chapters dealing with technical matters, and the editor's own observations of the trend of mechanical tendencies are followed by an ample review of petrol car development by Mr. Anthony C. New, in the course of which he says:—

Turning one's attention to a consideration of the actual progress that has been made in the year that has just gone, it is hardly too much to say that improvements in materials easily heads the list. None except manufacturers themselves, or those who have been in close touch with them, can have any idea as to all that this means in motor-car construction. It is not merely that weight can be reduced by using metals that have greater strength, nor are the improvements referred to only those that provide the manufacturer with a more useful raw material with which to work. Special steels are available to-day which enable him to run all his machine tools at a far greater rate of speed than has been possible formerly, and he has also been able to acquire the services of men who have made a life-study of steel production to show him how it should be treated at each stage of the work. In this matter alone

the saving of cost, through reduction of time and labour, has been very great indeed, and the proper treatment of the various parts, in the way of annealing and hardening, has added enormously to their useful qualities. The knowledge as to precisely what grade of steel should be used for any individual part of the mechanism is not to be acquired by any car constructor without considerable study; but when, added to this, different grades require different treatment to render them most suitable for the exact nature of the work that they will be called upon to perform, the chances of any one man becoming thoroughly *au fait* with this subject as well as with car design and quantity production become less and less as time goes on.

Turning to the more technical portions of the work, completeness is again apparent in the pages devoted to constructional detail, in which the car, the coachwork, wheels, and tyres all find a place, the chapter on the latter being by Mr. J. Ernest Hutton, who frankly doubts whether motor tyres have improved during the past season. He points out that they still figure as the most expensive item in car maintenance, costing, perhaps, five or six times what the fuel costs per mile run. The fact is that the machinery has developed faster than the tyre, builders increasing the horse-power and speed of their vehicles until the makers of tyres have been left behind in the race. A good word is said for the non-skid, which will, in Mr. Hutton's opinion, be the salvation of the pneumatic tyre pending the introduction of a resilient and satisfactory solid tyre.

Part IV. deals with commercial motors, and the first chapter is described as "touching certain commercial aspects," under which Mr. S. F. Edge, with characteristic modesty, says, "One of the most striking successes of British design has been the six-cylinder motor, originally introduced in the Napier some years ago." The writer finds, on looking into the imports of Great Britain, that things are going well with the English industry. That may be taken for granted, and there is no need to exaggerate the advance, at the same time minimising the importance of the business of the Continent. Facts are facts, and cannot be wholly obscured by the superlative tone in which the exaltation of the British progress is proclaimed. The writers on the heavy and light commercial motor vehicles now in use are on more solid ground, and redeem the rather inconsequential introduction to that section.

The one lady writer finds a place in the part dealing with touring and roads, and Mrs. Edward Manville's account of south-east England should suggest an even more extended tour for the purpose of next year's volume. In this connection the problem of the roads is naturally mentioned as a matter presenting difficulty. Mr. Buist accounts for this complexity as follows:—

The problem of the roads, however, is not so easy of solution. This is to be accounted for by a variety of reasons, the foremost of which is that the science of successful road-building would appear, for some unexplained reason, to have been allowed to lapse since the establishment of our great railway systems. Until quite lately the badgered motorist was usually able to temporarily silence his hecklers by pointing out that the soft-tyred motor vehicle in nowise causes injury to the surface of our highways, but merely raises such loose material as the pounding of the iron-shod hoofs of horses provide, leaving it in the form of wisps and even clouds of dust by the mere suction of air in passage. Now, however, sportsmen are glad that the trouble can be traced yet a stage further, and transferred from our four-legged dumb friends to the engineers who are entrusted with the task of building our highroads. They have abandoned the principles of such men as McAdam in certain fundamentally important matters, as, for instance, in the necessity of having the stones broken to an even size, and never exceeding six ounces in weight, but preferably of an ounce apiece or about an inch in diameter.

In summarising the legal position of the motorist, a useful chapter is given reviewing the decisions of justices and magistrates during the year. Motor-boats form the subject of Mr. Basil Joy's article, in which is predicted the lasting establishment of the marine internal-combustion engine industry on a sound mechanical and commercial basis. After a comprehensive review of aeronautics, some pages of "words from the wise and witty" conclude a volume which supplies a want, and should prove a useful contribution to the history of automobilism. The Year Book has been prepared with conscientious care, and as the volumes accumulate each year they will become a permanent and valuable record of one of the great forces of the twentieth century.



## SOME CURRENT TOPICS.

### A New Street Danger.

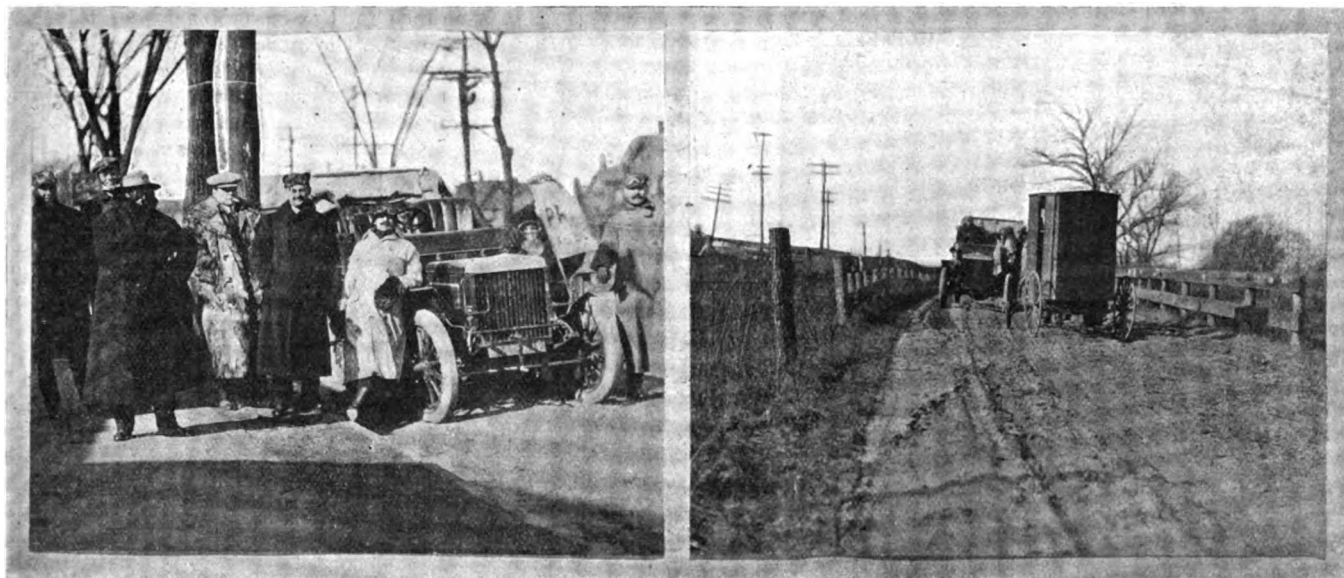
Reference has already been made to the nuisance that has arisen since the advent of the motor-'bus in London—that of deposits of thick lubricating oil on the roads—and we are consequently not surprised to learn that at the meeting of the Chelsea Borough Council last week the Borough Surveyor reported that he had written to the motor-omnibus companies using the Fulham Road, complaining of the great nuisance caused by the quantities of oil which leaked from their cars. Any amount of washing had no effect, and there were many greasy patches, especially where the vehicles stopped, which were a grave source of danger to cyclists and others.

### The Prevention of Dripping Oil.

As compared with the earlier vehicles much improvement in this regard has resulted from the adoption of modern lubrica-

### Electrical 'Buses for London.

On Wednesday last we had an opportunity of inspecting the first of a number of electrical 'buses which are about to be placed in service in London by the London Electrobus Company, Ltd. The vehicle is of the familiar double-deck type seating thirty-four passengers. The motor, which is of a special design made by the French B. T. H. Company, is located under the floor board at the front; it is connected by a silent high-speed chain to a cardan shaft below, from which the power is transmitted by bevel gear direct to the rear axle. The electrical energy is furnished by a battery of forty-four accumulators slung under the body of the vehicle in such a way that it may readily be substituted by a fully-charged one every twenty miles, or so, in the course of a few minutes. The controller, which acts on the armature of the motor, is adapted to give four speeds forward and a reverse. The advantages of electricity in the way of silence, ease of operation, and freedom from smell and vibration are, of course, obvious. The difficulty hitherto has lain in the excessive cost of maintenance of the batteries. This, however, those responsible for the new undertaking claim to have overcome, arrangements having been made with accumulator manufacturers to supply and maintain the same at a fixed charge. The cost of running the vehicle a daily distance of 120 miles is estimated at £4 9s., this including



The above illustrations are reproduced from photographs taken on a recent trip of two Daimler Cars—one a 35-h.p. and the other a 30-h.p.—from New York to Boston, U.S.A., a distance of 240 miles.

The run was devoid of any incident so far as the mechanical running of the vehicles was concerned, but the cars sank up to their hubs in mud upon an almost impassable piece of road between Bridgeport and New Haven. The 35-h.p. vehicle had previously taken part in the races at Ormond Beach, Florida, where it won the "Corinthian Cup" 10 mile race.

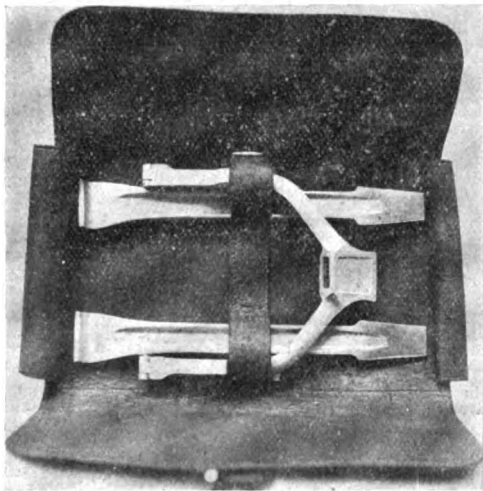
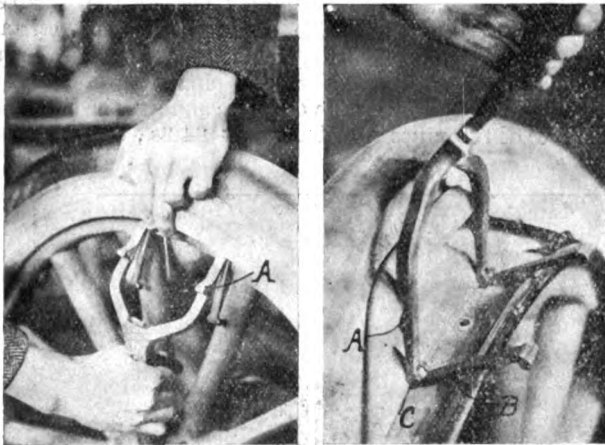
tion methods, but in many 'buses much still remains to be desired as to cleanliness, and now that the matter has been brought to official notice it behoves the engineers of the various motor-'bus companies to give the subject close attention. Since engine crank cases must get rid of their spent lubricant at a rate nearly equal to that at which it is fed, there must necessarily be a certain amount of escaping oil. Some of this finds its way between the shafts and their bearings, but it is evident that the road is not the proper place to deposit the same. Cars which are equipped with a continuous metal pan under the mechanism are nearly free from the defect of dripping oil, as the shield collects the drip. Most mechanisms which use oil as freely as does the motor-'bus have provisions for retaining the lubricant, and after being used once it is filtered and used again. Not only is this oil leakage very annoying and somewhat prejudicial to the good reputation of the motor-'bus, but it is certain that there is a very large sum of money wasted in oil escaping in this way—oil that is perfectly good and might be used repeatedly. There are thus two reasons for better practice in oil retaining devices for motor-'buses—greater cleanliness and economy.

30s. for the current and the maintenance of the batteries. In the course of a short trial run, the 'bus ran silently and without any unpleasant jerking or vibration. As compared with the petrol vehicles, the mechanism is of a simple character, the usual four cylinder engine and its attendant carburettor, water circulating pump, and ignition gear being replaced by a single electric motor, while the clutch and change-speed-gear box are entirely dispensed with, so that if the new 'bus fulfils the expectations made of it in actual practice on the road, it should prove a welcome addition to the streets of London. We understand that arrangements are in hand to put forty vehicles on the road at an early date, the first route being between King's Cross and Victoria.

TESTIMONY to the development of motoring in India comes by every mail. The latest news is the motor-car journey of Mr. Meadows, of the 4th Duke of Connaught's Rajputs, quartered in Swat, up the unmetalled Chitral road, through Dir. This is the most northerly trip yet attempted, and the arrival of the car aroused the liveliest interest among the subjects of the Khan of Dir, who had never seen such a machine before.

## THE CONNELL TYRE LEVER.

ONE of the most ingenious tyre levers which has so far come under our notice is that which has been devised by Mr. Robert Connell, of Gainsborough. The tool is mainly intended to facilitate the operation of fixing the valve stem of the inner tube and the security studs in position. Motorists know by experience that the task of inserting security bolts is rendered difficult owing to the fact that as one edge of the cover is lifted to a suitable position, the opposite bead has a tendency to slip forward and partly or completely cover the stud or valve holes. By means of the new lever this difficulty is entirely overcome; as will be seen, the tool consists of a duplex tyre lever provided with extensions pivoted at C. To lift the cover the lever is inserted in the ordinary way until the projections A on the upper arms are forced past the beaded



edge. At the same time projections B on the extensions or lower arms are forced just beyond the lip of the rim. The handle of the lever is now lifted, taking with it the edge of the cover by reason of the latter resting on the lugs A. As the handle is raised the lower end of the extension arms becomes fixed against the opposite bead of the cover, preventing the latter moving forward, owing to the resistance set up by the lugs B bearing against the rim. By means of the tool the cover can be held up by one hand, leaving the other free to insert the security bolts or the valve stem in their respective holes without any difficulty, while simply lowering the tool to almost a vertical position enables it to be easily slipped out of engagement with both cover and rim. The two extreme ends of the extension arms are rounded so as not to injure the spokes when the cover is being lifted. The set comprises the special forked arms and extensions and two ordinary tyre levers, one of which is used as the lifting handle; the whole is supplied complete in a leather case, the strap of

which is ingeniously made to serve the double purpose of holding the various parts in position and of fastening the case. Mr. Connell, who is the private secretary to Sir Hickman Bacon, Bart., a well-known motorist, has devoted considerable time and thought to perfecting the device, and assures us that not only does it enable medium-size tyres to be easily manipulated, but that it is equally effective with tyres above 105 mm. fitted with heavy non-skid bands.

## MOTOR-BOAT RACING AT MONACO.

THE third day's racing in the Monaco motor-boat meeting took place in glorious weather on the 10th inst. The first event was a 50 kilometre race for cruisers from 26 to 40 ft., and with engines up to 7½ litres cylinder capacity. Nine vessels started, the winner being M. Cruceq's Calypso, with Mors 45-h.p. motor, time 1 h. 28 min.; Mr. Gorham's Quicksilver, with Daimler engine, which was the only British representative, finished fifth. In the afternoon a contest for 60 ft. racers was held, this proving a victory for Messrs. Desmarais and Moraine's Delahaye, the time for the 50 kilometres being 1 h. 18 min. On Wednesday, the 11th inst., the principal race was for cruisers up to 60 ft. Only two boats turned out, however, the winner being the Pampa, with Fiat motor, which covered the 50 kilometres in 2 h. 2 min. 26 sec.; La Lorraine (Die Dietrich) taking 2 h. 19 min. for the same distance. The race for the championship of the sea took place on the 12th inst., in the presence of a large number of spectators, and proved a most exciting contest. Twenty-seven vessels started in the event, which was over a distance of 200 kilometres, boats of all descriptions, up to 60 ft. in length, competing together on level terms. The race was won by the Delahaye, which covered the course in 4 h. 40 min. Antoinette (Levasseur engine) was second in 4 h. 42 min., Fiat XIII. third in 4 h. 46 min., and Yarrow-Napier fourth in 4 h. 47 min. Friday, the 13th inst., was given over to handicap racing, cruisers and racers both covering a course of 50 kilometres. In the cruiser class there were nineteen starters, the winning vessel being the Florentia IV. (Florentia motor). In the racing class the English boat, Yarrow-Napier, won the handicap, Baron de Caters's boat, Seasick (with Itala engine) being second. The two boats started within one minute of each other, and ran a close race throughout. When 5,000 metres from home Seasick led by a length and a half, but the English vessel crossed the line 5 sec. ahead. The meeting was brought to a close on Sunday with a series of speed trials, in which a world's record was beaten. The latter was accomplished in the first series, for boats up to eight metres, Seasick (Itala motor) covering the flying kilometre in 1 min. 10.3-5 sec., which is at the rate of 31½ miles an hour. The final resulted in favour of Fiat XIII., Seasick being second, and Delahaye third, as follows:—

	Standing mile.		Flying kilom.		Total.	
	m.	sec.	m.	sec.	m.	sec.
1. Fiat XIII. ....	2	25	1	11 4.5	3	36 4.5
2. Seasick.....	2	26	1	15 4.5	3	41 4.5
3. Delahaye.....	2	35	1	16 2.5	3	51 2.5

MR. C. BURNETT, of Durham, is about to introduce to the motor world the "Tubeless" and "Cellular" pneumatic tyres, which will be distinguished on the market by his name. Among the features of interest is the method of attachment to the rim of the wheel. This is done by forcing the overlapping edges of the tyre against the projecting beaded edges of the rim or hoop of the wheel by means of lashing plates and bolts. An air-tight joint is thus obtained and no inner tube is necessary. Mr. Burnett has also introduced an automatic method of sealing punctures by internal air pressure acting upon a suitably formed strip of india-rubber or, alternatively, by the application of a woven endless wire band with ends overlapping. Another feature is the employment of air cells or suction cups on the tyre treads for securing increased adhesion on starting and for minimising sideslip. The trial of the new idea will be awaited with interest by motorists who have not yet discovered their ideal tyre.

MR. H. E. TEW is now undertaking motor repair work at 34, Thomas Street, Woolwich.

"SOMETHING new under the rain" is the title given to their new catalogue by Messrs. Samuel Brothers, the motoring tailors, whose Omne Tempus cloth has special claims on those who are likely to be out in all weathers.

A PUBLIC service of motor-cars is being started between Quito and Rio Bamba, Ecuador, South America. Five 24-h.p. De Dion cars and two 15-h.p. delivery vans have been ordered by the company inaugurating the same.



The Dennis 'Bus' built for the Great Eastern Suburban Omnibus Company for the service between Oxford Circus and Upton Park. The engine is of 30-h.p. and the transmission is by worm gear.

THE Continental Tyre and Rubber Company (Great Britain), Ltd., wish to draw attention to their Manchester branch, and hope that all tyre repairs in that district will be sent there instead of to their London headquarters.

MR. RALPH CHILD MEREDITH has opened a wholesale depot at Bournville, near Birmingham, for dealing in specialties for motor-cars. The firm's list of accessories includes accumulators, switches, sparking plugs, pumps, special cables for automobiles, etc.

At the meeting of the Council of the Roads Improvement Association, Incorporated, last week, arrangements were made for the annual meeting and a report received relating to roads in Carmarthenshire with a view to considering the advisability of supporting the Motor Union in connection therewith.

THE British Empire Motor Trades Alliance, Ltd., has received an enquiry from a firm about to establish an automobile agency in a large town in Central America desiring information regarding British motor vehicles and accessories. As the roads and streets are very bad the motor vehicles must be very strong.

THE motor safety signal has been invented to meet a want that the general adoption of covered motor bodies has created. The portion of the apparatus displayed to view is made of polished aluminium, ruby glass, with sand-blast lettering. The operating wire is of silver steel, and is connected with the clutch or brake, so that there is no extra operation for the driver, and he works the apparatus unconsciously. When the apparatus is not in use the wording is covered by a silk blind on a brass roller, worked by small steel chains on to a lever. The word "slow" is illuminated by electric four-volt lamps, the current being obtained from the ignition accumulator. A twin ignition wire is supplied for the current, and the apparatus is supplied complete in every detail by the United Motor Industries, Ltd.

## HERE AND THERE.

A NEW garage has been opened at Rostrevor, co. Down, by Messrs. Radford Bros.

MESSRS. DEAN AND BURDEN BROS., LTD., of Salisbury, are, we learn, taking up the construction of six-cylinder cars.

Their first vehicle—a 25-30-h.p.—is expected to be on the road by June next.

MESSRS. W. AND F. LEWIS have opened a new motor garage at 31, Victoria Street, Clifton—a matter of interest to motorists in the Bristol district wanting repairs done.

MESSRS. HYAM AND CO., LTD., have issued an attractive catalogue of their motor clothing. The section relating to ladies' garments and headgear is particularly well done.

MR. J. A. RYLEY has issued a full catalogue of his motor specialities for the 1906 season. The illustrations will be of particular value to all motorists requiring accessories, etc.

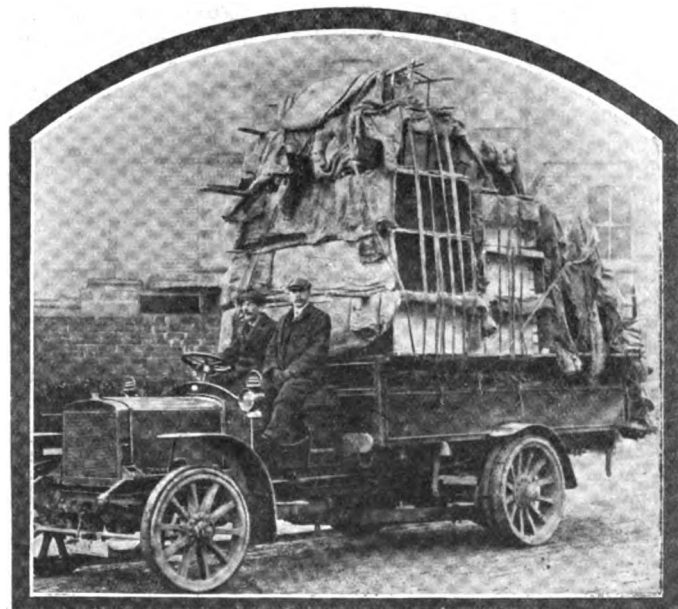
MESSRS. MCNEIL, HUTCHISON AND CO., LTD., have appointed Messrs. Moir and Co., of the Kensington Square Garage, W., agents for the Cottereau cars in London and the south.

At the annual general meeting of the Thames Iron Shipbuilding and Engineering Works, Mr. A. F. Hills, the chairman of the company, alluded with pleasure to the success of the new motor vehicle department.

PORTABLE ACCUMULATORS, LTD., have issued a neat price list of their ignition batteries, which are made in standard sets for bicycles, tri-cars, and light cars, as well as for automobiles of a larger type. Some useful advice is given to users of these well-designed batteries.

THE movement that is going on in London for the organisation of the motor-bus drivers has received encouragement from an action just heard in the Lambeth County Court, in which two drivers have been awarded £60 and costs against one of the companies for the loss of two fingers through backfires.

WE illustrate herewith a 24-h.p. petrol lorry recently built by Messrs. Thornycroft and Co. to the order of Messrs. Harris



Lebus and Co., of Tabernacle Street, London, E.C. The chassis is of the Thornycroft "type 80," the side chain drive being replaced in this instance by pinions and internal tooth rings on the driving wheels. Three speeds are provided, the flexibility of the engine rendering four speeds unnecessary. The working speed is twelve miles an hour, and we understand that the lorry makes several journeys daily from Messrs. Lebus' works to Kingston and district. In order to avoid delay during loading, two interchangeable platform bodies are provided, the loaded body being dropped on to the chassis by means of a crane.

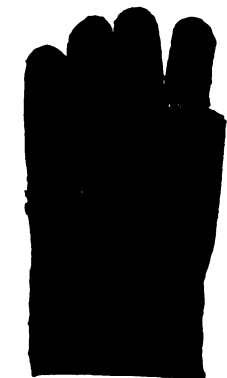
THE Vanderbilt Cup race will be held on October 6th, and entries will close on July 1st.

PRINCE HATZFELDT has just acquired a 70-h.p. Mercedes car from Messrs. Ducros-Mercedes, Ltd.

THE Daimler Motor Company has subscribed 100 gs. towards the Motor Union Defence Fund.

THE omnibus and chassis shown by the Lancashire Steam Motor Company, Ltd., at the Cordingley Show were fitted with twin endless Royal Sirdar-buffer tyres.

MESSRS. G. T. RICHES AND CO. have just brought out a new line in the way of canvas gloves which, no doubt, will be appreciated by those motorists who look after their own cars. They will be found extremely useful in keeping the hands free from grease and dirt when carrying out any small repairs or adjustments on the car, or in filling up the lubricators, etc. The gloves are made of washable white or grey twill, so that they will last a long time.



THE epidemic of stone-throwing having ceased, the small boys of the United States have broken out in a new place, their latest game being the cutting off of number plates from cars. So bad has the

nuisance become that the Automobile Club of Pittsburg is offering a reward of 2s. for every plate found.

A MONTEVIDEO correspondent reports that the motor-car is rapidly becoming popular in Uruguay. Prior to 1905 there were but three vehicles in the country, and they were of French manufacture, while during the year just passed forty-seven were imported.

MR. C. A. SMITH, of the White Lion Hotel, Cobham, writes to remind motorists that there is a large yard at the rear of his place to which visitors should drive their cars when making use of the accommodation the hotel affords, instead of leaving them outside the front door.

A DENNIS worm-gear driven 'bus which has been on trial by Messrs. Thos. Tilling and Company has now completed just on 9,000 miles in a three months' test. Throughout the whole run the axle did not require any attention, and on examination the worm gear practically showed no signs of wear.

FROM the Swift Motor Company, Ltd., Coventry, we have received a copy of the latest catalogue of Swift cars. Full particulars are given of the various models—7-8-h.p. double-cylinder, 9-10-h.p. three-cylinder, and 12-14-h.p., and 16-20-h.p. four-cylinder, illustrations being also given of the chassis and of the various types of bodies with which they can be fitted.

AT a council meeting of the Central and Associated Chambers of Agriculture the chairman of the committee, Mr. St. John Ackers, said that before long the motor-omnibuses in London would displace a large number of horses, which would be spread throughout the country, to the danger of horses generally. At the present time glanders was concentrated in London and other large towns. No less than 79 per cent. of the loss caused by glanders took place in London.

AN armoured motor-car to be used in Mexico for hauling gold from the mines to the railway has, it is reported, been ordered from the E. R. Thomas Motor Company, of Buffalo, U.S.A. Ever since the mines were opened trouble has been experienced with the Yaqui Indians. The latter would attack the guards of the mule trains in the narrow passes and mountain roads, and it was necessary to increase the number of guards until the train resembled a small army. The advantages of a motor-car for this work having become apparent, plans for a special car have been prepared. The chassis and the larger part of the body are to be of the standard type, but armour plate will be used to cover the working parts, front seats, and tonneau, to protect the machinery and passengers from attacks both on level ground and while running through defiles where an attack might occur from above. The gold will be carried in the tonneau and two rapid firing guns will be mounted on the car.

THE first motor-boat built in Ireland is now under construction by the Dublin Dockyard Company.

ENNISKILLEN has its motor-car repairer in Mr. Joseph Maguire, whose premises are in Darling Street.

THE Bishop of Ripon has just purchased a motor landaulet from the Harrogate branch of the North Eastern Garages, Ltd.

MORE than fifty motor-cars visited Lynton and Lynmouth during Easter, nearly all being able to negotiate the hills with very little difficulty.

INCREASED rates and the advent of motor-cars were suggested as causes of his failure by a hay merchant who met his creditors in London the other day.

THE session of the Northampton Institute (Clerkenwell) Engineering Society has been concluded with a paper by Mr. E. H. Eldridge on automobiles.

MR. W. H. STONE, of Taunton, has a motor-car on hire in the town, which is being greatly appreciated by visitors to the Somerset and Devon seaside resorts.

MESSRS. COCKSHOOT AND CO., LIMITED, are building extensive new premises at Bridge Street, Manchester, where Mr. Conray Walker will act as manager.

SEVERAL of our technical contemporaries have noted the presence of a large number of persons interested in matters of local government at the recent Agricultural Hall Show.

MESSRS. H. M. HOBSON, LTD., have just sold a Decauville 16-20-h.p. car with a limousine body to Major Atcherley, the chief constable of Shropshire. This is the second Decauville the major has had.

MR. H. W. SOUTHALL, jun., of Birmingham, is sending out a neat circular detailing the advantages of the Gibson power indicator described in our columns on February 24th last. It is an admirable device for ascertaining the pressures developed in the internal combustion engine.

THE Adams Manufacturing Company, Ltd., have sent a number of photographs giving external and internal views of the new works they have recently erected at Bedford. The factory has been specially designed and equipped for the purpose of manufacturing one type of small car, the 10-h.p. Hewitt. The works are of the single-storey type, and cover an area of one acre. The building of the works has been in progress since last August; they are now complete, and the Adams Company inform us that the output is at present something over a car per day.

IT has often been recommended that when cars are only to be used at intervals they should be raised from the ground in order to take the weight off the tyres. To enable this to be easily done the Bicycle Step Ladder Company, of Chicago, have brought out the Murray automatic jack illustrated herewith. The device, which is supplied in sets of four, one for each wheel, consists of a short vertical piece mounted on a single wheel, the total length being slightly in excess of the height of the car axle. To this vertical part is attached a horizontal handle, with a brace to the small metal cap piece, adapted to engage with the hub of

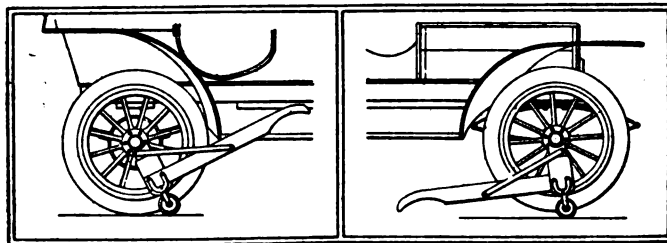


Fig. 1.

Fig. 2.

the wheel. The jack, as in Fig. 1, is placed against the hub and a downward pressure on the handle causes a movement of the wheel, carrying the jack towards the axle of the car, and resulting in the axle being raised as in Fig. 2. The jack locks in an up position when the handle rests on the garage floor. Those for the front wheels are set with the handle to the rear and those for the rear wheels are to the front, the object being to anchor the car against movement either to the front or rear. The makers claim that by means of four of their jacks all the wheels of a car can be raised from the ground in from 15 sec. to 30 sec.



## CONTINENTAL NOTES.

### Public Services in Germany.

Companies have lately been organised to establish public services between Itzehoe and Lagersdorf, between Burg and Wilster, and between Bornim, Bornsted and Potsdam. The four motor-buses in service in Berlin are to be increased to twenty-eight by the end of July next.

### The Gordon Bennett Aeronautical Cup Race.

The Aero Club of France has just come to a decision with regard to the selection of the team of aeronauts to represent France in the Gordon Bennett Aeronautical Cup Race. The team will be constituted as follows:—M. Jacques Balsan, the Count de Castillon de Saint-Victor, the Count Henry de La-Vaulx. The following have been nominated as reserves:—Messrs. Jacques Faure, Georges Blanchet, and Edmond David.

### The Grand Prix Race.

The Sarthe circuit has been visited during Easter by many of the leading French racing men, including the Clement-Bayard and Renault teams. The Vulpes Company are building a somewhat novel form of vehicle for the contest. It will be provided with a four-cylinder engine 120 mm. bore by 160 mm. stroke, the transmission being by side chains. The suspension

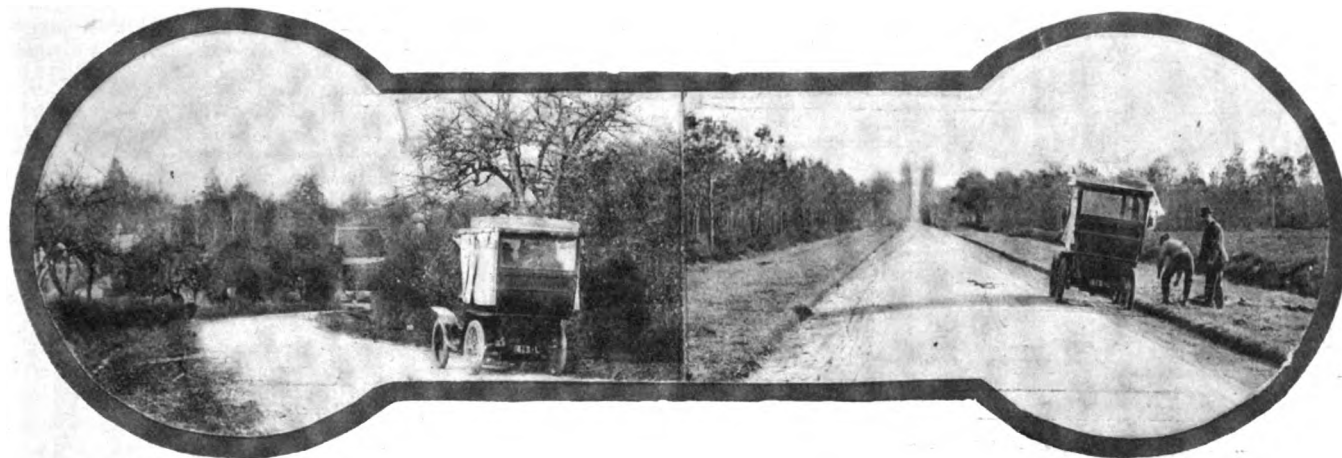
and driving contest is to be held on July 11th, followed in the evening by a procession of illuminated cars. The meeting will be brought to a close on July 12th with a flower fete and a procession of decorated vehicles.

### The Rule of the Road.

The Automobile Club du Nord de la France, of Roubaix, is arranging with the authorities of the district for the erection of a number of notice boards drawing the attention of carters, wagoners, etc., to the rules of the road, and has voted a sum of £20 towards the cost of the same. In view of the increasing traffic on the roads, the idea is an excellent one, well worthy of adoption in other districts.

### The Circuit Europeen.

Preparations for the great long-distance competition organised for the months of July and August next by the automobile clubs of Germany, Austria, Belgium, France and Italy are in active progress. So far thirty-one entries have been received, these including three British Daimlers, two Beeston Humbers, and a Wolseley. The question of petrol supply has already been definitely settled as far as France is concerned. There will be set in operation an extremely practical system of exchangeable coupons enabling the competitors to find all



The Course near Lamnay.

A Straight Stretch near La Fourche.

VIEWS ON THE SARTHE CIRCUIT, ON WHICH THE RACE FOR THE GRAND PRIX DE L'A.C.F. WILL BE HELD.

of the car is on special lines, the frame being below the wheel centres. It has been decided to tar the whole of the circuit with the view of keeping down the dust.

### A Belgian Hill-Climbing Competition.

The Belgian Automobile Club held a hill-climbing competition, the proceeds of which were intended for the sufferers in the recent serious colliery explosion in France. The course was a mile long, and of the sixty-five competitors who took part in the event, the best time—1 min. 11 1-5 sec.—was made by M. Kinet on a Pipe car.

### A Belgian Heavy Vehicle Trial.

A proposal to organise a heavy motor vehicle competition between Brussels and Antwerp in September next is at present under consideration.

### The Scheveningen Automobile Week.

The automobile week at Scheveningen, the well-known Dutch watering place, is to be held early in July next. The meeting will open on July 9th with a concert; on the 10th there will be a competition (1) for the best covered car, and (2) the best open touring car, the body work in both cases to be of Dutch manufacture. In the afternoon there will be kilometre speed trials for touring cars and motor-bicycles. A gymkhana

through the country both petrol and oil at one uniform price, thus avoiding all mistakes or discussions.

### Miscellaneous Items.

The Queen of Italy has just offered an international cup to be presented to the first aeronaut who succeeds in crossing the Alps by balloon.—Eight entries, including that of the Cowey Engineering Company, Ltd., have been received for the Odotachymetre competition, which is being organised by the A. C. F.—The Moto Club de Belgique of Brussels is organising a spring wheel and tyre competition for June next.

THE next A.C.G.B.I. driving certificate examination will be held at 119, Piccadilly, on Wednesday next.

ON Easter Monday seven motor-cars were garaged at the Clifton Downs Hotel, Clifton, including one on which the Earl of Kimberley was touring in the west of England.

FROM the Frederick A. Stokes Company, New York, we have received a copy of a handy little dictionary of motor terms. It has been compiled by Mr. Sigmund Krausz, and contains over twelve thousand technical terms appertaining to motor-cars and motoring. These are set out in three languages—English, French, and German—and are arranged in three sections, so that the words in each language are given in alphabetical order, the utility of the work being in this way greatly increased.

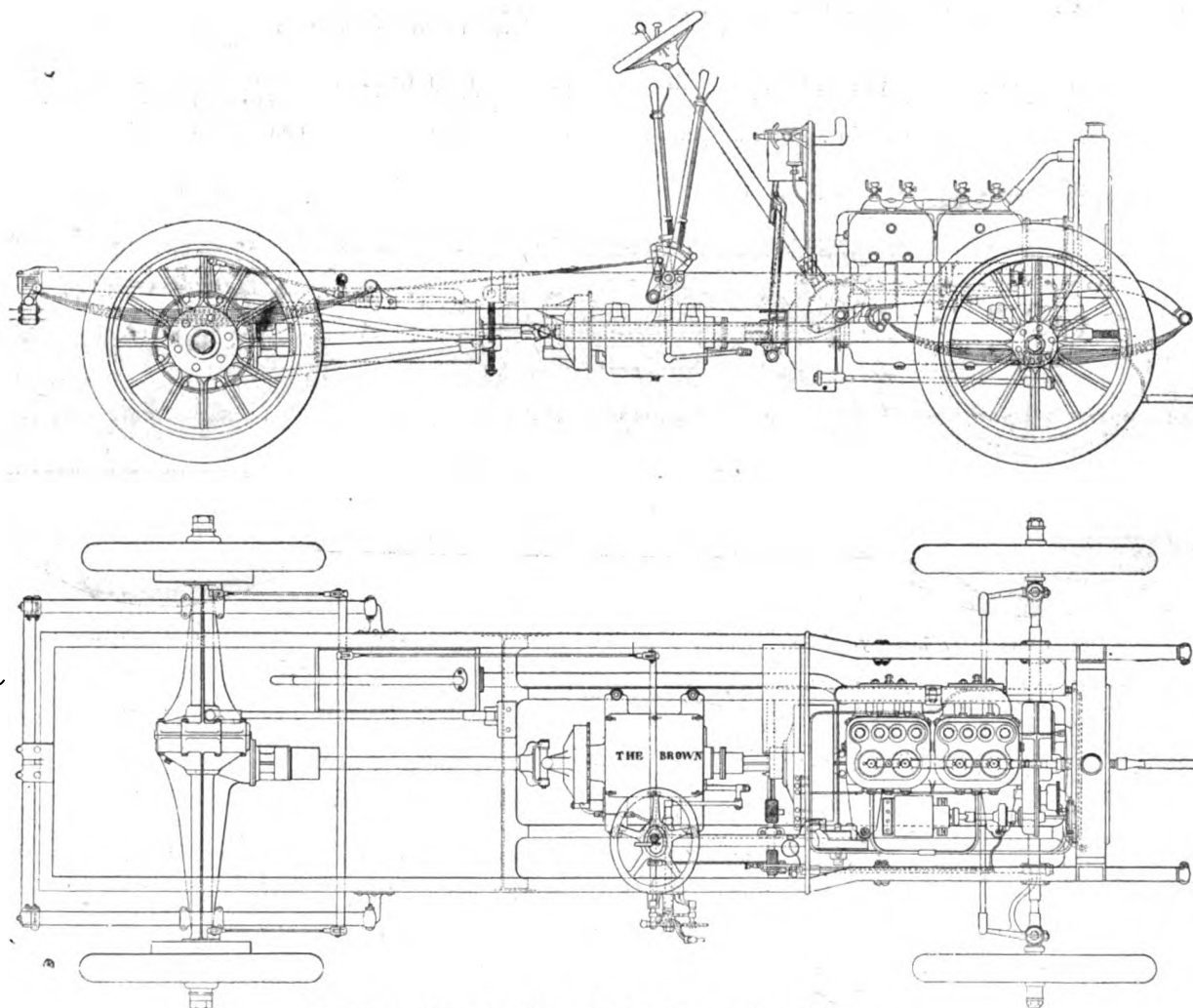
## The Cordingley Show.

[Concluded from page 159.]

### The "Brown" Cars.

Messrs. BROWN BROS., LTD., exhibited a range of "Brown" cars, chief among which was the chassis of a new 20-22-h.p. vehicle. This has a pressed steel frame in the forepart of which is set a four-cylinder engine, 100 mm. bore by 120 mm. stroke. The valves are all mechanically actuated off one cam shaft, the inlets being provided with a variable lift obtained by means of tapered cams on a sliding shaft. Two high-tension systems of ignition, magneto and accumulators, are

illustrating a double phaeton. Examples of the Brown two-seated 10-12-h.p. double-cylinder and four-seated 18-20-h.p. four-cylinder vehicles were also on view, these being on similar lines to the 20-22-h.p. car described above. A part of Messrs. Brown Bros.' stand was devoted to exhibits of motor accessories of all kinds, including the E.I.C. ignition specialities, the "Duco" lamps, horns, tool-kits, etc., the H.F. tyre vulcanisers, and a new valve spring removing tool. We hope to illustrate the latter in a subsequent issue.



Figs. 99 and 100.—Elevation and Plan of "Brown" 20-22 h.p. car.

provided. The lubrication is maintained by a pump, as is also the water circulation, the honeycomb radiator being provided with a fan. No governor is fitted, the speed of the engine being automatically cut down as the leather-faced cone clutch is withdrawn. The latter is operated by a pedal, the lever extension of which acts direct on the clutch. The gear-box, which together with the engine is carried on a secondary frame, is adapted to give three speeds and a reverse, with direct drive on top speed through a cardan shaft and bevel gear to a live axle. The weight of the car is carried by the casing, the drive to the road wheels being squares on the ends of the axles. Ball bearings are fitted throughout with the exception of the engine. The gear-box is provided with an inspection lid which may be removed by undoing six thumb screws. The car, which appears to be well designed, has a wheel base of 9 ft. 6 in., enabling roomy side-entrance bodies to be fitted, Fig. 99

### A Portable Vice.

A useful addition to the tool kit of the touring motorist was the "Auto" vice shown by the AVERY AUTO VICE COMPANY. This tool has been designed to supply the want of a compact and portable vice which can be firmly fixed, leaving both hands free to work. Besides combining the advantages of a hand and fixed vice, the "Auto" possesses unique facilities for its use on the road at any time. By arrangement of a loose clamp or back jaw it can be fastened to a gate bar or any similar support found along the highway, to the width of about three inches. To do this an hexagonal bolt head at the end can be screwed by means of a spanner, or by placing a punch or nail through the hole in the bolt head. When screwed up it is quite firm and will stand any amount of strain. The jaws work independently, by means of the wing nut, and are of a size to grip anything likely to be used in

an ordinary vice. It is easily taken to pieces for packing purposes, &c. being only five inches long, takes little room, and is a small but useful device.

#### The "Green" Car.

A 26-30-h.p. car comprising a number of interesting features was that which was exhibited by GREEN'S MOTOR PATENTS SYNDICATE. As will be seen from Fig. 103, the frame is of special tubular construction, the tubes, which are 2 in. in diameter, being built up without brazed joints. The spring horns are made as part of tubes which slide in the main tube, while the hangers which support the rear shackles of the front springs and the forward shackles of those at the back slide on the main frame, they

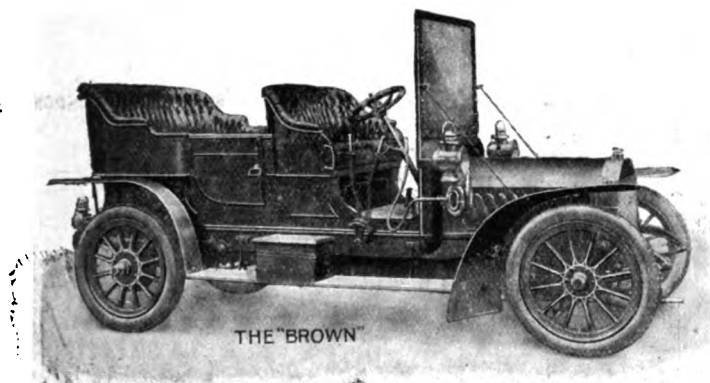


Fig. 101.—The "Brown" 20-22-h.p. car. (See page 176.)

being fixed in position by cottars. By this means either the front or rear axle, together with their springs, can be readily detached from the frame. The engine is carried directly on the main frame by bearers, the ends of which are provided with top and bottom caps bolted together. The engine can thus be quickly drawn out of the frame, or by removing the bolts from the caps on one side the whole engine can be tipped over through an angle of nearly 90 deg. Furthermore the bottom half of the base chamber can be removed without disturbing the crankshaft, so rendering the inspection and adjustment of the big ends, when the motor is canted over, an exceedingly easy matter. The recesses in the carrying brackets of the engine are provided with lids so that they form receptacles for the oil can, waste, and a few small tools. The motor, which comprises four separate cylinders 4 5-16 in. bore by 5 1/4 in. stroke, is also of a special design, one peculiarity being that the inlet and exhaust valves open directly into the cylinder heads,

a vulcanised rubber ring which fits in the groove E. The jacket entirely surrounds the cylinder, holes being left in the top which coincide with the openings of the valve chambers and sparking plug hole and also at the sides for the inlet and exhaust ports. The water joint at the top is made by the locking rings used to hold the valves, etc., in position. Perfect freedom for expansion is allowed and a leakage is stated to be practically unknown. Apart from its lightness one of the advantages of the arrangement is that the jackets can be removed as often as necessary for clearing any corrosion or deposit. The power is transmitted through a leather-

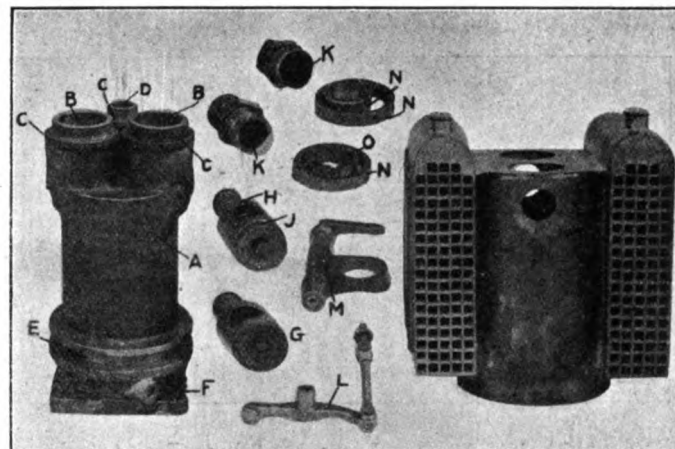


Fig. 102.—Details of Cylinders of the "Green" Motor.

- |                               |                                      |  |
|-------------------------------|--------------------------------------|--|
| A.—Cylinder.                  | E.—Groove for Vulcanised Ring.       | H.—Exhaust Valve and Seating Complete. |
| B.—Valve Chambers.            |                                      |  |
| C.—Seatings for Water Jacket. | G.—Inlet Valve and Seating Complete. |  |
| D.—Sparkling Plug Port.       |                                      |  |

faced cone clutch to a gear-box of the ordinary type and thence by a cardan shaft and bevel gear to a rear live axle. The steering gear is of special design, it being capable of being set at any angle. A Rex 3 1/4-h.p. motor-bicycle was also shown, the cylinder of which has been removed and replaced with one of the "Green" design shown at A in Fig. 102, the brass water jacket of which is extended to form a combined tank and double radiator, as seen on the right of Fig. 102. The radiators are supplied with expansion chambers, which prevent the water from overflowing when it first gets warm. The weight of the new

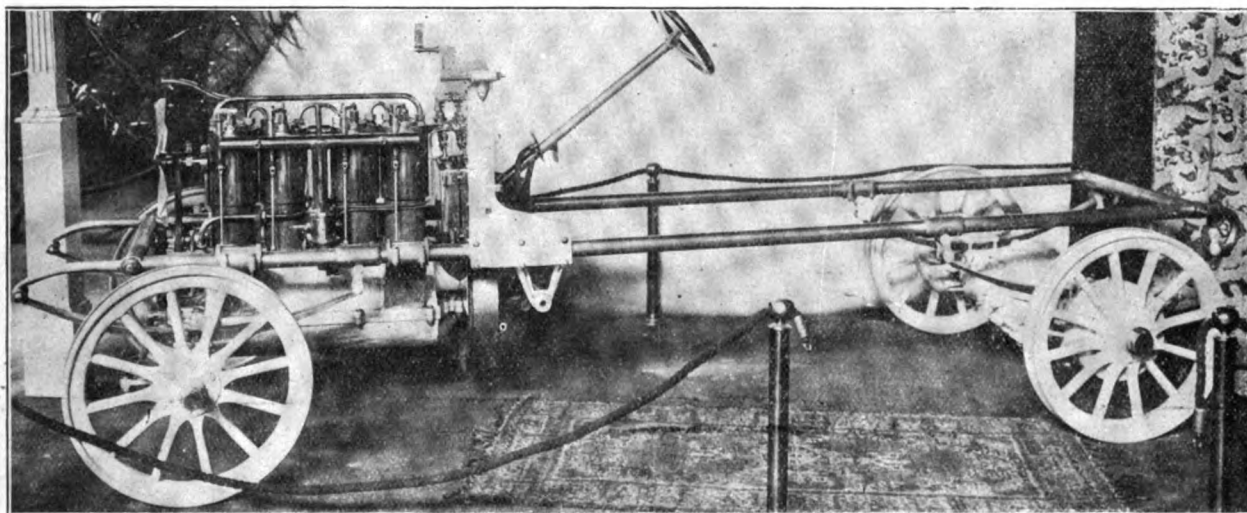


Fig. 103.—Chassis of 26-30-h.p. Car exhibited by the Green's Motor Patents Syndicate.

being operated by jointed rods and tappets; not only so, but in place of a cam shaft running the whole length of the motor the cams are mounted on a short shaft at the front end, operating the valves from each side of the cylinders through hollow rods, telescoping one with the other as regards the horizontal portions. The short cam shaft above referred to also drives the water circulating pump and the radiator fan. The valves themselves, together with their seatings, are also so arranged that they can be withdrawn with a minimum of trouble, the tappets being made to swing out of the way. One of the most important characteristics of the engine is the jacketing of the cylinders. An idea of the shape of the latter is seen from the illustration at the left hand of Fig. 102. Around this is slipped a brass water jacket, a perfect joint between the jacket and cylinder being formed at the lower end by

cylinder together with its jacket and radiator jacket is 16 lbs. 7 oz., or 2 lb. 2 oz. lighter than the air-cooled cylinder which it displaced. Considerable interest was shown in the exhibit during the week of the Show, the arrangement of the valve gearing and of the water jackets attracting considerable notice. More will no doubt be heard of them in the near future.

#### Tools.

Messrs. CHAS. CHURCHILL AND CO., LTD., had a show case containing a selection of portable tools, motor wrenches, and the like, as well as other larger appliances for the equipment of motor-car works. A boring machine for cylinders, lathes, gear-cutting machines, grinders, etc., made up an utilitarian exhibit.

**The New Leader Cars.**

Several examples of the latest types of New Leader cars were exhibited by CARS, LIMITED, including a new 20-30-h.p. model shown for the first time. The frame is of pressed steel construction, and the engine (Fig. 104) comprises four cylinders 4 in. bore by 6 in. stroke, with the valves all operated off one cam shaft. The ignition is by single trembler coil and accumulators with high tension distributor. The water circulation is maintained by a gear-driven pump and honeycomb radiator. A special form of carburettor is employed, in which all the air has to pass the spraying jet, the feed of petrol through which is also adjustable. The lubricating oil is contained in a large tank under

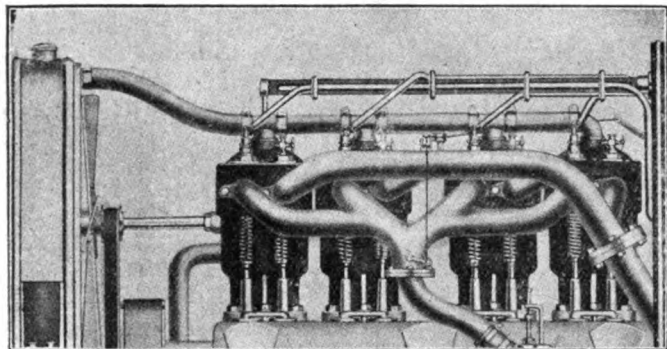


Fig. 104.—The New Leader Four-Cylinder Engine.

the footboard, where it is not only out of sight, but is kept in a fluid state by its proximity to the exhaust pipe. A hand-pump on the dashboard forces air into the tank, and the oil is fed to the distributor and through large sight glasses to the different parts of the mechanism. The clutch, which is of the leather-faced cone type, is connected with the gear-box by a jointed-shaft. Three speeds and a reverse are provided, with direct drive on top speed through a cardan shaft and bevel gear to the rear live axle. Combination roller and ball bearings are used to all parts. Other cars on view included 8-h.p. and 10-12-h.p., both being fitted with four cylinder engines. Except that the water circulation is on the thermo-syphon system these vehicles are very similar in arrangement to the 20-30-h.p. dealt with above. Altogether the New Leader cars have a smart, trim appearance, and their moderate price is making them a popular type amongst motorists in this country.

No governor is provided, the speed of the engine being controlled by hand and foot levers acting on a throttle valve. The clutch, of which a sectional view is given in Fig. 105, is of the multiple disc type with a progressive engagement, so that the load is taken up very gradually and without shock. A very simple adjustment, by means of one nut, is provided for regulating the pressure of the clutch spring. The device works in oil, the cover M being provided with

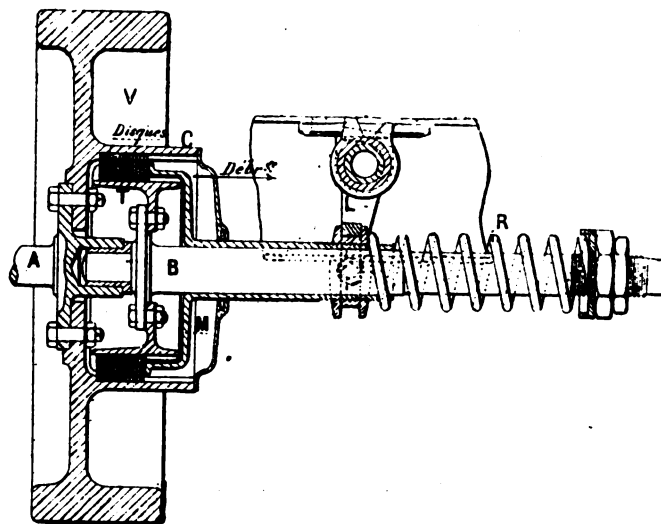


Fig. 105.—Section of Marchand Disc Clutch.

leather at the hole through which the shaft B projects. The gear-box, which is supported on the frame at three points, is adapted to give three speeds and a reverse with a direct drive on top speed. The latter is obtained somewhat on the lines of the Mors arrangement, the two shafts of the gear-box each having a bevel pinion on its end and meshing with its own bevel wheel on the differential shaft, from which the power is transmitted to the rear road wheels by side chains. Ball-bearings are used to all parts, except the engine, the car throughout being one which should well maintain the excellent reputation enjoyed by Italian vehicles. Under the name Premier the PREMIER COMPANY are also introducing a series of cars of Belgian construction, the one on view being

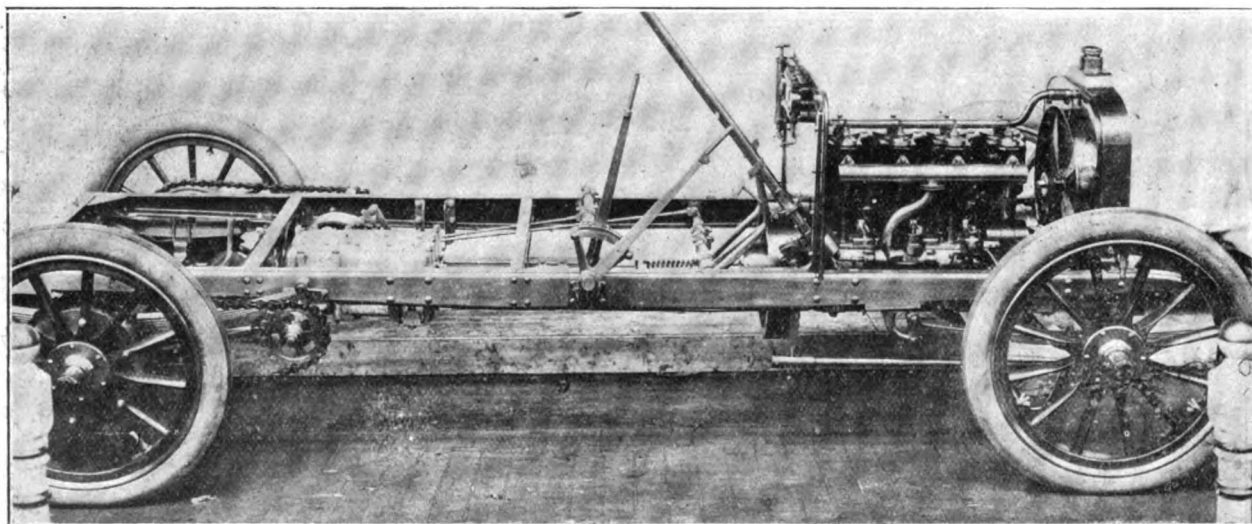


Fig. 106.—Chassis of Marchand 20-24-h.p. Car.

**The Marchand and Premier Cars.**

Reference has already been made to the fact that a feature of the Show was the exhibition for the first time of several Italian built cars not previously seen in this country. Among these was the Marchand, the British agency for which has been secured by the PREMIER MOTOR CO., LTD. Several sizes, ranging from 14-18-h.p. to 40-50-h.p., are being made, the chassis on view being of the 20-24-h.p. type (Fig. 106). The vehicle has the usual pressed steel frame. The engine comprises four separate cylinders with valves operated off separate camshafts. The ignition is by a gear-driven high tension magneto, and the water circulation by pump and honeycomb radiator with fan. The crankshaft is provided with five bearings, and the lubrication is maintained by a pump with pressure feed.

of 16-20-h.p. (Fig. 107). The vehicle follows the standard lines of live-axle cars, the details, however, showing a number of interesting features. In the first place, the engine comprises four separate steel cylinders 95 mm. bore by 120 mm. stroke, with cast iron heads and water jackets; the valves are arranged on opposite sides and operated off separate cam shafts. Five bearings are provided to the crank shaft and the lubrication is maintained by an oil pump in the base chamber. Ignition is by high-tension magneto, a reserve set by coil and accumulators being also provided. The water circulation is maintained by a pump and honeycomb radiator with fan. The speed of the engine is controlled by foot and hand levers operating a variable lift on the inlet valves. The latter is obtained by means of a rock acting on a toothed portion on the valve push rods, which causes the latter to



rise or fall. The clutch pedal is also so connected up to the latter that as the clutch is withdrawn the engine is prevented from racing. The transmission is through a leather faced cone clutch to a change-speed gear giving four speeds and a reverse. On the top speed the drive is direct, the side shaft in the gear-box being entirely out of operation. The final drive is by a cardan shaft and bevel gear to a live axle. The latter is of special design, being supported by a fixed axle at the rear.

on ball bearings. In conjunction with the clutch a special device is provided for allowing a sweet and steady engagement; in line with the clutch pedal and below the footboard is a small horizontal cylinder containing glycerine, a piston having a rod projecting through the casing of the cylinder works in the latter. The rod is connected up to the clutch pedal, and when the clutch is disengaged the glycerine is pushed away from the rear to the front by the piston; and *vice versa* as the clutch

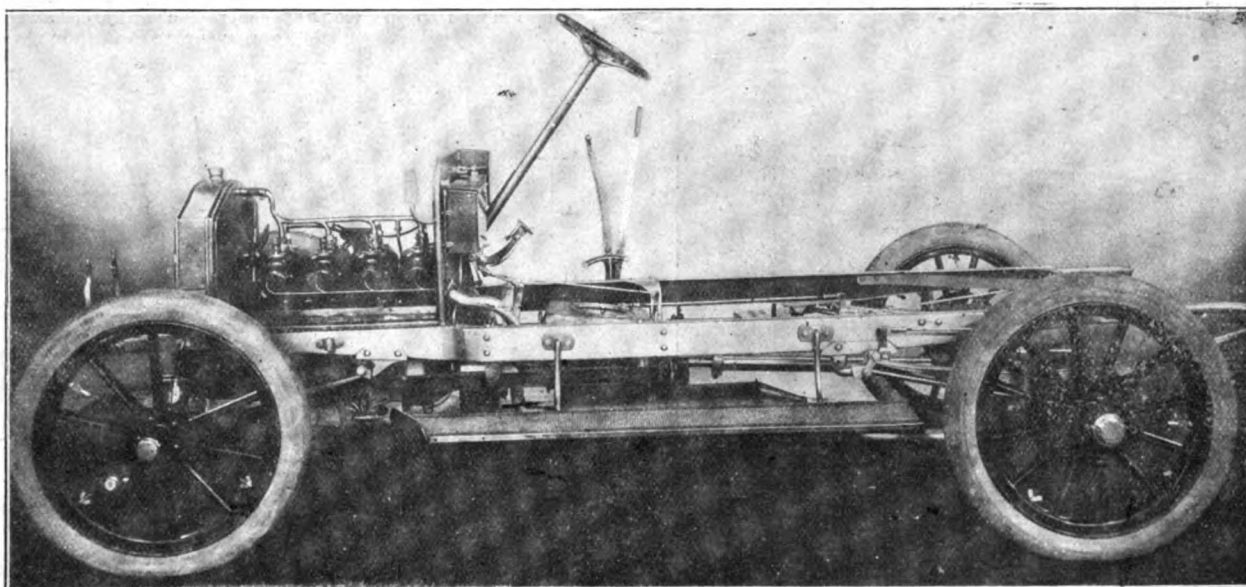


Fig. 107.—Chassis of the Premier 16-20 h.p. Car.

The usual four longitudinal springs are supplemented by a transverse one at the rear.

#### The Humber Cars.

The great centre of attraction at the stand of HUMBER, LTD., was the chassis of the new Beeston Humber 30-40-h.p. six-cylinder car, of which an illustration is given in Fig. 108. As will be seen, the cylinders, which are 100 mm. bore by 100 mm. stroke, are cast separately, with the inlet and exhaust valves arranged on opposite sides. The mixture is furnished by a Krebs automatic carburettor, and the speed of the engine is controlled by a variable lift to the inlet valves obtained by means of tapered cams on a sliding shaft. Two systems of high tension ignition are provided—magneto and coil and accumulators. The water circulation is maintained by a honeycomb radiator with fan and a rotary

is allowed to engage. The differential box is split horizontally for convenience of inspection; the large bevel wheel, contains a spring drive which allows three-quarters of a revolution of the engine before the back axle begins to move. The road wheels run on ball bearings mounted on the axle sleeve. The driving shaft and the bevel pinion shaft are also mounted on balls, thrust bearings being also fitted on either side of the bevel wheel and behind the pinion, ensuring perfectly smooth and silent running. All the engine bearings are lubricated by oil supplied under pressure from a positively driven gear pump attached to the crank case. A foot-operated water-cooled brake is fitted to the driving shaft, while another foot brake is attached to the differential gear-box and enclosed in the back-axle case. The usual hand-applied brakes working on drums on the rear road wheels are also provided.

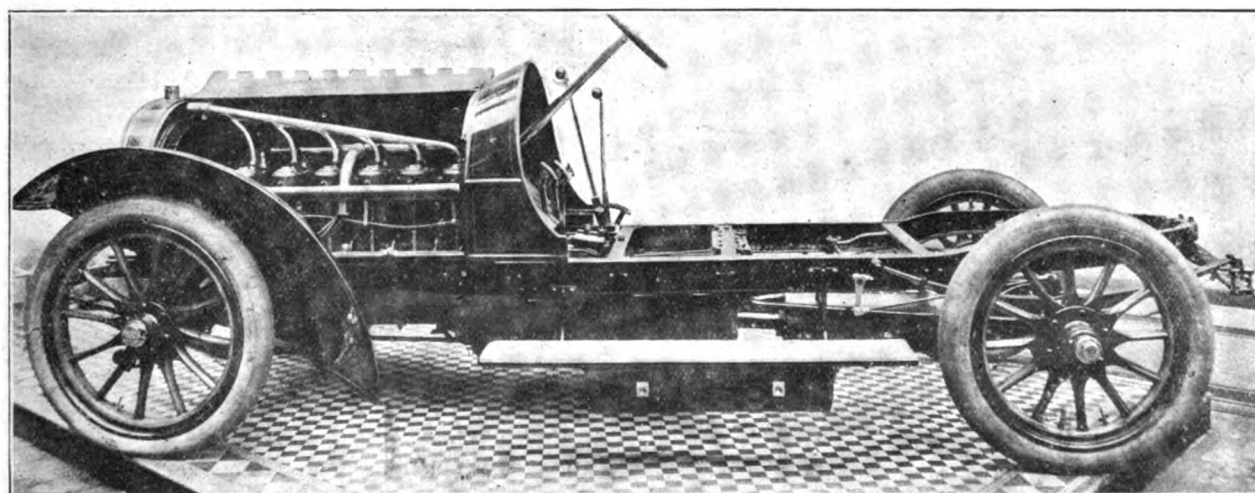


Fig. 108.—Chassis of Humber Six Cylinder Car.

pump, the latter being so fitted that it can be readily dismounted. The transmission is through a leather-faced cone clutch to a gear-box giving four speeds and a reverse with direct drive on top speed, through a cardan shaft and bevel gear to the rear live axle. This gear is designed so that the changes from one speed to another can be made without meshing the intermediate pinions. For example, a change can be made from the top to the lowest speed without interfering with either the second or third speed gear wheels. Both shafts in the gear-box run

The frame, which is of pressed steel and supported on long springs, is of a curved design at the rear, somewhat similar in plan to the stern of a boat. The car has a wheel base of 9 ft. 11 in., enabling a roomy side-entrance body to be fitted. The Humber Company also exhibited examples of the latest Beeston Humber 16-20-h.p. and Coventry Humber 10-12-h.p. vehicles, both of which are fitted with four-cylinder engines. Details of them have already been given in these columns, but we note that several improvements have been made in the 16-20-h.p.

model notably the adoption of ball bearings throughout the transmission gear (Fig. 109) and on the road wheels, and the redesigning of the rear live axle. The casing surrounding the latter is now divided horizontally, so that it is possible to inspect the differential gear and the bevel wheels without dismounting the axle itself. The weight of the vehicle is carried on the casing, the internal shafts having only to withstand the driving effort. Eight sets of ball bearings are

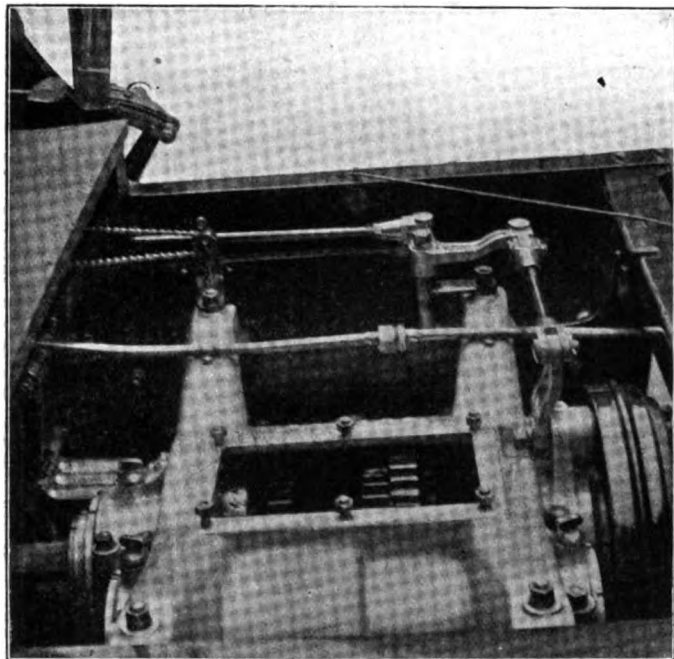


Fig. 109.—The Gear Box of the Beeston Humber 14-20-h.p. Car.

employed on the rear axle, those which carry the wheels being of large diameter. The universal joints on the cardan shaft are completely enclosed in aluminium casings, which provide a constant oil bath. The Humber has gained an excellent reputation during the last year or so, which the latest models should more than maintain.

#### The Cottareau Cars.

A very wide range of the Cottareau cars, fitted with one, two, three, and four cylinders, was exhibited by the British agents, Messrs. McNEIL, HUTCHISON AND Co., of Manchester. The 8-h.p. single-

inspected was a 12-h.p. double cylinder with pressed steel frame and live axle. Two models of three-cylinder cars were also shown, 12-14 h.p. and 18-h.p., the dimensions of the former being 85 mm. bore by 105 mm. stroke, and of the latter 95 mm. by 120 mm. The Cottareau engines have separately cast cylinders with mechanically-operated valves, arranged on opposite sides. The speed of the motor is regulated by means of a variable lift device on the inlet valves. Details of the latter are given in Fig. 110, from which it will be seen that the valve push rods are formed with teeth at B meshing with a rack D.A. As the latter is moved to and fro the push rods are rotated and at the same time rise and fall by means of a screw thread formed on their lower ends.

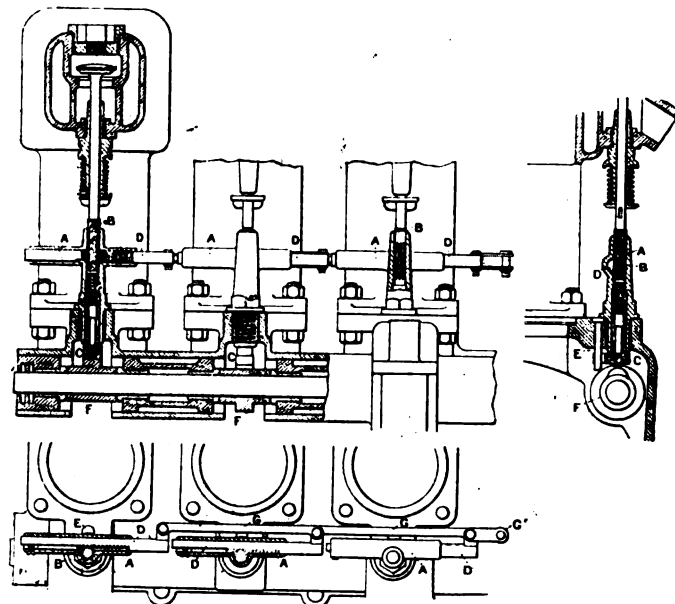


Fig. 110.—Front and Side Sectional Elevations and Plan of Cottareau Variable Valve Lift.

The arrangement is stated to effect a considerable economy in petrol consumption, an 18-h.p. three-cylinder car with five up having completed a four days' tour on an average of  $27\frac{1}{2}$  miles to the gallon. The vehicles have pressed steel frames and are chain-driven, the transmission being through a leather-faced cone clutch and gear-box giving three forward speeds and a reverse. The four-cylinder cars, which are respectively 15-18-h.p. and 20-25-h.p., are on similar lines to the three-cylinder vehicles, the chassis being of such a length as to be able to accommodate roomy side-entrance bodies. Considerable interest was also

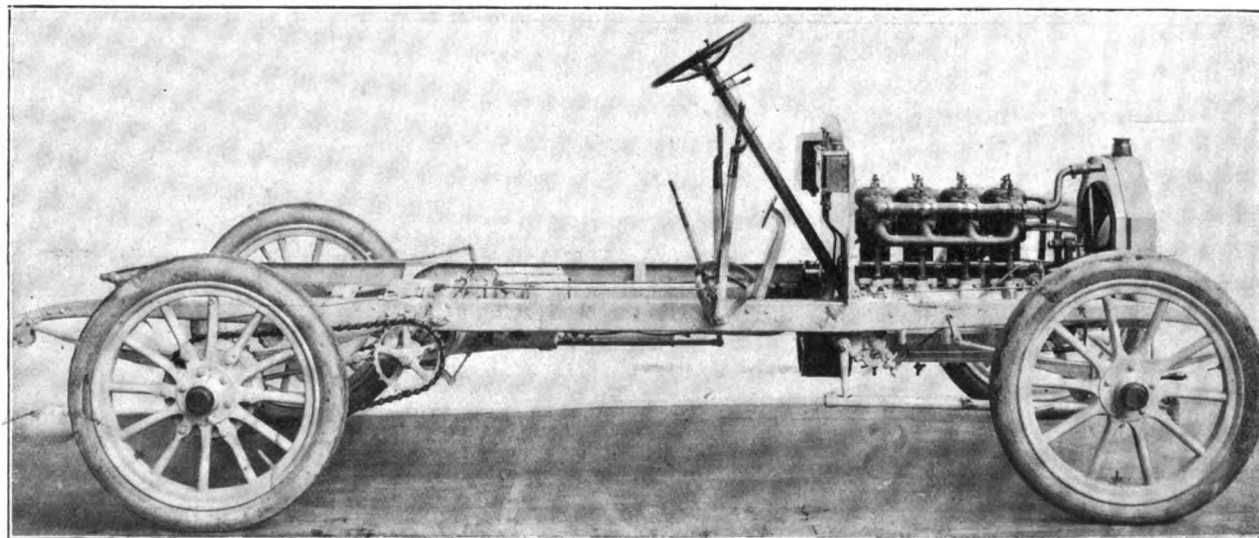


Fig. 111.—Elevation of Chassis of Cottareau 20-25-h.p. Four-Cylinder Car.

cylinder car is made in three models, one having cardan shaft transmission, another is driven by side chains, while the third has a single chain drive on to a live axle. The first two have pressed steel frames and the latter one of tubular construction. Three speeds and a reverse are provided. The motor has a bore of 105 mm. by 118 mm. stroke, has mechanical valves, and is controlled by means of a variable lift device to the inlet valve. The next car we

shown in the Cottareau 160-h.p. six-cylinder racing car (Fig. 113) shown at this stand. The engine has the inlet and exhaust valves operated by separate cam shafts; two carburetors are provided, one for each group of three cylinders, and on the top of each of the two induction pipes is mounted a throttle valve, operated by a lever on the steering wheel. The clutch is of special form, the leather-faced cone being supplemented by a positive locking arrangement. Side chain transmission is provided.

while large braking power is available. Notwithstanding the six cylinders, the weight of the car has been kept within the 1,000 kilog. limit. A safety starting handle known as Bishop's was also shown by Messrs. McNeil, Hutchison and Co. The device consists of a handle furnished with a ratchet wheel and an adjustable pawl. The latter engages

holding two injured persons in a recumbent position on stretchers, and also has seats for nurses and attendants. Every provision is made for the comfort of the passengers, while the front seat and floor of the vehicle is made in such a way that ready access to all parts of the engine and transmission is possible. We understand that one of these

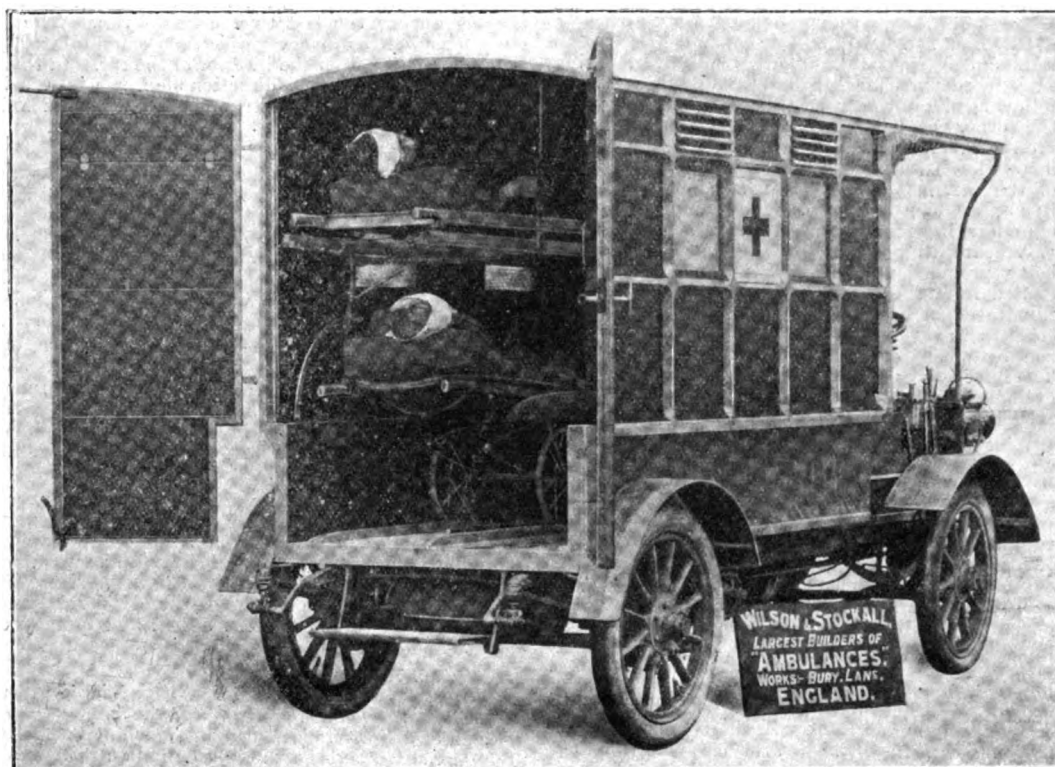


Fig. 112.—The Wilson and Stockall Motor Ambulance.

tangentially, with a starting tooth on the end of the engine shaft and can be adjusted to the compression of the engine. Should a back-fire take place, a ratchet wheel at the other end of the starting device sets back against two pawls attached to a bracket which is fast to the frame of the car, which thus takes the resistance of the back-fire, whilst, at the same time, the adjustable starting pawl loses its tangentiality and is forced back out of its notch, thus relieving the starting handle from pressure.

**The Wilson and Stockall Motor Ambulance.**

Messrs. WILSON AND STOCKALL, of Bury, an old-established firm of ambulance specialists, had on view a motor ambulance which

ambulances has already been ordered by the municipal authorities of Milan.

**The Courier Cars.**

The EUSTON MOTOR COMPANY had on view two models of the Courier cars they have recently placed on the market. The vehicles, which are of French construction, follow the usual lines of live axle machines and appear to be of sound and solid construction. We first inspected the 14-16-h.p. vehicle, which is fitted with a Gnome four-cylinder engine 85 mm. bore by 110 mm. stroke and mechanically-operated valves. Three speeds and a reverse are provided, the final

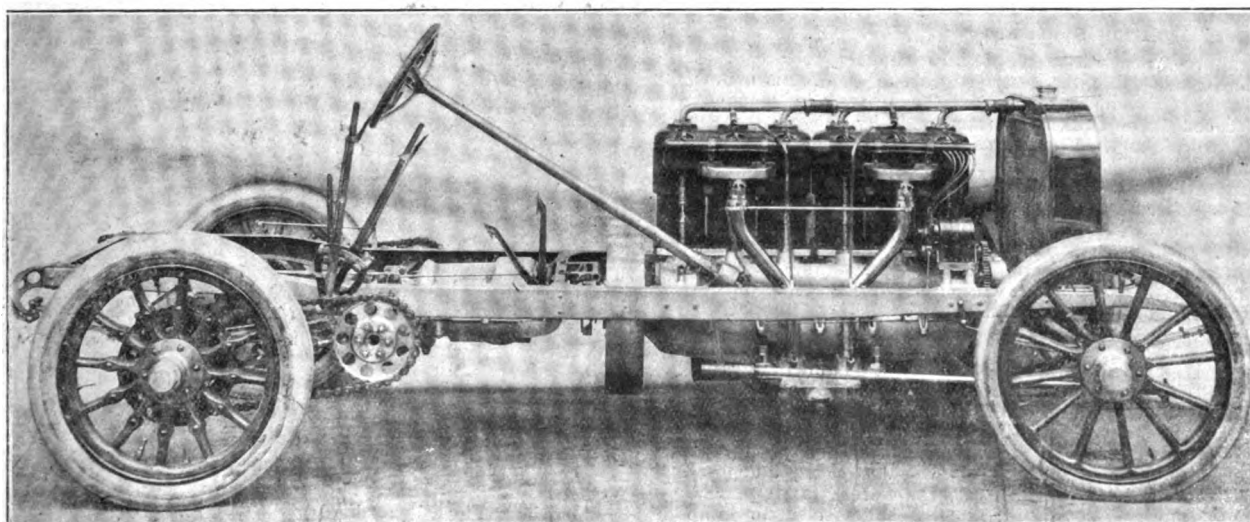


Fig. 113.—Chassis of the Cottareau 160-h.p. Six-Cylinder Racer.

attracted considerable attention, not only from ordinary visitors to the Show, but also the officials of the Metropolitan Asylums Board and other authorities. The vehicle, Fig. 112, is mounted on a Cottareau 12-14-h.p. chain-driven chassis. The body of the vehicle is capable of

drive being by side chains. Interest in the 18-24-h.p. model was increased by the presence of a car which has been driven over 8,000 miles by a lady. This is also fitted with a Gnome motor, the transmission in this case, however, being by a cardan shaft on to a live axle.



### The Metallurgique Cars.

No less than five sizes of the Metallurgique cars, ranging from 10-12-h.p. to 40-45-h.p., were shown by Mr. OSCAR CUPPER. The vehicles are made by one of the leading engineering concerns in Belgium and have already earned an excellent reputation on the Continent. The 10-12-h.p. car has a twin-cylinder engine and leather-faced cone clutch; the 16-20-h.p., 24-28-h.p., 30-35-h.p., and 40-45-h.p. have four-cylinder motors and a special expanding metal-to-metal clutch. While describing more particularly the 30-35-h.p. car, the following details may be taken as applying to the other models, the main features being pressed steel frames, an internally expanding metal clutch, and a spring drive on the rear end of the cardan shaft, the transmission being by live axle.

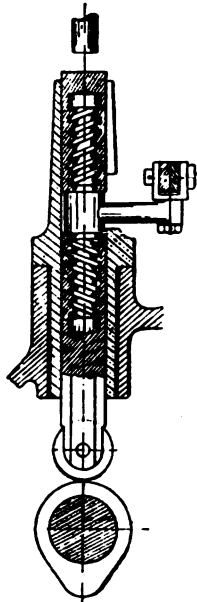


Fig. 114. — Sectional View of Variable Valve Lift Mechanism on Metallurgique Cars.

allow for any want of alignment between the two parts when travelling over rough roads. The gear-box, of the Mercedes type, is fitted, and gives four speeds and reverse. A cardan shaft conveys the power through a spring drive and bevel gear to the live axle. The spring drive is mounted in a drum set on the end of the bevel pinion spindle, having two lugs opposite to each other projecting inwards from the rim. The cardan shaft ends in a forked piece, each end of which bears against one end of a spiral spring, and bearing as to its other end on one of the projecting lugs, the power being transmitted through the forked ends, the springs, and the lugs on the drum, and by the latter to the bevel pinion. The device is claimed to prevent shock on the bevel drive and to considerably reduce the noise. Ball bearings of the D.W.F. type are employed throughout except on the engine. The carriage bodies shown were of a very high order, a 24-28-h.p. double phaeton with Cape cart hood, and a 30-35-h.p. limousine (Fig. 115) being especially worthy of note.

### The "Draknor" Ignition System.

Among improvements introduced into the Draknor contact breaker since it was originally described in the *M.C.J.* is a new unbreakable trigger, which secures a good sharp break independent of the engine speed. The Draknor contact made by Messrs. DRAKE AND NORMAN works on the "positive make and break" method of a non-trembler coil, thus ensuring precision of firing. The Draknor has no platinum points, solid hard cast steel contact pieces being employed in the form of the spring-controlled triggers already mentioned. In the case of multiple-cylinder engines the Draknor is permanently synchronised, and the life of the system is another point that will appeal to motorists. It starts with notable ease, can be easily and quickly fitted, and constituted one of the attractions in the accessory section of the Exhibition.

### Accessories.

The "Imperial" Odometer associated with the name of Messrs. Flory, Reinpach and Company was shown by Messrs. G. DAVENPORT and Co., who point out that it can be used to ascertain the consumption of petrol per mile. The instrument can be applied to any make or size of car, and no special fitting or drilling is required to fit it to the vehicle. The Odometer fitted with the Veeder trip and mileage cyclometers makes a handy addition to the motorist's equipment, and with the "Imperial" watches, petrol gauges, electric lamp adapters etc., formed a very effective display.

### Speed Indicators, Etc.

A large display of speed indicators, electric communicators, milometers, motor timepieces, chronographs and similar instruments was made by Messrs. S. SMITH AND SON, whose specialities for motorists are well known. Their "Perfect" speed indicator and trip recorder has a mileage register up to 10,000 miles. Every instrument is guaranteed for a year. It is made in various types to register up

to forty, sixty, eighty-five, and one hundred miles per hour, and it desired can be supplied fitted with supplementary or "tell-tale" hand, which shows the maximum speed attained. This latter may be set back to zero by simply pressing the small button at the top of indicator. The indicator is also fitted with a chart which gives a pencil record of the speeds during the last twelve hours' run. The milometer was also shown as well as a new "Electric Communicator," for communicating with the driver from the interior of the car. In this a different coloured lamp is fitted for each direction sign, the idea being that the driver, after a short use of the instrument, knows the meaning of each different colour.

### The Hutchinson Tyre.

Hutchinson tyres made a satisfactory first appearance at these Shows. They are specially intended for cars and voiturettes, and appear to be of excellent quality. All kinds of accessories for the repair of covers and inner tubes were also shown, as well as the "Hutchinson" repair outfit. The "Vulcan" non-skid pneumatic tyre, which recently accomplished a 4,000 kilometre test in France without puncture, and with the rivets complete, was also on the stand. In conclusion, we would mention that repairs of every description are undertaken by the ETABLISSEMENT HUTCHINSON.

### Aluminium.

Mr. R. W. COAN was in his familiar corner near the entrance displaying to considerable advantage his various castings in aluminium, as well as a steering wheel in that metal. Examples of crank-cases and gear-boxes in which new sections had been successfully burnt in were a feature of a good display.

### Shrewsbury and Challiner's Tyres.

A comprehensive display of wheels and tyres suitable for all kinds of automobiles, ranging from a light two-seated vehicle to motor-omnibuses and other forms of heavy traffic, was made by the SHREWSBURY AND CHALLINER TYRE COMPANY, LTD. Their specialities include the well-known Road, Giant and World tyres, which have done good service, their excellent design and quality contributing to longevity and durability.

### D. W. M. Bearings.

Messrs. LUDW. LOEWE AND CO. had a representative collection of small tools and gauges for the motor workshop and garage as well as a Norton plain grinding machine, specially suitable for finishing gear shafts, axles, and other cylindrical parts, after they have been rough turned in the lathe. With this machine a finish can be obtained which is perfect for all practical purposes, in considerably less time than by older methods. The latest pattern of the D.W.M. patented bearings was also shown. This not only effects a great saving in power, but also in the cost of fitting.

### Salsbury's Specialities.

Although not so numerous as in some earlier displays, the show of lamps made by Messrs. SALSBUURY AND SON, LTD., was quite as comprehensive in the number of patterns shown, and a new style of

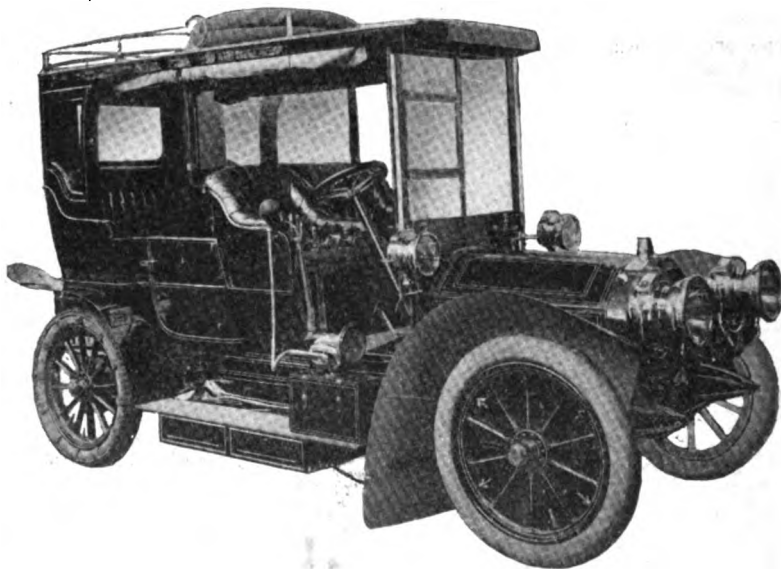


Fig. 115. — The Metallurgique 30-35-h.p. Limousine.

"Salsbury-Flare" was displayed to advantage. This is fitted with a mirror lens reflector and a lens condenser of bullet pattern. The "Dainty" and the "Peerless" are two new patterns in Salsbury-Dietz lamps which attracted some attention. Jacks, horns, funnels, the new "Era" accumulator and a petrol gauge of ingenious design were included in a capital display.

Messrs. BEVAN, HOGG AND CO. had a small but varied display of their hoodsticks for use in connection with canopied cars, bent rails, wings, panels, etc., the work on view demonstrating their capacity in this direction.



Messrs. C. FONTEYN, LTD., had an interesting exhibit, included in which were the Auto-Fauteuil motor-bicycles and tri-cars. The cycle is fitted with a 3½-h.p. water-cooled engine and is started by a handle as in the case of a car. The valves have large seatings and are mechanically operated by one cam. They are also interchangeable. A chain drive is employed, and by reason of the clutch and free engine a very flexible drive is obtained. The change-speed gear employed enables an engine of a low power to be used, thus reducing the weight and securing a machine that can easily negotiate hills. A noticeable exhibit on this stand was the Alcyon 7-h.p. car. The engine is fitted with mechanically-operated valves

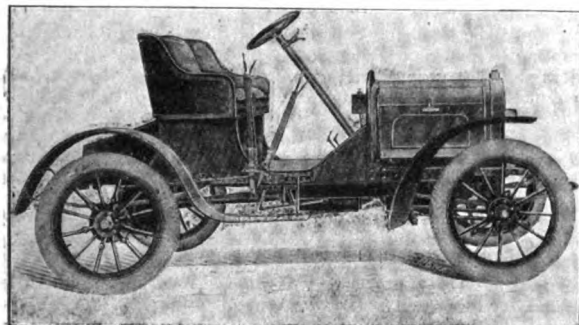


Fig. 116.—The Alcyon 7 h.p. Car.

transmission is by cardan shaft, three speeds and a reverse being provided with direct drive on top speed. The weight of the Alcyon car, which has been introduced for "the man of moderate means," is only 7 cwts., and a speed of thirty miles an hour is obtainable with the machine. Some good types of belts were also shown on this stand.

#### Petrol and Oils.

On their familiar stand Messrs. CARLESS, CAPEL AND LEONARD exhibited specimens of packages for the conveyance and storage of petrol, oils, etc., and also their patent safety lamp for lighting buildings where motor-cars are kept, or for use in any buildings where inflammable materials are stored. It is also adapted for lighting vehicles laden with mineral spirit and other inflammable oils. This safety lamp can readily be lighted without being opened, and can be locked so that it can only be opened by means of a powerful magnet. At this stand were also shown samples of standard petrol and of petrol especially suitable for tropical countries. Fuel oil, the Carline lubricating oils and the "S" lubricating oil for air cooled or for water cooled motors running at great speeds were also on view, while visitors on trial runs from the yard were able to judge for themselves of the good quality of Messrs. CARLESS, CAPEL AND LEONARD'S petrol, this being freely allowed to exhibitors sending vehicles on such trips with prospective buyers.

#### Marconi's Coils.

Nearly a score of Marconi ignition coils were exhibited by MARCONI'S WIRELESS TELEGRAPH COMPANY, LTD., whose new works are well equipped for a large and varied production. Among notable types is the 35 A, with terminals enclosed, and intended for use on boats or cars where the ignition apparatus is fully exposed to the weather. For use on two-cylinder cars where economy of space is essential a coil has been introduced the terminals of which are brought out at the bottom of the case, obviating the use of a double front, and allowing the width of the coil to be brought down to a minimum. A special feature is being made of the "coil de luxe," specially designed for motorists desirous that the appearance and finish of all accessories should harmonise with the general lines of the car. In this design the coil lies flat against the dashboard, the use of lugs being dispensed with by the extended back pieces. An interesting apparatus introduced by the Marconi Company is an accumulator charging device capable of a secondary output of forty watts. This and a capital selection of accumulators, ammeters, plugs, high-speed trembler coils, etc., made up an interesting display.

#### The Lune Valley Radiators.

THE LUNE VALLEY ENGINEERING COMPANY exhibited their new radiator on part of Messrs. McNeil, Hutchison and Co.'s stand. The principle of their water cooling apparatus was dealt with in our description recently of the Critchley-Norris motor-bus, but we may mention that the object of the arrangement is to obtain a radiator which shall be entirely free from leakage troubles. The apparatus has only a lower box, which is perforated on the upper side with a number of tapped holes, into which are fastened separate copper tubes which have been sealed at each end after being partially charged with methylated spirit, as well as having had the air removed. The water which is desired to be cooled is passed through this bottom box, and in so doing it causes the liquid in each of the tubes to boil, and consequently extract heat from the water, distributing it equally over the whole of the cooling surface. The fluid vapour

which pervades the upper portion of these tubes is continuously being condensed by the cold air passing through the gilled surface of the tubes, so that the cycle of events occurring in each tube is continuous. The tubes being all separate from each other and fitted to the tank by being screwed therein, may be replaced, should necessity arise, in a few minutes without removing the radiator from the frame of the vehicle, while should one or more of them be damaged in any way no loss of water would result, the only effect being to reduce the efficiency by the number of tubes actually affected.

#### Accessories.

THE NEW CLEVELAND MOTOR ACCESSORIES COMPANY had many novelties deserving attention. Among them were the A.D. Panhard plug and the Cleveland terminal. The latter is made up from sheet steel in two pieces, one of which is for attaching to the wire by claws and having a tongue in the end of which a hole is bored. This tongue is pushed into the slide of the other portion, where it is held by a spring button entering the hole of the former. It can be detached by a pull. The Pognon H.T. and magneto sparking plugs were also prominent on the stand as well as a good head lamp having a reversible inner lens, one side of which is concave and the opposite side flat, thus serving to concentrate the light on one side and on the other to diffuse it, according to which side is in use at the time. It is instantly reversed by opening a clip and twisting the frame to which the lens is attached.

#### The Gratz Patents.

Considerable variety was an innovation on the stand of GRATZ PATENTS AND ENGINEERING SYNDICATE, LIMITED, where the speed indicator and mileage recorder has, hitherto, shared the honours of the display with the firm's improved Planté accumulator. This year novelty was imparted to the exhibit by the presence of the Gratz contact breaker, which can be made for any number of cylinders; also for high tension current distributors. Simplicity and efficiency are its claims to recognition. The Gratz accumulator is a well made device which the firm assert will last for years. It gives an output of eighteen watts per lb. weight and will stand 100 per cent. overcharge or a short circuit without injury to the plates. In the manufacture of the accumulator the positive plates are first moulded, with very fine inter-sections, in blue lead; they are then placed in vats containing a special electrolytic solution, and the per-oxide deposited on them by electrolytic action, until all the cavities are filled, and the lead itself, with the exception of a central core, is turned into active material, attaining at the same time a great degree of hardness. The negative plates are first cast from metal alloy in the form of a lattice work, and they are then filled with special composition, placed in a forming bath and a current passed through them, with the result that a hard and compact mass is obtained. It is therefore evident that such things as disintegration, buckling, sulphating, short circuiting, or any calamities are obviated; moreover, a greater capacity is attained with less weight of material. The Gratz patent speed indicator, which did so well in the A.C.G.B.I. trials, was also on view, naturally attracting much attention from practical motorists.

#### The "Channel" Marine Motor.

Mr. A. L. DAVIS, of the Channel Motor Company, came from Guernsey with his "Channel" marine motor, a special feature of which is the reversing gear giving free engine and direct drive ahead and astern with one lever only. The motor is made in 6, 12, and 24-h.p. sizes. In the two and four cylinder engines the cylinders are placed on opposite sides of the crank chamber at an angle of 90 deg., and slightly staggered with reference to the central line of the chamber to enable each pair of cylinders to drive on to the same crank pin. For this arrangement reduced weight and increased strength are claimed owing to the reduction by nearly a half of the length of crank shafts and crank chambers. Less vibration than usual is obtained by the better balancing of the moving parts, while the reduction of the number of working parts and the greater accessibility for adjustment and repairs are other distinct advantages.

For the Crown sectional leather tyre shown by Messrs. W. JENKINSON AND CO. it is claimed that it possesses the merits of being non-skidding and securely puncture proof, while being more durable and less expensive than the usual form of tyres.

AMONG the miscellaneous exhibitors were HORLOCK'S FOOD COMPANY, who showed their malted milk in the form of tablets intended for motorists when on tour. Messrs. M. and E. MARX made a good display of stencil plates and the like as well as of "Garlio," a cloth for cleaning cars, made entirely from waste silk. An office was also occupied by Messrs. J. DEFRIES AND SONS, LTD., from which to direct the fitting of several attractive stands in the Hall. Rubber stamps and stencil plates for making the registered numbers on motor-cars were exhibited by Messrs. HELLER AND CO., who made a good display of their specialities.

MESSRS. RODGERS, BROS., had a varied display of their gears, spindles, cranks, bearings, and similar work for motor-car engineers, additional interest being given to their display by the presence of a 20-24-h.p. four-cylinder engine made by the Eclipse Engineering and Motor Manufacturing Company, of Earlsfield Road, Wandsworth, S.W. This has the valves all on one side, and was a creditable piece of work.

### The Autoloc.

One of the novelties which attracted many visitors to the Gallery was the Autoloc, shown by the syndicate of that name, which had also on view the Hamilton radiator and the Hamilton carburettor. The Autoloc, we may explain, is a new mechanical device which may be used as a lock, a hinge, or a lever, and is designed to supersede the ratchet and notched quadrants and bars. The invention consists of a device for immovably locking together any two members of a rotating or sliding mechanism in such a manner that relative movement is rendered impossible by force applied to either of those members, whilst provision is made for obtaining relative movement by the application of small force in either direction to a third member. The adjustment of movement between the two parts forming

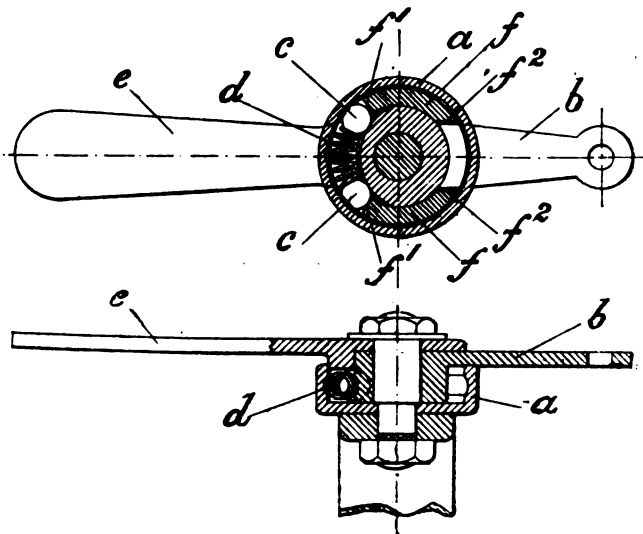


Fig. 117.—Part Sectional Elevation and Plan of "Autoloc."

the turning or sliding pair may be made as large or as small as may be desirable. In fact, the adjustment is infinite and the lock absolute in an infinite number of positions, whilst there can be no backlash in the mechanism. The device is being utilised in many directions, some of which may be enumerated as follows:—Control levers for automobiles, change-speed levers, steering gear, lifting jacks, tyre levers, etc. When used in connection with the steering column of a car this form of control lever dispenses with any form of rack, and, whether the levers are operated in a horizontal or vertical plane, they remain locked in any position in which they are moved without the assistance of a ratchet.

### The J. P. Cars.

The J. P. MOTOR COMPANY had on view a trio of live-axle cars, which, while comprising no startling deviations from modern practice, appear to be of sound construction, while their moderate price should recommend them to many motorists. We first inspected a 24-30-h.p. vehicle which has a Gnome four-cylinder engine set in the fore part of a pressed steel frame. The valves are all mechanically actuated and the ignition is by high-tension magneto, and also by accumulators and coil, the latter being fitted as a reserve. The clutch is of the leather-faced cone type of large diameter. Four speeds and a reverse are provided, with direct drive on top speed through the cardan shaft and bevel gear to the live axle, the latter being of exceptionally strong construction. The weight of the car is carried by the sleeves, the drive to the road wheels being through squares on the ends of the internal shafts. The foot brake consists of two metal shoes contracting on to a wide drum, the outer surfaces of the shoes being grooved to form channels for water cooling when the car is being used in hilly countries. The rear brakes are of the internal expanding variety. The vehicle is well sprung, a transverse spring at the rear supplementing the usual longitudinal ones. Ball bearings are provided throughout except on the engine. The other cars exhibited consisted of a couple of 18-25-h.p. four-cylinder vehicles, both fitted with roomy side-entrance bodies. In general arrangement they follow the lines of the 24-30-h.p. referred to above.

### The "K. D." Motor-Bicycle.

The "K. D." motor-bicycle set made by M. A. Keller-Dorian, of Lyons, France, and exhibited by Madame Lockert, attracted considerable attention. The set consists of a 14-h.p. or 17-h.p. motor, together with all the necessary accessories in the way of tanks, pulleys, driving rims by attaching which to an ordinary roadster safety the latter may be quickly converted into a light motor-bicycle, capable of attaining a speed of from 20 to 30 miles.

### The Corre Cars.

Several of the latest types of Corre cars were displayed by AUTOMOBILES CORRE, LTD., including a two-seater with 8-9-h.p. De Dion single-cylinder engine; it can also be supplied with a tonneau. The general arrangement of the mechanism follows the usual lines of live axle cars. The gear-box is adapted to give three speeds forward and a reverse.

The Corre 12-h.p. car is provided with a De Dion double-cylinder engine the radiator being suspended below the frame, so that the carburettor and ignition apparatus are of easy access, a remark which applies to the change-speed gear and other parts of the mechanism. It may be remembered that it was on a Corre 15-h.p. car that General Booth last year made a 2,500 mile tour in England.

### The Zenith Cars.

THE ZENITH MOTOR ENGINEERING COMPANY showed the Zenith Bi-car. The framework consists of an independent upper and a lower frame, which are connected only at either end, and which together form a spring absorbing practically all ordinary vibration. The lower framework is in front, carried well beyond the axle of the steering wheel, and is connected with the higher by a hinged joint; in the back the connection is made by means of a covered spring, working in a socket, thus preventing any lateral spring in the frame. On the "Bi-car," in turning, the base of the wheel goes outside the centre line of the machine instead of inside, thus—with a very low centre of gravity—avoiding side-slip. The frame is a specially designed horizontal, which, whilst giving great lateral strength, yet by reason of its great elasticity in a vertical direction gives a great degree of comfort in the saddle and freedom from vibration. The 1906 machine of this company is fitted with a 3-h.p. Fafnir air cooled engine and Brown and Barlow carburettor. The steering is effected by means of connecting rods fixed on the ends of the axle and bar at the bottom of the steering pillar, the steering wheel being of unique design. On this stand was also shown the "Zenith popular" two seated car fitted with a 6-h.p. Stevens engine. The construction of the machine is such that the whole of the weight of both riders and of the machinery is carried below the centre of the wheels.

### Everything but the Motor.

As usual, Messrs. ALFRED DUNHILL, LTD., took occasion of the exhibition to bring their varied range of motoring accessories to the notice of the public. In their lamp department special mention may be made of a Duplex lens headlight, fitted with lens and parabolic reflector and a patent double burner, with a low consumption of gas per hour, securing to the motorist a powerful light on an economical consumption. This lamp is also suitable for use with Dunhill's dissolved acetylene. This latter speciality is manufactured without danger on the system advocated by the firm, for which they have obtained the sole British rights. The process is briefly as follows:—The containers are filled with a porous material, soaked with a chemical which has the peculiar quality of dissolving 100 times its own bulk of acetylene gas under slight pressure. As this pressure is released, acetylene is given off as pure dry gas. Users of dissolved acetylene confidently state that

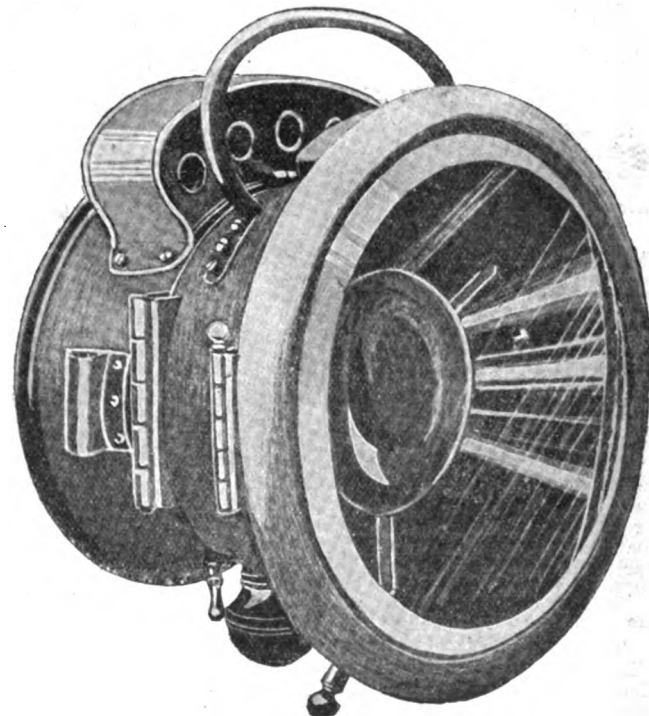


Fig. 118.—Dunhill's Duplex Headlight.

the advantages over the small automatic generators must be experienced to be fully appreciated. Accessories shown at the stand included lamp covers, an acetylene lamp adaptor for paraffin lamp, speed indicators, jacks of every kind, etc. In clothing were several new designs for the season, including the "Loden" smock, a light and handy waterproof coat with sleeves and shoulders finished with silk lining. For motoring attire, chauffeurs' and mechanics' clothes, aprons, and the like were also in the display, which amply justified the firm's claim to supply "everything but the motor."

**Radiators, Etc.**

Long associated with other industries requiring the scientific as well as the mechanical study of cooling appliances Messrs. BENNETT, SONS AND SHEARS, LTD., have gone into the automobile trade with considerable advantage. Their productions have a high finish, everything being characterised by good workmanship and sound material. The new patent honeycomb radiator was an important speciality in the display, this being constructed with a tube plate projecting beyond the tubes and protecting them from damage. In Fig. 119 the projecting tube plate is illustrated as protecting



Fig. 119.—Section of Honeycomb Radiator, showing Projecting Tube Plate.

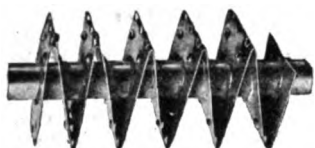


Fig. 120.—Tube with one form of Patent Continuous Gill.

the tubes and joints. Tubular radiators with various designs of gills are made by the firm, a good type which will not lose shape being shown in Fig. 120. These can be obtained with either vertical or horizontal tubes, and in the specimen on the stand attention was well directed to the cap on the top of the radiator, which was of a novel design and good appearance. A new jointing preparation known as Petroment was also shown, this being put up in collapsible tubes of convenient size, and having well-founded merits.

**The "Albany" Pump.**

On the stand of the ALBANY ENGINEERING COMPANY was the Albany rotary motor-car pump, the special features of which are the absence of valves and the reduction of wear to a minimum. The device is an absolute force pump which can be bolted direct to the frame and requires no close attention. There are only two working parts, and the pump is well calculated to overcome one of the great difficulties with which makers of cars have hitherto had to contend in effecting the cooling of motors.

**The Bentall Engine.**

Messrs. W. G. JAMES AND W. WHITTALL were in the Gallery with a Dupressoir light chassis fitted with a two-cylinder 8-10-h.p. Bentall engine. Various parts of the Bentall motor were also displayed on the stand. Having illustrated and described the Bentall engine so recently as November last, we would now content ourselves with reminding our readers that the construction of the crankshaft is a combination of built and solid crankshaft giving great rigidity, an arrangement which permits the crank to be casehardened and ground, and the connecting rods to be made with solid or adjustable ends. The shape of cylinders enables the camshaft to be brought close to crankshaft and the gearing proportionately reduced in size, thus diminishing the peripheral speed. The low tension ignition is placed in the centre of the cylinders, which secures that the spark occurs in the centre of the charge and gives a more rapid and effective explosion. The low tension system permits of very easy adjustment in timing of the spark. The advancing or retarding device is very simple, and not likely to be affected by considerable use. The movement is effected by means of a nut with left and right hand thread, which, when partly rotated, lengthens or shortens the rod carrying the spring pawl that actuates the trips; in this manner the electric circuit is made or broken earlier or later. The same nut, by means of a simple clamping device, can be used to permanently adjust the spark for any position. The plug carrying the ignition tappet in centre of cylinder can be easily removed, and its removal in no way affects the adjustment of the sparking. The same conditions apply also to the bracket on top of cylinder which carries the trip catch; in fact, the whole of the ignition mechanism can be removed without needing readjustment when replaced. All the moving parts on ignition are padded to reduce noise. The construction of crank case permits the removal of bottom cover, giving a clear view of the whole of the mechanism, including gearing and governors. The lubrication is on the splash system. Regarded as a whole the Bentall engine is a good specimen of British workmanship.

**A Novel Petrol Motor.**

Messrs. A. LEGE AND CO. exhibited an unusually novel and interesting type of petrol engine, a full description of which will be given in an early issue. There was also shown at the same stand the Smitt patent change-speed gear, in which the pinions are always in mesh. It is designed to give three forward speeds and a reverse with direct drive on top speed, the various pairs of pinions being made to transmit the power by means of a sliding shaft having eight projections or feathers formed on it, which can be brought into engagement with corresponding recesses in the bosses of the loose pinions.

**Motor Oils.**

Messrs. GRINDLEY AND CO., LTD., to the value of whose oils for automobiles we made reference last November, were present with a collection of their motor oils as used on many of the London motor-omnibuses. White solidified oils, graphite grease, anti-rust, and other specialities were also on exhibition, as well as the Pioneer brand of oils for motor cylinders and bearings.

**Lamps.**

Messrs. L. RIPAULT AND COMPANY had a good show of Oleo plugs and terminals, a novel form of collapsible lamp for handy service also attracting visitors to their stand. Several imitations of these plugs having been put upon the market, the makers have decided to add to the mark Oleo a sketch of a negro's head—and by this distinctive sign the plug will be known.

**The High Tension Co.**

On their stand the HIGH TENSION COMPANY showed a six-cylinder 20-h.p. marine petrol engine as well as other sets of four, three, two and one cylinders of 12, 9, 7 and 4 h.p. respectively. There was also shown a well-designed six-cylinder chassis. A new coil for the latter was also on view, a practically perfect insulation being given by the winding being in sections.

**The G. B. Specialities.**

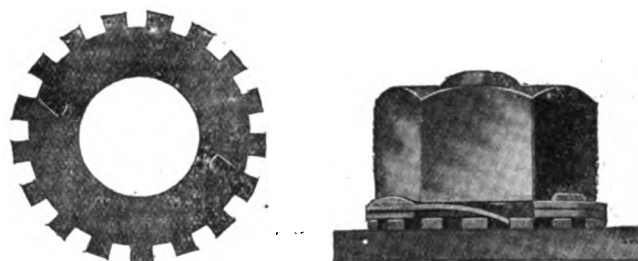
The letters "G. B." signifying "Gordon Bennett," have been adopted as trade marks by the COUNTY CHEMICAL COMPANY, LIMITED, which showed its specialities in the Gallery. These included several good lines in oils and greases, including a motor grease with a high melting point; a motor-oil of non-congealable constitution; carbide for use in motor lamps, and recommended on account of its economical qualities; a chain lubricant for reducing friction; a car polish for imparting a lustrous polish to the varnished parts of automobiles; and an accumulator repair outfit containing everything necessary for the repair of celluloid accumulators. In addition to these specialities, the company also exhibited their G. B. vulcanisers, which have been already described in the *M.C.J.*, and the merits of which are being generally recognised by motorists.

**A Buttonless Coat.**

Messrs. HAWKES AND CO. had a distinct novelty in motor clothing—viz., a coat without buttons. This is known as the "Swinhoe," and is absolutely impervious to wind and rain. It is kept in position with one strap, which is secured on to the ordinary jacket. The collar is also a special feature, closing at the back, and entirely securing the wearer against the vagaries of the weather. When secured on the wearer the coat has the appearance of an ordinary garment of good design, while the ample skirt allows for the comfort of the motorist when sitting. Doubtless many visitors will preserve the set of illustrations with which Messrs. Hawkes and Co. made clear the ingenious ideas embodied in this garment.

**A Nut-Lock.**

SPERLING'S NUT-LOCK, LTD., attracted attention to the useful speciality indicated in their title and illustrated in the accompanying views. The washer (Fig. 121) is placed on the bolt and the spring plate put on and screwed down into the position shown in Fig. 122, pins in the washer being pressed into the workplate by the pressure of the nut. It is claimed that the use of these nut-locks saves at least 50 per cent. on the usual method. The loss of nuts and bolts is also avoided. The main point is that as wear takes place on the car or machinery, the nut can be tightened up in the ordinary way and is firmly locked where



Figs. 121 and 122.—Details of Sperling's Lock-Nut.

left, thus retaining the adjustment, avoiding rattle and wear of parts adding also to the sweet running and life of machinery. Motor-car and wagon builders recognise the invention as securing safety in wear and exactitude in adjustment.

The ACCIDENT INSURANCE COMPANY, LIMITED, had a stand from which to issue prospectuses relating to their motor-car insurance policies, which have many points of interest.

Mr. ALFRED DUNHILL made a large display of a single article, this being a patent shield pipe of stylish appearance, and possessing merits likely to be appreciated by motorists to whom the pipe does not lose its fascination even when on the car. This particular form of smoking medium has a shield which prevents the inconvenience and danger associated with flying sparks or ash to the smoker or his companions when motoring. Its features are simple, but none the less commendable on that account. To many it will prove a close friend.

**Prested Specialities.**

Among the specialities shown by the PRESTED MINER'S LAMP COMPANY, LTD., was a sparking plug with interchangeable parts, and no cement to work loose. The plug requires no packing and with its use short-circuiting is prevented. There was also on view a multi-cylinder coil in which all the coils are quickly detachable. A new switch, tail lamps, charging boards, etc., completed an interesting exhibit.

**Motor-Car Houses.**

Not everyone is in the happy position of having a specially-built motor house; such would be well advised in inspecting the motor-houses designed and constructed by Mr. A. Rossi, who makes a feature of the erection of such houses where they may be required temporarily or permanently. They are built in sections, which are bolted together and easily removable from one place to another as occasion demands. The floor is well raised above the ground, and the general design has been well prepared with a view to the requirements of motorists who do not happen to have a permanent structure.

**Carriage Work.**

Amid a good display of carriage work on the stand of the VICTORIA CARRIAGE COMPANY was a limousine body fitted to a 24-28-h.p. Leon Bollee car with a removable top. This firm are one of the pioneers of this form of adaptable body for motor-cars, and, as it affords either a closed or open carriage, its advantages are obvious. In both cases it is not apparent that the body can be so adapted, so finished is its appearance.

**Nickell's Terminal Nut.**

A new combined terminal end and electrical nut has been introduced by Mr. F. F. NICKELLS, whose tell-tale rear lamp has done something to ease motorists of a minor worry. The main points of the terminal end and nut exhibited are a brass stirrup provided with three metal strips. Near the ends of the three latter holes are bored so that when the ends of the stirrup are brought together all three holes are in line and they can be slipped over the threaded portion of the terminal. A spring near the top of the stirrup tends to force the extremities of the strips apart, with the result that the terminal nut is held firmly in position, the device constituting a useful accessory for motor-cyclists.

**Name Plates.**

Although tardy in arriving at the show, the STANDARD METAL ENGRAVING COMPANY made an effective display the last few days, their specimens of name plates for automobiles of great and small degree being remarkably well done and illustrating the favour with which their work is regarded by many of the leading makers of cars, both at home and abroad. They are made in a flexible metal and can be turned out in any design, the company having facilities for work of a very complete kind.

**Fire Extinguishing Appliances.**

Messrs. F. B. HILL AND COMPANY, LTD., were in the gallery with a selection of their fire extinguishing appliances, fire buckets, hand grenades, etc. Hitherto these have been chiefly used in connection with buildings, but now they are available for use if required on the road. A small form of extincuteur is made which can be carried on a motor-car, and is therefore available should any necessity arise. It is made in a handy form of two gallons capacity, and is strong, light, and sold at a reasonable figure, weighing only 29 lb. It is guaranteed to instantly extinguish burning oil, tar, and other highly inflammable materials, and will throw a chemical fluid a distance of 30 to 40 feet.

**Lifts.**

THE hydraulic motor-car lifts made by Messrs. R. WAYGOOD AND CO., LTD., have become familiar in garages and showrooms; the display made at the exhibition should further popularise these excellent productions in the automobile industry. There was a model of an automatic push button electric lift and also examples of other productions of the firm. Their electric motor-car lift is worked with push buttons and fitted with safety appliances, while their hydraulic motor-car lift is also quiet, safe and reliable. It is suitable for any position and is made to suit any weight, height, or size, or to work from any pressure.

**Wheels.**

Of particular interest to those concerned with the development of the heavy vehicle was the exhibit of Messrs. STAGG AND ROBSON, LTD., who had on their stand a double-decked omnibus body of pleasing design and good finish. A selection of patent rim wheels suitable for such vehicles, and built to the order of the London Omnibus Company, attracted much notice. The exhibits were arranged in various stages of manufacture, so that an adequate notion of their construction could be given to visitors. The firm's patent rim principle of manufacture is already well known, and one of such specialities but with loose strakes formed a central feature of the display. Should the strakes require renewal the facility of application will be found a great advantage. The patent omnibus pocket wheel is also adaptable for light motor-cars. The rim being entirely of steel or malleable iron, there are no fellows to shrink. Any of the spokes can be replaced at any time without disturbing the rest of the wheel.

**The Adams Motor Jacks.**

The useful lever jack for removing motor-cars from one spot to another introduced by Messrs. H. ADAMS AND CO. seems to meet with increased favour at each show. Having previously been fully described

in our columns, a further word of commendation is all that the present occasion seems to demand. The new portable elevator, however, calls for further mention. This elevator is constructed to receive any size or weight of motor-car, which can be drawn on to the elevator by the means of two wire ropes running over two geared drums. The wheels of the car, running in two steel channels, are secured when in position by three strong leather straps, as well as the ratchets on the drums, therefore in quite a safe position for repairs or examination of undercarriage, etc. The elevator is also fitted with a large extension screw, running through the centre, thus enabling the user to extend the framework of the elevator to suit the width of any type of car. The elevator is mounted on iron wheels in the centre of the framework, as well as two strong castor wheels on the end of channel frame, thus enabling the user to transfer a car to any part of the workshop or garage, and permits the car to be turned round as though on a turn-table. The advantages of the apparatus are easily apparent.

**Imperial Tyres.**

THE IMPERIAL TYRE AND RUBBER COMPANY, LTD., required two stands on which to display their goods, these including Imperial tyres of every description with plain treads, grooved rubber treads, and studded non-skidding devices. There was also a full range of tyre repairs in which direction the firm have acquired considerable distinction these last few years. One good exhibit was the Imperial detachable non-skidding tyre protector, which is said to secure a desirable combination of strength, simplicity, and efficiency. This device is self-adjusting, the inflation of the tyre setting the non-skid in its proper position, and adjusting it to the exact size and shape of the type. A perfect grip is secured and there are no metal attachments to damage the surface. This speciality of the Imperial Tyre and Rubber Company, Ltd., can be fitted to any section of tyre.

**Launch Engines.**

Of special concern to those who are following the progress of the automobile movement on the water was the exhibit of the MAIDEN HEAD MOTOR AND ENGINEERING COMPANY, which consisted of single and twin-cylinder launch engines, sirens, water-cooled silencers, reversing propellers, and fittings for motor-boats. The special point of the company's specialities in engines consists in the fact that the engine, carburettor, pump, thrust block, and flywheel guard are built up on a substantial cast-iron angle frame, ensuring the maximum of portability consistently with strength and perfect alignment. These engines are known as the Endean, and are made in 3, 4, and 6 h.p. single-cylinder, and 6, 10, and 12-h.p. twin-cylinder sizes.

**Smok-ett.**

Messrs. HOARE AND SONS were doing much to popularise "Smok-ett," the registered name of their new rain coats for motoring. They had a good range of such specialities on view, the Aquatecta slip-over being an admirable device which has already won a place in the motorist's wardrobe. A full range of the firm's specialities in liveries for chauffeurs as well as motoring costumes for ladies made up an effective section of a very representative display.

**New Motor Screen.**

The special exhibit of the SAFETY MOTOR SCREEN COMPANY, LTD., was well calculated to arrest attention, seeing that it went far to overcome the objections sometimes raised against such devices. The invention is a combination of glass and celluloid, a sheet of celluloid being cemented between two sheets of glass. The compound safety screen is as clear as glass and cannot be distinguished from good plate glass. In the event of the compound safety screen being broken the pieces of glass adhere to the celluloid and cannot become detached. So strong is the material that a brick thrown at it will rebound off it, whilst it is absolutely fireproof. From all we can hear the screen is likely to be frequently seen on the road during the coming season.

**Detachable Bodies.**

Having so recently as November last fully illustrated and explained the idea underlying the Windham sliding detachable motor body placed on the market by the company in which that title is incorporated, there is no need for lengthy description on the present occasion. The cars fitted with the bodies proved well fitted to demonstrate the ingenuity of the idea by means of which one chassis can be readily adapted to various purposes.

**The Crossley Motor.**

The Crossley 22-28-h.p. four-cylinder motor was shown in the gallery by Messrs. J. S. CRITCHLEY, LTD., who are the sole factors for these motors. The cylinders have 4½ in. bore by 5½ in. stroke, notable features consisting in the specially long bearing and mechanically-operated valves. The display of various parts of these motors was a useful addition to an interesting exhibition.

**Fire Extincteurs.**

The collection of "Favourite" chemical fire extincteurs in various sizes from one gallon to five gallons made by Messrs. SINCLAIR AND COMPANY was of interest to many visitors, these being handy and conveniently designed for use in garages, motor works, etc. The assortment of fire appliances was practically exhaustive of everything required in an automobile establishment for the conquest of incipient fires. A speciality was a self-acting chemical fire engine capable of successfully extinguishing burning petrol. It is claimed that one gallon of the contents of this apparatus will be of greater efficiency than twenty gallons of plain water.



### The Polkey Lamp.

A large stand was occupied with lamps made by Messrs. GEORGE POLKEY, LTD., whose productions have the distinction of British origin. The firm devote their skill and facilities for the construction of a good style of lamp to the paraffin and combined paraffin and acetylene types, several designs of both classes of lamps being on view and attracting much attention. The firm's "convertible" headlight is becoming a favourite type with many motorists, while their large headlights have a solidity of construction as well as brilliance of illumination that is combined in a really notable lamp. This firm also showed the Sampson acetylene lamps, giving up to 2,000 candle power.

### Accessible Batteries.

A large selection of electrical devices, such as ammeters, voltmeters, ignition coils, hand lamps, ignition distributors, charging apparatus, and the like, served to introduce the ACCESSIBLE BATTERY AND ENGINEERING COMPANY to the notice of the motoring public. A novelty on the stand was an accumulator which can be taken to pieces when it is desired to clean or replace the plates. The cover is fixed by screws and can be readily removed and fastened down, so that they are entirely proof against spilling.

Reference has already been made to the splendid debut made by Messrs. SAYERS AND CO., whose carriage work was of good design and fine finish, the body fitted to a Unic chassis being a notable exhibit. Among the minor departments of the display were the Vuitton trunks that can be supplied to match the colouring of the car itself and the Sayerico tyre brackets, by the use of which the carrying of the spare tyre is made an easy matter. This is attached to the car, forming a neat attachment and assisting the general appearance of the vehicle.

Messrs. H. G. NICHOLL AND CO. made a good display of ladies' and gentlemen's motoring raiment, including rainproof frieze motor-coats lined with leather, wool, or fur. Their "Quicksilver" rainproof overall motor coats have special points so far as elegance and quality are concerned, and special mention may be made of the wrap coats in a new Nicoll cloth of pure wool in which "warmth without weight" is said to be secured.

Messrs. H. M. HOBSON, LIMITED, showed the Jenatzy tyres, the excellent quality and wearing capacity of which is claimed to be one of their great merits. The construction of the tyres is based upon the practical experience of Jenatzy. A novel tyre at the stand was one intended for motor-bus service, canvas and metal alternating around the rim and providing an apparently durable and non-skidding form of tyre.

The gas engines in the Hall included one of Messrs. KYNOCH's engines and producer plant with a direct coupled dynamo, the electricity generated being used for lighting the stand, and also the "National" horizontal type of gas engine and suction gas plant made by the National Gas Engine Company.

Messrs. WEINBRENNER AND CO. were somewhat late in taking up their stand, but once in position their metal engravings for use on motor vehicles, etc., attracted considerable notice. They are well finished and clearly lettered, affording makers of cars the opportunity of labelling the same in neat style not detracting from the general appearance of the vehicles.

A display of launch engines was made by Mr. F. C. BLAKE, who has devoted much study and experiment to this department of automobilism. One of the types shown was of 25-35-h.p., with mechanical valves arranged on opposite sides; others were of 6-h.p. two-cylinder and 16-h.p. four-cylinder respectively with automatic valves. On the stand there was a four-cylinder high-tension distributor and a good selection of Baseley's brand of Engelbert's oils—pure hydrocarbon mineral oils of a high grade of quality.

The Securitas combined pneumatic and solid tyre was shown by the UNITED KINGDOM MOTOR TYRE MANUFACTURING COMPANY.

The MIDDLETON PNEUMATIC HUB SYNDICATE, LTD., drew attention to their special device for securing the easy running of automobiles, an ingenious idea already fully described in our columns and recognised as a practical device by many motorists of note.

SHARPE'S UNIVERSAL PATENT COMPANY, LTD., made a feature of their silencers, now made applicable for all classes of automobile work—on land or water. The "Universal Victoria" air-cooled silencer for motor-cycles has now two expansion chambers in one casting; otherwise the system of cooling and treating the exhaust gases is precisely the same as has long proved acceptable in these devices. The makers of these well-known silencers are making their works of general interest to motorists, and now undertake all classes of repairs to motor parts as well as a "universal" agency for the convenience of car owners at a distance.

Messrs. J. C. LYELL AND COMPANY, LTD., showed the Crepet gear, which has the advantage of being always in mesh owing to the provision of a sliding keyway. The "Universal" non-skid detachable tyre protector was another exhibit of interest. This can be removed from or adjusted to the tread of the tyre and will fit every diameter of tyre and every circumference within a variation of one-eighth of an inch. It consists of a band of chrome leather carrying the outer plates of case-hardened steel and is fixed to the rim by means of steel hooks. The spare sections, which are about thirteen inches in length, can be made to serve as gaiters, thereby obviating the necessity of carrying a repair outfit on a journey. As an economical as well as efficient protector this device merited special notice. The "Lemale" self-starter, sparking plugs, lamps, tool kits, etc., made up a comprehensive display.

The "PHOS" COMPANY had a show of their patent convertible motor-car lamps for use with either special carbide cartridges or ordinary loose carbide, as well as of acetylene gas burners of every description for automobile use. This company is specialising in such work, and their exhibit revealed a close acquaintance with the requirements of motorists.

Messrs. J. C. FULLER AND SON had a large representation of their electrical specialties, including ignition apparatus, batteries, omnibus lighting batteries, head lights, tail lamps, etc. The Fuller motor capsule electric reserve was on the stand, this being a form of dry ignition battery which can be kept in stock without depreciation for a considerable time. When required for use the cell has merely to be punctured; it is then immediately available for working the coil. These cells, which should add much to the comfort of motorists on tour, are made in three sizes, for motor-cycles, tri-cars, and touring cars. We are assured that the battery will remain effective for any length of time. The Syntonic coil was also shown in an improved form, and altogether the display was a very notable one.

Mr. J. A. RYLEY had a large exhibit of specialties for motorists, including the "Perfect" switch, the "Vita" sparking plugs, Eclair coils and the Ryley non-skid, the latter of which has been recently illustrated in our columns. The Eclair coil can be obtained fitted with the Mutax fixed or detachable tremblers, which are remarkably fast and reliable.

THE COWEY ENGINEERING COMPANY, LTD., made a good display of their patent speed recording indicators, in which scientific accuracy is combined with excellent workmanship.

Messrs. GEIPEL AND LANGE made a special feature of the Vulcan speed indicators, which are electrically operated instruments consisting of a magneto dynamo driven upon the front wheel by means of aluminium pulleys and rubber band. The current generated by the dynamo is proportional to the speed of the wheel from which it is driven. Electricity is conveyed by flexible wire to a hot-wire voltmeter, which can be situated upon the dashboard, or other convenient position. The indicator is made with 2 in. or 4 in. dials respectively, and the range may be 45, 60 or 90 miles per hour. A distance recorder of novel construction being fitted outside the front wheel to the hub-cap, to which it is permanently attached, was also shown in the Vulcan odometer. The drive of the odometer is perfectly central, and does not depend upon star wheels or strikers. The fixing to the hub-cap can be carried out readily by any mechanic. The dial of the odometer shows miles and 1-10th miles reading up to 9999.9 miles and then repeating. Below this is a set of five dials which can be set by hand, enabling the distance traversed at any time to be ascertained by subtraction. Vulcan auto tremblers were also shown, consisting of a high speed trembler arranged to be placed in series with any existing coil and giving the advantage of a high speed trembler instead of any slow or defective trembler which may be fitted to the existing coil. The new type of Vulcan auto tremblers are furnished with condensers which involve the fitting of two wires only in the place of four as formerly.

The system of the insurance of motor vehicles at LLOYD'S was explained in the Arcade by Col. D. A. Kinloch, from whom full particulars could be obtained of the policies against accidents of all kinds, third party claims, fire risks, including explosion and self-ignition, theft, and burglary.

Another insurance company represented at the show was the CAR AND GENERAL INSURANCE CORPORATION, LTD., which specialises on motor-car, motor-cycle, motor-lorry and similar insurances, while also effecting insurances in connection with accidental hazards of all kinds.

Many good designs in the well-known "Omne Tempus" rainproof cloth were to be seen on the stand occupied by Messrs. SAMUEL BROS., LIMITED, who have given special attention to the requirements of motorists—both ladies and gentlemen. They gave an interesting demonstration of the rain-resisting and porous qualities of their cloths, which have been adopted in the improved "Romeoter" coat. This is also made in Irish frieze, Scotch tweeds, and leather. Boots, gauntlets, aprons, caps, etc., added to the variety of a useful display.

Several excellent specialties were shown by the GRAPHOLINE MANUFACTURING COMPANY, LTD., their manufactures including clothing in furs, frieze, and leather. The "one minute" series of levers for removing tyres were on this stand, as well as the Bruck solidified oil and Grapholine for chains.

THE SEDDON TYRE COMPANY showed the Reddaway-Seldon motor tyres of both the beaded edge and tubeless patterns. These have been previously described in our columns; we may now add, however, that the tubeless tyres can easily be fitted to existing wheels by removing the rims and attaching the flanges to the felloes.

Among the novelties on the stand of the INVENTORS' AND INVESTORS' CORPORATION, LTD., was the "Instra" warmer, a device for placing within the muff or in the pocket for warming the hands. It is also fitted with a safety attachment for hanging outside the coat. To ladies motoring in cold and wintry weather it will prove a boon, and all who travel will recognise the value of the warmer. On this stand Brown's "Rolledge" motor-car polish was being exhibited, this being an excellent preparation recently referred to in our columns.

Messrs. JOSEPH KAYE AND SONS, LTD., showed their oil cans in copper, brass and steel, their "forced feed" or "pump" lubricating oil cans, improved oil economiser and other specialties which they have familiarised among motorists at these Agricultural Hall shows.

THE Desclee non-skidding tyre with its renewable metal treads and easy capacity for repair was exhibited by Messrs. G. DESCLEE and Co.

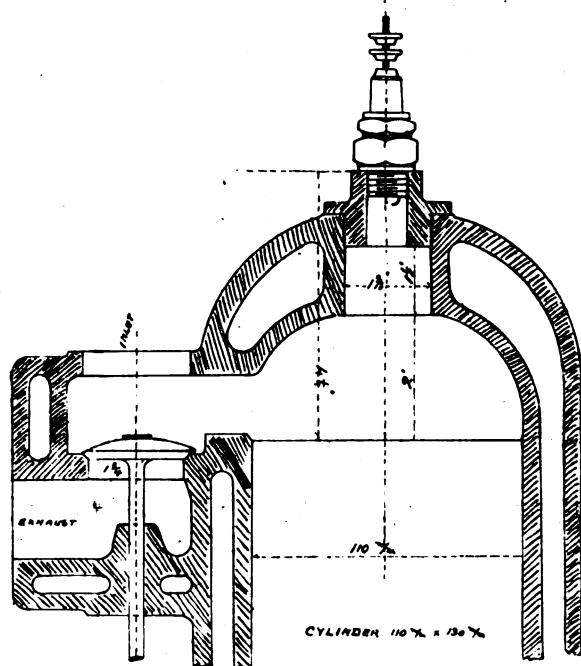


[ Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, W.C.]

### SPARKING PLUG POSITION.

TO THE EDITOR OF *The Motor-Car Journal*.

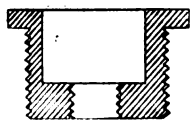
SIR,—Herewith I send you a sketch in section of one of my motor-car cylinders, by which you will see that the sparking plug is fitted in the top of the dome. This places the sparking point of the plug some distance away from the compression chamber and causes misfiring sometimes, especially when the sparking points are a little foul. Is this plan a good design, as I see most of the new engines have the sparking plug



fitted near the inlet valve, and the compression chamber very much smaller in comparison to the one shown? At every compression stroke the recess up to the sparking plug has to be filled and also exhausted from there after the explosion, but when the engine is running fast it often misfires. Would I gain more power if I filled the space up and brought the sparking point into or near the top of the compression chamber? I could do this by taking the present nut out of the recess and tapping the recess with a new thread through and fitting a new plug from the inside of compression chamber. I could also reduce the cubic capacity of the compression chamber if it would be a further gain. Another plan would be to fill up the recess and fit the sparking plug in the recess between the automatic inlet and exhaust valves, but this would mean drilling a hole through the water space of the valve recess, which probably may leak unless carefully done when tapping and fitting the nut for sparking plug. I shall be deeply grateful if you can advise me what is best to be done in this matter, as I am sure I do not get the full power out of my engine. The compression when turning by hand is only about 45 lbs. on the test gauge even after fitting new rings to the pistons. The engine does very fair work, but I think it should do better and be more economical in petrol, which is now very heavy. Can you inform me were I can get sparking plugs with long sparking points, say 1½-2 in. or so?—Yours truly,

SNAVE.

[The sparking plug as shown in our correspondent's sketch is without doubt too high in the cylinder head. The best position for the plug is



near the inlet valve, but this, in "Snaves" case, would be difficult. We would advise fitting a hollow plug in the cylinder head, as per drawing appended, and using a box spanner for the sparking plug. This would also raise the compression somewhat: but the low compression may be due to fitting new piston rings, these not generally being gas tight until

after a little running. If the sparking plug is placed further into the cylinder head no doubt the difficulty will be overcome. We understand that a sparking plug with extra long points is supplied by Messrs. Osborn and Lord, 6, Great Marlborough Street, London, W.]

### THE COST OF EXAMINATIONS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Being a reader of the *M.C.J.*, I am pleased to see your note commenting on part of the speech given by the Hon. Arthur Stanley, M.P., to the members of the Motor Union at their annual meeting held at Cordingley's Show. While I agree with your suggestion that something should be done to reduce the club's charges for examination, I fail to see your argument that the time is not yet ripe for the licensing authorities to take the matter in hand. In the event of the licensing authorities taking the examination question up, what will be the worth of the certificates of the Automobile Club of the present time? When the time comes for the Government to take over this examining problem, car owners, manufacturers, and, in fact, all persons employing a man to drive their car, will catch the certificate fever again and insist on the man having a Government certificate; the Club certificate will then be no use whatever to the driver, even of no more value than those issued by the so-called "Motor Schools."

It would be an interesting point for all motor drivers to know when and where this examination and certificate business will end. A man just entering the trade in most instances seeks his first vague knowledge at one of the numerous motor schools, for which he pays anything from £5 upwards, and sallies forth at the end of about a fortnight or so a full-fledged mechanic-driver with a certificate to that effect; he then finds the advertisement of the Automobile Club certificate staring him in the face, and comes to the conclusion that he will not be in the running unless he has that certificate also; it is now likely that by the Government taking the thing up he will have another chance of procuring another sheet of paper with "We beg to certify," or something of the sort, with an imposing looking seal in the corner. It is quite evident that before long a motor driver will be able to obtain certificates quite as easily as summonses for exceeding the limit, and, if the man be a mechanic, he will soon come to the conclusion that by the time he has finished dipping his hand in his pocket he would be far better off back in the shops earning a certain 10d. per hour or so.

Quoting the report of the Motor Union's meeting, it is the contention of the Hon. Arthur Stanley, M.P., "that once a certificate of proficiency was granted by the Government it would be difficult for them to take it away, whereas the Club and Union could say to a man whose conduct has proved objectionable, 'You may be a skilful driver, but you are not the sort of man who is a credit to automobilism, and we shall have you no longer on our register, as this is the only way we can put down indiscreet driving.'" Does the hon. gentleman think for a minute that a body of men are going to place themselves under the thumb of any body or concern other than a Government body without having a word to say on their own behalf or in their own defence?—Yours truly,

ARTHUR R. IVENS.

[Our correspondent apparently does not differentiate between the value of the certificates issued by the A.C.G.B.I. and those of the private motor schools. The latter have no status, whereas the former have the seal of an authority which all recognise as competent to deal with the matter from an independent point of view. Until the Government takes up the question—which will assuredly not happen in the near future—it is well that there should be some acknowledged body of known repute granting certificates after adequate tests.]

### THE DIXI CAR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to "Ex-cyclist's" letter in the *M.C.J.*, I have a 12-15-h.p. four-cylinder "Dixi" car, fitted with a canopy top, glass front, etc., purchased in January, 1905. With regard to the horse-power, this, I believe, has been purposely understated, as my car will climb any of the south coast hills on the top or second speed, and I know of many cars of greater reputed horse-power which are unable to climb them except on the lowest gear. The cost of upkeep is extremely moderate, and if proper attention is given, the engine, etc., lubricated and cleaned, the clutch occasionally looked to, and the carburettor adjusted, there is no trouble. With a full load of five persons the car will average twenty-five miles per hour.

I have at present coil and accumulator ignition, 810 by 90 tyres, and the water circulating pump at the side driven by the flywheel, but I notice that the 1906 models have high tension magneto ignition, 815 by 105 equal wheels, and the pump brought on top of the engine side arms, which I think are improvements.—Yours truly,

LESLIE WALTON.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to "Ex-cyclist" in your issue of the 7th inst., I have a 14-17-h.p. four-cylinder 1905 Dixi car, and think it a most delightful vehicle for a lady to drive. I bought it in August and at once started for a tour through England and the Lake district. I had no difficulty whatever. From Scotch corner to Penrith over the hills it ran with hardly any changing of gear being required. It was a severe test, as there were five persons in the car and all their luggage on behind. There is no doubt the car can average twenty-five miles an hour easily on a

hilly road. With regard to economical running, I have just returned from a week's tour over the Chiltern, Cotswold and Mendip Hills, and the average consumption for long runs was about twenty miles per gallon of petrol. Durandal non-skids are fitted to the driving wheels, which undoubtedly save punctures and lengthen the life of the tyres, but, the car being a fairly light one, the upkeep is extremely moderate. There has only been one puncture since I had the car, and that was in the yard at the end of the journey.—Yours truly,

S. E. CAMPBELL VON LAURENTZ.

### SIX-CYLINDER CARS AND THE PUBLIC.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The six-cylinder controversy has reached a very interesting point, and is well worth discussing. A large number of people who represent the buying public have become very enthusiastic about six-cylinders, some, indeed, who have never tried them, but we must not lose sight of the fact that a "ring" is being made round the six-cylinder car, and it is in certain quarters being boomed for all it is worth. If we look into the question carefully it is easy to see why this is the case: the cost of production of the six-cylinder is not a great deal greater than that of a four-cylinder; it certainly does cost more, but the extra cost is out of all proportion to the price asked for it. Six-cylinders provide excellent talking points and they have many advantages—a few real ones, a great many imaginary. Without going

### WARNING MOTORISTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The police in my district have lately been very active against motorists. The other day I warned the drivers of some cars that were passing as to the presence of the police in the district, and they were, of course, very careful afterwards. I have been told that warning motorists in this way is a dangerous proceeding. Can you tell me through the *Journal* if I am likely to get into trouble for helping my fellow motorists to avoid trouble?—Yours truly,

J. J.

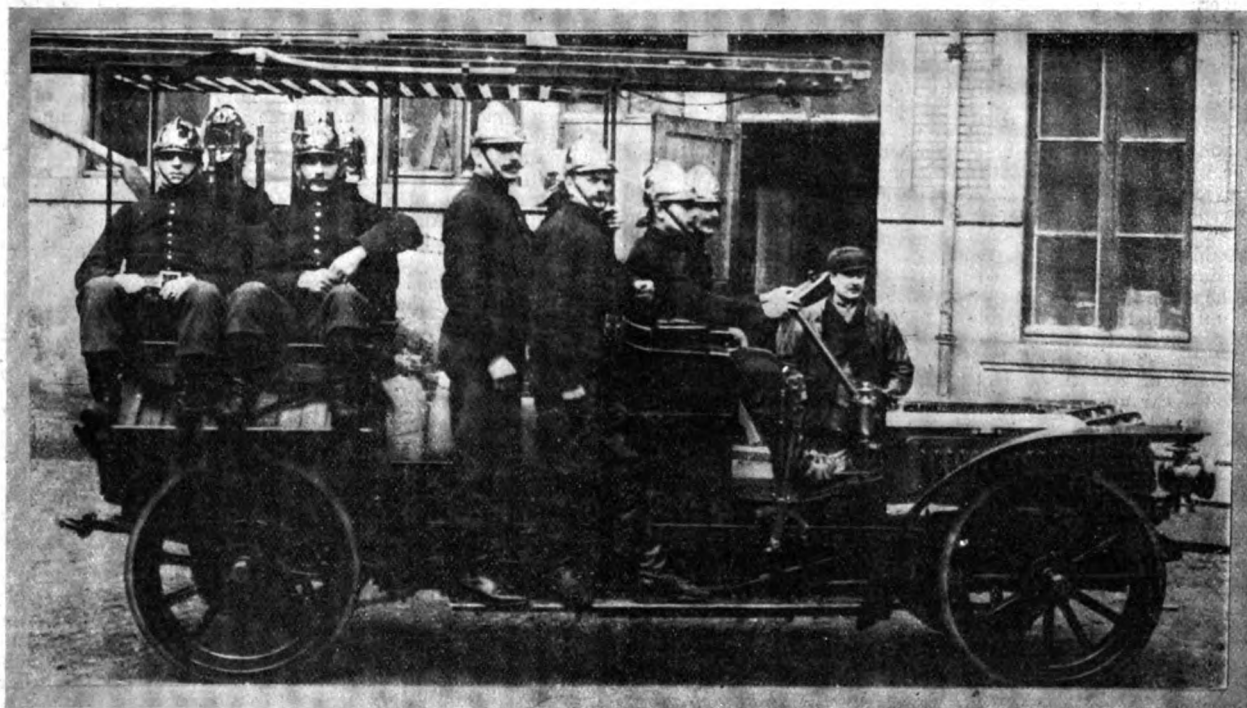
[Our correspondent is referred to our Comments on this matter in the last two issues. Meanwhile, the decision of the magistrates in the Norbury case is being awaited with interest, not to say anxiety.]

### LOW TENSION IGNITION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As far as my experience goes, I can endorse all that "Tally-ho" says re the above, in the *M.C.J.* of the 7th inst. I have been running a 6-h.p. car fitted with a low tension magneto for three years, which has given me no trouble whatever, and which is now working as well or better than when new.—Yours truly,

SOUTH T.



The Motor Hose and Service Wagon used by the Fire Brigade at Nancy, France.

The Chassis was supplied by Messrs. De Dietrich and Co., the equipment being furnished by Messrs. Morin-Gugumus, a French firm of fire-engine builders in conjunction with M. Drouville, the De Dietrich Agent in Nancy.

into the theory and practice of the six-cylinder, it may be said that a six-cylinder engine is in some respects superior to the four-cylinder, but it takes an expert to discriminate between a six-cylinder and a good four-cylinder, and consequently the advantages are not worth the extra two cylinders, with their attendant trouble and upkeep, and they certainly are not worth the extra price demanded.—Yours truly,

C. A. R.

### MOTOR WAGON v. HORSE HAULAGE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Having run a Foden steam wagon for two years and three months, the results have been so satisfactory that we have decided to order another. During the first seven months we kept a fairly accurate account of the saving over horse haulage, and came to the conclusion that the car had saved its full original cost. During the whole time we have had it we do not think the car has stood idle more than two weeks in a year for repairs, and it has travelled at least 164 miles a week, with an average load of 7 tons, at a cost of £5 per week, as against £30 16s. by horses. In other words, the 77 tons per week carried fourteen miles, costing £5 by motor, costs us by horse 8s. per ton, and often more, a total of £30 16s. Neither do we think the cost of repairs exceeds the cost for repairs to vans and harness required to do similar work.—Yours truly,

BOWRON BROS.

MUDGUARDS FOR TRI-CARS.—In reply to "Newport," who enquired for the makers of mudguards for tri-cars and quads, we learn that these can be obtained from the A. G. Mulliner Motor Body Company, Ltd., Bootle.

### MOTOR CYCLING CLUB.

THE Motor Cycling Club is holding a hill-climbing competition for motor-cycles on the 5th prox. Competitors must present their machines at the "Old Salisbury Arms," High Barnet, where the riders and machines will be weighed, and the machines sealed between 3 and 4 o'clock. No machine can be weighed after 4 o'clock. The actual hill upon which the competition will take place will not be made known until after the sealing has taken place.

A run to Edinburgh is also being arranged by the club.

### NEW COMPANY REGISTERED.

NEW LEADER CARS.—Capital £75,000, to acquire the business carried on by the New Leader Motors, Ltd., at Nottingham and elsewhere. First directors Messrs. F. Goodenough, A. R. Grimdsdale, D. H. Grimdsdale, and T. B. Watkinson, £500. Aspley Motor Works, near Nottingham.

## THE CARE OF CLUTCHES.

—♦—

It is impossible to emphasize too strongly the fact that the breakage of parts, the wear and tear of a motor-car as a whole, and its consequent general depreciation, are due in a much larger measure to the sudden shocks to which the vital parts are subjected than to the natural wear resulting from the constant transmission of power from the engine to the tyres. The shocks due to sudden application of the brakes severely tax the frame construction, but the shocks of improper clutching affect also the power mechanism and are, therefore, of even more serious consequence.

Defects or disarrangements in clutches reveal themselves in two different ways, either by gripping or seizing of the clutch, or by what may be called "spinning." Clutch defects may be classed accordingly, as the two phenomena are due to entirely different causes and affect the transmission gear differently. When the clutch "grips," it is impossible to engage it gradually; the power is therefore applied suddenly, and a blow delivered to all parts along the line of transmission. In the majority of cases, poorly-designed controlling mechanism is responsible for this condition of affairs. It should be possible to permit the clutch to engage very gradually, so that it slips at first, and grips tighter as the car accelerates. To do this, it is necessary that there be a liberal amount of movement of the pedal, so that a considerable amount of time, comparatively speaking, is occupied in making the engagement, and at the same time a sufficient leverage secured to make the physical effort required small and therefore more steadily applied. There should be no looseness in the joints, nor any "give" or springing, either in the levers or at the fulcrums, for as the amount of movement between the engaging surfaces is necessarily small, it is essential that the means of obtaining it be absolutely positive.

With a perfect operating mechanism it is possible to engage a clutch easily and without gripping, no matter what the tension on the spring may be, within, of course, certain reasonable limits. However, controlling devices are not all perfect, and it may, therefore, happen that excessive spring tension causes a clutch to grip, while a tension just sufficient to meet the normal demands of driving could be easily controlled and would permit gradual engagement of the frictional surfaces. In this connection it may be said that the proper tension on the clutch spring should be made the subject of careful study. Too great a tension may not only lead to the trouble indicated above, but will also cause excessive wear on the thrust bearings and on all parts of the controlling mechanism. The clutch should act as a safety device, to an extent; it should, of course, be capable of transmitting sufficient torque to drive the car up the steepest hill, which the power of the engine will enable it to climb, yet it should slip when a heavier shock is delivered to it, and thereby prevent this shock from reaching the breakable parts of the transmission. Generally speaking, a sufficient spring tension is, considers a writer in the "Horseless Age," that which will permit the clutch to slip very slightly when the car is climbing a grade which taxes the engine to its limit when the highest speed is in use.

Gripping may also be caused by an improper condition of the engaging surfaces. If they are both metal surfaces, the lack of sufficient oil between them may prevent the slipping necessary to effect an easy start. It would also tend to aggravate the gripping by roughing the surfaces. If leather and metal are employed, the cause of the trouble usually is that the leather has become dry and rough through lack of care. Water and petrol should not be allowed to reach it, as they help to dry out the oil held in its pores. Petrol will accomplish this very quickly, while water may have just as bad an effect in the end although it does not act so rapidly. The heat generated as one surface slips over the other also tends to dry out the oil, and if a car has been operated for some time with a slipping clutch, a careful inspection of the surface of the leather should be made to ascertain whether the heating has dried it up to any extent. If this is not done, the clutch may grip when the spring is tightened.

There are a number of different recipes for clutch leather dressing which are recommended by motorists of experience, but castor oil is most generally used, sometimes mixed with equal parts of glycerine. In either case it should be applied in limited quantities. Machine oil should never be used, as it is not so readily taken up by the leather, and will allow slipping under a higher spring pressure than is necessary if the surfaces are in perfect condition. In applying the dressing, it is better to use a small brush, as if it is poured on it is not likely that it will distribute evenly, and as a result some portions of the leather will receive too much and others not enough. The driving effort should be distributed evenly around the periphery of the clutch, which can only be the case if the engaging surfaces are uniform at all points.

"Spinning," as we have called it, is the continued revolution of the driven member after it has been disengaged. It results in a series of sharp, hammer-like blows to the gears (if of the sliding type) as they are brought into engagement, which tends to chip and burr the teeth, and, what is a less serious matter, to create considerable noise. Spinning may be caused by faulty design, defects in construction, or by improper adjustment. In some cone clutches the rim of the driven member is very heavy and of considerable inertia, and when disengaged continues to revolve much longer than is desirable. In this case the part of the operating mechanism which bears directly against it should be so designed that it acts as a brake and retards the revolving part when the

latter is disconnected. Another cause of "spinning" is failure to cut the driving power off entirely, either through lack of sufficient movement between the surfaces to permit them to clear each other, lack of proper lubrication, too tight a bearing or bending of the clutch shaft, which causes binding between the two members. It is well to note carefully the action of the driven member when suddenly withdrawn from the driving member while the engine is running at a fair rate of speed and no gears are in mesh. If it is in perfect condition, it will stop almost instantly. If it does not stop, a careful investigation should be made to learn the reason. Upon the free action of the clutch, more than upon any other thing, depends the successful operation of a good sliding gear transmission.

Slipping of the clutch may result from either of two common causes. The first is insufficient spring tension, and the second greasy surfaces. The remedy for the first is obvious. The second is only possible with leather clutches, and the remedy lies in getting rid of the superfluous oil. To do this it is best to use Fuller's earth, French chalk, or talc. It can be blown into the space between the two clutch members by means of a glass tube, and will absorb the oil rapidly. Petrol or resin should never be used, as the former dries up the leather, and the latter imbeds itself into the surface and may ruin it. Before concluding that a clutch spring needs tightening or that some of the oil should be removed from the leather, it is well to ascertain whether the slipping is not due to the fact that some part of the transmission is binding, as this might be the real cause of the trouble and the slipping of the clutch merely one of the results.

## MOTOR-CAR MISHAPS.

A BATCH of five London motor-cyclists came to grief on the Oxford Road, near Uxbridge, at midnight the other evening whilst on a return journey to town. Three of the men sustained such terrible injuries that they were detained at the Uxbridge Cottage Hospital, where they are under treatment.

THE tyre of a car used for the distribution of newspapers in the western districts of Norfolk came off while the vehicle was proceeding and became entangled in the steering gear with disastrous results. The car was completely turned and wrecked, while two of the three occupants were seriously injured.

In turning out of Milsom Street, Bath, the other day two motor-cars collided, fortunately without hurt to the occupants. One of the vehicles, however, was considerably damaged. The owners of the cars were Mr. J. J. Hibbert, Frome Street, Trowbridge, and Mr. W. Walker, 26, Pembroke Gardens, London.

WHEN Mr. Wigan was motoring with his son near the esplanade at Portlucaw, on Sunday, the steering gear of the car caused trouble, and the vehicle dashed over the sea wall at a point where it is twenty feet high. Mr. Wigan's son was thrown out, but escaped uninjured.

A LARGE motor-car, while running through Clifton, near Manchester, caught fire and was quickly enveloped in smoke. The three passengers, including Mr. Chadwick, of Bolton, were injured in jumping from the car. With the assistance of villagers the flames were extinguished.

AN inquest was held at Walton-on-Thames on the body of Mrs. Eliza Trimby, aged 60, of Walton, who lost her life through being thrown from a trailer attached to a bicycle at Cobham on Good Friday. The evidence showed that at a cross-roads, the rider of the bicycle turned sharply to avoid a motor-car approaching at right angles, and the trailer capsized. Mrs. Trimby was thrown out right in front of the car, the hind wheel of which passed over her head, killing her instantly. Lord Westbury, the owner and driver of the car, said there would have been no accident if the trailer had not overturned. His car was four or five yards from it, and was not going more than eight miles an hour. Lord Westbury added that in his opinion trailers were the most dangerous things on the roads. A verdict of "Accidental death" was returned, the jury expressing the opinion that the accident could not have been avoided.

A FARMER named Rayner was driving out of North Walsham on Tuesday afternoon, when a motor-car approaching from Sheringham dashed into him. Rayner was thrown out and was caught in the motor and seriously injured. His horse had to be shot.

ERNEST Cotterill, of the Mount Stanhill, near Reigate, head game-keeper to Mr. Langford, was knocked down and run over by a motor-car while proceeding on his round at Norwood Hill on Monday night, and his left leg broken in two places just above the ankle. Cotterill crawled into a ditch, where he remained some time in the hope of receiving help. It is reported that the motorists proceeded on their way without rendering assistance—a point upon which inquiry should be made.

## POLICE TRAPS.

REIGATE.—In the neighbourhood of Reigate traps have been and are being laid. Motorists approaching within reach of the town are advised to exercise caution.

DURING the holidays the police were watching motorists at several points on the Brighton road, notably between Kingswood and Banstead. THERE is a measured furlong at Mickleham (Surrey).

A POLICE trap is in operation a mile east of Haddington (N.B.) to the town.

A POLICE trap is in active operation between Sawbridgeworth and Bishops Stortford, on the main London-Cambridge road.



## CLUBS AND ASSOCIATIONS.

### MANCHESTER.

SUNSHINE and spring air favoured the Manchester Automobile Club on their second run of the season to Dovedale. The coffee-room of the Izaak Walton Hotel was filled when afternoon tea was partaken of by the crowd of visitors who had taken advantage of the beautiful day to join the gathering, and the yard of the inn presented a very animated appearance with the twenty-seven fine cars that were stored there, each of which had made the run of forty-five to fifty-five miles from Manchester and neighbourhood without a hitch. The visitors when the cars left had an interesting spectacle in watching each departing car wind its way up the very steep hilly road which leads from the hotel to Thorpe Cloud station, a long stretch of which is clearly visible from the front of the hotel.

### SOCIETY OF AUTOMOBILE MECHANIC-DRIVERS.

A WELL-ATTENDED general meeting of this society was held on April 4th at their headquarters, 51, Brick Street, Piccadilly, W. The chair was taken by Mr. Groves, the treasurer. The first portion of the evening's business was opened by Mr. Clarke, auditor, who supplied the members with a satisfactory account of the financial status of the society.

The matter of the certificates issued by the Automobile Club of Great Britain and Ireland was brought forward and commented upon by several members present, all of whom were unanimous in the view that the charges were exorbitant, that the examinations were not a proper test of a mechanic driver's capabilities, and, if there were to be examinations, they ought to be under Government control or County Councils, who ought to examine somewhat on the lines of Scotland Yard in issuing their Metropolitan carriage licences.

It was decided that the Benefit Fund be considered at the next committee meeting.

A proposition was then put to the meeting and carried unanimously that a monthly subscription of 2s. be levied, and to commence from the first Monday in May, also that all existing members should notify the secretary of their whereabouts by post immediately on seeing this report.

The elections of officers and committee for the ensuing year then took place, and are as follows:—President, Mr. Arthur Wood; vice-president, Mr. R. Budd; hon. treasurer, Mr. H. Groves; hon. secretary, Mr. A. Ivens; committee, Messrs. J. Walters, H. Walters, Hall, Randall, Millwood, Nicholls, Kirkwood, Taylor, J. Burgess, W. Burgess, Johnson, F. Randall, Lamb and Freeman.

### WOLVERHAMPTON.

THE opening run of the season of the Wolverhampton Automobile Club took place on Saturday week. A very large attendance assembled on the Dunstall Park Racecourse, and afterwards proceeded to Newport, where tea was provided. Among the cars present were those of Messrs. Charles Elwell, H. Bayliss, F. Bishop, F. Bayliss, Woodruff, F. Corker, J. Dyke, Angus Shaw, T. T. Mills, Deanesly, T. Cureton (President), E. Genna, F. Eastmead, T. Gatis, J. W. Stirk, F. W. H. Trusselle, C. H. Shacklock, J. O. Evans, Edwin Bayliss, Scott, Spackman, W. A. Rochelle, and Pratt. Of the cars present twelve were Sunbeams, while the Star, Wolseley, Enfield, Clement, Rex, Panhard, Regal, Talbot and Alldays were also represented.

### NORTH-EASTERN AUTOMOBILE ASSOCIATION.

THE North-Eastern Automobile Association has arranged for a hill-climbing competition, which will be held under the closed competition rules of the A.C.G.B.I., and is to take place on June 16th. The hill selected is known as Ragpath Side, about 2½ miles from Lancaster, to the west of Durham. The steepest portion of the gradient consists of a length of 60 yards of 1 in 4½, and as the total length of the hill is half a mile, it is expected that some interesting results will be obtained. A special feature of the hill is the separate return route for cars that have ascended the hill, which will greatly facilitate the safe control of the competition. The whole of the hill is visible from start to finish, and as there is very little traffic on the road, it is exceptionally suitable for the purpose of the competition. Under the above mentioned rules, the competition will be open to cars either driven or owned by members of the Association.

### YORKSHIRE.

UNDETERRED by the partial failure of their speed trials on the sands at Filey last year, the Yorkshire Automobile Club has tentatively resolved to adopt a sand track again for a series of speed trials—not at Whitsuntide, as last year, when the holiday crowd spoiled the course, but during the second week in July. A committee of inspection, including the vice-president, Mr. Penrose Green, the chairman, Mr. Hepper, and the secretary, Mr. C. P. Wilson, are to examine the sands between

Redcar and Saltburn shortly, with a view to selecting a suitable mile and a half track. The stretch of sands between these two North Yorkshire resorts is superb for fully five miles, firm, even and broad, and it will not be difficult to select a capital course. So excellent is the stretch under consideration that a local firm has attempted to get permission to run a motor-car service between Redcar and Saltburn along the sands during the summer months. It is intended to make this year's speed trials specially noteworthy, and the arrangements will be on a much larger scale than last year and entirely controlled from head-quarters. The Yorkshire Club also hopes to arrange a hill-climbing competition on a private road during the summer.

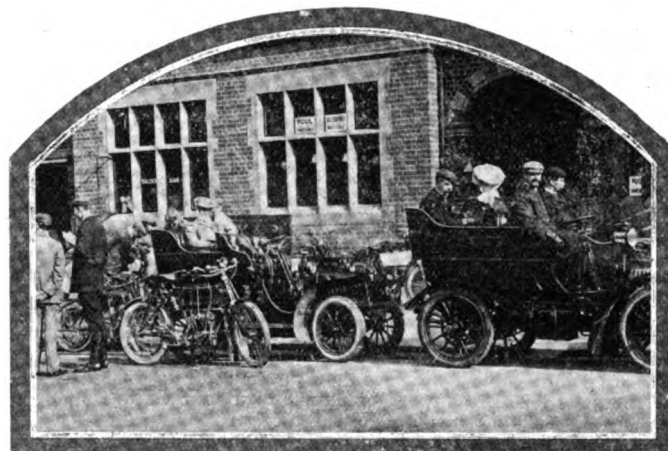
A lecture was given at the club's headquarters, the Great Northern, Leeds, on Wednesday of last week, by Mr. Claude Johnson, on "Incidents, amusing and serious, in connection with the earlier days of motorism." At the conclusion Mr. Johnson was made an hon. member of the club.

On the 28th inst. the first club run of the season will take place to Harrogate. Members will meet at the Hotel Majestic at 4 o'clock, where they will be entertained to afternoon tea by the chairman of the club (Mr. E. H. Hepper) and Mrs. Hepper. For May 12th a run is arranged to meet the Cleveland branch at Boroughbridge.

The speed trials for this year will not be held on June 30th, as previously announced, on account of the date clashing with other important fixtures. A meeting has been called for Wednesday next, when the club and its branches will confer as to a suitable date and place.

### SOUTH HERTS.

THE opening meet of the South Herts Automobile Club was held on the 7th inst., at headquarters, the Falcon Hotel, Waltham Cross. The weather was delightful, and thirty-one members attended the meet, others joining in the run to Stevenage, where tea was partaken of at the White Lion. The return journey was started about six o'clock. Among



The Opening Meet of the South Herts Automobile Club.

those present were Messrs. S. R. Noble, W. G. Birt, H. E. Honnor, W. Gilbert, W. J. Dawbarn, J. D. Wheldon, W. L. Gray, W. Feare, F. Sykes, S. Jehan, P. Warren, G. H. Fell, W. G. Haward, T. P. Trounce, H. C. Walsh, C. Fell, F. W. Foott, R. Rochford, C. Helstrom, A. McFarlane, C. Trotter, W. E. Hamilton, W. R. Clarke, Strauss, and H. W. Spaight (hon. sec.).

### BRITISH MOTOR-BOAT.

THE opening meeting, at Kingston-on-Thames, on the 5th prox., shows signs of being even a greater success than the one held last year. This meeting will be the official opening of a club station at Kingston, where members will find a club room on the river front at Nuthalls.

FIFTEEN new members have been enrolled in the North East Lancashire Automobile Club, and representatives from Burnley, Barrowford and Colne have been co-opted on the committee.

THE opening meet of the Hertfordshire County Automobile Club took place at Hatfield, members having tea at the Red Lion.

THERE are now over 500 members of the Automobile Association.

THE Kent A.C. is meeting to-day (Saturday) at the Sir Jeffrey Amhurst Hotel, Ightham.

### MOTOR-CYCLE RECORD.

ON Easter Monday, C. R. Collier and G. A. Barnes had a one hour motor-cycle match at Canning Town. The former beat all English records from one to twenty-seven miles when his belt snapped. Other mishaps ensued, but, with the help of a second machine, he rode 50½ miles in the hour. His first 20 miles occupied 21 min 23 1-5 sec., thus beating the old record by 46 3-5 sec.

## SCOTTISH RELIABILITY TRIAL.

SUPPLEMENTING the list of entries in the Scottish Reliability Trial published on page 135 of our issue of the 7th inst., the following additional entries have since been received :—

Name.	Car.
T. Masui, London ...	14-22-h.p. Germain.
Buchanan Shiell, Perth ...	20-30-h.p. Maudslay.
R. L. Jefferson, Coventry ...	8-h.p. Rover.
J. K. Starley, Coventry ...	6-h.p. Rover.
C. S. Rolls and Co. ...	20-h.p. Rolls Royce.
C. S. Rolls and Co. ...	30-h.p. Rolls Royce.
The Swift Motor Company, Ltd., Coventry ...	9-10-h.p. Swift.
F. Vernon Wentworth, Saxmundham ...	30-h.p. Coventry Daimler.
The Kennedy Motor Company, Ltd., Glasgow ...	20-32-h.p. Darracq Phaeton.
The Kennedy Motor Company, Ltd., Glasgow ...	10-h.p. Darracq Phaeton.
The Caledonian Motor Car and Cycle Company, Ltd., Aberdeen ...	18-24-h.p. Peugeot Phaeton.
Minerva Motors, Ltd., London ...	32-h.p. Minerva.
Friswell, Ltd., London ...	30-40-h.p. Peugeot.
T. C. Pullinger, Beeston, Notts.	30-40-h.p. six-cylinder Beeston Humber.
Legros and Knowles, Ltd., London	25-30-h.p. Iris.

## EXAMINATION QUESTIONS.

BELOW we give the questions which were set at the recent examination in New York to select motor-drivers for certain municipal departments where motor-vehicles have been introduced :—

1. What is the difference in construction between the air-cooled and the water-cooled motor, and what attachments or extra parts are necessary for the operation of either type?

2. Describe as clearly as possible exactly what takes place in the cylinder of a four-cycle motor, during one complete cycle, including the necessary operations of valves, ignition on the car and use of (a) sparking plug, etc.

3. Describe the construction, location and use of (a) coil, (b) commutator, (c) sparking plug.

4. Describe in the same way the construction, location and use of (a) circulating pump, (b) radiator, (c) silencer, (d) what effect does cutting out the silencer have on the engine?

5. What are the most important parts of the engine to be lubricated? State fully what points are to be looked to in regard to kind and amount of oil used and care of lubricating devices.

6. State all points to be looked to in taking supply of petrol; (b) what special care is necessary with the water-circulating system in cold weather.

7. (a) What care should be taken in changing gears, starting and reversing; (b) how is the speed of engine regulated while running, and why does this regulation cause a change of speed?

8. What brakes are there on an automobile? Describe how each one acts, and what is its special use.

9. State in detail everything you would do or see to in preparing an automobile in your care to take out on the road and in getting under way.

10 and 11. Write a short account in the form of a report to the owner describing some accident to the engine or machinery of the car in your charge, and how you repaired the same.

12. What are the city regulations in regard to speed and lamps, covering automobiles?

13. Draw rough sketches showing the proper course of a vehicle in turning from one street into another, (a) to the right, (b) to the left; also what other general rules should be observed by the driver of a vehicle.

## PUBLIC MOTOR SERVICES.

A MOTOR-BUS service has been commenced between Chagford and Moretonhampstead.

HERNE Bay and Canterbury railway station are now connected by a motor-bus service.

MOTOR char-a-bancs are being introduced at Scarborough by the North-Eastern Railway Company, and will carry visitors to Forge Valley and other beautiful drives for which Scarborough is famous.

A MOTOR-BUS has lately been journeying in Carmarthenshire, Pembrokehire and Cardiganshire, with a view to the institution of a public service in West Wales.

THE authorities in many places are watching the condition of certain streets used by motor-omnibus companies as lay-byes. At Putney the nuisance has become so marked as to be the subject of discussion at the meeting of the Wandsworth Borough Council, which has resolved to bring the matter before the Commissioner of Police.

A SERVICE of motor-buses is now being advocated between Edmonton and the City.

THE Provincial Motor Bus and Traction Company are entering into an agreement with the London and District Motor Bus Company for the

purpose of running motor-buses in London, and have arranged with Messrs. Armstrong, Whitworth and Co. to take the whole of their output of chassis for some time to come.

DURING the holidays the fares of the motor-buses running between Bristol and Clifton were doubled, with the result that those returning to the city from the Suspension Bridge were generally empty, while the trams which ran at ordinary rates from the other end of the Downs were crowded. Both trams and motor-buses belong to the same proprietary.

At a meeting representative of the traders and public bodies of Gloucester, it has been decided to establish a motor-bus service between that city and Malvern. The two railway companies running into Gloucester are said to have expressed themselves in sympathy with the scheme.

## ROAD REPORTS.

DERBYSHIRE.—Complaints have been received respecting the bad state of some of the Derbyshire roads, and several influential members of the Sheffield Automobile Club have taken the matter in hand and are bringing it before the proper authority.

CLEVEDON.—This rising resort of Somersetshire has been much frequented of late by motorists from the neighbouring counties, and those going from Bristol via Long Ashton, Wroxall and Tickenham have had to proceed cautiously owing to the long tracks of unrolled stone that have lain about. The route via Portishead, Weston-in-Gordano and Clapton has also been popular, but the roads are narrow as well as picturesque, and the way is not wholly comfortable.

DUNSTABLE.—Motorists touring through this district at Easter found the road surface in splendid condition.

PERTHSHIRE.—At the last meeting of the Perth District Committee of the County Council, the road surveyor reported that he was endeavouring to do rolling in with the least quantity of binding possible, but that the damage by motor-cars had been very pronounced on the glen roads.

BAGSHOT.—On the petition of the inhabitants of Bagshot, the Chertsey Rural District Council is appealing to the Surrey County Council for assistance against the rising dust. The road surveyor has been directed to make a special report on the subject.

## CASE DISMISSED.

MR. HALL WATT, who is a Justice of the Peace for the North Riding of Yorkshire, was summoned by the Grantham police for driving through Grantham in a manner which was dangerous to the public. The police had timed him by telephoning between Grantham and Stanford, although he was summoned for committing the alleged offence in Grantham. When the police attempted to give evidence of the speed at which he travelled between the two towns, Mr. Huntly Jenkins, instructed by Mr. Staplee Firth, who appeared for the defence, protested against the evidence being brought in as it was irrelevant, and after considerable argument the magistrates upheld his objection. They had not only summoned Mr. Watt but his chauffeur, who was driving in a second car behind him. Both summonses were dismissed.

## CASES AGAINST MOTORISTS.

At the Bow County Court an action was brought by Mrs. Ison against Mr. Michael Moyle, a cycle and motor manufacturer, to recover damages for personal injuries sustained by her on January 1st, 1906. The action was brought to recover the sum of £50, and the plaintiff's case was that between 11 and 11.30 p.m. the defendant's son, Mr. Percy Moyle, was riding a tri-car along East India Dock-road, Poplar, at a speed of twenty miles an hour and within a yard of the kerb on the wrong side of the road, and that as she stepped off the kerb to cross over the road she was knocked down, dragged a considerable distance, and the car ran over her face. According to the evidence of the defendant's witness, the plaintiff was crossing the road, and the motor-car was proceeding at eight or ten miles an hour in the centre of the road, when a cyclist a little distance in front was thrown over by a dog, and this so frightened the plaintiff that she stepped suddenly back and knocked against her companion and fell to the ground, and the car was stopped so suddenly that the tyre burst and fell over on its side three or four yards before it came to the woman. After a long hearing the jury gave a verdict for the defendant, with costs.

Place.	Summoned for	Result.
Beaconsfield ...	Exceeding legal limit	£5, etc.
Epsom ...	Six cases of exceeding legal limit	£3 to £5 each.
Wolverhampton ...	Dangerous speed	£1, etc.
Chertsey ...	Exceeding legal limit	£5, etc.
Edinburgh ...	No rear identification plate illuminated	£1, etc.
Eastbourne ...	Dangerous speed	£5, etc.
Dorking ...	Exceeding legal limit	£5, etc.
Kingston ...	Several cases of exceeding the legal limit	£3, etc.—average fine.
Enfield ...	Exceeding legal limit	20s., etc.

# THE Motor-Car Journal.

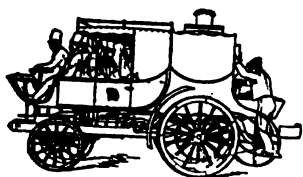
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## COMMENTS.



**G**IPSY life, with its freedom from the restraint of conventionality and the prying curiosity of neighbours, is regarded by many people as the ideal plan of existence. Men like Mr. H. T. Eve, M.P., and Dr. Gordon Stables look upon the caravan as necessary for the enjoyment of a holiday. Now comes the

suggestion that the motor-bus may be utilised for the purpose of seeking health in the rural districts. The tourists may disport themselves on the main deck during the daytime, descending to the interior of the vehicle by night. For the latter purpose the bus might be fitted up as a bedroom—a work not wholly impossible when we remember Miss Kate Cutler's improvised dressing-room of a few weeks ago. There is no question of the delights of such a means of enjoying a holiday, and doubtless the idea will find practical development ere long.

### Road Improvement.

THE annual report of the Roads Improvement Association will be formally presented to the membership at the annual meeting to be held on Friday, the 27th. It indicates a year of great activity. Jointly with the Automobile Mutual Protection Association, it is now organising experiments with several different kinds of dustless road material in order to test the comparative effectiveness, durability, and cost, and it is prepared to contribute £1,000 towards the cost of these experiments. In the opinion of the Association experiments of this kind should be conducted by the State, which should advise the local authorities from time to time as to the best means of making and repairing their roads. Until the State, however, undertakes this work, the Association, to the best of its ability and the extent of its resources, is acting as the intelligence department in all matters connected with highway administration in this country. Good work has been done in moving the authorities to action in connection with the condition of the roads in the Royal Parks. The Association is of a representative character, and eight bodies with an aggregate membership of 120,000 elect representatives to its council and contribute to its funds.

### Errors of Judgment.

THE dictum of the Recorder of Guildford in allowing an appeal by a motorist against a conviction by the borough justices should be appreciated by all concerned in the administration and the perversion of justice in the southern counties. As reported on another page, the driver of a motor-car, exercising considerable care in travelling along the highway, had the misfortune to cause a Bath chair and its occupant to be overthrown. In fining the chauffeur the magistrates said he had been guilty of an error of judgment in trying to run between other vehicles when there was not sufficient room. And yet he was fined for driving in a manner dangerous to the public—a technical definition that is not always in accord with the alleged

offence. Mr. George Cave, K.C., the learned Recorder, before whom the appeal was heard, rightly said that if a driver exercised all the care he could, and then, as in this particular case, committed an error of judgment, he should not be convicted of driving dangerously unless, of course, specific evidence on that point could be tendered. It was well that the appeal was brought; and the result should be appreciated by the Guildford borough justices.

### Motor-Car Imports and Exports.

THE great vitality of the automobile movement is clearly reflected in the enormous importation of foreign motor-cars into this country at present taking place. Each month this year, so far as it has gone, has shown a great increase over the similar period of 1905, and the March returns now available establish a new record by achieving the largest total so far attained. During the month no less than 600 cars were imported, including many intended for exhibition at the Cordingley Show, their value being given as £230,887. Parts were responsible for a further £184,763, giving a combined total of £415,650, as against £314,554 in March, 1905. For the first quarter of the year the aggregate imports have attained a sum of no less than £1,125,062, an increase of over a quarter of a million sterling. As regards the exportation of British motor-cars and components, a steady upward tendency is noticeable. The shipments last month comprised 89 vehicles, valued at £31,814, to which parts to the extent of £22,940 have to be added. The combined total is thus £54,754, which contrasts with only £39,331 in the preceding month, and £22,611 in March a year ago.

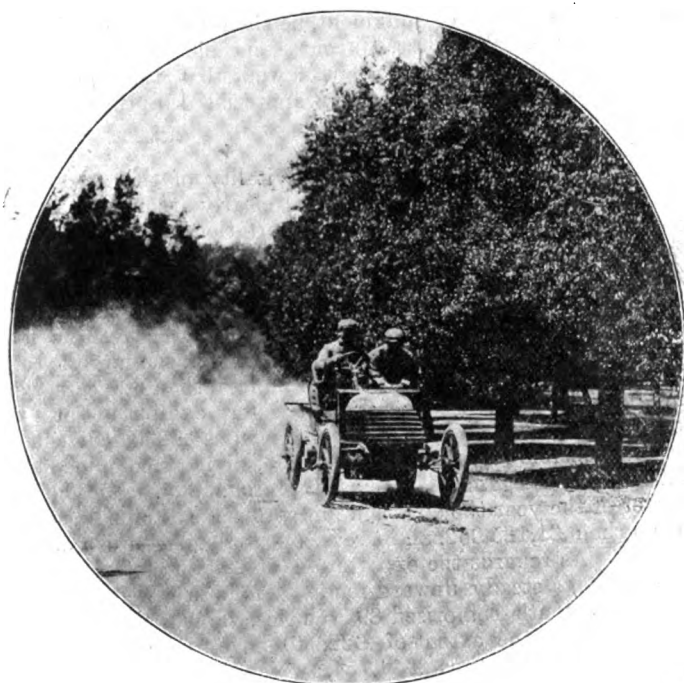
### Motoring in Royal Parks.

ON Tuesday next the new regulation of the Commissioner of Works with regard to the admission of electric carriages into Hyde Park will be applied, and only those that have been licensed and bear badges will be admitted between the hours of four p.m. and seven p.m. The new Order will continue in force till the end of July, and applications for the necessary permissions must be made to H.M. Office of Works, Storey's Gate, Westminster, S.W.

### A Scottish Case.

WE congratulate the Edinburgh motorist against whom allegations were made of exceeding the legal speed limit in Princes Street, Edinburgh, on being able to convince the sheriff as to the inoffensive character of his driving? The evidence called for the defence was of a very conclusive nature, rendered all the more so by the experiments made by Professor Stanfield, who, as will be seen from the report on another page, was called as a witness. In order to test the speed of the car, he had measured out a quarter mile track on one of the suburban roads of Edinburgh, and took the mean of several runs with and against the wind, which was very strong at the time. He was thus able to show that the speed of the car could not be as high as stated by the

police. The police witnesses were not experienced in the use of stop watches, and considered the ascertaining of the speed of a car as a very simple matter—mere child's play—in fact they did not appear to be able to read to fractions of a second. The method adopted by the police was to station a man at each end of the measured length. As the car passed the first man he started his watch, and the second man did the same as the car passed him at the other end. The two men then met, simultaneously stopped their watches, and subtracted times. The times were 3 min. 42 sec. and 3 min. 3 sec. respectively, representing a time of 39 sec. over the measured distance. As can be readily seen, this method requires the most accurate timing and good watches to give reliable results. At the same time there is no doubt that it is a common occurrence for motor-cars to travel Princes Street at too great a speed. This is to be deprecated, as it produces a bad feeling amongst the general public against the motorist, and moreover, is quite unnecessary.



Motoring in Australia—A Wolseley Car on the Road, near Sydney.

#### The Use of the Traders' Mark.

AN interesting point of motor-car law has been heard at the Clerkenwell Police Court, when Mr. W. J. Masser, the well-known proprietor of the Lancaster Motor Garage, was charged by the police (1) that he did unlawfully aid and abet the commission by one Thomas Cherry of a summary offence in unlawfully using a motor-car on a public highway without the said car being registered; (2) being assigned a general identification mark under the provisions of the Motor Car Act, 1903, by the London County Council, did unlawfully fail to keep a record of the name and address of the person driving a motor-car used on a highway. The police stated that the second defendant was driving a motor-car which was towing another car. They maintained that by doing this the car was not being used in accordance with Section 2 Sub-Section 4 Proviso (b) in that the car was not being used after completion on trial, nor was it being used on trial by an intending purchaser. The police further complained that the car which was being towed had affixed to the back of it the general identification mark, which in reality, they alleged, ought to have been affixed only to the car which was being driven. For the defence, Messrs. Kenneth Brown and Co. called evidence to the effect that Mr. King was the person who actually took out the car with the general identification number upon it; that he was testing the

vehicle, which was incomplete, and called at the exhibition then in progress at the Agricultural Hall and suggested towing back a new car, which was then about to be placed upon a trolley, in order to give a test to the chassis he was driving. He then instructed Cherry, the driver, to drive the chassis back which Mr. King had taken out. Under the circumstances, therefore, it was contended by the defence that this was a trial after completion and that the Act of Parliament did not say that no other vehicle could be towed. Further, the defence contended that it was sufficient compliance with the Act of Parliament and the Regulations by the name of Mr. King being entered upon the book on the occasion when the car was taken out, and that there was no rule stating that if the driver changed on the road his name should be entered in the register. Furthermore, that it would be almost an impossibility to do this, especially if the car was being tried by an intending purchaser who commenced driving while the car was on the road. With regard to one of the numbers being placed on the car that was being towed, it was stated that this was exactly what the Regulations required to be done. The magistrate, after hearing the evidence, stated he was prepared to dismiss both summonses.

#### Warning Motorists.

THE Croydon Bench on Wednesday resumed the hearing of the summons against Mr. W. F. Little, of Norbury, Croydon, for obstruction. The circumstances have been already reported in the *M.C.J.* On the 4th, defendant, being aware of motor-car traps in the main road, by holding up his hands and in one case calling out "police trap," warned approaching motorists, who slackened their speed and so rendered inoperative the arrangements of the police to time motorists over measured lengths. The defendant, who said he might have warned twenty motorists, denied having connection with any motorists' association, and stated that he not only acted out of pure good nature, but that he had as much right as anyone else to prevent the law being broken. Mr. Muskett contended that defendant's action amounted to the obstruction of the police while in the execution of their duty. The Bench considered the alleged offence did not come within the Act, and dismissed the case, but, on the application of Mr. Muskett, the police agreed to state a case. This decision, it will be noted, is in accord with the opinion previously expressed in these columns.

#### Caution in the Car.

THE serious accident which has befallen Mr. Howell Idris, M.P., suggests to motorists the necessity of exercising care as to their actions when travelling at a fairly rapid rate of speed. The M.P. was motoring through St. Asaph on his way to Dolgelly. When just outside the city he rose to put on his overcoat, but, unhappily, overbalanced, with the result that he fell from the car and sustained severe injuries to his head. Mr. Idris was conveyed to the infirmary, and although the first grave reports have since been modified, his condition will require rest and quiet for weeks to come. To change garments while in automobiles that are speeding rapidly is certainly a risky proceeding—especially if the passenger stands up in the body of the vehicle; and the moral of this accident should not be lost by other motorists.

#### The London Traffic Committee.

THE Select Committee of the House of Commons on Metropolitan Traffic, presided over by Mr. Henry Norman, is being overwhelmed with evidence, particularly with regard to forms of automobile traffic. As, however, it is desirable that the report shall be produced at the earliest possible moment, the Committee are economising their time, and they have already divided the evidence under the two chief headings of horse-drawn and mechanical traffic. As to the first, the difficulty of identifying ordinary horse-drawn vehicle drivers is



one which has engaged the attention of the Committee; and as regards the second, in which the drivers are already identifiable, the problems arising from the nuisance of smoke, smell, dust and danger to the public are being considered. In view of the importance of the recommendations which the Committee are expected to make as to the conduct of traffic in the metropolis, the report, which may be expected a few weeks after Whitsuntide, will be of considerable interest.

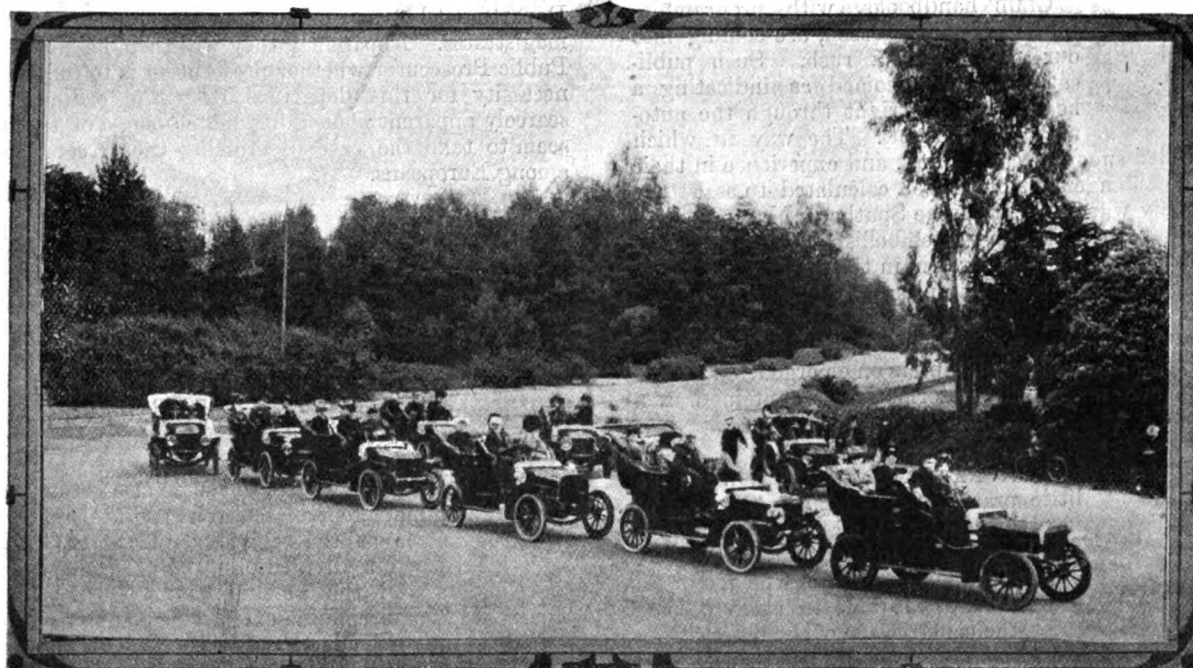
#### At San Francisco.

SAD indeed has been the lot of San Francisco during the last few days, and never were stranger automobile parties than those that in the early morning light sped away—as fast as they could until stopped by the fissures in the streets—to positions of safety. All kinds of vehicles were requisitioned, while motor-cars proved of the greatest value in rescue work. The accompanying illustration of the Golden Gate Park, from a photograph taken under happier conditions than those that have lately prevailed, is of interest, for there a great refuge camp has been established where hundreds of

have taken to motoring, developments may take place in the near future which would have startled the inhabitants of a pre-automobile world.

#### The Automobile Engineers' Institute.

ON Friday last week a special meeting of members of the Automobile and Cycle Engineers' Institute was held at Birmingham, to consider the transference of the headquarters of the Institute from the Midlands to London. The President (Mr. A. E. Tucker) occupied the chair, but the members present were not sufficient to form a quorum. An informal discussion, however, took place. The President, in giving a *résumé* of what had been done, explained that Mr. Douglas Leechman, in October last, suggested that he (Mr. Tucker) should deliver his presidential address in London, but this was impracticable. Mr. Leechman circularised the London members on the advisability of forming a London centre, with the result that three very successful meetings had been held at the United Service Institution, Whitehall. The council were satisfied that the proper *locus* of the Institute was London, and accordingly



A Motor Meet in Golden Gate Park, San Francisco.

homeless people have been sheltered. In the organisation of relief work automobiles played a prominent part, supplementing the railway in taking supplies and rendering valuable assistance in their distribution. Motor-cars were also used to carry the dynamite which was used to blow up the buildings in the path of the fire. Happily the worst is now over, but we would tender our sympathy with our kinsmen across the Atlantic in these days of sadness and loss.

#### The Church Garage.

OUR recent Comment on churches that have been converted into motor garages in this country gives added interest to the announcement from America that a Presbyterian Church in Cincinnati has just erected a motor garage for the use of its members. Here we are familiar with the long lines of cycles outside churches and chapels in country and seaside resorts during the summer months, but no church has yet been bold enough—nor has the necessity arisen—to erect a house wherein those of the congregation who motor to church may house their cars during the service. Now that bishops, however,

proposed to transfer the headquarters to the metropolis. Mr. W. Rees Jeffreys had been asked, and had consented, to undertake the duties of secretary. The character of the Institute would be altered so as to include automobile engineers only, and the name would be altered to "The Institution of Automobile Engineers." It was decided to call another meeting, and, in case no quorum was formed then, to delegate the transaction of the business to the council.

#### A Doctor's View.

THE effect of motoring upon the nervous system is touched upon by Dr. Fisher, medical officer of the Garstang (Lancs.) Union, in an interesting report. The medical gentleman remarks that "Driving a motor-car in a rational way, and not in much traffic, will no doubt be a healthy occupation, but I shall not be surprised if time shows that the nervous system will suffer by the excessive and prolonged use of automobiles. Quite apart from the risks of inhaling contaminated dust, the driver must be at attention. His nervous system is on full tension, and this, combined with the rapid motion, is

bound to have a physiological effect in time on the nerve centres." Dr. Fisher also dwells on the evil effect caused by the motor-car on the country side. In dry weather volumes of dust, containing animal excreta, are sent up, doing damage to meadow and pasture land, and permeating roadside dwellings, causing inconvenience and danger to the occupants. Rural authorities should, he says, macadamise and cleanse the roads so as to minimise the evil as much as possible.

#### Sunday Observance.

At the Spring Assembly of the Baptist Union in London this week there has been some stern speaking in Puritanical vein with regard to Sunday observance, and a resolution was adopted deploring the popularity of Sunday motoring. A Brighton minister complained of the number of motor-cars passing through villages and destroying the quietude of the Sabbath. His views found favour with all the delegates, whose interest in motorism was further whetted by the announcement that the Revs. F. B. Meyer and J. H. Shakespeare are about to start on a motor-car tour, preaching about ten times a day in the open air. We are glad that the motor-car found favour thus far.

#### Club Handbooks.

CLUB handbooks, with programmes for the coming season, are coming into our office with a rush. Such publications are welcomed as indicating a healthy activity right through the automobile movement. The way in which many are compiled suggests care, study, and experience in their preparation, the arrangement being well calculated to assist the members in many ways. That of the Southern Motor Club—to name a noteworthy example—is embellished with portraits of officers and views of the club-room in the Bromfelde Road, Clapham. The fixtures are forty in number, between April and October, including speed judging competitions, launch parties, garden fetes, and club outings of a kind which should encourage the social instincts of members. Chapters on emergencies, lists of local repairers, and much other information is contained in a book which should be a pattern to other organisations.

#### Level Crossings.

FORTUNATELY British travellers have little practical knowledge of the kind of level crossing that makes road touring a varied delight in some parts of France. Just now, however, those who motor in the Midlands are able to easily become victims of railway enterprise, the construction of the new railway works between Alcester and Stratford-on-Avon main roads having secured a crop of level crossings on roads that are freely used by motorists. These are so crude as to constitute a real danger to travellers, while the condition of the roads in their vicinity is almost as bad an evil as the lines that intersect the roadway. Of course it will be urged, in reply, that the nuisance is only a temporary one; but surely the local authorities should have some right to step in and determine the degree of irritation that may be caused to those who use the roads.

#### Car Bodies.

MOTOR-CARS have moved rapidly from the days when they were associated with a rancorous smell, and were driven to the accompaniment of a grating, grinding sound. They can now be seen in the park rivalling the older horse-drawn vehicle in beauty of design and ease of running. The combination of the coachbuilder with the engineer has effected a decided improvement, and, as one of the leading motor-car agents, whose business is chiefly in Society circles, observes, "it is possible, with the combined skill of the builder of the mechanism and the carriage-body, to make practically any type of carriage capable of travelling any distance, at any speed, to satisfy any requirement." There are some people who can afford the cost of cars for both town and country services, but as automobilism

becomes more general the demand for covered-in broughams with detachable tops is likely to develop. Thus the motorist can have a covered-in vehicle for town or evening service or an open car for touring and country visits.

#### A Reminder.

IN previous years the London County Council has reminded London motor-car agents and dealers when the time has come for the renewal of their traders' identification marks. This year no notification has been given, and many traders have been caught napping. Having regard to all the circumstances of the matter, it would not be a great concession if the Council followed its plan of previous years instead of harassing traders in this unnecessary fashion. It would not cost much to intimate the time of expiring; to omit to do so, and then to issue summonses, almost approaches the vindictive.

#### Accidents in India.

SOMEWHAT of a new principle in legal procedure is about to be introduced into Bombay, where a Government decree recently promulgated directs that reports concerning accidents caused by motor vehicles shall be submitted to the Judicial Department by the Commissioner of Police and by the district magistrates. Apparently they will then be able to instruct the Public Prosecutor whether prosecution is to follow or not. The necessity for this departure from the ordinary procedure is scarcely apparent; but unfortunately some of the natives do not seem to take the care in crossing the streets that is common among Europeans.

MR. F. W. TEBBETT has a motor garage well located on the main road at Newcastle-on-Tyne.

OWING to the increased demand for Gregoire cars, Messrs. Osborn and Lord have removed from The Broadway, Hammer-smith, to new offices and showrooms at 6, Great Marlborough Street, Regent Street, W.

AN inauguration luncheon given by the directors of the Austin Motor Company, Limited, took place on Thursday, at their works at Northfield, Birmingham, and was presided over by Mr. H. Austin. The visitors were afterwards piloted round the works, and the new cars in course of erection were examined.

THE annual general meeting of Messrs. Dennis, Bros., Ltd., took place at the registered offices in Guildford on the 20th inst., when a dividend of 12½ per cent. was paid to the shareholders and the amount of £4,500 placed to reserve. The shareholders complimented the managing directors on the successful year's trading, and especially on the great progress made in commercial and public service vehicles. The new factory at Woodbridge Hill will give the company every prospect of a continuance of prosperity.

WISLEY HUT, Surrey, was, as usual, visited by a large number of motorists on Sunday last, the pleasant little spot having apparently lost none of its popularity. The road between Esher and Cobham is in certain parts somewhat too freely covered with small loose stones, but near the last-named place a good deal of road-tarring work is in hand, with a view of abating the dust. Owing to the wet state of the tram-lines near the waterworks at Surbiton, a Corre car experienced a nasty skid which resulted in a broken road wheel. Fortunately none of the passengers were injured.

MR. ALBERT HOUSE, who has had a long connection with the motor trade, being one of the pioneers of the movement in Yorkshire, has acquired some large premises, covering over half an acre, in Oak Lane, Bradford, until lately used as a tramway shed and stables. He is forming a company to run the same as a depot for the sale of new and second-hand motor-cars and accessories. Part of the building will be converted into a large garage, while plant is to be installed to enable all classes of repairs to be carried out. In addition it is proposed to hold periodical auction sales of motor vehicles. We may add that the Bradford Carriage Company, Ltd., are still carrying on business in part of the premises.

# How to Drive a Spyker Car.

By F. F. WELLINGTON.



**T**O ensure a long life for a motor-car, it is necessary that every attention should be paid to the following instructions, and, to help the users of the Spyker dustless cars, I will commence from the beginning, assuming the car is standing in the garage or stables. First, make sure that the petrol tank is filled, and the radiator is also filled to the top with water. Take off the bonnet, and carefully oil every moving part with a few drops of oil, and fill the lubricators that are placed there for the purpose, also the drip feed lubricator on the dashboard, which should drop, when the engine is running, at the rate of five to seven drops per minute. Be sure the cap for filling this is screwed down tightly for keeping in the pressure, otherwise the apparatus will not work. If at any time the car is over lubricated, it is an easy matter to open the valve on the lubricator to prevent it working, but it should not be left

whereas in pulling up one's face and body leave the object of destruction or damage that might occur.

As to the driving, it is very essential that when drawing the clutch a few seconds should elapse before the speed lever is moved. This will obviate any noise or chipping the face of the speed wheels. On the first opportunity test both brakes. It is very important that when it is necessary to check the speed of the car that the foot brake should not be used on any account. This should always be kept as an emergency brake, and not as a universal brake. The hand brake is the correct brake to use if the throttle does not check the speed of the car sufficiently. Never on any account drive the car and make use of the foot brake, because this would have to check the car through the small bevel pinion, and, therefore, the strain to the latter is great, and cause undue wear and tear and strain, that ought



Mr. F. F. Wellington at the Wheel of a Spyker Car.

open too long. Also make sure that the crank case has sufficient oil to lubricate the bearings. If accumulator ignition, it is necessary also to see that the accumulator is fully charged. A spare one should always be carried and carefully examined. Finally, make sure that all tools belonging to the car, pump, jack, and repair outfit, spare inner tubes (if carried) are not left in the garage, but are taken on the car.

Now as to the starting of the engine: first look to the throttle, and see that this is in the proper position for starting, also that the ignition is retarded (or put back), so that there may be no shock when turning the handle; also examine the gear levers, and see that they are in the proper neutral notch, then just flood the carburettor by touching the needle on the top of the reservoir attached thereto, and put on the switch. Always make sure to "pull up" the starting handle—not "push down." It is very necessary that one should not push it down, because if the starting handle should slip it might cause damage to one's face through coming in contact with the radiator or lamps,

not to take place, besides back lash, and is often the outcome of the pinion riding the key, and causing a great noise and jar. In climbing hills and pulling the gear back, it is imperative that the car should be as near as possible to the speed in which you wish to engage when changing down from top or direct to second speed. Do not do this too quickly, because it will, no doubt, lead to the missing of the gear wheel and pulling right through it. It may also lead you to believe that you have not got the proper teeth in mesh, and cause you to bring the lever further back, and thus lose the way of the car, and have to resort to the low speed. As regards the control of the engine it is very necessary that this should never race, nor should it be allowed to rotate too fast for the work it has to do. When de-clutching it is always an advantage to bring the throttle down; at the same time, do not forget the ignition lever should be brought down also, if advanced. When leaving the car standing it is always advisable to switch off, or turn the key in the switch, and if the throttle is opened a little and the switch is turned

quickly the motor will generally restart again when mounting the driving seat.

Take, now, the cause of road stoppages, it is simply a matter of A B C to discover the reason for this. We will take A. Look first of all to the ignition, see that the accumulators are not run down, or that any wires are loose on the terminals; also trace the wires to the sparking plugs and see that they are securely fixed and that no sparking plugs are broken, or the porcelain damaged. Examine the commutator and see if the earth wire is properly connected. By turning the handle of the engine, and putting the latter on the dead centre, the trembler will vibrate, and this will give an idea whether it is ignition trouble, or not. If A is found to be correct, next look to B, the petrol, and see if the tank is filled. Examine the carburettor and see if petrol flows to the spraying jet. This sometimes is a source of great trouble, because the petrol, as delivered now to the public, is occasionally dirty, and if no filter is used it will in time cause grit to accumulate at the bottom of the needle, or the connection thereto. If this is found to be correct, it is wise to examine the float inside the reservoir chamber of the carburettor. It is not an infrequent thing to find these are punctured and partly filled with petrol. If this is so, and a new float is not carried, it is necessary to puncture this float in a second place and blow all the petrol out of the float and re-solder.

Passing to C, it is sometimes noticed that before the car stops back fires or popping take place in the carburettor. This is a sure indication of either lack of petrol, or water in the latter. It is easy to find this by disconnecting the bottom of the carburettor and allowing a small quantity of petrol to run through. This will disperse the water for the time being if only a small quantity is found. This often occurs when a car has been stopped after a certain period. There is now only one thing, D, that can prevent the engine running, and that is a broken inlet valve or exhaust valve, or, as sometimes happens with a new car, expansion takes place on the valve spindles, which prevents them moving freely, and thus causing them to stick up, or fix themselves in an open position. It is easy to trace this by turning the engine round and making sure the compression of each cylinder is equal and perfect.

At least once a week the back axle should be oiled with grease and thick oil mixed, and the car jacked up, and each wheel twisted round and examined for end play, and lifted up and down, so as to make sure that all ball bearings are taut, and no balls are smashed. Take the lid off the gear-box, see this is filled with grease, examine the reservoirs at the side of the gear-box, in which thin lubricating oil should be poured. This will last over a week if the wicks that feed the bearings are in their place. On some of the cars ball bearings are used in the gear-box. In this case there are no side reservoirs. Also look to the front steering, see that the leathers covering same are filled with grease, also jack up the front of the car, and see that the steering is not stiff; otherwise it must be lubricated and freed.

It is not an infrequent occurrence that the accumulators are charged in different places by electricians who have very little knowledge of the charging of the latter, and they will connect up the wires, as they think, to the positive pole, whereas if they had tested their wires with a pole paper, or with leads, they would find often the poles of the wires are changed, and thus many an accumulator is supposed to be charged, which is really not the case, but the positive is made negative, and the negative positive. It is essential, therefore, that what is known as pole paper should be kept, with a view of making a test of the terminals before connecting up, especially if one charges accumulators in his house. Do not forget to examine all lamps, and see that these are properly trimmed ready for emergencies, in case one is on the road after dark. Do not expose the inner tubes to the weather or oil. This will destroy them. Inner covers should be carefully wrapped in waterproof. On no account neglect to keep the car properly washed and clean. Finally, do not fill your petrol tanks after dark with a light within five feet of the opening.

## WESTERN NOTES.

NOW that the touring season is fully in swing motorists will be filling their note-books with addresses of garages, recommended hotels, and other memoranda likely to be of service. Fortunately, there is little difficulty nowadays in securing supplies of petrol, and all the large towns have their repair agents; but in out-of-the-way places difficulties are sometimes experienced with regard to repairs, and we shall be glad to provide an opportunity for motorists to compare notes through our columns with regard to the establishments that are able to render useful service to those on tour.

IN a western county recently evidence was afforded of the universality of the automobile. Last season the G.W. Railway ran a service of motor-buses from Cheddar Station to the famous cliffs and caves. Those vehicles have now been sent further west, and Messrs. Burnell Brothers should have no opposition to the motor char-a-banc with which they are speeding over the distance. The narrow squat bonnet and the tube ignition reveal the age of the vehicle, but it runs well, and has no difficulty in maintaining a steady fourteen miles an hour on the splendid roads to Wells, Axbridge, and round about.

BRISTOL is becoming a busy motoring centre, and although tourists naturally prefer the breezy Downs of Clifton and Durdham to the lower regions of the ancient city, motorists will probably find their way to Victoria Street when repairs have to be done. There both the Bristol Motor Company, Ltd., and the Bristol Wagon and Carriage Works Company, Ltd., have repair shops, many travellers through the town making use of the latter company's facilities for the recharging of accumulators.

It is noteworthy that both at Bristol and at Bath motor-bus services are being run by the companies owning the tramways, their value as feeders of the latter having been fully established. On the authority of Sir Vincent Caillard, the chairman of the Bath Electric Tramways, Ltd., we are able to say that so satisfactory were the first six motor-buses put into service on outlying routes that a similar number have since been ordered for an extension of the area covered by such vehicles.

MOST delightfully situated on the Somersetshire coast is the little town of Clevedon, where Messrs. Stephens and Sons are running a motor-car service regularly to Portishead and occasionally to Weston-super-Mare. Mr. Stephens is a man of originality, having made the cars in his own workshops, from whence also came the carriage work as well.

THERE will be a chance for motorists who enjoyed the Light Car Trials in Herefordshire to renew acquaintance with the charming district on the 24th prox., when the Herefordshire Club will hold a hill climb on Frome's Hill, that famous elevation where several cars failed. From Mr. Wilfrid Groom, the energetic secretary of the club, we learn that the entries include cars of the following types:—Adams-Hewitt, Ariel, Duryea, Sunbeam, Napier, Rolls-Royce, Daimler, Rover, Iris, Metalurgique, Humber, Vauxhall, and Clement-Talbot, so that an interesting event should result. Further particulars of the climb appeared in our issue of the 7th inst. The city of Hereford is a convenient centre from which to explore the beauties of the Wye Valley. The county itself is full of variety, its hamlets having many quaint timbered houses and picturesque nooks. An interesting guide to the district has just been issued by the City Council.

MESSRS. MANN AND OVERTONS, LTD., have just issued a very complete catalogue of the 1906 Richard-Brasier cars. Not only does it give full particulars of the various models, but the principal details are illustrated by means of clear drawings. Some useful hints regarding the maintenance of the vehicles in good running order are also included in the list.



## CONTINENTAL NOTES.

### The Coppa d'Oro Touring Competition.

Forty-four entries have been received for the Coppa d'Oro, which is to be held by the Automobile Club of Milan from the 15th to the 25th May. Italy will be represented by three Fiats, five Isotta-Fraschinis, five Diatto-Clements, a Bianchi, three Italias, two Florentias, three Zusts, three Marchands, and a S.A.L. For England a Daimler and three Napiers will compete; for Germany, three Benz and a Mercedes; for France, three De Dions, an Aries, a Krieger, a La Buire, and a Peugeot; and for Switzerland, three Martinis. Owing to the absence of entries the voiturette and light car sections have been suppressed, the event being now entirely confined to heavy touring vehicles.

### A French Industrial Vehicle Competition.

In conjunction with the International Exhibition of Textile Industries which is to be held in Tourcoing in June next, the Automobile Club du Nord is organising a six days' reliability

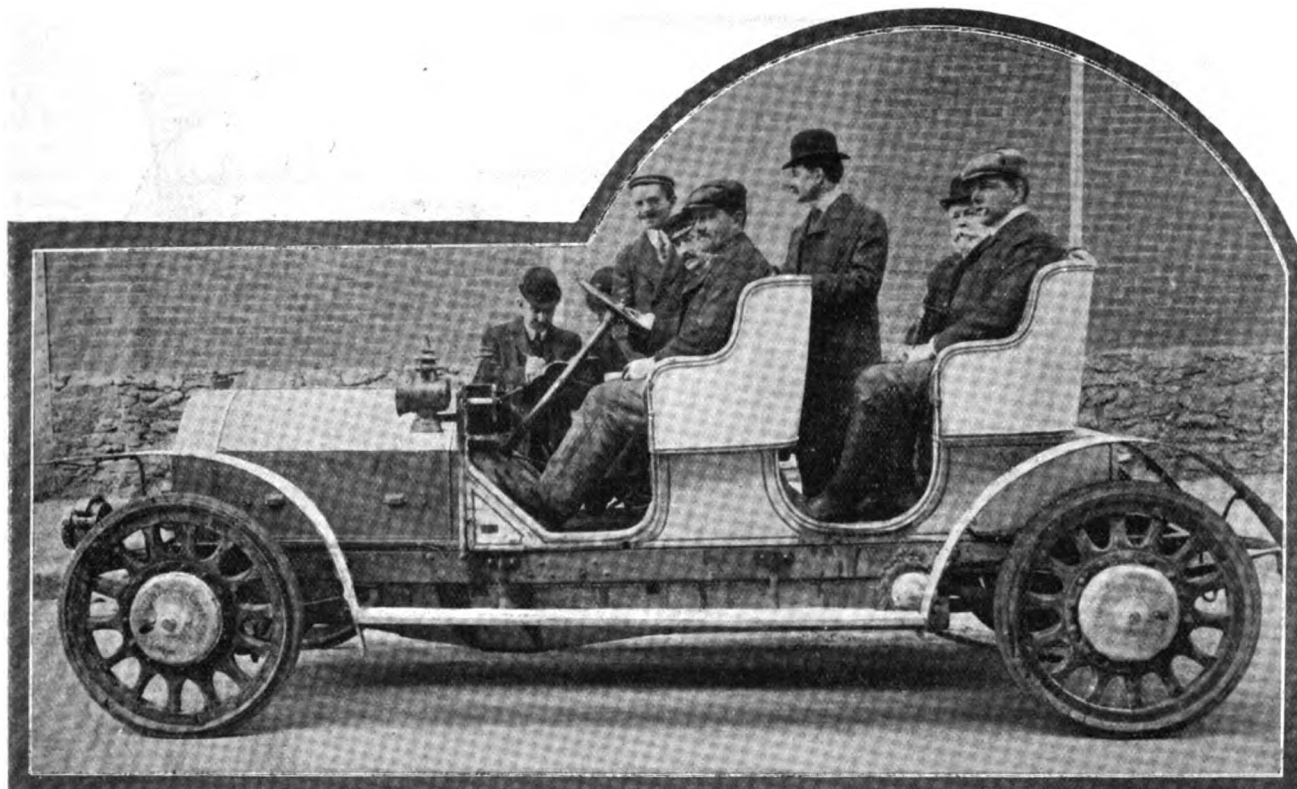
The competing vehicles will be on exhibition at Tourcoing from June 13th to 17th inclusive. Full particulars of the competition can be obtained from the secretary of the Automobile Club du Nord, 4, Rue de la Gare, Roubaix, who will receive entries up to May 15th.

### Hill-climbing at Lyons.

On Sunday last a hill-climbing competition was held on the Les Cheres-Limonest road, near Lyons, over a distance of 3.35 kilometres. Altogether there were forty-three competitors, divided into eleven classes, which included one for racers over 100-h.p. It was in this section, of course, that the best time of the day was made, Colomb, on a Mors, climbing the hill in 2 min. 28.15 sec.; Vitalis, on a Rochet-Schneider, being second in 2 min. 41 sec.

### The Elastic Wheel Competition.

Interest in French motoring circles during the past week has been centred in the "elastic wheel" competition organised



The Elastic Wheel Competition.—Rigolly at the wheel of the 35-h.p. Gobron-Brillie Car shod with Halle Spring Wheels.

rial of industrial motor vehicles. The competitors will be divided into the following classes and sections:—Class 1, public service vehicles; Section 1, cars carrying from twelve to twenty-four persons; Section 2, ditto, over twenty-four passengers; Section 3, road trains; Section 4, double-deck buses seating at least thirty persons. Class 2, motor vehicles for the transport of goods; Section 1, motor-cycles for loads up to 1 cwt.; 2, cars of a capacity of from 200 to 500 kilogs.; 3, ditto, from 500 to 1,000 kilog.; 4, ditto, from 1,000 to 2,000 kilog.; 5, ditto, from 2,000 to 3,500 kilog.; 6, ditto, over 3,500 kilog.; and 7, road trains. The daily runs are as follows:—

Date.	Journey.	Distance Kilo- metres.	Max. time allowed, hours.
June 6 ...	Paris-Versailles-Pontoise ...	49	7
„ 7 ...	Pontoise-Beauvais ...	50	7
„ 8 ...	Beauvais-Amiens ...	60	8
„ 9 ...	Amiens-Arras ...	68	9
„ 10 ...	Arras-Douai-Lille-Tourcoing ...	72	10
„ 11 ...	Tourcoing-Tournai-Roubaix-Tourcoing	68	9
„ 12 ...	Tourcoing-Quesnoy-Lille-Tourcoing ...	65	9

by the "Auto." Of the thirteen entries, ten put in an appearance at the weighing in at Messrs. Darracq's works on the 17th inst. as follows:—

Class.	Name of Device.	Fitted to
Class 1.		
1	Yberty-Merigoux Tyre ...	16-h.p. Decauville.
2	Ducable Tyre ...	14-h.p. De Dion.
3	Le Securitas Tyre... ..	16-20-h.p. Luc Court.
Class 2.		
4	Halle Spring Wheel ...	35-h.p. Gobron.
5	Soleil Spring Hub ...	20-30-h.p. Renault.
6	Cadignan Spring Wheel...	16-h.p. Boyer.
Class 3.		
7	Halle Spring Wheel ...	24-40-h.p. Rapid.
8	Edmond-Levi Wheel ...	24-30 De Dietrich.
9	Garchey Wheel ...	24-h.p. De Dion.
Class 4.		
10	Monnin-Damidot Spring Wheel.	20-h.p. Darracq.

The first part of the trial was a run on the 18th inst. from Paris to Dijon, a distance of just over 200 miles, the start being made in a downpour of rain. By 9 p.m. six of the cars had safely reached Dijon, viz., Nos. 2, 4, 5, 7, 8 and 9. Cars No. 1 (Yberty-Merigoux), No. 6 (Cadignan) and No. 10 (Monnin-

Damidot) had, it was announced, abandoned, and no news was to hand regarding No. 3 (Securitas). The second day's run, on the 19th inst., was from Dijon to Valence, 183 miles. The 35-h.p. Gobron, with Halle spring wheels, driven by Rigolly, was again the first to arrive, he being followed by the 24-h.p. De Dion (Garchey wheels), the 24-30-h.p. De Dietrich (Edmond-Levi wheels), and the 20-30-h.p. Renault (Soleil wheels), four out of the six starters finishing the day's run. The third day's run, on the 20th inst., was from Valence to Marseilles, 137½ miles. Five competitors started and all successfully completed the journey, the first car to reach Marseilles being the 24-h.p. De Dion with Garchey wheels. Saturday morning saw the four remaining cars on their way to Nice, a further 144 miles, the number having been reduced by one, due to Rigolly, who was driving the 35-h.p. Gobron fitted with Halle spring wheels, abandoning. On the run to Marseilles he had experienced various delays owing to ignition troubles and a leaky radiator, and not being able to obtain spare parts

these columns, two Wolseleys, three Daimlers, and two Humber will represent England in this important international event.

#### Miscellaneous Items.

Two Darracq cars have been entered for the Vanderbilt Cup race.—A service of Clement-Bayard motor-buses is about to be started between Compiègne and Pierrefonds.—The Hamburg Automobile Club is organising a reliability trial from Hamburg to Segeburg and back for May 6th.—Four Panhard cars have just been entered for the Circuit des Ardennes.—The Motor Yachting Committee of the A.C.F. is considering a proposal of the French Minister of Marine to organise a competition of marine paraffin motors.—A valveless inner tube for pneumatic tyres which has been introduced by the Gallus Company is at present attracting much attention in French motoring circles.—The Automobile Club of Guipuzcoa has just been formed at San Sebastian, Spain, with Count de Torre-



The Circuit European.—Washing Day in the Town of Lodi, Italy.

in time he decided not to proceed further. The remaining competitors—the 24-h.p. De Dion with Garchey wheels, the 24-30-h.p. De Dietrich (Edmond-Levi wheels), the 20-30-h.p. Renault (Soleil wheels), and the 14-h.p. De Dion (Ducasble tyres), safely reached Nice in the order named. Sunday was spent quietly at Nice, the cars being placed on exhibition and attracting much attention. On Monday a start was made for Marseilles, a distance of 144 miles. The journey was safely accomplished by all the four remaining competitors. The De Dietrich (Edmond-Levi wheels) arrived first, followed by the 20-30-h.p. Renault (Soleil). The 14-h.p. De Dion (Ducasble tyres), and the 24-h.p. De Dion (Garchey wheels) arrived late owing to mechanical troubles.

#### The Circuit European.

The entries for this great touring competition, known as the Circuit European, so far number forty-nine, the latest additions including a Pilain, several De Dions, a Krieger, a Benz, a Metallurgique, a second Wolseley, and a Pierce, the last-named being an American vehicle. As already mentioned in

Muzquiz as first president.—The Sporting Committee of the A.C.F. has forbidden practice on the Sarthe Circuit on racing cars as from the 1st prox., owing to the heavy wear of the roads caused by the cars.

#### Motor-Buses in Algeria.

La Société Urbaine des Trams-Omnibus de Delcourt à St. Eugene is stated to have decided to put twenty 20-seated motor-buses in service at an early date. A company is also reported to be in course of formation to establish a motor-car service between Algiers and Maison-Carrie, a distance of 12-kilometres.

#### The Malglaive Cup.

M. P. de Malglaive has just offered a cup to the Algerian Automobile Club for an annual motor-car race, to take the form of a kilometre handicap open to vehicles of all horse powers. To secure the cup outright the event must be won by the same competitor two years in succession.

## A. Novel Petrol Motor.



A BRIEF reference to the novel motor exhibited by Messrs. A. Lége and Co., and which formed one of the attractions of the recent Show, especially from an engineering point of view, has already been made in the *M.C.J.* We are now able to give sectional and general views of the engine and to supplement the same with a brief description. As will be seen from Figs. 2 and 3, the engine comprises six horizontal cylinders A arranged symmetrically round a circular frame, entirely enclosed by a casing formed in halves, the top portion being readily removed by unscrewing holding-down nuts. The horizontal sectional drawing reproduced in Fig. 3 represents what would be seen were the engine cut cleanly in half, and therefore shows two out of the six pistons and the distribution gear. The flywheel is fixed to the short shaft H outside the casing. Inside the latter the shaft carries a crank offset g, which by a ball and socket connection carries a short shaft D, which, supported by a central ball socket C, terminates in a second crank offset E attached to a continuation shaft extending for the remaining length of and through the engine. The latter acts as a camshaft for actuating the exhaust valves and ignition gear. The shaft D with the triple ball joints already referred to carries a radial frame B having six arms, and the main body of the engine has a revolver-chamber-like portion in which are formed the six cylinders A. The pistons for these cylinders are

"wobbling" movement, which, in turn, compels the two crank offset bearings to revolve, and the "cranking" effect thus produced causes the main shaft H, with its flywheel, to revolve, and power is given out by the engine. To prevent the radial frame B from revolving with the crank offsets, it carries a supplemental arm, which works backwards and forwards—

in unison with the dishing or oscillating movement of the frame—in a slot formed in the main casing of the engine. The explosions take place in alternate cylinders, so that three cylinders act during each revolution of the main shaft. We have already referred to the connection of the main shaft with the cam shaft. It carries a two-to-one reducing gear, also cams which operate rollers, opening the exhaust valves K. The burnt gases escape to the atmosphere by a circular pipe connecting with each valve, arranged on the front end of the engine. The inlet valves J open atmospherically, and the mixture finds its way from the carburettor through a branched circular piping into the inlets. The cooling water for the cylinder jackets and the lubricating oil are circulated by a pump which performs the two

functions. It is driven by a chain from a sprocket on the end of the camshaft. The spindle of its chain-wheel has a skew-gear which turns an eccentric working an oil plunger pump. The chain-wheel spindle also carries a rotary pump. The upper half of the engine carries a box which has fingers dipping into

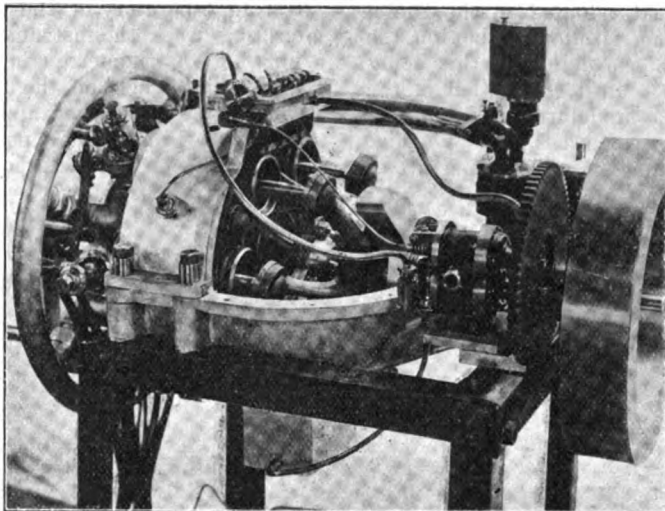


Fig. 1.—General view of the Lége Six Cylinder Engine with part of casing removed.

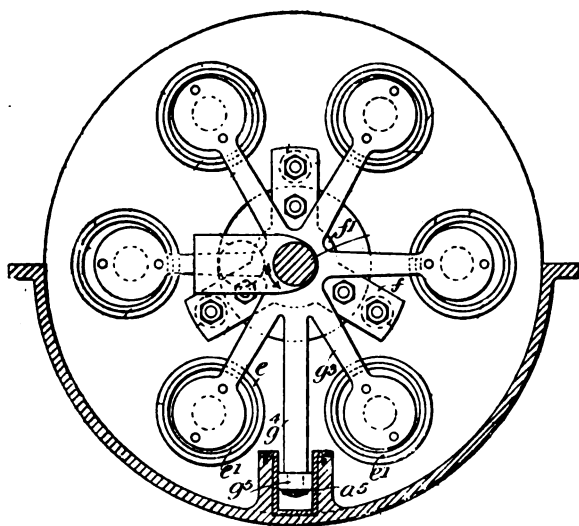


Fig. 2.—Cross sectional view of Lége Motor, showing arrangement of cylinders.

attached by arms terminating at both sides in ball ends, which engage with sockets formed on each of the six radial arms and the pistons respectively. When the engine, which is of the four-cycle type, is started by the ordinary handle, the spherical joints by which the radial arms carrying the piston rods are held at all points allow the frame B to take a continuous "dishing" or

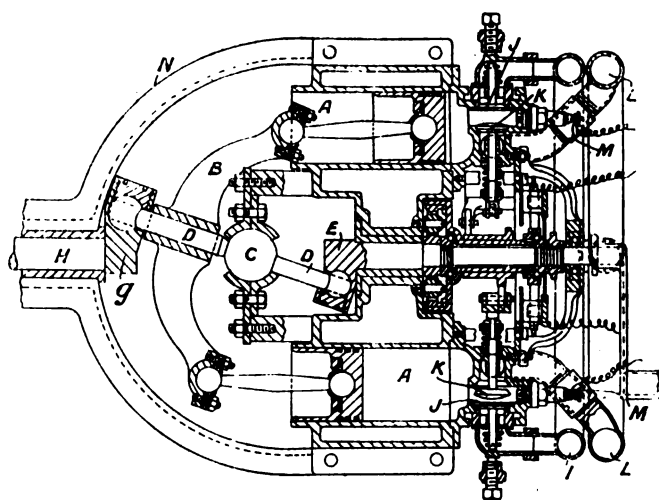


Fig. 3.—Sectional elevation of Lége Motor.

the row of oil-feeds which lead to various parts of the engine, beneath. The engine develops between 15 to 18-h.p., the bore and stroke of the cylinders being 70 by 80 mm. Among the advantages claimed for it are absence of vibration (owing to the rotary method of propulsion), smoothness in running, saving in weight and smaller size of engine for a given horse-power.

## SOME CURRENT TOPICS.

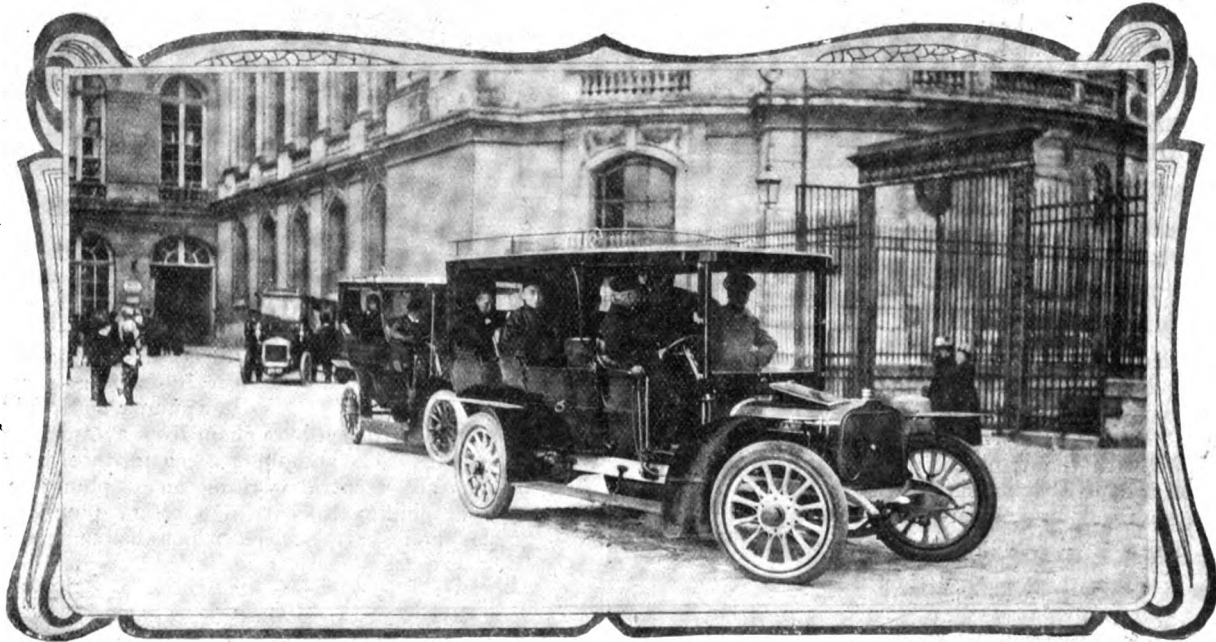
### Developments in Petrol Engine Design.

The other day we had the privilege of inspecting the working drawings of a novel design of petrol engine which is being fitted to a new motor-bus chassis at present in course of construction. The principal feature of the motor is that either petrol or paraffin may be used and that no carburettor is employed to furnish the mixture. In some respects the arrangement is somewhat on the lines of that adopted in the Diesel engine. The ordinary four-cycle system is adopted, but on the suction stroke only air is drawn into the cylinders, this being compressed in the usual way. It is not until completion of the compression stroke that the fuel, in a predetermined quantity, is sprayed into the combustion chamber when it is fired by a plug in which a continuous spark is maintained. Another departure in

Maud Manville, Mr. A. Birtwistle (Blackburn), Mr. R. Stotesbury (Bristol), Mr. D. Hughes Morgan (Talgarth, Breconshire), Mr. C. Hardy (Nottingham), and Messrs. F. Rendle, P. Dawson, A. D. Grigg, W. H. Ash (of London), all of whom, we understand, will drive British Daimler cars, Mr. C. Jarrott, who will pilot a Crossley, and Mr. Robertson Grant, of Edinburgh, whose mount will be an Argyll.

### The Odotachymetre Competition.

So far eleven entries, including two from the Cowey Engineering Company, have been received for the "Odotachymetre" or speed-indicator-odometer competition which the Automobile Club de France is organising. The trials will commence in the testing laboratory of the A.C.F. on May 3rd, and during the ensuing week the instruments will be carefully tested by the jury. A 100 kilometre trial on the Montgeron-Ozoir-La Ferriere road will be held on the 9th May, time being allowed to the competitors to fit their apparatus to cars, which must be of not less than 15-h.p. The points to be taken into account by the jury are—(1) The accuracy of indication; (2) the ease of in-



A Party of Chinese Officials visited Paris last week and inspected several Motor-car Factories, including those of the Hotchkiss and Delaunay-Belleville Company. Our Illustration shows the Party arriving by Motor-cars at the Palace of Versailles.

the engine referred to is the provision of two exhaust valves to each cylinder in place of the usual single valve. Both are situated in the cylinder heads and operated by the same tappets; they are, however, arranged in such a way that one is opened slightly in advance of the other. There are several other special points in the new bus chassis, notably as regards the change-speed gear and the control, to which we hope to refer more fully in a subsequent issue.

### The Herkomer Touring Trophy Contest.

That the 1906 contest for the Herkomer Touring Trophy will prove a worthy successor to the 1905 event is evident from the fact that so far no less than 146 entries have been received. The majority of the entries emanate from Germany, they numbering 110, and including Prince Henry of Prussia, who is expected to drive his own Benz car in the contest. Austria and Hungary are represented by fifteen competitors, France and Belgium by three each, Italy by two (Lancia and Nazzari, who will drive Fiats), and America by one, a Pierce car. As showing the interest which is being taken in the event in England, it may be mentioned that no less than twelve British competitors have entered. They include Lord Montagu of Beaulieu, Mrs

stallation; (3) the regularity of operation and solidity of construction; and (4) the price and weight of the apparatus.

### An Automobile Congress.

The third annual international automobile Congress is to be held in Milan, from the 24th to the 29th May next, the objects being to review the present position of automobile construction and traffic, and to study the economical and technical problems which surround its further development. The proceedings of the Congress will be divided into three divisions:—(1) Technical details of cars and roads; (2) public service operation and heavy commercial vehicles; and (3) legislative and customs matters. In Class I M. Jeantaud and Signor Turrinelli will report on electrical vehicles, M. Serpollet will deal with steam cars, the Chevalier Giovanni Enrico with petrol engines, Signor Balocco with transmission systems, M. G. Kellner with motor carriage bodies, M. L. Ferrus with spring wheels, and Dr. Pirelli with tyres. In connection with the Congress a number of excursions are being organised, including one to Lakes Maggiore and Como. The Congress is open to all motorists on payment of a subscription of 25 francs, on or before May 15th, to Dr. Gildo Guastalla, 14, Via Monte Napoleone, Milan.



A MOTOR mail service has been instituted by the postal authorities between York and Leeds.

THE Salehurst (Sussex) Parish Council is making a formal complaint to the Local Government Board of the nuisance caused by the clouds of dust raised by motor-cars on public roads.

WE illustrate herewith a neat and ingenious luggage carrier intended to be fitted to the rear part of motor-cars, which is being put on the market by Messrs. Thomas Whittingham and Wilkin, of Long Acre, London, W.C. The arrangement is one which should prove of interest to those motorists who do much

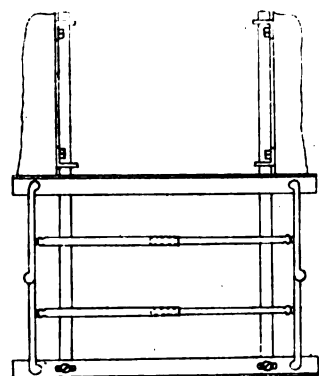


Fig. 1.

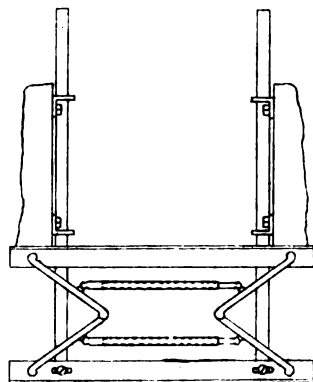


Fig. 2.

touring on their cars, as when not in use it folds up entirely out of sight. Referring to the plan views above, Fig. 1 shows the carrier fully extended for use, and in Fig. 2 it is seen in a half-closed position. It comprises two cross pieces, connected together by two rods hinged at the centre. The hinged rod on one side is provided, at right angles, with two hollow stays, into which telescope corresponding stays fixed to the opposite rod. The whole carrier is supported by two channel iron members, one at each side, parallel with the frame of the car and sliding in guides fixed to the latter. When opened out, by simply pulling the rear crosspiece, the device forms a table on which trunks and other luggage can be strapped, and when closed it occupies only a very small space and is practically unnoticeable; it can be readily fitted to all cars having side-entrance bodies.

IN giving evidence in a case against a motorist at Shoreham, a policeman has stated that during two hours he was timing cars on a recent day he had to stop only two out of twenty-two drivers.

AMONG the owners of cars who have recently qualified for the A.C.G.B.I. driving certificates are the Earl of Norbury, Sir Horace Plunkett, Sir Bache Cunard, Major C. H. Wellesley, and Capt. A. W. Tufnell.

THE Benz cars are rapidly becoming popular among German Royalty. Prince Maximilian of Baden has just ordered a 40-h.p. vehicle, while Prince Henry of Prussia, who has had a Benz car for some years, has now ordered a 50-h.p. coupé from the makers.

As an instance of what can be done with an up-to-date car, a drive which was accomplished the other day by Mr. Kennedy, of Clement-Talbot, Ltd., on a 20-h.p. Talbot is worth noting, the vehicle being driven from London to Manchester in 5½ hours.

A MOTOR-OMNIBUS belonging to the London Motor Omnibus Company, which was proceeding along Albert Road, Regent's Park, burst into flames on Sunday afternoon as the result of the overflow of petrol. The passengers hastily alighted, and the firemen overcame the outbreak.

AT Green Street Green, a little village between Farnborough and Sevenoaks, Mr. T. Butler, of the Raven Cycle and Motor Works, is catering for the wants of motorists passing that way. He has an inspection pit, and has lately put in a vulcaniser, so that he can quickly carry through any tyre repairs that may be required.

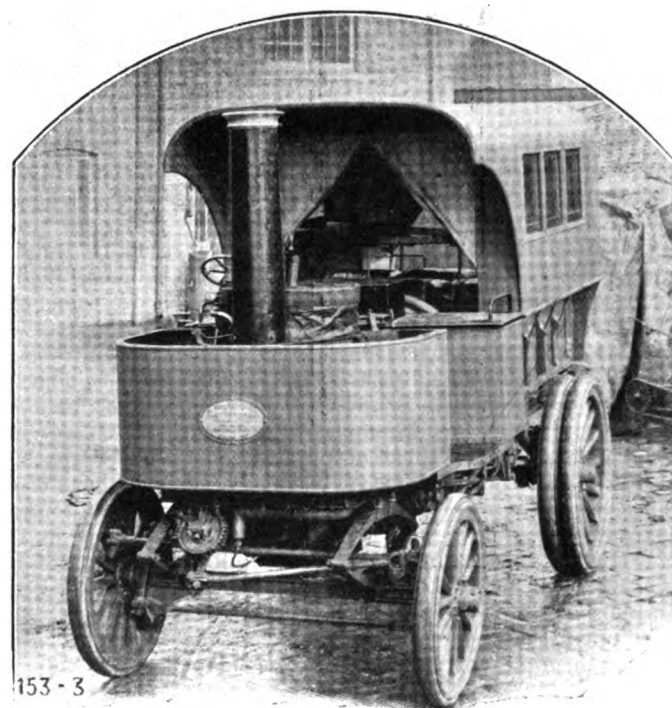
## HERE AND THERE.

LORD KIMBERLEY has just ordered a 25-36-h.p. Richard-Brasier landaulet from Messrs. Mann and Overtons, Ltd.

THE superintendent of the Carmarthenshire Constabulary was probably the first police officer to become a motorist, having acquired a motor-car five years ago.

MESSRS. WARWICK WRIGHT AND HUNTLEY WALKER, LTD., have a stock of 1906 Darracs and Minervas at 483, Oxford Street, W.

IN refutation of the statement so frequently heard that manufacturing and commercial enterprise are declining in this country, it is pleasing to relate that the Portuguese Government, requiring steam motor-wagons and ambulances, placed the order in England, although it was competed for by many Continental firms. The remarkable celerity with which the work was carried out (thirty-nine days) reflects much credit on the contractors, the vehicles in question being originally intended for use in a punitive expedition organised by the Portuguese for their possessions in West Africa. The mechanical transport equipment supplied by Messrs. J. I. Thornycroft and Co., Ltd., consisted of four 5-ton steam wagons with eight 3-ton trailers, and a 30-cwt. steam van specially fitted up for the use of staff officers. The 5-ton wagons have lorry platform bodies, and are of the well-known Thornycroft Colonial type, with vertical central-fired water-tube boilers adapted to burn wood, if desired, and 45-h.p. compound engine. The wagons are of specially strong construction to enable them to be used satisfactorily in rough country, and the transmission gear is all enclosed. Two of the wagons have interchangeable ambulance bodies. The latter can carry twelve men, there being eight stretcher beds in each ambulance. The special light steam van shown in the accompanying illustration is comfortably fitted up for use by



day or night. The wheels are shod with solid rubber tyres, and the wagon is capable of a speed of about fifteen miles an hour on the level. The boiler is of the Thornycroft vertical water-cooled type and the engine is a compound, developing about 25-h.p. The transmission is by Renold chain to a differential on the back axle. All the wagons have satisfactorily passed very severe tests in Lisbon, and are giving the Portuguese authorities great satisfaction.

MESSRS. GOULD BROS. have enlarged their garage in Southernhay, Exeter.

MESSRS. TREVOR AND SONS, of Eastbourne, will shortly add a London depot to their business activities.

MESSRS. ANDERSON, GRANT AND CO., St. Vincent Street, Glasgow, have been appointed district agents for the Cadillac cars by the Anglo-American Motor-Car Co.

THE Imperial Tyre and Rubber Company, Limited, have produced a new pattern of their non-skidding tyres, formed by effective arrow-headed pattern corrugations in the rubber. They can either supply these fitted complete to new tyres of their own make, or can fit them to customers' own tyres at a price only slightly above the ordinary re-treading price. They are doing steadily increasing business in new tyres, which are manufactured entirely at their Clerkenwell Works, and which have already had the test of two seasons' running. The Imperial Company are quoting special prices to motorists who wish to give these covers a trial, as well as guaranteeing satisfaction.



advantages of six-cylinder cars in general and of the Standard 24-30-h.p. and 50-h.p. models in particular. A full description of these vehicles is given, together with illustrations, while some instructive diagrams of the torque of two, three, four and six cylinder motors are included. The catalogue is well worth the perusal of those motorists interested in the multiple-cylinder engine movement.

MESSRS. W. A. RYAN AND CO., LTD., of New Zealand, inform us that their new motor-boat "Togo," fitted with an Ailsa Craig 24-h.p. motor, has won the Auckland Anniversary Regatta.

THE "Ideal" cooling fan exhibited at the recent Cordingley Show by Mr. G. Aldington is to be fitted to the motor sledge which M. Hervieu will use in his expedition to the Polar regions.

To enable users of Clincher motor tyres to obtain replacements without delay, agents have been appointed throughout the kingdom, and the North British Rubber Company has issued a Vade Mecum containing a map showing the towns where such depots have been established, and giving some useful routes.

FROM the Clement-Bayard Company, of Levallois-Perret, France, we have received a copy of the Manual of Clement-Bayard cars they have just issued. The book extends to 144 pages and is remarkably complete, the full descriptions of the various models being supplemented by illustrations of all the principal parts of the vehicles.

THE Austin Motor Company, of Northfield, near Birmingham, has opened a special repair department under the superintendence of Mr. A. J. W. Millership. A capital booklet dealing with the system of checking repairs in vogue has been prepared for local circulation, which should do much to extend the business of the concern in that direction.

A NEW tyre, in which a series of short canvas rubber tubes are bolted under a rim, is being brought out by Mr. O. Cook, of Greenwich, who believes he has secured an invention which will ensure resiliency while avoiding the troubles frequently associated with pneumatics. This new tyre is fitted on an ordinary rim, and will doubtless attract much attention from its novel appearance.

MR. J. C. BURTON has opened premises in Granby Place, Leicester, for the repair of motor tyres.

THE Sirdar Rubber Company, Ltd., have received a large order for motor-bus tyres from Belgium.

MR. T. WILLIAMSON is doing a large amount of motor repair work in the town of Dundalk, Ireland.

REGISTERED without articles of association, the capital of the National Automobile Society has been declared as £1,000.

THE Liverpool Corporation have ordered, through the Sefton Motor Garage, Liverpool, a 7-h.p. Star car for use by the engineers' department.

THE revenue of the city of Manchester has been augmented by £1,700 received from motorists for the registration of cars and the licensing of drivers.

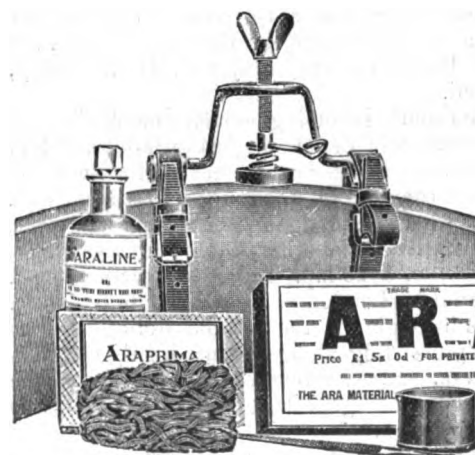
ON Wednesday morning two Vanguard motor-buses were proceeding along Tottenham Court Road, London, practically side by side, when one skidded and crashed into the other. Two passengers were removed to the hospital, but their detention was not considered necessary.

AT the meeting of the Aeronautical Society of Great Britain on the 27th inst., at the Society of Arts, John Street, Adelphi, W.C., Captain Scott, R.N., the commander of the recent British Antarctic Expedition, will address the society on the use of the balloon in the expedition.

THE Acme Rubber and Tyre Company have opened a new motor tyre repair works at 343, St. Vincent Street, Glasgow, which is splendidly equipped for the prompt and efficient building up of old tyres. The company's facilities are not only up-to-date and extensive, but they have already achieved distinction in this class of work. A notable feature of the business is a guarantee of the work they do, and an assurance of its expeditious return to the owner, no matter the distance from Glasgow. The company is introducing a case-hardened light steel-studded tread of undoubted merit, and will be pleased to advise motorists on tyre matters generally.

THE sale of second-hand motor-cars at a place like the Motor House, in Euston Road, London, at the present time has just a touch of pathos in its way. Cars that have made names and the performances of which have been blazoned through the Press are sold almost in obscurity. Thus the other day we saw a Mors brougham which had been the property of the Maharaja of Cooch Behar, with silver fittings, silver-plated radiator and the usual magnificence attendant on an Eastern potentate. In another corner was Mr. W. S. Gilbert's 16-24-h.p. Napier, and yet again one of Capt. Bewicke's De Dietrichs and a rare old veteran in the shape of a 70-h.p. Panhard racer converted into a touring car and owned by the Duke of Manchester.

THE Ara process is finding much favour in the repair of motor tyres, although only recently introduced by the Ara



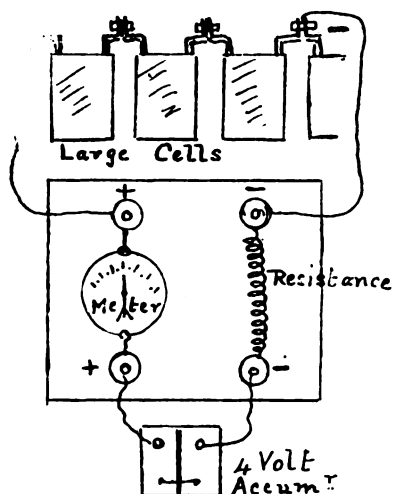
Material Patents and Manufacturing Corporation. The method followed is that of cutting rubber into small pieces and placing them into a plunger press, as shown in the accompanying sketch. After being dipped into a fluid called Araline, these pieces of rubber are forced out on the place to be repaired. The specimens which

have been submitted fully bear out the Ara claim to accomplish moulded and "vulcanised throughout" repairs of an absolute and permanent character. The time taken is five minutes for an ordinary piece of work, and the neat little "Ara vulcanising installation" can be used by any amateur.

## CHARGING ACCUMULATORS.

IN our Correspondence columns this week "Anxious" raises a query with regard to the charging of ignition accumulators from an electric light storage battery. As the question is one of general interest, we have prepared the accompanying diagram to show the necessary connections. Small accumulators can be charged from electric light storage batteries at any time, whether the engine is running or not, provided that the large accumulators are charged, and not completely run down, which is seldom the case. In all large sets of accumulators of this kind there are three or four cells at the end of the line, which are called the spare cells, and it is best to charge from these, as they have the least work to do. To charge a 4-volt accumulator we require 5 volts, and as we cannot get exactly this amount from any set of accumulators, we must have either 4 or 6 volts, from the fact that each cell gives 2 volts. It is, therefore, necessary to connect up to three cells and use a small resistance wire to cut down the extra volt which is not required, otherwise we would get too much current. In connecting up a wire it must be connected from the positive terminal of the 4-volt accumulator to the positive terminal usually marked red, which will be at one end of the set, and the negative terminal joined to the negative of the large cells, after inserting the resistance. As the large cells are connected together, care should be taken not to confuse the actual positive or negative lugs of the same, as a red and black lug is connected in each case, except at the ends of the set. If the last lug at the end of the set, where the spare cells are, should happen to be the negative pole of the battery, the negative of the 4-volt accumulator should be connected to this end, and the positive to the positive lug at the end of the third cell.

A suitable arrangement for charging in this way can be fitted up as follows:—On a base board fit four terminals, with a small ammeter between two of them and a resistance between the others. Join the 4-volt accumulator to the two marked positive and negative, and wires from the three cells of the large accumulators to the others, as in the accompanying diagram, and note the current passing through the ammeter. The amount of resistance necessary to pass the current for charging can be tried at first, and then permanently fixed on the base

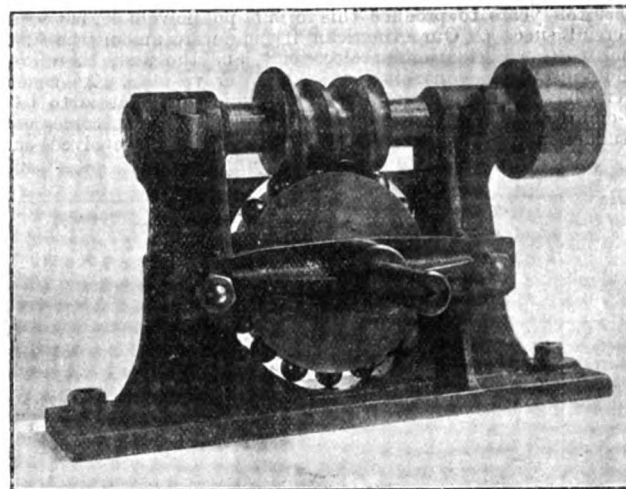


board. This method of charging accumulators costs practically nothing, and is very reliable and steady. If the engine is running when charging, the circuit may require more resistance, as the voltage of the three large cells will be higher; to allow for this a variable resistance with a small switch may be utilised. The apparatus can be made for about twenty shillings by any good electrician, or at less cost if made up roughly.

THE H. F. vulcanising appliances have been adopted by the Post Office in connection with their motor vehicle department.

## A NEW COMBINED WORM AND BALL DRIVE.

WE illustrate herewith a new silent ball-worm drive for motor-cars which has been devised by Mr. A. T. Collier, of St. Albans, and of which a model is at present on view at the depot of Messrs. H. and W. Greer, Clerkenwell Road, London, E.C. As will be seen, the usual worm wheel is replaced by a disc, in the outer edge of which steel balls are inserted. The



worm is cut on a concave solid piece which encircles about one-fifth of the wheel it drives. The thread is equally spaced about this concave surface, and not about the axis of the worm, the design causing three balls to mesh simultaneously and divide the driving strain between them. Exactly half the ball fits in a cup in the wheel, and the other half in the worm thread. The balls are held by a cage, which forms part of the standard, to prevent them falling out until the worm takes care of them. Owing to the large lubricating surface in the cup, compared to the contact lines between the balls and the worm, the balls turn in the cups and roll along the worm thread. The result is a rolling action, which reduces the friction on the wearing part of the worm. Owing to three large balls meshing simultaneously, a much smaller and lighter gear than now used in fixed teeth gears will, it is claimed, transmit the same horse-power. The gear is cheap to make, the worm being cut by a simple automatic revolving turret, and the cups by a half round cutter. As illustrating the small amount of friction developed by the gear, we may mention that the model can be driven backwards, i.e., the wheel will drive the worm although the thread is only 8 degrees out of the perpendicular to the axis. The dimensions of the parts in the model are: balls,  $\frac{3}{4}$  in. diameter; worm, 3 in. long on its axis; wheel,  $5\frac{1}{2}$  in. diameter; number of balls, 17, and ratio 1 to 17.

MESSRS. ROBERT MORTON AND SONS, LTD., of Wishaw, are opening large showrooms and garage at 42-50, Bridge Street, Glasgow.

MESSRS. MOSS AND WOODD have removed their works and offices from Banister Road, Kensal Rise, W., to Oaklands Road, Cricklewood, N.W.

MESSRS. COCKS, LTD., send a catalogue of the automobile accessories, tools and machinery stocked at 20, Holywell Row, Great Eastern Street, E.C., whither they have lately removed from Marylebone. Their operations are comprehensive, from the supply of motors to the repair of goggles.

CLIMAX MOTORS, LTD., have issued a catalogue for the 1906 season, in which illustrations and descriptions of many standardised details of their cars are given under the heading of Climax characteristics. Specifications are also given of the company's 14-h.p., 16-h.p., and 20-h.p. cars, together with plans of the chassis that will prove of general interest.

## CORRESPONDENCE

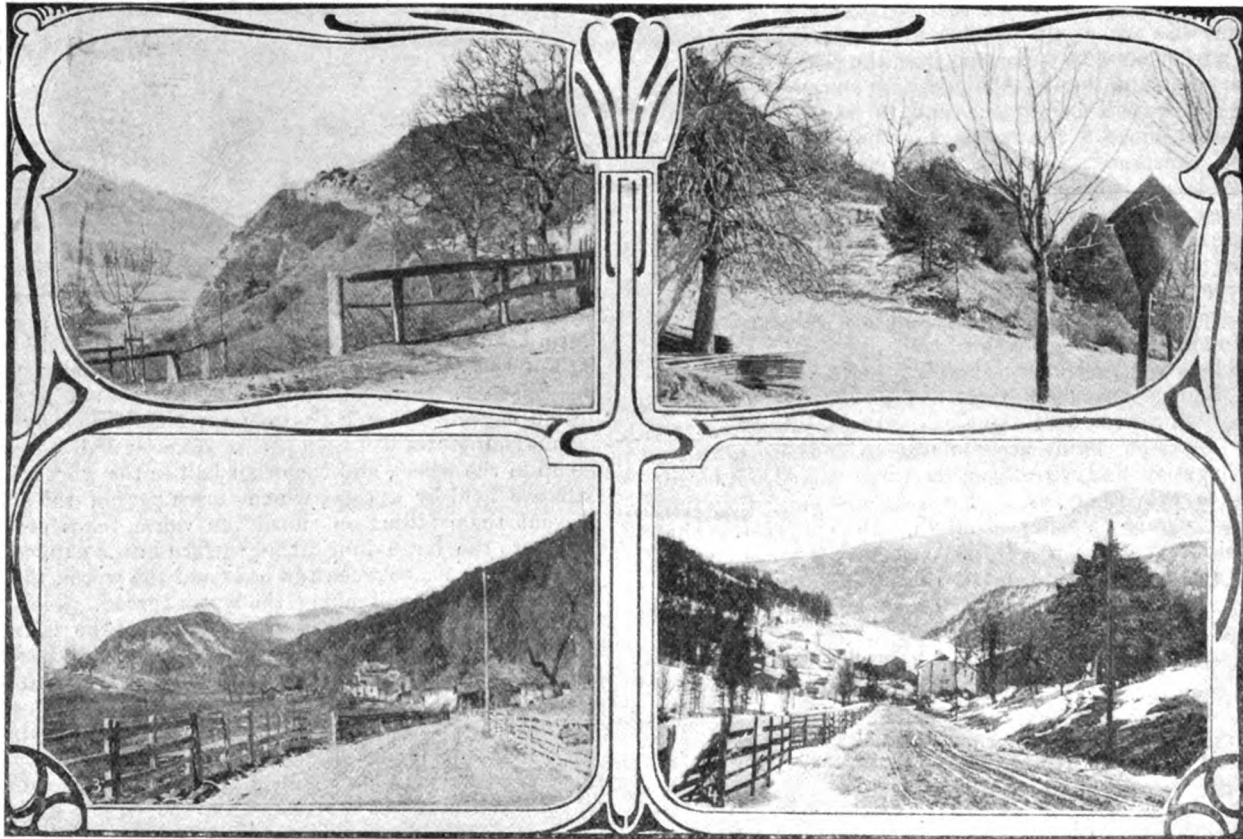
[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, W.C.]

### PETROL AND ELECTRICAL MOTOR-BUSES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the particulars of the new electrical motor-'bus in the last issue of the *M.C.J.*, many attempts have been made during the past ten years to produce this form of public vehicle, but without commercial success. Our American friends were among the first to succumb to the fascination of electricity, and the first, therefore, to realise its insufficiency in self-contained power vehicles. As a manufacturer I have quite an open mind on the subject of what is to be the motor-omnibus of the future. That vehicle will be the outcome, not of some sudden marvellous invention, but will be slowly evolved out of

limit of their life. Given a reasonably sensible design, the life of an omnibus depends upon two things; first, the speed at which it is permitted to travel, and secondly, the efficiency of the repairing staff. If high speeds over rough, uneven road surfaces are frequently repeated, the deterioration in the whole vehicle is excessive, and if there is added to this insufficient attention by the repairing staff to the "beginnings" of wear, then the life of vehicles working under these conditions must be short. If, on the other hand, so long as our road and street surfaces are in the imperfect condition usually met with, a reasonable maximum speed, say twelve miles an hour, the present legal limit, is insisted upon and the work of repairs and renewals in the depot is carried out by experienced engineers with as much care as is exercised by the manufacturing staff in the building of new cars in the builders' workshops, the life of a petrol motor-omnibus is good for ten years. As practical evidence of my belief in this figure, my company undertakes, at a reasonable rate per mile, to maintain the Scott-Stirling omnibuses in efficient running condition for ten years. The London Power Omnibus Company, Ltd., for instance, who are using Scott-Stirling vehicles, have a contract with us on those lines, and I believe that their service is being maintained at a lower rate per mile than any other company at the present time working in London. Their total



The First Hill after Leaving Tal.  
The Road near Leiten.

A Sharp Turn near Kreuz.  
A View of the Innthal from Auland.

VIEWS ON THE COURSE ON WHICH THE HERKOMER TOURING TROPHY CONTEST WILL BE HELD.

[Allgemeine Automobil Zeitung, Berlin.]

every-day working experience. People must not be misled by a few enthusiasts into the belief that the electrical 'bus is any more than another experiment a little in advance, probably, of its numerous predecessors, and the public, in putting money into such a business, must be prepared for failure, or at any rate regard the business as entirely speculative at present. Not until the vehicle has been running for twelve months at the least can any opinion be formed as to its suitability for the heavy work of omnibus traffic or can anything be ascertained as to its economy in operation and its life.

In speaking of the life of motor-omnibuses I have been interested to observe the widely differing views of people of more or less experience. A year and a half or two years has been put as the life of a petrol omnibus by those unfriendly to it, while others have put it down at five to seven years. I quite agree that some of the 'buses which have been hurriedly built by inexperienced manufacturers and put upon the streets must have a very short life, but there are others whose designs are the fruits of years of experience in this special department of the motor industry, and built in British workshops, which will outlast even the seven years which has been put down by some as the

running costs, including the entire depot work, renewals and maintenance, does not, I believe, exceed 8½d. per omnibus mile. This is a figure which I do not think the electric omnibus is likely to improve upon, with the serious deterioration in the electric batteries due to road vibration alone.

On the question of noises for which the petrol omnibus is blamed, any excessive noise is entirely due to insufficient attention in the repairing depot, and while the noisiest 'buses on the streets to-day create no greater nuisance in this respect than the average electric tramcars, there is no reason why the petrol motor-omnibus cannot be maintained running with great quietness if the companies concerned will see that proper attention is given to the systematic repair and renewal of their mechanisms.—Yours truly,

JOHN STIRLING.

### MOTOR-CARS AND DUST.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—By all means let county councils find out by concerted experiment what are the least dusty roads that can be economically made.



But it would be absurd for the ratepayers generally to be put to an expense of perhaps ten, perhaps fifty or more, millions, for the convenience of the most selfish class of the community, namely, the motorists.

What is needed first is severe punishment, and after the second or third offence without option of a fine, for motorists who raise dust beyond that caused by, say, an ordinary coach and four. Surely the nuisance now created is already an offence, and it is greatly to be hoped that a test case will be taken shortly. Even if it should be held by the High Court not to be punishable, I think it is already an offence to raise dust enough to make it difficult to see the car's number. The whole pleasure of the country is being spoilt by the disgusting selfishness of the motor-cads. It is the duty of anyone professing to be a gentleman so to use the public roads as not to annoy beyond endurance all those who wish to use them or live near them.

Motorists are bound, at any rate morally, to notice whether they are raising dust; and, if they are, to go slower, even if slower than a four-wheeled cab. I trust that the Motor Commission will recommend that all cars be tested for their dust-raising propensities, and those that offend be limited to, say, twelve miles per hour, and carry some distinguishing mark.

But the selfishness of the motorists is not so great as the shortsightedness of their folly. I write as a motorist who wishes to be able to keep the present reasonable liberties, and to be able to enjoy motoring along even a main road. But the motor-cad, by his dust, spoils the pleasure of all other motorists as recklessly as that of mere pedestrians or cyclists. And, seeing that further legislation is inevitable, it is sheer madness for motor-cads to further exasperate public opinion.—Yours truly,

H. R. REYNOLDS.

#### TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It seems only reasonable to expect the chief creators of the dust nuisance to be also its chief removers.

It is quite illogical to legislate in regard to the lesser smoke nuisance and ignore the greater dust nuisance.

Either the roads should be dustless, which is an impossible condition under the existing systems of macadamizing, or the resulting dust should be removed in the dry state. Added water only produces filthy mud, which induces side-slips.

It is obvious that it would be a great advantage to cleanse the roads through some dry process, and in view of the remarkable results attained by the "Vacuum Cleaner," and the currents of air produced by rotating fans, it is conceivable that germ-laden dust could be drawn by suction into a receptacle instead of being scattered in clouds and deposited elsewhere to the danger and inconvenience of the public.

If, in place of useless water-carts, corporations would introduce a dry system for cleansing the streets, a considerable amount of money would be saved annually to the ratepayers, and the collected dust, instead of being treated as a waste product, might be found a valuable fertilizer for heavy soil.

The country roads should be dealt with by the motorists themselves on the same principle. The more rapidly they travelled the greater would be the volume of dust raised, but the more quickly would it be drawn away into the collecting chamber.

The "early worm" motorists would practically clear the roads of dust, to the advantage of those who followed later in the day.—Yours truly,

CECIL CARUS-WILSON.

#### AN OBJECTIONABLE DEVICE.

##### TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Now that the motoring season is once again in full swing, the newspapers are teeming with letters regarding the ever-increasing dust nuisance. That the complaints are not altogether without reason can be proved by a journey on any of the main arteries out of London, and, indeed, on any country road. As an old cyclist, I must say that I feel extremely sorry for the thousands of riders whose pleasures of the road must now be at a low ebb owing to the blinding dust.

There is one point in connection with the trouble, and one which, although I believe it is responsible for a good deal of unnecessary dust-raising, I do not remember having seen mentioned before. I refer to the exhaust cut-outs which are fitted to many powerful cars, and which are largely made use of on open country roads. During the last few weeks several cars have passed me with the cut-out in operation, and the exhaust thus freely emitted disturbs the dust to a surprising and most obnoxious degree.

As silencers have been improved within the last few years so that they act without undue back pressure, and as powerful motors have come into use which possess a very large surplus of power, the advantage which may formerly have existed in the use of the cut-out in relieving the choking action of a badly-designed exhaust-box and adding slightly to the power of the engine has ceased to be of sufficient importance to warrant the use of this highly objectionable and prejudicial expedient. In my opinion no owner of a modern high-powered car such as is now frequently seen on the road has the slightest legitimate excuse for the use of the silencer cut-out, so far as enabling him to gain power is concerned.

Apart from its dust-raising proclivities the exhaust cut-out is a

wanton offence against the public nerves, and its employment should be abolished if not made illegal.—Yours truly,

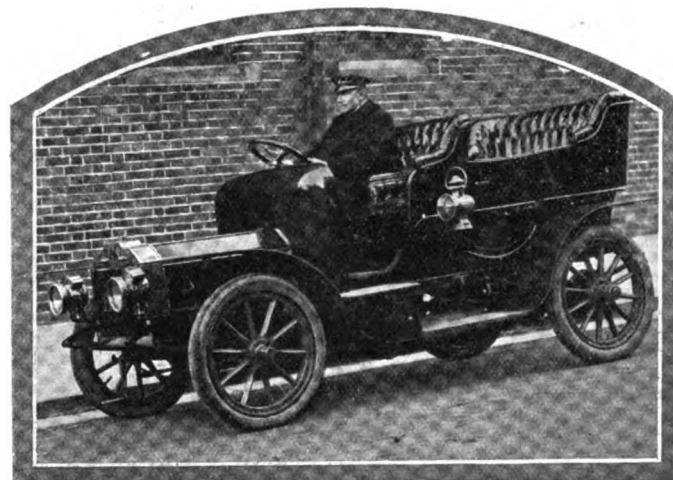
TWENTY-MILES-A-N-HOUR.

#### MAGNETO IGNITION SYSTEMS.

##### TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As a considerable amount of ignorance seems to exist concerning the true reason why some systems give apparently more power than others, I would point out that the real cause lies in the fact that some systems take more power to drive them than others. Now, in order to obtain a higher voltage or pressure we must, of course, cut more lines of force, and to do this we must take more power from the engine. Of course when a charge is fired it makes no difference whatever in the actual horse power which system is used, providing, of course, the spark is of equal intensity, and the driving power the same for each. It is surprising the amount of power that is absorbed by some systems of dynamical ignition. Personally I still believe the battery system to be the most reliable. When a magneto breaks down it is usually hopeless; moreover it is altogether too delicate a piece of machinery to expect the average driver or garage "expert" to understand. I have seen a magneto rendered useless by a heavy tool falling on the magnets, destroying the magnetic field. A short time ago I was greatly amused to see one of these self-styled "experts" actually place a voltmeter—which he had been using on a battery—between the magnets of a magneto at rest. In conclusion, I would advise those of your readers who have magnetos on their cars never to allow an "expert" to meddle with them.—Yours truly,

E. P. PROUD.



The Iden four-cylinder Car belonging to Mrs. James Browne, Teddington. The vehicle was originally a two-seater, the rear seats and side doors having been added by Mr. J. H. Maltby, of Sandgate, Kent.

#### SIX-CYLINDER CARS AND THE PUBLIC.

##### TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the letter under this heading in the last issue of the *M.C.J.*, if "C. A. R." had ever ridden in a six-cylinder car I think he would admit that an "expert" was scarcely necessary to distinguish it from a four-cylinder. Again, what four-cylinder engine is as flexible as a six? If as "C. A. R." says, "the advantages are not worth the extra two-cylinders," how is it that at the present time there is such an immense demand for six-cylinder cars? Generally speaking, we find that those who are so ready to run down the six-cylinder engine are interested in the sale of some foreign car the makers of which are not yet in a position to put in a six-cylinder engine.—Yours truly,

H. MUNCKTON.

#### ASCERTAINING OWNERSHIP.

##### TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was recently out cycling, when a car collided with my machine, which was badly damaged. In addition, I was badly injured. I have the number of the car and am anxious to communicate with the owner. I should feel much obliged if you could inform me how to set to work to ascertain his name and address.—Your truly,

R. W.

[In their circular of November 20th, 1903, the Local Government Board said "a copy of the entries relating to any specified car is to be supplied to any other person on payment of one shilling, if he show that he has a reasonable cause for requiring a copy of the entries. The Board has limited in this way the right of individuals to obtain information respecting entries in the register, as they consider that while no unnecessary obstacle should be placed in the way of a person who requires

to identify a car for the purpose of taking proceedings, the entries in the register ought not to be made public for the gratification of curiosity or for any other insufficient reason.]

### A TRICK.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I would like to warn members of the motor-car fraternity of an exceedingly clever trick, of which, but for what may be perhaps termed prudent foresight, we were nearly the victims. On Thursday last a well-dressed man of most plausible speech entered our motor depot in Manchester, and pitched this tale:—He was the son of a squire in attendance upon a certain lord, and he, the son, was to meet the father the next day in Birmingham. Unfortunately he was supposed to have a car, but he had sold it, and gambled away the money. Now would we lend him a car for four days for £50. He could not pay anything then, but his father was going to give him some money in Birmingham, and he would then hand the money to our driver. My Manchester depot telephoned me up, and I said "No," unless you can get something out of him to defray our expenses to Birmingham and back. My Manchester depot got £3 out of the visitor, and a note agreeing to hand the money to our driver on his arrival at Birmingham. I instructed the driver very carefully not to let the car go out of his possession. He then started for Birmingham, picked our friend up at Manchester, and arrived at Birmingham that evening in splendid time. Unfortunately the squire had not arrived, and so our driver



From a Caricature in

The Marquis de Dion.

[Le Chauffeur.

did not have the pleasure of receiving the money that evening. At 11 o'clock next morning he was met by the hirer, and informed that he could not be found anywhere, and so he had sent the money on direct to our depot at Manchester, and handed him the receipt for the registered envelope. The driver telephoned me. I told him not to leave the place, and we awaited the arrival of the envelope at Manchester. In the meantime the hirer brought down another gentleman, and tried to sell the car to him. The latter, however, had a chat with our man, discovered that it was on hire, and told our man to take great care of the car, or else he might lose sight of it.

On the arrival of the registered envelope we found it contained a letter informing that £47 had been enclosed, which with the £3 paid as deposit made £50, but there was no money in it at all. I at once wired my man to telephone me, and he then informed me that the bird had flown.

I consider this most ingenious, as it seems a pretty easy thing for him to have sold the car for a low sum, representing the car to have been his, and the chauffeur his own driver, and then allowed the purchaser to find out his mistake after the astute seller had bidden the town farewell.

—Yours truly,

ARCHIBALD FORD.

### CHARGING ACCUMULATORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you could give me some information as to charging accumulators. How ought I to proceed to charge 4-volt

accumulators from an electric light storage battery of 110 cells of a total of 286 volts? Can they be charged from the battery at other times than when the battery is being charged, as I have been told they take about eight hours to charge, and I believe the engine in this case is never running more than seven hours at one time, even in the shortest days? I should be very glad of any hints with regard to this matter.—Yours truly,

ANXIOUS.

[A reply to the query raised by our correspondent will be found elsewhere in the present issue.]

### WATER IN THE CARBURETTOR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Could you or any of the readers of the *M.C.J.* give me a hint for remedying water in the float chambers? The latter requires emptying out every day or second day after a thirty or forty mile run. After consuming, say, 8 gallons of petrol I find a teaspoonful in the float.

The car is a 24-30-h.p. Rochet-Schneider, and we have another identical with it, both being 1905 cars, and there is no trouble whatever with the second one.—Yours truly,

JOHN TOOLE.

[Our correspondent's trouble is doubtless due to water in the petrol tank, as it is almost impossible for it to get into the float chamber. We would advise that the petrol tank be thoroughly cleaned out, and see if any better results are obtained. Petrol should in all instances be filtered when filling the tank, as any small quantity of water will then rest on the filter and not pass through with the petrol. No doubt every precaution is taken by the firms supplying motor-spirit to avoid the nuisance caused by water in petrol, but it is no wonder that the trouble prevails, as we have personally seen within the past few weeks drivers of motor-omnibuses filling their radiators from petrol tins. On one occasion even the lubricator was being supplied with oil carried in a petrol can.]

### MORE ENGINE QUERIES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a twin-cylinder car with automatic inlet valves, and the car runs beautifully, and engine is all right but for a loud sucking noise, which I am told is the result of engine having suction valves. The carburettor has an automatic air valve, and the main air intake is a pipe about an inch diameter, running round to exhaust pipe, where it opens out tundish fashion. Is it possible to do anything to do away with this noise without affecting the power, etc., of the engine. The last two-cylinder car I had had also automatic valves, but this noise was not noticeable; this car had inlet and exhaust valves on one side, and the main air intake was close to the exhaust, and had a bell-shaped mouth with fine mesh netting cover. The new car has valves on opposite sides, and has a long way to fetch the air.—Yours truly,

OPENSHAW.

[The noise can be remedied by fitting a miniature silencer on the end of the air pipe. It consists simply of an enlarged chamber with one end perforated with sufficient small holes to more than equal the area of the air pipe, or a larger air pipe might in this instance effect a remedy. The automatic inlet valve has nothing to do with the noise.]

### SLIDING CHANGE-SPEED GEARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Much has been written recently with regard to the "gear grinding" attendant upon sliding change-speed gears. Although the system has been considered by many engineers as nothing short of barbarous, it is a curious reflection upon the fallibility of those too strongly reliant upon theory that this form should have survived the almost complete process of transformation that motor-cars have otherwise undergone during the past few years. Individual clutches, planetary gears, sliding keys and numerous other methods of coupling adjacent pinions without the necessity of sliding them into engagement have all been resorted to with indifferent success. It must be admitted, of course, that unless properly made the sliding gears can be quickly put into a bad condition, especially when handled by an incompetent driver. The extremely heavy wear to which the pinions are subjected on their engaging edges has, however, resulted in exhaustive study and experiment with a view to the production of material calculated to withstand this clashing and grinding, and as a result battered gear teeth are not now so frequently met with as in former days, and there is, moreover, far less shock and jar attendant upon the operation of speed changing. As I have already mentioned, many have been the attempts to supersede the sliding pinion of change-speed gear, but the latter still holds the premier position, and it would appear at the present time as if its supremacy will endure until the gearless car, after which so many are striving, has fully established itself as a practical vehicle.—Yours truly,

A. J. WILLIAMSON.

A RENAULT axle cap has been found at Farnborough and has been left with Mr. W. Plumbridge, Welclose, Farnborough, Kent.

## CLUBS AND ASSOCIATIONS.

## HERTFORDSHIRE.

A SUCCESSFUL motor-cycle open hill-climb was carried out by the Hertfordshire County Automobile Club on Saturday afternoon. Maple Hill, the scene of the meet, is a short stiff rise between Boxmoor and Chesham. Twenty-nine entries were received and twenty-three competitors satisfactorily completed the course. The following officials of the club superintended the arrangements, and everything passed off in good shape. Messrs. E. Kenealy, W. Whittall, and Dr. Gruggen, clerks of the course; Messrs. F. Straight and Dr. K. Hall, timekeepers; Messrs. C. McWhirter, E. Webster and J. T. Gardiner, marshals; Mr. N. B. Kenealy, judge; and Mr. T. Williams, hon. secretary. Subject to confirmation of the sports committee, the following is the result of the climb.

CLASS A.—Motors having a cylinder capacity of not more than 76 by 76 mm.

Machine.	H.P.	Bore and Stroke.	Entrant.	Min. sec.
Eland-Minerva ...	2½	76 by 76	W. Genn ...	34½
Godfrey-Minerva ...	2	66 by 72	R. Godfrey ...	44
Phoenix-Cob ...	2½	76 by 76	A. F. Isley ...	1 11

CLASS B.—Motors having a cylinder capacity of not more than 85 by 85 mm.

Machine.	H.P.	Cyl'ders.	Stroke.	Entrant.	Min. sec.
Brown ...	3½	one	82 by 88	R. M. Brice ...	29½
Quadrant ...	3½	one	81 by 88	T. Silver ...	30½
Werner ...	4	two	60 by 76	O. C. Godfrey ...	32½
Quadrant ...	3½	one	81 by 88	Rev. A. J. McKinney ...	33½
J.A.P. ...	3½	one	85 by 76	W. Hodgkinson ...	34
Triumph ...	3	one	78 by 76	T. Hulbert ...	34
Quadrant ...	3½	one	81 by 88	L. W. Bellinger ...	34½
Quadrant ...	3½	one	81 by 88	S. Webb ...	36
Quadrant ...	3½	one	81 by 88	H. L. Gibbs ...	42½

CLASS C.—Motor bicycles of any cylinder capacity.

Machine.	H.P.	Cyl'ders.	Stroke.	Entrant.	Min. sec.
Vindec ...	5	two	75 by 76	W. H. Wells ...	29½
Quadrant ...	3½	one	81 by 88	T. Silver ...	31½
Werner ...	4	two	60 by 76	O. C. Godfrey ...	32
Vindec ...	5	two	75 by 76	J. S. Harwood ...	35½
C.I.E. ...	4	two	70 by 72	A. Newman ...	38½

Class D. Passenger machines of any cylinder capacity.

Machine.	H.P.	Cyl'ders.	Stroke.	Entrant.	Min. sec.
J.A.P. ...	6	two	70 by 95	W. Hodgkinson ...	50½
Riley ...	9	two	86 by 89	J. Browning ...	59½
Phoenix ...	7	two	75 by 80	J. Van Hooydonk ...	1 4½
C.I.E. ...	4	one	80 by 85	S. Hickson ...	1 6½
Singer ...	9	two	86 by 89	B. Holland ...	1 17½
New Ellis ...	4½	two	70 by 75	R. Ellis ...	1 42½

## KENSINGTON.

REPRESENTATION has been made to the Motor Union that it is desirable that a district club should be formed for automobilists in Kensington under the title of the Kensington Automobile Club, and at an informal meeting of a few local automobilists a provisional committee was constituted, consisting of Dr. W. Spencer Cox, Dr. L. C. Dobson, Messrs. W. H. Thompson, W. M. Forster, L. A. Bidwell, E. F. Philbrick, and J. Horace Reeves (secretary, *pro tem.*).

One result of their deliberations was seen on Thursday, the 26th inst., when a general meeting of Kensington automobilists took place at the Palace Hotel, Kensington, for the purpose of formally founding a club, adopting rules, and electing an influential and representative committee.

## IRISH MOTOR CYCLE UNION.

THE opening meeting under the auspices of the Dublin centre of the Motor Cycle Union of Ireland took place on Saturday. The programme was made up of three events and the contest was held at Portmarnock. The drifting sand and high wind made the course loose and rough in parts and told against fast times. H. Quinn won the novice race and was the first past the post in the ten miles handicap, but was disqualified for pedalling beyond the mark at the turning point on completion of the first mile, and the race was awarded to C. G. Lewis, who finished second, and who also accounted for the Members' Mile. Mr. J. G. Drury judged, Mr. Colman O'Connell timed, Mr. C. B. Franklin, in the absence of Mr. T. W. Murphy, started, and the arrangements, in

the hands of Messrs. Walter Keating, jun., hon. treasurer, and J. Shiel hon. sec., were up to the usual standard.

## ONE MILE NOVICE HANDICAP.—FINAL HEAT.

H. Quinn, 3-h.p. Triumph, 50 sec., 11 min. 45 sec.	...	1
F. Gill, 2-h.p. Minerva, 45 sec., 1 min. 48½ sec.	...	2

Won by fifteen yards.

ONE MILE HANDICAP, open to members of the Union. Machines unlimited as to h.p.

## FINAL HEAT.

C. G. Lewis ...	2 min. 2½ sec.	...	1
S. Black ...	2 min. 3½ sec.	...	2
A. J. Kettle ...	2 min. 3½ sec.	...	3

Won by five yards; a good third.

## TEN MILES HANDICAP.

Handicap framed from C. B. Franklin, 2½-h.p. F.N., as on scratch.

C. G. H. Lewis, 2½-h.p. F.N., 1 min. 30 sec., 19 min. 40 sec.	...	1
R. Howison, 2½-h.p. F.N., 3 min. 30 sec., 23 min.	...	2
S. Black, 2½-h.p. Buchet, 4 min.	...	0
W. Jacques, 3½-h.p. Alcyon, 2 min.	...	0
C. Kavanagh, 2½-h.p. Morehampton, 2 min. 30 sec.	...	0
A. J. Kettle, 3½-h.p. Peugeot, scratch	...	0

H. Quinn, 3-h.p. Triumph, 5 min., disqualified for pedalling beyond the mark.



The Hertfordshire Club's Hill Climb. Hodgkinson ready to start on his J.A.P.

## MOTOR CYCLING.

THE Motor Cycling Club is organising a competition for the Albert Brown Trophy. It will be for cars only, and will be run over a circular course of seventy-five miles, which will have to be covered twice. Those cars will be eligible to compete of which the following parts are of British manufacture, viz., engine and transmission, frame, body and road wheels excluding the tyres. An average speed of not less than eighteen miles an hour will have to be maintained throughout the trial, and entries from members of the Motor Cycling Club will be received up to the 10th prox. by Mr. J. Van Hooydonk, Spring Villa, North Finchley, London, N.

## SOUTHERN.

THE Southern Club had a run to Horsham (Anchor Hotel) on Sunday last, where about twenty members arrived by different routes, the following being present:—Mr. and Mrs. H. Gutteridge (5-h.p. Peugeot); Messrs. H. Billing, 10-12-h.p. Humber, with hon. sec., W. L. Lorkin, on board; W. Nicholson, 7½-h.p. Humberette; H. P. White, 3½-h.p. Humber; A. Clifford Earp (6-h.p. Singer), B. Grottick (6-h.p. Stevens), T. Goodley (Phoenix Trim), W. Pratt (3-h.p. Fafnir). After lunch a start was made for home, calling at the Burford Bridge Hotel for tea. Everybody present was commenting upon the many police traps about, through which, however, all members came safely. The Club run on Sunday will be to East Grinstead (Railway Hotel).

## KENT.

THE first meet of the season took place on Saturday, the 21st, at Crown Point, Ightham, where an excellent tea was provided in the gardens adjoining the Sir Jeffrey Amhurst Hotel, a large marquee

being erected for the purpose. Among those present were the Chairman, Dr. Firth, and Mrs. Firth, Mr. Owen, Mr. and Mrs. Nash, on their new 20-30-h.p. Darracq car, exhibited at the recent Cordingley show. Mr. Bailey, Dr. Evers, Mr. Crook, Mr. Hall, on one of the new Italian cars, the Isotta-Fraschini; Mr. and Mrs. Gardner on a 40-h.p. Siddeley, Dr. and Mrs. McFarland, Mr. and Mrs. Batchelor, Mr. and Mrs. Norman, and the hon. sec. and Mrs. Kenyon.

The list of fixtures of the Kent Automobile Club includes runs to Folkestone, Sevenoaks, South Darenth, and St. Margaret's Bay, as well as invitation meetings at Dartford, Detting and Bromwich, the latter being by invitation of Sir David Salomons, Bart.

### NORTH LONDON AUTOMOBILE CLUB.

THE North London Automobile Club's second run of the season will take place on the 5th prox. to the George Hotel, Harpenden, where the first of the series of club competitions arranged for these outings will be held. Members should assemble at the headquarters, Fox Hotel, Palmer's Green, at 3 p.m. sharp.

### NOTTINGHAMSHIRE.

THE committee of the Nottinghamshire Automobile Club, owing to complaints received from members, have taken into serious consideration the nuisance caused by dust, and have passed a resolution to the effect that no club runs shall henceforth be organised by this club except in respect of private invitations.

Some car trials will be held on the Welbeck track on the 5th prox., by permission of the Duke of Portland.

### BLACKHEATH.

THE opening run of the season of the Blackheath A.C. will take place to-day (Saturday) to "The Beacon," Westerham Hill, Kent, where tea will be provided at five o'clock.

### LIVERPOOL.

THE rules and list of members of the Liverpool Automobile Club have just been issued. Messrs. Malcolm Blair and Vivian A. Simon are the hon. secretaries, and their headquarters are at the Exchange Station Hotel, Liverpool.

### AERO.

THE Aero Club balloon Vivienne III. ascended from the Crystal Palace on Saturday afternoon in charge of Professor Huntington. One of the occupants of the car was Dr. Zea de Forest, of New York, well known for his system of wireless telegraphy. The descent was made in Essex.

AN automobile club is being formed in British Columbia with two classes of members, viz., owners of cars and persons interested in automobilism.

SIR LINDSAY WOOD, Bart., of Allean, has joined the Western Section of the Scottish A.C.

THE North-East Lancashire A.C. are having their opening run of the season to-day (Saturday) to Blackpool.

### THE DUST PROBLEM.

MR. MERVYN O'GORMAN has summarised the result of recent observations with regard to the dust problem as follows:—

1. Sharp corners and excessive road cambers lead to slip, and, therefore, to dust.
2. More dust is raised by cars from a rough road than from an equally dusty road if it be smooth for an equal speed of travelling.
3. Watering the road moderately diminishes the dust. (It is noteworthy that many of the grumblers living by the roadside have not realised even this!)
4. Tarmac is one of the best anti-dust road surfaces. Tar-macadam, the spreading of crude oil on roads, the spreading of oil emulsions in water on the road, are important palliatives.
5. Wood, asphalt, cobbles, and setts are not dusty save after use by horse traffic.
6. Cars with smooth, boat-shaped under surfaces are less dusty than others.
7. Cars with flaring mudguards fitted with leather flaps near the road level are more dusty.
8. Cars on high wheels well clear of the ground are less dusty.
9. Cars with large tool boxes at the back reaching low down between the back wheels are dusty.
10. Large car bodies are in some cases dustier than small ones.
11. Blowing off the exhaust near the ground is dusty.
12. Cars fitted with engines having an insufficient fly-wheel or an ununiform turning effort from any cause are more dusty.
13. Cars whose chassis are mounted on very easy springs having a large up-and-down travel will suck up the dust with each rise and fall of the body on rough roads.
14. Front wheels—or rolling wheels—raise less dust than back wheels or driven wheels.
15. Smooth pneumatic tyres are dusty.

16. Solid or pneumatic rubber tyres are more dusty at higher speeds and with high-powered engines.

17. Non-skid devices, such as small steel studs, etc., not only do not increase the dust, but actually diminish it.

Amongst the instructive negative conclusions from experiments made by the Automobile Club are:—

18. That a car fitted with two long vertical dust screens placed near the ground between the road wheels and the chassis, and extending the full length of the car edgewise to the direction of travelling (i.e., arranged to prevent the dust-laden air thrown up by the road wheels from mixing with the air draught which passes underneath the car), showed no improvement from these attachments.

19. Horizontal screens fixed so as to closely embrace the driving wheel tyres, and adjustable to various heights from the ground, were tried, in the hope that they might throw back on to the road the dust-laden air raised by the wheels, and so prevent it from becoming entangled in the air eddies at the back of the car. No good result was obtained.

### ROAD REPORTS.

WARWICKSHIRE.—The County Council is about to undertake some experiments in road-making, the results of which will be of general interest. About 800 yards of the road from Stonebridge House and Packington Park—on the highway from Birmingham and Coventry—has been selected and is to be divided into sections, each of which will be made up with the following materials:—Mount Sorrel granite, Hartshill stone, Clee Hill stone, Tarmac and Leicestershire granite.

LEWES.—Attention has been drawn to the persistency with which the highways of Lewes are swamped with water during "a suspicion of dry weather."

HEREFORD.—Many motorists have remarked upon the comparative absence of dust on the roads of the county. They are almost entirely coated with Clee Hill basalt, a fact to which this freedom is locally ascribed. A length of tar macadam will probably be laid in the city of Hereford this year.

COBHAM.—Many stretches of road in the vicinity of Cobham are being laid with tar.

NOTTINGHAM.—This year 13,000 tons of tarmac are to be employed on the roads of Nottinghamshire. On the sections already laid with tarmac for three winters it is found there is practically no dust.

GAINSBOROUGH.—A length of nearly a mile of ordinary highway has been covered with Hooley's and Parry's tar macadam by the Gainsborough Rural District Council by way of experiment and to test the relative values of the two kinds of tarmac, one being made with slag and the other with blue lias limestone at a cost of about £1,013 per mile.

ESHER.—At the last meeting of the Esher and Dittons Urban District Council, it was reported that £2,612 had been expended on that portion of the Portsmouth road in the Council's district, comprising a length of about four miles. According to the surveyor the largeness of the amount was due in some measure to the increased motor-car traffic.

BRIGHTON.—A trial is to be made with tarred macadam in Sackville Road for a distance of 300 ft. The Surveyor has been granted permission to make extended trials of Akonia on the Front and on such other roads as he may think desirable.

NORTHWICH.—Successful experiments have been made near Northwich with a view to remedying the dust nuisance caused by motor-cars and other vehicles. Varying lengths of roads have been treated, with satisfactory results, for, although a continual stream of automobiles, cycles, and vehicular traffic had traversed the highways, practically no dust has been raised.

LEITH.—The Town Council of Leith has decided to carry out an improvement scheme on the road between the port and Portobello, which has long been in a very unsatisfactory state.

RENFREW.—The Renfrew County Council has adopted a suggestion by its road surveyor to the effect that it should bear the expense of the metal and of the spreading and rolling of five or six patches of about ten to fifteen lineal yards on the Cloch road as an experiment in the mitigation of the dust nuisance. Mr. Lang, quarrymaster, Gourrock, has offered to bear the expense of supplying the tar and mixing it with the metal in a machine he has patented for the purpose.

### CHANGE OF OWNERSHIP.

ON Monday, before the Blackpool magistrates, Joseph Dixon and Frederick Jackson were summoned for a breach of Article 4 of the Motor Car Registration and Licensing Order, 1903. The Chief Constable explained that the Act provided that if the ownership of a motor-car was changed, notice should be given, and an application made to cancel the registration of the car, or to continue the existing registration under the new ownership. For not doing this, they were liable to a penalty of £10. On August 21st the car was registered by Mr. Dixon, of 400, Lytham Road. On the 14th of the present month he (the Chief) received a message from the county police at Lytham, asking for the name of the owner of "F.R. 21." On inquiry it was found that Mr. Dixon had sold the car to Mr. Jackson some time ago, and the consequence was that the record of ownership was incorrect. The first defendant was fined 20s. and costs, and the second had to pay 10s. and costs.



# NEW COMPANIES REGISTERED.

**ENGLISH MERCEDES MOTOR COMPANY.** Capital, £100. No initial public issue. Registered without articles.

**PENNY MOTOR-BUS COMPANY.** Capital, £100. No initial public issue. Registered without articles.

**RYKNIELD MOTOR COMPANY.** Capital, £30,000. To acquire the business of the Ryknield Engine Company, Ltd., and to carry on the business of motor, locomotive, and wagon builders, &c. The first directors are Messrs. A. J. Clay, W. H. Clay, and F. A. Bolton. Ryknield Works, Burton-on-Trent.

**LONDON MOTOR FINANCE SYNDICATE.** Capital, £1,000. Financiers, concessionnaires, bankers, etc. 2, Coleman Street, E.C.

**LONDON ELECTROBUS COMPANY.** Capital, £100. To adopt an agreement with the International Motor Traffic Syndicate for the acquisition of certain options, contracts, and properties, and to carry on the business of motor-car, omnibus, van, and cab proprietors, jobmasters, and carriers.

**HALL, CAPRIS AND CO.** Capital, £5,000 (£1). To acquire and take over the benefit of two contracts between the Fabbria Automobili Isotta Fraschini, of Milan, and A. Capris, of London, relating to the representation of the first-named, for products of its manufacture for the United Kingdom, to adopt an agreement with A. Capris, H. E. Hall,

# MOTORIST ASSISTS POLICE:

WHEN summoned at Kingston for motoring at an illegal speed, Mr. Robert Kirke, jun., of Woodthorpe, Walton-on-Thames, was said to have travelled at the rate of 31½ miles an hour. Superintendent Marks mentioned that when the defendant was stopped the police received news of a motor-car accident in the vicinity, by which a Walton lady, who had been thrown out of bicycle trailer, was killed. The defendant placed his motor-car at the disposal of the police going to the scene, and rendered great assistance. The chairman said the bench would take into account the service that had been rendered, and would dismiss the summons on payment of the costs, 8s. 6d.

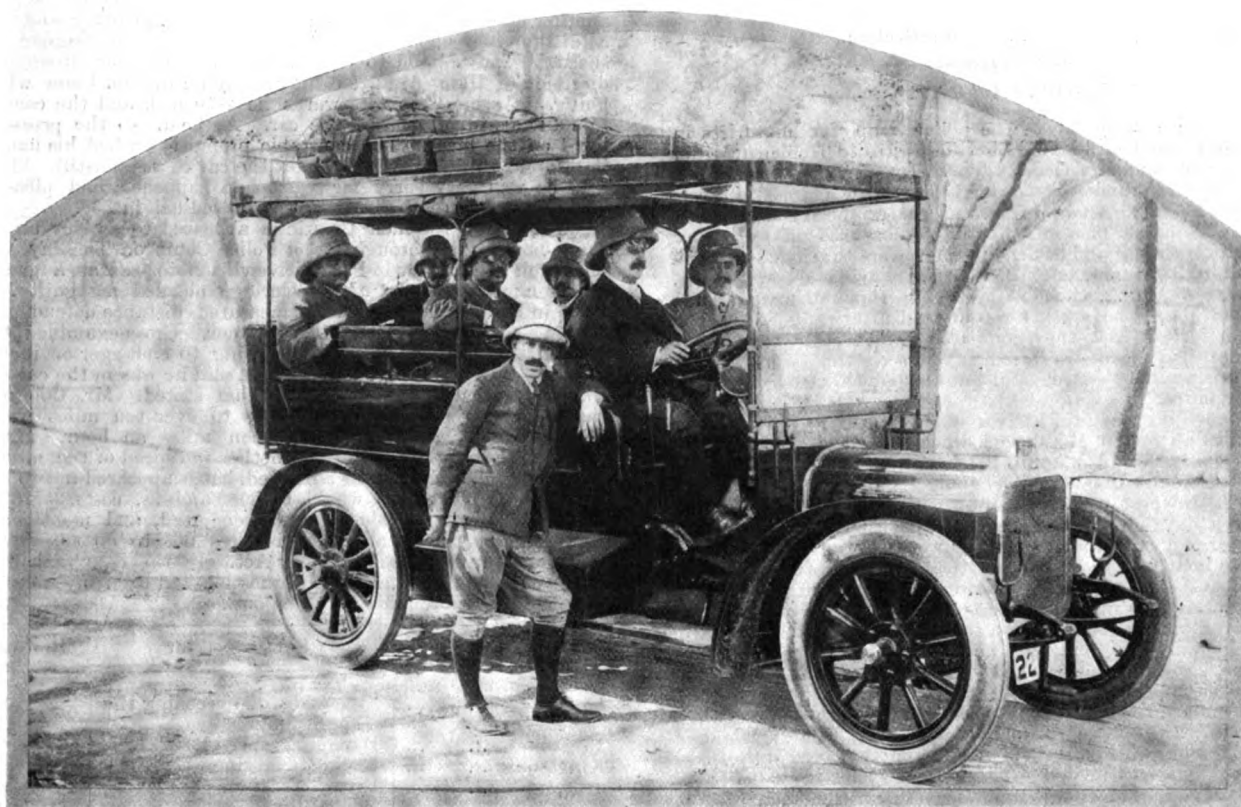
# PUBLIC MOTOR SERVICES.

A SERVICE of motor-buses is to be established in the Accrington district. The order for the vehicles has been placed with the Critchley-Norris Motor Company.

TENBY now possesses a motor-bus, which should have a prosperous season.

A SERVICE of motor-buses has been commenced between Hampstead Heath and Victoria (London) Station.

THE motor-bus service at Hastings is maintaining its usefulness.



Several of the 18-22-h.p. Beaufort brakes for the service between Poona and Mahabaleshwar, referred to in our issue of the 3rd March last, have now been received by the Western India Motor Co. The above illustration depicts the first vehicle starting on its initial trip.

and H. O. Hall, and to carry on the business of manufacturers of motors, cars, and other vehicles, etc. No initial public issue. Permanent directors, Messrs. H. E. Hall, H. O. Hall, and A. Capris. 60, Great Marlborough Street, W.

**MOTOR-CAR COPPERSMITHING AND APPLIANCES COMPANY.** Capital, £2,000. To take over the business of motor-car manufacturers, copper-smiths (in conjunction therewith), and makers of motor accessories lately carried on at 172-176, King's Cross Road, London. The first directors are Messrs. T. W. Smyth (chairman), L. Leroi, J. W. Bainbridge, and M. Domenech. 172-176, King's Cross Road, London.

# CYCLIST AND MOTOR-CAR.

AS the American Ambassador and Mrs. Whitelaw Reid, with an attendant, were motoring through Luton on their way from West Park to London, on Monday, their car was run into by a cyclist. The latter, a boy of fifteen, had a miraculous escape. The bicycle was wrecked, but the rider was not run over, though, his machine becoming wedged in the wheels of the motor-car, he was forced along the road. The motor-car was proceeding at a slow rate of speed, and the chauffeur was able to pull up within a couple of yards. Mr. Whitelaw Reid at once got out, and, together with those who had witnessed the accident, went to the boy's assistance. His condition causes no anxiety.

# MOTOR-CAR MISHAPS.

A MOTOR-CAR from London has run into some level crossing gates at Retford, smashing the gates and buckling its own framework.

MR. REGINALD KEMP, Deputy Coroner for West Middlesex, has held two inquests relating to fatal holiday motor accidents. The first was at Brentford on the body of John Norton, four years of age. The boy was crossing from behind a tram car in High Street, Brentford, on Easter Sunday when he ran into a motor-car being driven at eight miles an hour by John Glover. He died from a fractured skull the following day. In returning a verdict of accidental death the jury exonerated the driver from all blame. The second inquest, held at Hounslow, was on the body of Alice Surridge, five, who was knocked down by a motor-car owned and driven by Mr. Alfred Butts. Mr. Butts stated that he was driving at about ten miles an hour. The jury returned a verdict of accidental death, but censured Mr. Butts for going too fast, and added a rider to the effect that the speed of motor-cars along the Bath road generally was much too high.

# APPEAL ALLOWED.

AT Guildford on Saturday, before the Recorder (Mr. George Cave, K.C.), William Philpott, chauffeur to Mr. Cowley Lambert formerly

M.P. for Islington, appealed against a conviction by the borough justices. Whilst driving a car in London Road, Guildford, Philpott passed between a greengrocer's van and a Bath chair, with the result that the chair was overturned and a lady thrown out. The car was moving very slowly at the time. The justices inflicted a small fine, expressing the view that the chauffeur made an error of judgment in trying to run between the other vehicles when there was not sufficient room. The Recorder said if a driver, as in this case, exercising all the care he could, committed an error of judgment, he did not think that alone was sufficient to convict him of driving in a manner which was dangerous to the public. He therefore allowed the appeal.

### THE SCOTTISH RELIABILITY TRIAL.

THE entries received since the publication of the last list are as follows:—

The Enfield Autocar Company, Ltd., Redditch	20-30-h.p. Enfield.
The Euston Motor Company, London	18-24-h.p. Courier.
The London Motor Garage Company, Ltd., London	28-h.p. Double Phaeton "Pipe."
J. W. Stocks, London	15-h.p. De Dion.
D. McKay Drummond, Dumfries	20-24-h.p. North British.
Mrs. C. S. F. Loder, Ealing	20-30-h.p. Pilain.
The Bergins Car and Engine Company, Glasgow	16-h.p. Kelvin.

### A SCOTTISH TRAP.

A PROSECUTION, arising out of the police trap for motorists in Princes Street, has been heard before Sheriff-Substitute Hepburn Miller in Edinburgh Sheriff Summary Court. The accused was James Brown, consulting engineer, 7, Brandon Street, and the charge against him was that on April 1st he drove a motor-car at a greater speed than twenty miles an hour. A quarter of a mile had been measured off by one of the Burgh Engineer's men, and two policemen were stationed at each end of the measured distance, one at each end having a stop watch. Seeing the car approaching, the first policeman thought it was going too fast, and as it passed he set his watch, and afterwards seeing the other policeman further east, they compared watches, and found that the quarter-mile had been traversed in 39 sec., this working out at 23 1-13 miles an hour—three and one-thirteenth above the legal limit of twenty miles.

For the defence, accused said his car had two speeds—15 miles an hour and 20 miles an hour. He slowed down to seven miles an hour when turning from Lothian Road into Princes Street, and at Charlotte Street he was on second speed (15 miles) going about 15½ or 16 miles an hour. He never drove at top speed in Princes Street. Witness had tested his car a day or two ago on the Queensferry Road over a measured quarter of a mile, and the results were: Second speed, a little over 15 miles an hour, and top speed, practically 20. Professor Richard Stanfield, Professor of Engineering, Heriot-Watt College, was called. He said the handling of stop watches was difficult, and a quarter of a mile was not a reasonable distance for a test unless the watches were in the hands of experts. The policemen, he thought, ought to have been in sight of one another, and worked by signals instead of relying on the difference between the times on their watches, as they had done. Witness, after a test of the car, found it did 18½ miles an hour against the wind, and 21½ with the wind following. William Flint, cycle and motor agent, Edinburgh, also gave evidence, saying that a car of the make of the one owned by accused could go about 18 or 19 miles an hour, but they could not go more than 20 miles an hour on Princes Street.

Acting Sheriff-Substitute Hepburn Miller found the charge not proven. He said there was just sufficient margin of possibility of error in the use of the stop watch to enable him to acquit accused. The amount of error would only run to seconds, but in working out the calculation the matter of a few seconds on a quarter mile might reach important proportions when applied to miles per hour.

### POLICE TRAPS.

SEVERAL motorists have lately been trapped at Fishergate, Southwick, making their subsequent appearance at Shoreham Petty Sessions.

THE Talbot red confetti device is obtaining an amount of commendable imitation, as several sets of operators were evidently at work during the holidays. Mr. C. R. Garrard discovered a trap between Slough and Maidenhead, and, curious to see if motorists were readers of the motor press to an extent which would make them understand the danger signal, he drove his car up a lane and sat down to watch the effect of the police trap. In the course of half an hour three drivers came along and each one immediately throttled down on perceiving the warning paper. Highly satisfied, he set out for fresh fields to conquer, and discovered another trap near the thirty-fourth milestone from London on the Wickham-Oxford road, where he found an unfortunate victim in the toils of the police.

AT Washington (Sussex) police energy against motorists has been most marked of late.

LANCASTER.—There is a quarter-mile trap on the level road between Carnforth and Milnthorpe.

### MOTOR-CAR v. DOG.

AT the Croydon County Court, an action has been brought for damages for the loss of a dog which was killed by a motor-car running over it at Croydon. Mr. Chamberlain appeared for the owner of the dog and Mr. Staplee Firth defended for Mr. Percy, the motorist. Mr. Firth said the real question for the Court to decide was whether the defendant had been guilty of any acts of negligence, as it was necessary to prove this in order to recover anything for the loss of the dog. The judge said in the course of his summing up that a motor-car had as much right to be on the highway as a dog had, and there was an obligation on the owner of a dog to see that it was properly trained and under proper control, otherwise he could not hold anybody liable for any damage that might come to it, and he ultimately held that the plaintiff had failed to establish his claim and that there must be a verdict for the defendant with costs.

### CASES AGAINST MOTORISTS.

BEFORE Mr. Paul Taylor, at Marylebone, a chauffeur named J. Wm. Brincklow has been charged with being drunk while in charge of a motor-car at Malden Road, Kentish Town; and also with recklessly driving the car and being concerned in assaulting P.-C. Geo. Sadler, 327 Y, by throwing him out of the car. It appeared that the previous night the prisoner drove his car on to the pavement in Malden Road, and the constable having called to him in vain to stop, jumped on to the car. He was, however, at once pushed out by the prisoner and another man riding with him; but he clung to the car and held on for a distance of about 200 yards, when, owing to the car gaining in speed, he was obliged to let go. The prisoner then drove away in the direction of Hampstead, but apparently he did not know where he was going, for some time afterwards he returned, and the constable met him and again jumped on the car. As he did so the prisoner put his hand on the lever. The constable promptly pushed his hand to knock it off, and in doing so he brought the car to a standstill. The prisoner said he was very sorry for what had happened, and pleaded guilty. Mr. Taylor ordered a remand, and allowed bail in £50.

THE Hon. Stephen Coleridge appeared to answer an adjourned summons, at Marlborough Street Police Court on Tuesday, for having, on March 10th, in Hyde Park, driven his motor-car at a greater speed than ten miles an hour. Mr. Coleridge pleaded not guilty. Sergeant Fillee in his evidence said over a measured distance defendant's car exceeded a speed of nineteen miles an hour. Cross-examined, the witness said that Mr. Coleridge was not driving to endanger or inconvenience anyone. Mr. Stewart, of Hodd-son, said he was in the car and did not think the speed was anything like that stated. Mr. Coleridge stated that he was prepared to plead guilty to over ten miles if the police withdrew their assertion of nineteen miles an hour. Mr. Denman observed the only question was whether the speed of ten miles an hour was exceeded, and that was admitted, but it appeared not to be a danger to anybody. The fine would be 20s. and 2s. costs. Mr. Coleridge asked that his licence should not be endorsed, and mentioned that he had persuaded the Farnham magistrates not to do so. Mr. Denman said that would be under another Act. In this case he had no option but to endorse the licence. The question had been often raised before and had been thoroughly threshed out.

Place.	Summoned for	Result.
Lancaster ...	Five cases of exceeding the speed limit	£5 to £7 10s.
Prestbury ...	Dangerous speed	£5.
Kingston ...	Reckless driving	£10.
" ...	Five cases of exceeding legal limit	Fines ranging from £3 to £10.
Richmond ...	Exceeding limit in Richmond Park	£5, etc.
Pembroke Dock ...	Dangerous driving	£5, etc.
Peterborough ...	Furious driving	£2, etc.
Loughborough ...	Furious driving	40s., etc.
Steyping ...	Dangerous driving	£4.
Marlborough St. ...	Exceeding regulation limit in Hyde Park	20s.
Richmond ...	Exceeding limit in Richmond Park	£3.
Hove ...	Negligent driving of motor-bus	21s., etc.
Eastbourne ...	Dangerous speed on the Grand Parade	£3, etc.
Horsham ...	Two cases of dangerous driving	Both dismissed.
Shoreham ...	Several cases of exceeding speed limit	Fines from £3 to £8.
Eastbourne ...	Dangerous speed	£3, etc.
Brighton ...	Dangerous speed	£5.
Waltham Abbey ...	Exceeding legal limit	£2, etc.
Blackpool ...	Driving a tri-car dangerously	20s., etc.
Eccles ...	Furious driving	£5.
Altrincham ...	Reckless driving of motor-cycle	£2.

# THE Motor-Car Journal.

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## COMMENTS.



**A**MONG the Budget matters of particular interest to motorists was the announcement by Mr. Asquith that he proposed to reintroduce legislation to facilitate the use of alcohol for industrial purposes. This is a matter of considerable importance, and although the agitation which went forward a year or two ago seems to have lost its vigour, the subject merits continued notice and study. True, the conclusions reached by the committee that was appointed were somewhat halting and inconclusive, but all must be anxious to see the field of experiment widened in order to secure results of national value. The announcement made by the Chancellor of the Exchequer on Monday should revive interest in the matter—to the benefit of the nation at large.

### Club Runs.

THE organised club runs which have been held from time to time have undoubtedly proved of great educational value in the development of the automobile industry, but the time has now come when their necessity is no longer apparent. More than that, the number of members of such organisations is now so large that the pre-arranged processions of their motor-cars give the appearance of a great invasion when they come in sight enveloped, as too frequently happens, in clouds of dust. Hence we welcome the decision of the Scottish, Manchester and Nottingham clubs to depart from their custom of organised club runs, the members being contented to make their own way to some appointed rendezvous. So far as the former club is concerned, these places of assembling have been selected with special regard to the convenience of members resident in the various districts north of the Tweed.

### Motor Racing on the Sands.

THE Yorkshire Automobile Club held a meeting, attended by representatives from the Halifax, Huddersfield and Cleveland Branches, last week, to discuss the question of Speed Trials for 1906. For some time the Club has endeavoured to find an inland track suitable for high speed racing, but up to the present time without success. Nothing definite was done at the conference, but the sands between Saltburn and Marske-by-the-Sea, on the Yorkshire coast, were suggested as a possible venue. Messrs. Dickie and Shaw, who attended the meeting on behalf of the Cleveland Branch, gave particulars of these sands. They were stated to be firm and dry, and it was possible to get a course of four miles in length. When the tide is low there is a course width obtainable of about one sixth of a mile. In addition to this the sand dunes on the coast would form an excellent point of vantage for spectators to view the race without unnecessarily crowding on to the sands. However, a deputation was formed of members of the Club and the affiliated branches to visit Saltburn on May 5th, with a view of

ascertaining whether the sands there would be capable or not for high speed motor racing. In the event of the deputation being satisfied as to the suitability of the sands, the necessary authorities would be approached for their sanction to hold such a meeting.

### Dealing with Fire Risks.

WE understand that the London County Council and the other authorities concerned with the government of the Metropolis are now supplying the various stations of the Fire Brigade with supplies of sand for the extinction of petrol fires; it is being suggested in some quarters that stores of sand should be available in busy streets in the same way that gravel is now kept for use on greasy surfaces. Others are advocating that motor-buses should also carry a supply of sand for their own use should occasion arise. Although there is no need to make cause for alarm, all motorists will welcome any steps taken by the Fire Brigade to adapt itself to the changing circumstances of the time.

### The London Fire Brigade.

MEANWHILE it is pleasing to note that the motor fire engine is justifying its adoption wherever it has been installed, and that the experience of Glasgow, Edinburgh, Liverpool, Cardiff, Cape-town and elsewhere should hasten its triumph in the Metropolitan area. At present London has motor fire engines at the Southwark Bridge Road headquarters, at Battersea, and at Wapping. Another has just been ordered, while an innovation has been suggested in a contract made for the conversion of a horse-engine into one propelled by mechanical means. Three motor-escapes are also being made for the brigade, which at present possesses one, stationed at Lee Green. The motor fire engine has several advantages over the horse. It is cheaper in the long run, though the first cost is greater. It will save the space now occupied by stables, and it adds one to the number of men available for attacking fires, the driver being at liberty when the machine is not working, whereas when horses are used the coachman has always to stand by them. The self-propelled vehicles are more capable than horses of high speeds, and although this argument is, perhaps, not so cogent in the narrow, crowded streets of the City, it has force when we consider the suburbs.

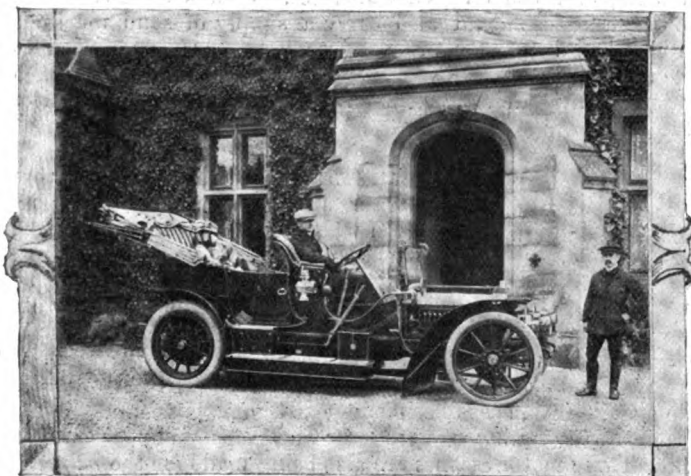
### The Promise of May.

ON Tuesday last the entries for the Scottish Reliability Trials closed at ordinary fees, and will finally finish by the 21st inst., so that intending competitors in a most interesting and important event must not long delay their decision. In a few days the entries for the Auto Cycle Club's Land's End to John o' Groat's trial will close. During the month several useful gatherings of motorists will be held, including the first provincial meeting for the year of the Motor Union. This will take place at Birmingham on the 26th inst., two days after the Herefordshire Club's hill-climbing contest on Frome's Hill. The Auto Cycle Club will hold a hill climb at Haslemere on the

19th, and the selection trials for the International Cup race are arranged for the 31st. The Cardiff Club will have a motor-cycle hill climb on the 9th inst., and the annual meeting of the North Wales Automobile Club takes place on Monday next. Competitions are also to be held during the month by the clubs of Essex, West Surrey, North-east Lancashire, Lincolnshire, and North Herts. The Yorkshire Club will join with the Cleveland branch at Boroughbridge, the Manchester Club will stay at Church Stretton for the third week end of the month, and Metropolitan interest on the 19th will centre about the North v. South competition for the Gamage Cup, which will take place on the Bath road.

### Scottish Humour.

SHERIFF M'LEOD might be qualifying for the succession to Mr. Justice Darling, judging by his verdict in a motor-car case which has just come before him in the Sheriff's Court at Haddington. The police trapped their victims with the aid of ordinary commonplace watches—a method which the Sheriff, avoiding legal jargon, declared to be "a bit rough." Still, he considered it sufficient for the joy of conviction. Then came the question of the price to be paid, which was ultimately assessed on what has become known as "the Prince's Street tariff." The particular trap is situated between Haddington and East Lothian, the measured distance being one mile. Evidently the Scottish Automobile Club has plenty of educational work yet to do.



Mr. J. L. Cross, of Clarebank, Bolton, on his 22-28-h.p. Crossley Car. The vehicle is fitted with a handsome side entrance Roi des Belges body with Cape cart hood and folding wind screen on dashboard.

### The Roads in Wales.

THE Carmarthenshire County Council has starved the roads for a considerable period, and deep layers of new metal have been distributed over them and left to be rolled in by the traffic. So far as motorists are concerned, the roads have become so bad that doctors have had to dispose of their cars. One member of the public, not a motorist, has written complaining of the state of things to the Local Government Board, and has offered to bear the entire cost of an inquiry into the condition of the roads, but the reply of the Board has been that they have no power to hold such an inquiry. The Motor Union thereupon arranged that the roads should be inspected by Mr. Howard Humphries, M.Inst.C.E. The whole of the papers and Mr. Humphries' report have been placed before Mr. Danckwerts, K.C., for his opinion. Mr. Danckwerts's opinion has not yet been received, but should he advise that the case against the Carmarthenshire County Council is sufficiently strong for an action, the Motor Union are disposed to commence legal proceedings against the Council, unless an undertaking is given by them to place their roads in a proper condition of repair. Should the

proceedings be commenced, the Union would raise a guarantee fund of £300, and head the list with a subscription of £25. The Roads Improvement Association have already promised £10 to the fund. The Union would raise £150 in London, leaving a balance of £150 to be locally subscribed in South Wales. In any event the Union are determined not to allow the matter to rest until the County Council have remedied the conditions of which such serious complaints have been made by their members.

### The Conveyance of Cars.

RAILWAY companies are beginning to recognise the conveyance of motor-cars as a source of revenue worthy of cultivation. The Midland Railway Company is the first British line to put into traffic a covered truck specially designed for the conveyance of motors over their line. These vans are fitted with side and end doors, the latter being so arranged that the largest cars can be conveniently and easily loaded. The trucks are 31 ft. in length, 8 ft. in width, and are as high as they can be built within the loading gauges. Sliding bars are fitted along the insides of the vans, to which motor-cars or road vehicles of any description can be secured. Strong leather straps are used for securing the wheels and other portions of the cars to the bars in question. The vans are large enough to hold two motor-cars or one car and a large brougham; they are well ventilated, having ventilators on both sides, and special precautions have been taken to prevent dust coming in through the ventilators.

### Trinidad Petroleum.

SIR NEVILLE LUBBOCK presided recently at a meeting held at the West India Committee Rooms, London, to hear an address from Mr. Randolph Rust on the discovery of petroleum in Trinidad. Sir Henry M. Jackson, the Governor of the Colony, in a letter to the chairman, expressed his sense of the importance of the discovery in view of the fact that modern warships are being fitted to burn oil fuel, and here was a supply within easy reach that could be kept exclusively in British hands. Mr. Rust stated his explorations in the tropical forests of Trinidad had led him to discover that there were enormous deposits of oil underlying some 400 square miles of land. The crude oil contained a very large percentage of petrol and a very high percentage of illuminating oil.

### Dust.

THE dust is apparently always with us—except when the rain converts it into mud. Perhaps the most satisfactory feature of the position is the attention which various organisations and societies, as well as local authorities, are giving to the subject with the desirable object of finding a remedy for a state of things which has been universally condemned. We learn that the Association of Cleansing Superintendents is to discuss the matter at its annual congress in June, and other societies of a better known character are also giving it attention. This, combined with the many experiments now proceeding under the auspices of local and county authorities, should result in some tangible depreciation of the effect of the dust nuisance ere long.

### The Motor Union.

Now that motorists are again upon the roads the present month seems a favourable opportunity of referring to the work of the Motor Union, which is doing great service to the movement by defending members when before the courts. Of course it cannot render assistance in every instance; its utility to help at all is limited by its resources. These have lately been depleted by the defence of several important cases, and it behoves every motorist to support the Union, not only by proclaiming his association with the organisation but in a



financial way as well. Motoring having had a legislative respite, this is the fit and proper season to create a strong organisation which shall be fully competent to withstand any attacks that may be made upon the hardly-won privileges of its members.

### The Irish Club House.

THE opening ceremony in connection with the new club premises, motor-house, and garage took place on Monday, and is referred to in our Club News. The building recently acquired by the Club adjoins the old garage and rooms, with an additional advantage of an opening in Dawson Street, and providing sufficient accommodation for the present membership roll and still capable of further extensions when occasion requires. The additional premises taken over by the club at a

place to Gorey, 61 miles, and back. There will be six classes for petrol vehicles and one for steam cars. Only amateur drivers will be allowed to take part in the contest, entries for which close on the 16th inst. at single fees, and on the 30th May at double fees.

### The Driving Examinations.

IN our issue of the 21st ult. we gave some of the questions which were asked in connection with an automobile examination in New York. These may be supplemented by some specimen questions in the A.C.G.B.I. examinations for driving certificates as follows:—1. At what speed may you drive through towns and villages? 2. If you had an accident on the road describe fully what you would do? 3. What is the meaning of the "white ring" sign? 4. What are the L.G.B.



Photo by]

The Earl of Aberdeen, Lord Lieutenant of Ireland, opening the new premises of the Irish Automobile Club.

[Chancellor.

cost of £3,000 will, when complete, be one of the finest and most up-to-date motor-houses and garages to be found in the sister isle, owing to its proximity to the Stephen's Green Club and the United Service Club, and on the requisition of members of the Automobile Club, who are also members of one or other of the aforesaid clubs, special entrances have been arranged, by which those frequenting one or other can have free access to the motor-house and garage by private entries.

### An Irish Trial.

PREPARATIONS are well in hand for the reliability trial to be organised by the Irish Automobile Club in June next. Dublin will, naturally, be regarded as the headquarters for the competition. On the first day the run will be to Carlow, 49½ miles, and back to town; Dundalk, 51 miles, will be the objective on the second day; and the last run will take

Regulations as to driving backwards? 5. On temporarily leaving a car, what precautions are you required to take under the L.G.B. Regulations? 6. Name the offences under the Motor Car Act, 1903, for which a driving licence can be endorsed? Surely replying to such queries need not entail a heavy fee?

### Cars Across Footpaths.

DESPITE the efforts made by motorists to propitiate the people of Blackpool with regard to automobiles, there are folks in the town who do not seem to have an abundance of friendliness towards those who practice "the gentle art" of pushing the car. A gentleman, in order to get his vehicle into a garage, pushed it across the footpath, thus demonstrating the truth of Euclid's proposition that the nearest distance between two points is a straight line. But the Chief Constable, Mr. J. C.

Derham, is apparently not of a mathematical bent of mind, and he summoned the calculating motorist for obstruction. The last occasion upon which we saw Mr. Derham was at the time of the Blackpool speed trial, when he ran up and down the track with all the excited enthusiasm of a new convert and appeared to revel in the joy of the motor car. In this case he may have regarded the mere pushing of a car as a slight to the memory of the feats of Earp and Cissac on those memorable days. On no other ground can we explain his attitude in Court after the magistrates had rightly decided that no obstruction had been caused, and very properly dismissed the case. Chief Constables must temper their authority with common sense—even when motor-cars are concerned.

#### Warning Motorists is Legal.

IN our last issue we made brief reference to a case at Croydon, which was decided as we went to press. This, it will be remembered, was concerned with a gentleman who, by warning motorists, of a police trap in his locality, was able to prevent possible offences against the law. For this he was summoned by the police on the ground that such action was an obstruction of their legitimate calling. It is satisfactory that the Bench should have taken a different view of the matter, as otherwise any motorist who gave a friendly warning to another traveller as to police activity would be at the mercy of these limbs of the law. Often have we urged that the proper function of the police is to protect persons and property rather than to play hide-and-seek with those who journey on the highway. So long as they are content to spend their time at the latter sport their would-be victims will be ready to give a friendly hint to others of police activity. This is only natural; and it is satisfactory to know that such a natural feeling is also a legal one.

#### The Length of Traps.

WHILE referring to this matter, the decision of the Chertsey magistrate to dismiss a summons against a motorist, because he regarded the police trap in which he was captured as too short to give a fair indication of speed, may be fitly reviewed. There are certain chief constables who have always been averse to the "furlong trap," on the grounds that such a short distance was hardly fair, as the second or two that the police might be out in their calculations would considerably affect the rate of mileage per hour. But at Chertsey another view has been entertained by the police, and a trap of 176 yards was set for passing motorists by the redoubtable Inspector Jarrett. It is satisfactory that the magistrate should have dismissed the case, and expressed the view that such short traps were unfair. If the speed of motorists is to be ascertained, it should be taken over a distance of a few miles on a give and take road. This is, of course, under the present regulation as to speed limit; but future legislation will doubtless remove this anachronism, and the police methods now in vogue will then be regarded as the petty persecution so often shown to new movements which are calculated to be of public service.

#### Crossing to the Isle of Wight.

MOTORISTS crossing to the Isle of Wight will be interested in the facilities possessed by the London and South Western Railway Company for handling cars at Lympington. The boat journey from this place to Yarmouth, on the island, is the shortest and least expensive; moreover, both at Lympington and at Yarmouth the cars are run down a slipway on to a specially constructed boat, thus avoiding the necessity of swinging them aboard the steamers. The ordinary boat leaves Lympington at 11.30 a.m. and that from the Isle of Wight at 1.30 p.m. Never before have so many cars been seen on the island as this season, while the effect of the motor-buses which have been put in service is seen in the promised reduction of train and coach fares.

#### Motor-Cars and Property.

STRANGE and somewhat contradictory are the views expressed by house and estate agents with regard to the effect of the motor-car on property. Naturally those whose houses abut on the main road are bemoaning the dust on the road that is disturbed by passing cars, while one gentleman declares that motor-buses "are decimating the residential tenants of the upper floors along the road." On the other hand, some interested in suburban property declare that they are encouraging people to go a little further from the main ways of great cities, and so developing new districts, to the advantage of the builder and other people of like occupation. Both cars and buses have contributed to this end, and, after all, it is really a diversion of interest that has taken place.

#### No Special Roadway for Motor-Cars.

MR. B. H. THWAITE, C.E., has been reiterating, in the columns of a daily paper, his view that the remedy for the dust nuisance is the establishment of motor-ways for high speeds and enforced slow speeds on the public highways. Very few motorists will be found to concur with the conclusion that seems to naturally follow such a contention. All agree that the success which has attended the automobile movement during the last decade is small compared with the possibilities of the next few years; therefore to legislate on lines which are calculated to bolster up the existing slower forms of traffic is neither economical nor wise. We must be prepared to look ahead towards the time when mechanical traction will be the rule and horse-drawn vehicles the exception on our highways. There must be no differentiation between the two classes of traffic, for the endorsement of the view advocated by Mr. Thwaite appears to imply that motorists would have to bear some of the cost of roads specially prepared for their benefit. They are entitled to use the public highway, and the authorities must adapt it to the growing and changing circumstances of the time.

FULLY 120 members of the Institution of Engineers and Shipbuilders visited the works of Argylls Motors, Ltd., at Alexandria on Saturday.

MESSRS. H. W. HOBSON, LTD., the British agents for Decauville cars, have removed their offices, works, and garage from 85, King's Road, Chelsea, to 29, Vauxhall Bridge Road, London, S.W.

ON the way to the Midlands last week, *via* the L. and N. W. Railway, we noted that Messrs. Aster, Ltd., are erecting works at Wembley, Middlesex, for the manufacture of Aster engines and components.

AT the Canning Town track, on Monday, G. A. Barnes, riding an 8-h.p. twin-cylinder Aleyon motor-bicycle, covered 54 miles 1,620 yards in the hour. The previous best was 54 miles 523 yards by C. R. Collier.

JUDGING from our experience the other day, it would seem as if more assistance were needed in the Motor-car Department of the London County Council at Spring Gardens. At the time of our visit to renew a driving licence no less than eight persons were waiting to be attended to, and there were three clerks in the office, yet only one of them was on duty at the counter.

The "Fascinating Mr. Vandervelt," which is presented at the Garrick Theatre, London, by Messrs. Arthur Bouchier and Charles Frohman, should prove of more than passing interest to motorists. At the conclusion of Act 2, Lady Clarice is induced by the fascinating one to go a-motoring. Act 3 opens at a country inn, where they are stranded owing to a series of mishaps and disasters which have been most elaborately arranged by Mr. Vandervelt. The result of the plot to the schemer is not satisfactory, woman's wit assisted by a parson, who turns out to be a very bad chauffeur, defeating the end he had in view. Mr. Sutro in writing the play has shown himself to be a practical man, as far as the gentle art of motoring is concerned.

## MOTORIZING IN A STRIKE REGION.

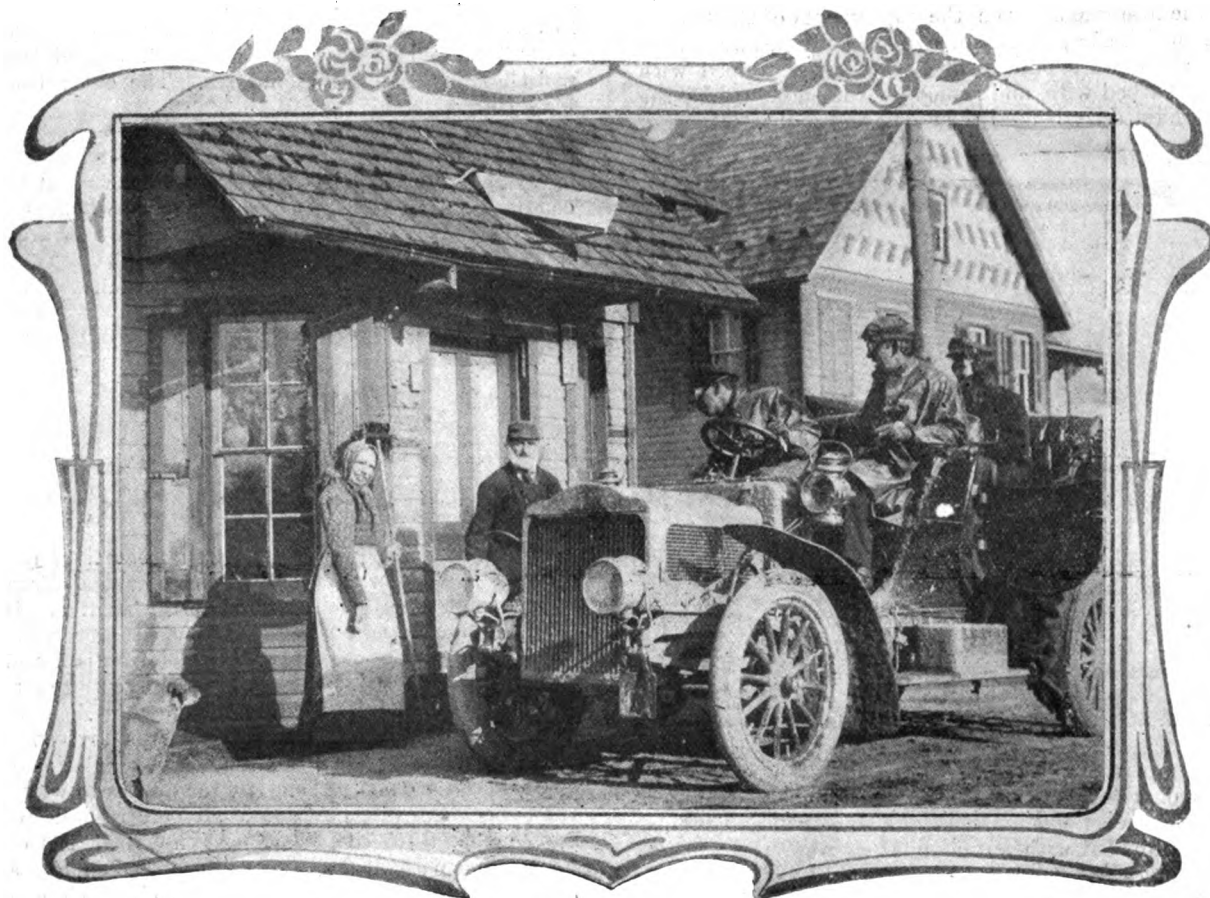
**J**UST as the photograph has been added to the equipment of the national historian anxious to reproduce scenes for the education of future generations, so the motor-car is being utilised for the prompt study of important events at close range.

It has long been recognised as the ideal conveyance in which to see the country; it is now being employed by those who follow the course of current events far removed from the ordinary means of locomotion.

An instance of this has just occurred in the United States, in connection with the recent great strike in the coal regions. A motor-car trip was organised by Mr. E. C. Johnson, of Philadelphia, and with a quartette of companions he set forth from that American town on the 2nd ult. on his trusty White steam car. Journeying by way of the suburb of Bryn Mawr to

towards the coal regions, the tour took on the aspect of an endurance run. With half a dozen railways running through the coal regions, it has evidently never occurred to anyone to do any work on the roads—at least, so it seemed to the tourists. When near Tamaqua the first collieries were seen, and for the next three or four days the party was never very far from a mining settlement. The road out of Tamaqua towards the north is one which is well worth traversing. A torrent with innumerable cascades parallels the road. Mountain peaks are lined against the sky in every direction, and many times the tourists stopped their machine in order that they might admire to the full the great natural beauties with which this locality is endowed.

After a great range of hills had been crossed, the tourists looked down into the valley and saw the towering coal breakers of the towns of McAdoo, Audenried, Jeanesville and Hazleton. On reaching these settlements a number of men were seen work-



Paying Toll at Quakerstown.

Valley Forge, the tourists visited Washington's headquarters and the other places of historic interest near that famous camp site. Then, proceeding irregularly across country to Reading Pike, the party continued through Pottstown and Douglassville to Reading. This was followed by a trip due north up through the prosperous Berks county, which is closely dotted with communities of marked German characteristics.

Hamburg, a little town of some 2,500 inhabitants, sheltered the tourists overnight. The party observed with interest that the leading citizen, and the one who dominated the town, owned an automobile, and they felt that when the time comes that each little township possesses a machine owned by a man of such social calibre, the anti-automobile sentiment which is said to prevail in the rural districts will entirely disappear.

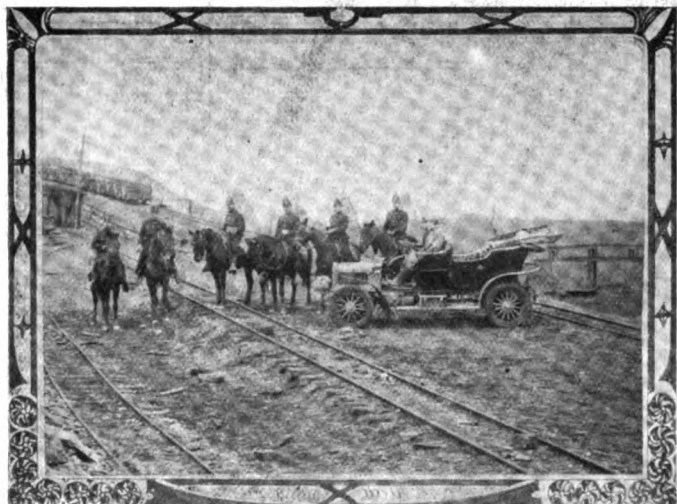
Early on the following morning the tour was continued to Pottsville. As far as this town the tourists had met with rather fair roads, but as soon as they turned off sharply to the east at Pottsville from the main highway and directed their course

ing around the mines, but they were careful to exhibit their "working buttons" and to explain that they were doing only such work as allowed by the union. The Russians and the Huns, who comprise the majority of the mine workers in this locality, were inclined to be orderly, pending the result of the conference in New York, and there was but little excitement in the region.

After spending the night at Hazleton, Mr. Johnson and his companions continued through the coal mining settlements of Harleigh, Ebervale and Jeddo, descended the dangerous snow-covered road which goes precipitously down the Eckley Mountain to White Haven. From White Haven to Bear Creek they went over a stretch of fifteen miles, during which they saw not a sign of human habitation. This road evidently lies at a considerable altitude, as the vegetation which flourishes there is very scant. From Bear Creek it was but a short ride to Wilkes-Barre, and the tourists approached the latter town down the road which is to be the scene of a hill-climbing

contest during the Wilkes-Barre Centennial this month. The motorists were interested in the qualifications of this hill for a contest and accordingly ascended it next day. The road is about a mile long, with a number of turns which, although rather sharp, particularly that known as the "Devil's Elbow" (resembling in some respects the Scottish turn of that name), are still sufficiently wide and well banked to be safe. This inspection trip being completed, the tourists again turned their attention to the strike situation. The territory around Wilkes-Barre, known as the Wyoming Valley, was ablaze with excitement. The mines in that region are manned mostly by Italians, and some of the collieries were endeavouring to carry on work with non-union labour. The State Constabulary had been called out, and a company of fifty strong were patrolling the valley protecting life and property.

The tourists soon learned that it was best for them to keep in the company of the details of the constabulary, and in return for this protection they were able to render numerous services in the way of carrying ammunition and in distracting the attention of the idle miners from the movements of the troops. The stockades which surrounded some of the collieries were very interesting. These were built of heavy timbers, topped with several lines of barbed wire, and armed guards employed by the companies were on duty behind them day and night. Riots of



The State Constabulary escorting the Motorists on their "White" car.

more or less importance were reported almost hourly from different parts of the district, and the constabulary had their hands full, as they were outnumbered almost a thousand to one. Had they been provided with automobiles, as were the tourists who were watching their movements, they would have been able to have covered a great deal more territory in much less time, with a corresponding increase in respect for the law on the part of the hot-headed foreigners.

After two days of exciting expeditions around the Wyoming Valley, the party left Scranton on the Friday afternoon. They pushed on hurriedly through the quagmire of the dreaded Scrub Oak Mountain, and of the all but impassable marsh near Tobyhanna. Taking supper at the latter town, they continued their way aided by the light from the friendly moon, over Mount Pocone, down its steep southern decline to Stroudsburg, and finally to Bethlehem, where they arrived after midnight. After seizing a few hours of much-needed sleep, they were on their way again early in the morning, and arrived at Philadelphia at the end of the week, somewhat fatigued because of the arduous nature of their trip, but well pleased that they had successfully accomplished what few would think of undertaking at this season of the year.

MESSRS. THOMAS TILLING, LTD., have erected a motor-omnibus depot at Lewisham.

## CONTINENTAL NOTES.

### Another German Touring Competition.

The Automobile Club of Cologne is organising a touring competition for the 19th and 20th May, the first day's journey being from Cologne to Saalburg and back to Ehrenbreitstein, a distance of 270 kilometres, and the second from Ehrenbreitstein to Cologne via Gemund, Bruck and Düren, 192 kilometres. The competitors will be divided into five classes as follows:— (1) cars up to 14-h.p.; (2) cars up to 20-h.p.; (3) cars up to 32-h.p.; (4) cars up to 45-h.p.; and (5) cars over 45-h.p. The awards will be on a point basis, marks being deducted for stops for repairs or adjustments, water replenishment, etc. No marks will be deducted for the first stop owing to a puncture, provided that the delay is not more than twenty minutes, one mark being taken off for each minute in excess. For any subsequent stop on account of tyre troubles three marks will be lost, these allowing a twenty minute delay. The cars in Class 1 will be required to attain minimum and average speeds of respectively 21 and 25 kilometres per hour; Class 2, 25 and 29 kilometres; Class 3, 28 and 33 kilometres; Class 4, 30 and 36½ kilometres; and Class 5, 32 and 40 kilometres. The entry list will close on May 10th.

### The Targa Florio.

Sunday next is the date fixed for the great Italian touring competition known as the Targa Florio, which is to be run off on a circuit on the Island of Sicily. The entries are as follows:—

No.	Car.	Driver.	No.	Car.	Driver.
1.	Hotchkiss	Le Blon	11.	Renault	Ravetto
2.	Clement-Bayard	Letellier	12.	Fiat	—
3.	"	A. Fournier	13.	Vulpes	Barriaux
4.	Itala	De Caters	14.	Itala	Graziani
5.	"	Cagno	15.	"	Tasca
6.	"	H. Fournier	16.	"	Fabry
7.	Darracq	Hemery	17.	Zust	Rigal
8.	"	Wagner	18.	San Giorgio	—
9.	La Buire	Mottard	19.	Fiat	Lancia
10.	Berliet	Bablot			

### Motoring in Switzerland.

An important conference of representatives of the different cantons in Switzerland has just been held at Berne to consider the question of automobile traffic in the country. It was decided to fix a blue sign on the roads where motorists must slacken speed and a yellow sign where motoring is not allowed. The Department of the Interior has been deputed to draw up a uniform code of rules for the guidance of police deputed to take charge of the roads. No decision was arrived at as regards uniformity in fines for infraction of the regulations, but steps are to be taken to put an end to the abuses to which it is alleged the police have subjected motorists. A resolution was furthermore adopted to the effect that no road is to be closed to motor-cars without an agreement between the authorities of all the cantons concerned, and that all foreign motorists shall be given a copy of the regulations on entering the country.

### A German Motor-Cycle Reliability Trial.

The German Motor Cycle Union is organising a reliability trial for motor-cycles over the course on which the Herkomer Touring Trophy contest is to be held. The motor-cycles, whose number will probably be limited to sixty, will start a day later than the competitors in the Herkomer event.

### The Elastic Wheel Competition.

In our last issue we left the four remaining competitors in this event at Marseilles. The run on the 24th ult. was from that town to Valence, a distance of 137½ miles. All the cars safely completed the journey, the order of arrival being the De Dietrich (Edmond-Levi wheels), 24-h.p. De Dion (Soleil wheels), 20-30-h.p. Renault (Garchey wheels), and the 14-h.p. De Dion (Ducasble tyres). On the 25th ult. the run was continued to Dijon, 183 miles, when the number of competitors was reduced to three, due to the 14-h.p. De Dion with Ducasble tyres retiring owing



to a broken cardan shaft. The final stage—Dijon to Paris, 207 miles—was completed on the 26th ult., the first to reach the French capital being the 20-30-h.p. Renault (Garchey wheels), followed by the De Dietrich (Edmond-Levi), and the 24-h.p. De Dion (Soleil). The total distance covered in the trial was 1,345 miles, and this was covered by the three successful competitors in the times shown below:—

	Wheel.	Time.	Average miles per hour.
24-30-h.p. De Dietrich ...	Edmond-Levi ...	72 h. 10 m. ...	18.6
24-h.p. De Dion ...	Garchey ...	82 h. 18 m. ...	16.3
20-30-h.p. Renault ...	Soleil... ..	92 h. 3 m. ...	14.6

In addition to the Halle, England was to have been represented in the event by a car fitted with the spring wheels of the Spherola Spring Wheel Co., Ltd. The vehicle was, however, so badly damaged in landing that it could not be got ready in time for the start of the competition.

#### The Grand Prix Race.

So far thirty-five entries have been received for the race for the Grand Prix de l'A.C.F., which is to be held on June 26th

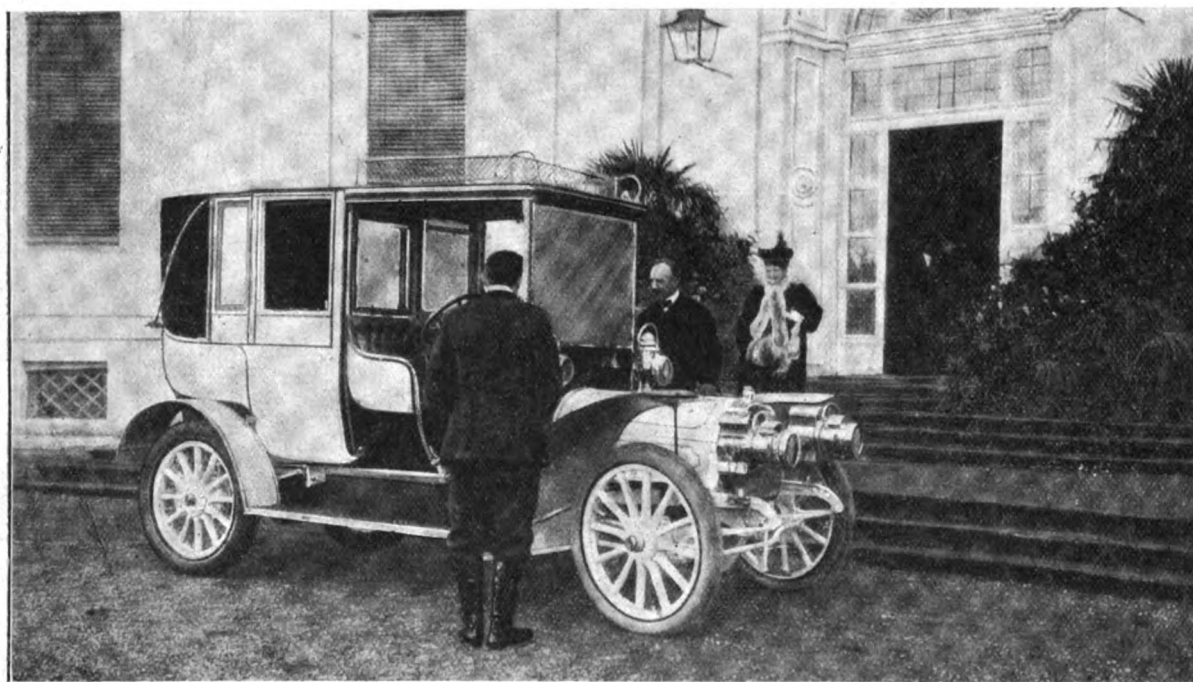
25th the cars will be required to make several rounds, the number varying according to the class, of a 10-mile circuit in the district, while on the 26th inst. a kilometre speed trial and a brake test will be held. Full particulars of the competition can be obtained from the secretary of the A.C.T., 27, Rue Victor Hugo, Tours.

#### The Spa Automobile Week.

An automobile week is to be held at Spa in August next, under the auspices of the Automobile Club de Spa. The meeting will open on August 9th with a hill-climbing contest and a mile championship race. On the 10th a touring competition is to be held; on the 11th, a balloon chase; and on the 13th an excursion to Bastogne to witness the Circuit des Ardennes race.

#### Public Services in France.

A public motor-car service has just been started between Gueux and Murzon (Marne). A company has been formed in Rouen, with a capital of £2,000 and the title La Société des Transports Automobiles de Rouen-Bois Guillaume, to establish a motor-car service between the two places.



Queen Margherita of Italy entering her "Rapid" landaulet at the Royal Palace in Rome. Messrs. Straker and MacConnell, Ltd., the British agents for the "Rapid" vehicles, inform us that Her Majesty has just placed orders for two of these cars, one of 9-11-h.p. and the other of 30-40-h.p.

and 27th next. They include three each Darracq, Panhard, Brasier, De Dietrich, Renault, Fiat, Hotchkiss, Mercedes, and Clement Bayard, a Gobron, a Vulpes, two Gregoires and four Italias.

#### A German Touring Contest.

The Hanover Automobile Club is organising a reliability contest for the 13th inst. The competitors will be divided into five classes, according to horse-power. The course to be covered is from Hanover to Luneberg and back, a distance of 156 miles.

#### Public Motor-Car Services in Germany.

A public motor-car service has just been inaugurated between Schonach and Sorberg. A company has lately been formed in Carlsbad to run motor-omnibuses in the town.

#### The Touraine Touring Competition.

The Automobile Club de Touraine of Tours is organising a touring car competition to be held from the 24th to the 26th inst. The competitors will be divided into six categories, which are on a price basis ranging from £80 to over £800. The trial will commence on the 24th inst. with a hill climbing test; on the

#### Miscellaneous Items.

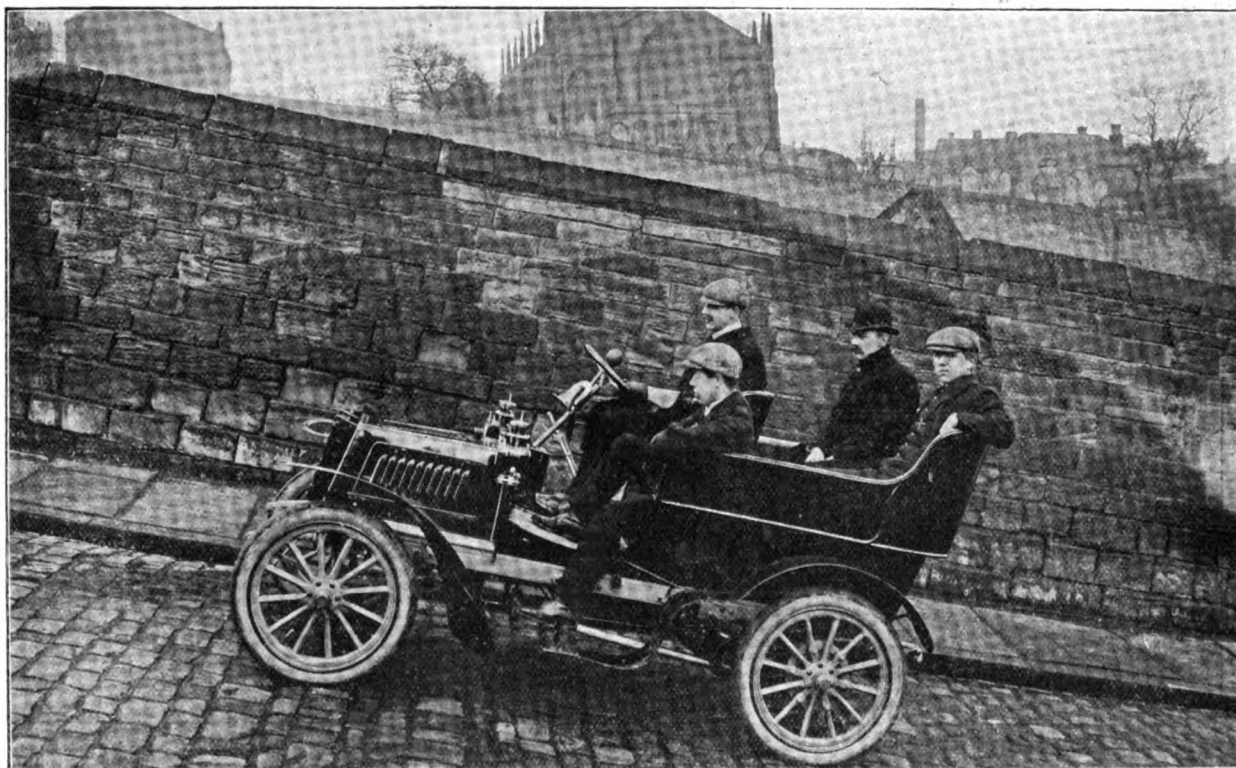
The Second Annual Swiss Motor-Car and Cycle Exhibition was opened in Geneva on Saturday last.—Forty entries have, so far, been received for the motor-cycle, tri-car, and voiturette competition known as Le Tour de France, which is to be held by the Autocycle Club de France from the 12th to the 24th inst.—A competition of shock-absorbing devices is shortly to be organized by the "Auto" in conjunction with the Ligue des Chauffeurs.—The municipal authorities of Strassburg have voted a sum of £1,250 for the purchase of a steam motor fire engine.—A motor-bus service was started in Milan on the 24th ult.—The Swiss Motor-Cycle Club has just been formed in Basle.—The Berlin Municipal Authorities have voted a sum of about £15,000 to be expended by the Chief of the Fire Brigade upon experiments with motor fire-engines.—Two De Dietrichs have just been entered for the French team for the Vanderbilt Cup race.—A 10 kilometre hill-climbing competition for the Jean Homolle Cup was held by the Algerian Automobile Club on Sunday last, the event being won by M. J. Narbonne on a 20-h.p. Pilain car.

## SOME CURRENT TOPICS.

### The Austin Cars.

The works of the Austin Motor Company, Ltd., at Northfield, Birmingham, were *en fete* on Thursday last week, when the directors gave a lunch to celebrate the completion of their first car. The Clerk of the Weather proved anything but kind to the day's function, for when we, in company with a number of representatives of the Press, arrived at Northfield, which lies about eight miles from the great Midland industrial centre, it was to find the whole countryside covered with snow to the extent of over two inches. The works being located some distance from the station, the Austin Co. had thoughtfully provided a fleet of cars to convey their guests to the factory, where they were received by Capt. Kayser, Mr. H. Austin and Mr. Harvey

albeit competitors of the Austin Company, among them being Mr. J. Lisle, of the Star Engineering Company; Mr. F. Coleman, of the White steam cars; and Mr. Proctor, of the Daimler Motor Company, Ltd. The after-lunch speeches were commendably brief, but well to the point, and Mr. Austin, who, as will be remembered, was responsible for the design of the well-known Wolseley cars, in responding to the congratulations of the visitors on the general excellence of design and construction of the new vehicle bearing his name, spoke of the valuable aid rendered by the staff of assistants he had gathered round him; he also mentioned that his object had been to design a car having a powerful, quiet, flexible motor, a simple, strong, easily controlled change-speed gearing, reliable brakes and steering, effective cooling and lubricating systems, in fact, a thoroughly satisfactory touring car, which can at the same time be produced at a reasonable price. In connection with the latter point, however, he added that it had always been his aim, not merely to make money, but to build cars that would give satisfaction, an object which, if we may judge from a short trial run, he has fully accomplished.



A 7-h.p. Star Car ascending Spay Street, Leeds, which has a gradient of 1 in 12'47.

Du Cros, jun., the latter being the sole concessionaire for the sale of the Austin cars. A start was at once made on an inspection of the new works and of their all British product. The factory, which covers a large area, with ample room for extensions, has been furnished with an excellent equipment of the latest machine tools, and comprises not only machine and erecting shops, but also copper-smithing and body building departments. As regards the cars, two models are being made—a 15-20-h.p. with live axle drive and a 25-30-h.p. with either side chain transmission or live axle. At present attention is being principally centred on the more powerful car, of which a number were seen in various stages of construction.

### Congratulating the Designer

Subsequently the visitors sat down to an excellent lunch, served in the men's mess-room attached to the works, which had been specially decorated for the occasion, and at which we were pleased to notice several well-known members of the trade,

### Instruction Books.

Two or three weeks ago we referred in this column to the noticeable improvement which is taking place in motor manufacturing circles in regard to the publication of instruction books with the object of enabling users of modern motor-cars to get over any little difficulty which may arise. The point was once more brought to our notice one day last week by the receipt of two more books of the kind, one from the Albion Motor Car Company, Ltd., and the other from the Duryea Company. The Albion hand-book is one of the best we have so far received, it having been produced with the object of rendering it of permanent value and use. The method adopted has been to describe and illustrate each part of the vehicle in detail, the simple adjustments to be made to each part of the mechanism being carefully explained, enabling users of Albion vehicles to thoroughly understand the various parts of their cars and their relation to one another. The Albion Company are sending out a copy of the work with each of the 16-h.p. vehicles they are turning out.

## The Austin 25-30-h.p. Car.

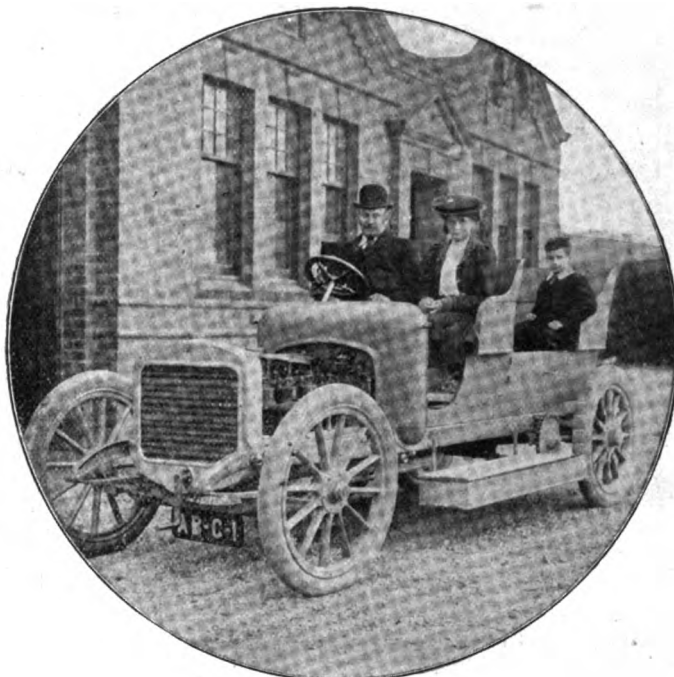
A BRIEF reference to the new cars of the Austin Motor Company, Ltd., has already been given in these columns, but the 25-30-h.p. vehicle, the first of which is now on the road, contains so many novel features that the following description, based on an inspection of the car at the works at Northfield, Birmingham, will no doubt be of interest. Beginning with the frame, which forms the first point of novelty, this is of pressed steel construction, narrowed at the front end to increase the lock of the steering wheels. The sub-frame, which carries the motor and gear-box, is formed in one piece with the side members, which extends well to the rear, and the back portion is raised to clear the axle and allow the centre portion to be kept low for easy side entrance. A stout rod connects the two back ends of the frame and forms the support for the rear spring shackles, the usual long dumb irons being conspicuous by their absence. The brackets carrying the outer ends of the differential shaft support the forward ends of the rear springs, and it may be mentioned that the bolts through the shackles are carried at three points instead of two, as usual, to prevent deflection and undue wear. In order to provide an accurate bed for the engine and gear-box two planed steel strips, one on each side, are fixed to the lower portion of the steel shield.

The engine, shown in Fig. 2, comprises four separate cylinders of  $4\frac{1}{2}$  in. bore by 5 in. stroke, giving 32-h.p. at 900

revs., although only rated at 25-30-h.p. The exhaust and inlet valves and gear, which are interchangeable, are fitted at opposite sides of the cylinders. The crank shaft, which is forged from

nickel chrome steel, is supported on five main bearings of phosphor-bronze, the latter being fixed to the upper half of the crank case, so that the lower covers may be removed for inspection and repairs without disturbing the shaft or its bearings; not only so, but inspection covers are provided on each side to allow each of the connecting rods to be readily examined. The cams are solid on their shafts, which can be removed without disturbing any other part of the motor. The motion from the cam shaft to the valves is conveyed through levers fitted with rollers, and provision is made whereby the lift of the valves can be adjusted while the motor is working by means of nuts and set screws outside the cam shaft casing. To facilitate the starting of the engines half compression cams are brought into action by sliding the exhaust camshaft. The mixture is furnished by an automatic carburettor of the Krebs type, while the ignition is

effected by a gear-driven Simms-Bosch low-tension magneto. The rocking shafts forming the make-and-break are fitted in the inlet valve covers, and have very long bearings, operated by adjustable rods, which are moved vertically by cams on the inlet valve shaft, through the medium of levers, which can be adjusted to advance or retard the point of ignition.



Mr. H. Austin at the Wheel of the First of the New Cars.

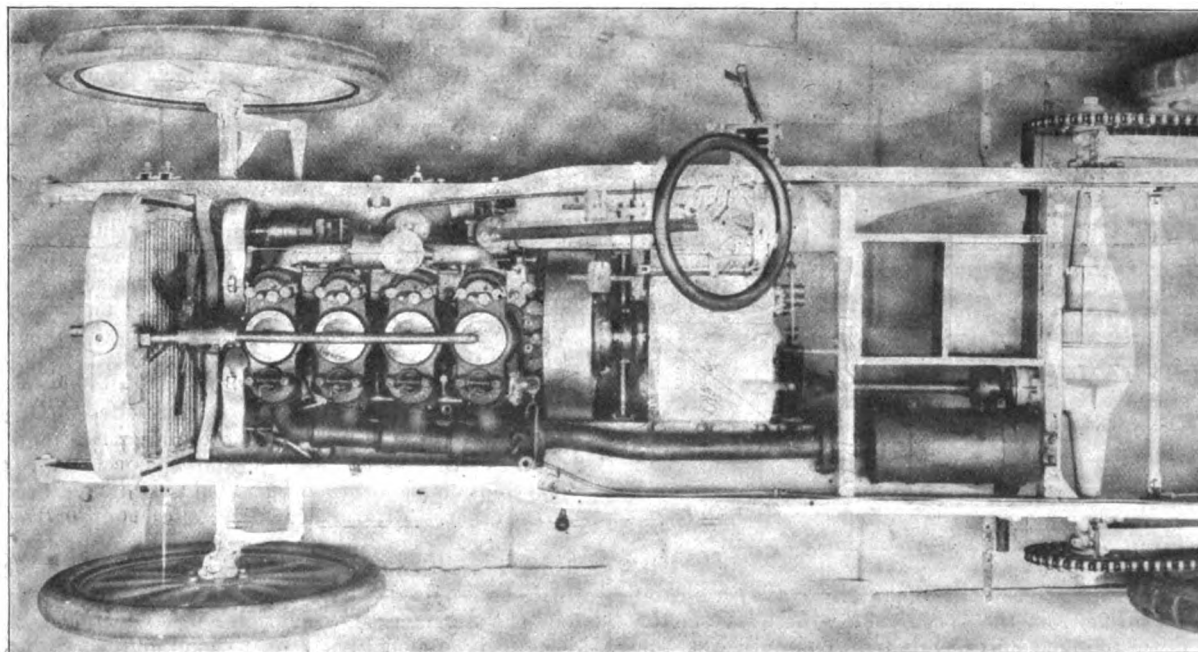


Fig. 1.—Plan of Chassis of Austin 25-30-h.p. Car.

The movement endways of each of these levers can be separately adjusted while the motor is running, so that all four cylinders may be made to work in unison. An auxiliary ignition system is fitted, having a high-tension coil and contact maker. Both are located in a convenient position, the latter being driven by a vertical rod and bevel gearing from the rear end of the exhaust

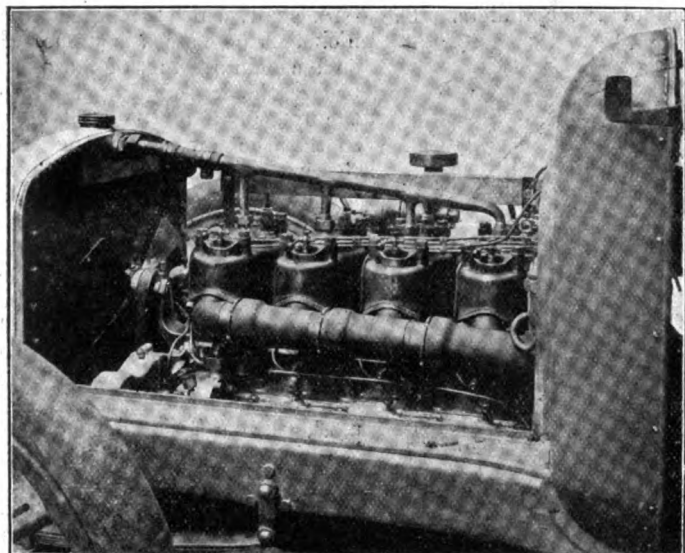


Fig. 2.—View of Motor of Austin 25-30-h.p. Car, showing Special Joints on Exhaust Pipe.

cam shaft. The plugs for both systems are fitted in the inlet valve cover, and the advance and retard are operated by one lever on the steering wheel. The speed of the motor is controlled by a governor mounted in an accessible position on the rear end of the radiator fan spindle, which normally closes a throttle in the carburettor. An accelerator pedal fixed when depressed prevents the governor from acting, and keeps the throttle open, more or

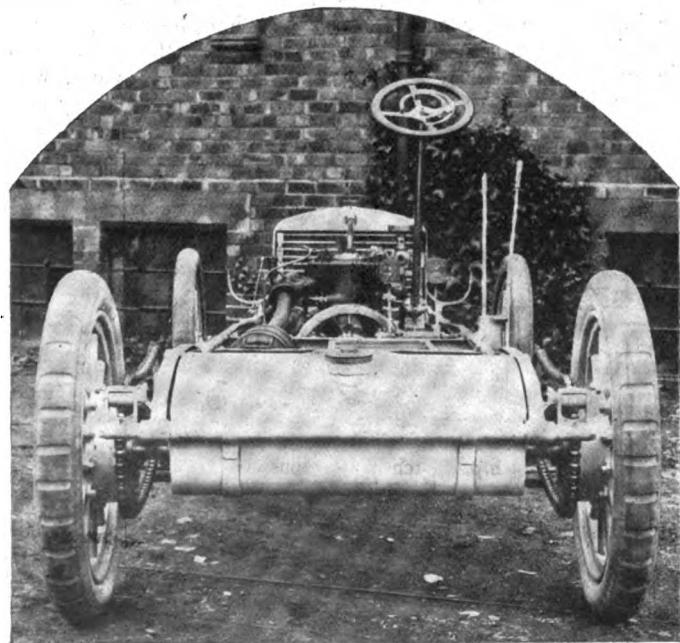


Fig. 3.—Rear View of Chassis of Austin 25-30-h.p. Car.

less, as desired. A separate throttle operated by a lever on the steering wheel also controls the speed, and with it the motor can be slowed down to about 65 revolutions per minute, and the car will, it is claimed, owing to the correct balance and proper combustion obtained, crawl along on the top speed at less than three miles an hour.

The radiator is of the ribbed tube type, fitted in an aluminium case, the top and bottom portions of which form water tanks. The ends of the tubes fit into metal boxes having lids which can be removed for cleaning purposes. The water is circulated by means of a centrifugal pump driven by gear from one of the cam shafts. The pump draws its supply from the lower tank and forces it around the cylinders, out of which it flows through domed caps directly to the top tank of the radiator. A belt-driven fan, the spindle of which runs on ball bearings, is fitted to the rear side of the radiator, and the arms of the fly-wheel are also formed in the shape of vanes to assist in the cooling of the engine. A feature of the exhaust pipe is the provision of joints at the junctions of the different cylinder outlets to allow for expansion and contraction. An excellent view of these joints is given in Fig. 2, from which it will also be seen that the area of this pipe increases towards the rear end. A baffle plate directs the exhaust gases so that there is no tendency for them to affect the proper working of the other cylinders. The silencer, which is well supported in the frame, is fitted with a patented arrangement of exhaust outlet, which has already been illustrated in the *M.C.J.*, and which enables the driver to direct the gases to the side farthest from the foot walk, and thus avoiding a rear exit, which is so offensive to other users of the road when standing or proceeding slowly in line.

The lubrication of the motor has received special attention the inner main bearings of the crank shaft and connecting rods are lubricated by a pump positively driven, which feeds oil continuously from a recess in the crank chamber cover, into which it afterwards drains, keeping the crank chambers entirely free from splash, and preventing smoke issuing from the exhaust. The pistons and the two outer main bearings, on the other hand, are fed with oil separately by a chain-driven pressure-fed lubricator on the dashboard; the latter, as will be seen, is of the curved variety. The engine crank chamber is rigidly attached to separately-made cast steel brackets bolted to the underframe.

(To be concluded).

## THE CARE OF DISC CLUTCHES.

ARGYLL MOTORS, Ltd., who are using the Hele-Shaw metal disc clutch on most of their cars, point out that although the arrangement is designed to permit a great amount of slip without causing damage, yet it should not be abused, i.e., the clutch should not be allowed to slip unnecessarily in the ordinary course of driving, as to do so persistently causes excessive wear on the plates. Advantage may be taken of the facility of the clutch slipping when the car is running slowly through traffic or when the car is starting, but this facility should be used sparingly or the life of the plates will be shortened. Great care must be exercised as to the lubrication of the clutch, as if the plates are allowed to run dry they will seize and their surface will be destroyed. The most satisfactory lubricant has been found to be a special solution made by Messrs. J. M. Beckett and Sons, of Miles Platting, Manchester. Before putting the solution into the clutch it must be diluted with five times its own bulk of clean water: the full charge is six pints of this mixture. Two tapholes are provided in the flywheel at 90 degrees apart, and to charge the clutch one of the holes should be turned to the top, and the plugs of both removed. The solution should then be added until it just begins to run out at the other. After every 1,000 miles running the condition of the lubricant should be examined, and more solution added if it is too low. Should fresh solution not be available, and only a little be required, clean water may be added to the stock in the clutch. In the case of solution not being procurable, a lubricant consisting of equal parts of paraffin and good light machinery oil may be used until the proper solution can be obtained. Should the clutch not be acting properly it should be washed out with petrol and recharged with solution.



MR. R. SCAIFE, the consulting automobile engineer, of 20, Ogleforth, York, is also giving lessons in driving.

CONSIDERABLE extensions to their premises at 72, Great Western Road, Glasgow, are being contemplated by the Western Motor Company of that city.

MESSRS. SHARER AND YOUNG, LTD., are about to establish motor-boat works at Welliebank, Alloa.

GARAGE accommodation is now being provided at the First Avenue Hotel, High Holborn, London, W.C.

MOTOR accessories will be stocked by Messrs. Thomas Dyson, Ltd., in their new motor garage at 30 and 32, Manchester Road, Bradford.

MR. JAMES EWART, who has lately acquired the Goatfield Coach Works at Haddington, has opened them as a motor garage with accommodation for thirty cars.

MESSRS. PETER BOSWELL AND SONS, of the Borough Road, S.E., are specialising on motor-car springs, axles, wheels, iron-work, and similar fittings. They have a plant able to deal with any work of that kind, and undertake repair work of all kinds.

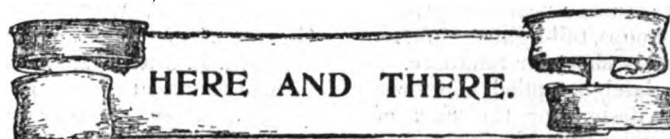
THE overheating of a motor-bus at Edinburgh resulted in firing the petrol tank, with the result that an explosion took place, destroying the bus, but, happily, injuring no one in the vicinity of the mishap.

AT 47, Forgate Street, Worcester, Messrs. Morgan and Co. have just opened a garage opposite the station, and adjoining the Star Hotel; they have also taken additional premises in Farrier Street, which are now in course of reconstruction.

FROM Messrs. W. H. Smith and Son come some splendid specimens of printing in colours—in proof of their ability to execute catalogues, etc., in a style likely to cause them to be read. The famous bookstall firm have broken into new fields of enterprise, and in printing for commercial firms have quickly achieved distinction. Their book of specimen types is a most effective piece of work.

MESSRS. A. W. GAMAGE, LTD., will present their shareholders with a very gratifying report at the annual general meeting on Tuesday next. The net profit has been £21,846, and the dividend proposed will make a distribution of 8 per cent. for the year on the ordinary shares. Since the motor accessories department was moved into its new quarters the increase in the turnover has been noticeable.

THE Motor Union at the present time has a Special Committee engaged in endeavouring to draft a form of agreement between seller and purchaser which will safeguard the interests of the latter without incurring a hardship on the former. Needless to say the task is one of no light difficulty. For instance, a customer wrote to the Clement Talbot Company the other day, complaining that their piston rings were rotten, as one had snapped when he endeavoured to push it on the piston. The unfortunate man had endeavoured to force open the ring as though it were made of spring steel.



THE Fire Brigade Committee of Kingston is considering the advisability of adopting a motor fire engine.

FROM the British Hele-Shaw Clutch Company, Limited, we have received an illustrated

circular clearly explaining the action and advantages of the latest form of the Hele-Shaw clutch.

MESSRS. W. D. AND D. M. TURNER are about to open a motor repair shop and garage at 104, Great Brunswick Street, Dublin. They will trade as Turner Bros.

THE Electrical and Motor Company have opened a garage at Banbury, on the main Oxford to Birmingham road. They are well able to undertake all classes of motor and tyre repairs.

MESSRS. ALEXANDER MATHER AND SON, who have a garage to accommodate eighty cars, as well as a number of private lock-ups, are opening another at Sandwich Place, Edinburgh.

THE charges for motor-cars crossing the river Mersey by the Widnes and Runcorn transporter bridge are one shilling, plus 1d. per passenger; over the Clifton Suspension Bridge the toll is 6d. for motor-cars.

MR. G. E. CARTER has opened a motor depot at 60, High Street, Grays, which will be known as the Dispatch Cycle and Motor Works.

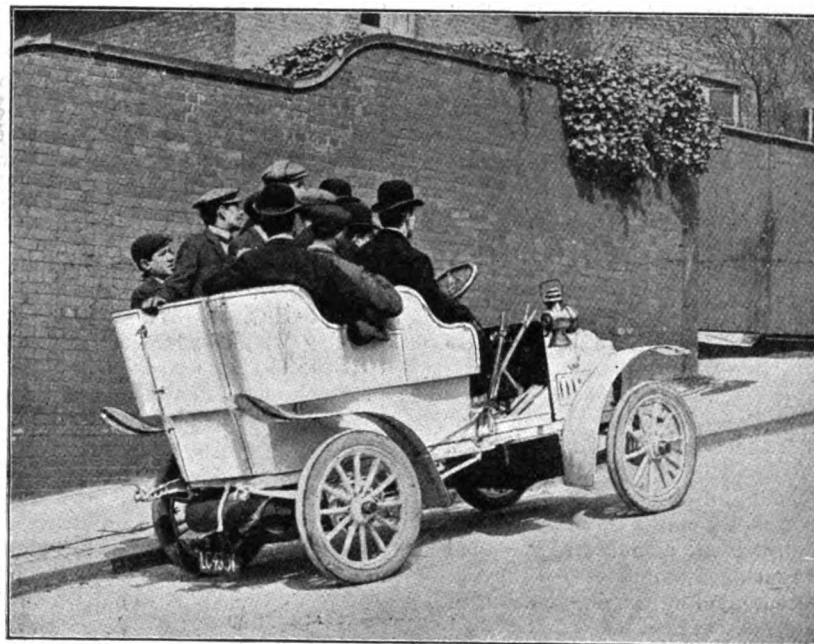
MESSRS. ROBSON AND SONS, LTD., of Northumberland Street, Newcastle-on-Tyne, are utilising their motor-van for the removal of furniture in connection with their warehousing business.

WE hear that Mr. E. W. Glasscock, of Bishop's Stortford, is at work on the construction of a new petrol engine which works on the principle of the steam turbine. It is designed to give six explosions per revolution, and is stated to have but few working parts.

MESSRS. A. W. GAMAGE, LTD., have issued a new catalogue of "everything for the motorist," and within its ninety pages will be found illustrations and descriptions of the vast stock of motor accessories kept by this Holborn firm. It comes at an opportune time for the motorist and will doubtless find a place among the works of reference kept by him.

AT the repair works of Messrs. Panhard and Levassor, Kimberley Road, Willesden Lane, N.W., special machinery has been fitted for repairing the Eisemann type magneto, old patterns being altered and brought right up to date. The operations in this department are carried out by men specially trained in the works in France, where these magneto machines are made.

SIGNOR E. VENERI, who has been appointed director of entertainments at the new works of Argyll Motors, Ltd., at Alexandria, is a musician of considerable eminence and wide experience. A native of Reggio dell' Emilio, he served under Garibaldi in the war which established the independence of Italy. He came to England in 1882 to take up a position as bandmaster of the Royal Italian Band at Torquay, and for the last seven years he has been a member of the Scottish Orchestra, relinquishing his position in that combination to assume his new duties with the Argyll Company.



The above illustration depicts a 10-12-h.p. two-cylinder Metallurgique Car climbing the well-known Netherall Gardens with ten people up. The Car was driven half-way up, stopped for photographing, and then restarted, carrying its heavy load successfully to the top.

MESSRS. JOSEPH LUCAS, LTD., have issued a neat card giving the sizes of brackets required for head-lamps, tail-lights, commercial motors, etc. It should prove a handy sheet for reference.

MESSRS. W. AND F. THORN have lately supplied motor-car bodies to many Society motorists, a design for the Earl of Shaftesbury being a particularly noteworthy type of vehicle.

MR. G. C. DE FINNEY is undertaking to drive a 3 3-8-h.p. Rex motor-bicycle 100 miles daily over British roads for twelve months, in order to establish a record of 36,500 miles.

THE Continental Tyre and Rubber Co. have just issued a new price list of their steel armoured non-skid tyres, in the construction of which no leather is used. The studs are imbedded in the rubber tread by a special process, and instead of round discs, as before, square ones are now being employed. The surface of the tread is thus practically covered with steel, which not only makes the tyre anti-slipping but also nail proof, and eliminates punctures to the greatest possible extent.

THE Premier of New South Wales has recently had a motor-car trip through the colony. Some of the roads were extremely bad; but their successful negotiation by the car should do much to establish the automobile in Colonial favour.

FROM Messrs. Straker and MacConnell, Ltd., who are opening a showroom, at 44, Pall Mall, W., we have received a copy of their new catalogue of Rapid cars. Full particulars and illustrations are given of these Italian-built vehicles, of which four sizes—12-16-h.p., 20-30-h.p., 30-40-h.p., and 50-70-h.p.—are being made.

FROM Birmingham comes a catalogue of electrical appliances of every description for motor-cars supplied by Mr. J. C. Meredith. These include accumulators, ammeters, charging boards, interrupters, sparking plugs, switch handles, tremblers, voltmeters, etc.

THE St. Albans Rural District Council have forwarded to other local authorities in England and Wales a copy of a resolution passed by them on the subject of the dust nuisance caused by motor traffic. They urge these authorities to write to their local member and the President of the Local Government Board in similar terms.

THE statue of Richard Cobden in High Street, Camden Town, having been damaged by a motor-omnibus, while similar vehicles have knocked down an electric arc column and damaged five gas lamp columns, the Lighting Committee of the St. Pancras Borough Council are recommending the enforcement of the full claim for compensation.

AT Croydon, John Bowen, of Merstham Asylum works, was summoned for a contravention of the Motor Car (Use and Construction) Act of 1904, by, *inter alia*, having an inefficient brake to a traction engine, and for using a trailer without the weight being painted thereon; the trailer had been used for some time past without anything being said about it. The magistrates inflicted fines and costs amounting to £3 6s. 6d.

THE London depot of the Wolseley Tool and Motor Company is now located in the extensive building in York Street, Westminster, formerly known as "Niagara," and the other day we had the opportunity afforded us of a rapid run over the premises. Fronting the street is a large and well-arranged showroom, above which is a gallery from which access is had to the various offices, while at the back is the great round building where the cars are garaged. There is a wide opening from the showroom into this building, but the ordinary entrance for cars is through a gate at the left. The building, being circular, adapts itself splendidly to car storage, each vehicle being able to get in or out without any difficulty. A wide gallery runs round the garage, capable of holding an enormous number of cars, and of such dimensions that each one can be moved independently of the others, and brought to the ground floor, by means of the lift, with the least possible delay. In addition to Niagara being the officially-appointed garage of the Motor Union, the Ladies' Automobile Club has, we understand, selected it as their headquarters for cars in the metropolitan district.

MR. B. T. WESTWELL, clerk to the Oswaldtwistle District Council, has become a motorist.

MR. E. MANVILLE is chairman of the company now being formed to introduce the petrol-electric bus into London.

THE agreement between the Motor Union and the Car and General Insurance Corporation will shortly be terminated.

AT the annual meeting of the Church Missionary Society on Tuesday, Sir John Kennaway, M.P., said that "in India the motor-car was worshipped as an incarnation of the spirit of the age."

A 30-h.p. six-cylinder Standard car was last week driven by Mr. F. E. Swann, the owner, straight from the works, Coventry, to East Finchley without a stop, and this without any previous knowledge of the vehicle in any way.

MR. JASPER PRIVETT has joined the firm of Dicks and Son, coachbuilders, 144, Clapham Road, S.W., which will in future be known as Privett, Dicks and Son. Engineering work, including motor repairs, will be introduced both at the address and at 18A, Atlantic Road, Brixton.

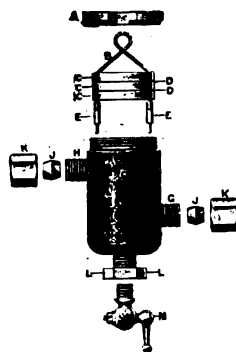
THE second Orphans' Day Celebration in New York will take place on June 6th. It will be organised by the New York Motor Club, and it is proposed to secure many more cars than last year, and to take several thousand orphans to a summer resort for the day and furnish them with luncheon and entertainment.

MESSRS. E. BENNETT AND Co., 19, Sweeting Street, Liverpool, inform us that they have been appointed sole agents for the United Kingdom for the Energine Company of Cleveland, U.S.A., for their motor spirit, known as "Energine," which will shortly be placed on the English market. The advantages claimed for "Energine" over other spirits are that it will go from 40 to 80 per cent. further, gives more power, increased speed, will not carbonise, is free from acids, and that the exhaust is odourless.

MESSRS. A. W. GAMAGE are putting on the market a novelty which should be of special interest to motorists now that the touring season is about to commence. It is a map case in which maps of almost any district are mounted on rollers so that it can be fixed to the dashboard in front of the driver, who thus can easily see a clear map of the district in which he is driving, showing hills, turnings, etc. It is also made with an electric lamp, which can be connected up to the ordinary accumulators and switched on at night.

THE Bowden petrol filter is one of those small fittings on a motor-car which have hitherto been regarded as refinements,

but which are now being recognised as necessities. By the exercise of care it is possible to avoid cloggings in the carburettor without using such a thing as a petrol filter, but experience has shown that it is safer and handier to prevent trouble by means of such a device. The accompanying illustration shows the Bowden filter and its parts. It is, of course, fitted to the supply pipe between the carburettor and the petrol tank. G J and K are the junction parts for the petrol tank supply pipe, K J and H those for the carburettor supply pipe. The petrol enters at the lower lever and rises in the



filter through two discs of fine wire gauze held in position between the washers C C C held in place by the lock nuts E E, the filter B simply being dropped into the body F and held down in position by the cap A. M is a drain tap, and L L a threaded plug by dismounting which the impurities in the filter can be removed.

MR. E. KENNARD, of Market Harborough, had an ingenious device attached to the wheels of his car, which greatly interested those present at the joint club meet at Ashby-de-la-Zouch on Saturday. It is an invention of Mr. Kennard's own, which automatically causes the ringing of an electric bell the moment the tyre is deflated, and thus informs the driver that something is amiss. The attachment only works when the car is running.

## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
27-33, Charing Cross Road, W.C.]

### MOTOR-CARS AND DUST.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In discussing this really important matter it seems to me that most of the writers on the subject take a rather too one-sided view. The wicked motor-car appears to be considered the whole cause of the nuisance. While admitting that motors are the greatest raisers of dust, yet every fair-minded observer must allow that on dusty roads horsed vehicles, especially those with more than one horse, and even bicycles,

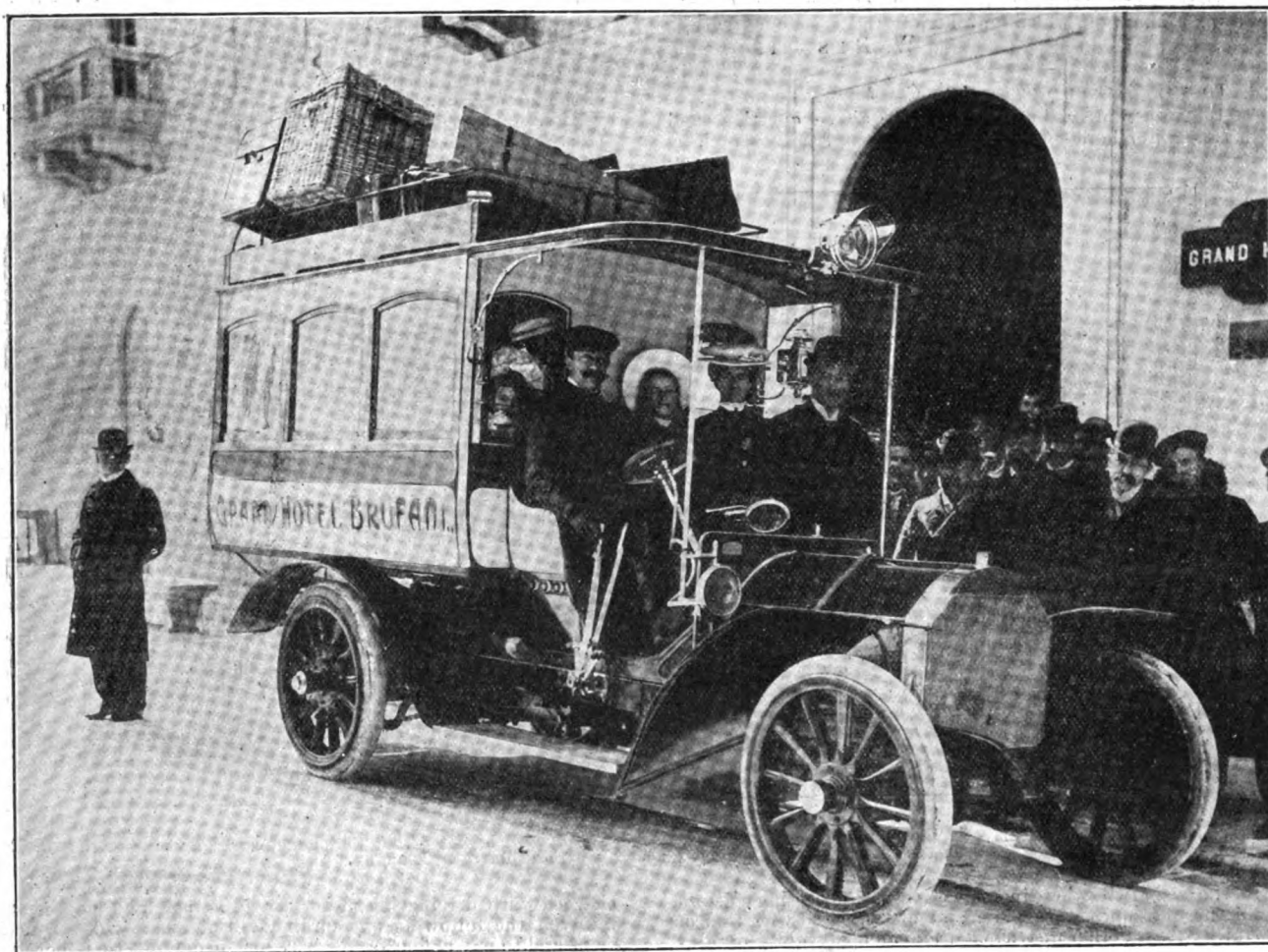
the damage done by other people than ourselves, we should do so willingly if the result was good roads.—Yours truly,

J. BRYANT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am glad to note from your valuable journal that an eminent scientist like Mr. Carus-Wilson is considering the dust question. I fear, however, that his suggestion that the "early worm"—I had almost said "bird"—should clear the road of this nuisance for his brother worms will not prove very practical, as I am inclined to think the "early worm" will turn as soon as he finds he is first on the job.

In my opinion two tracks, some 18 in. wide and 36 in. apart, will have to be laid along the roads, of some hard material, say granite, and, where the traffic is very heavy, a double track. Then all the traffic, motors, cycles, and horse-drawn vehicles, will naturally run with their wheels on the smooth granite surface of the track, and the dust raised will be comparatively nil. The first cost would no doubt be fairly heavy, but it is possible it might prove cheapest in the end. For it is quite obvious that the country roads, as at present constructed, will not stand



A 24-h.p. Fiat Hotel Omnibus in service at Perouse, Italy.

[*La France Automobile*]

raise no inconsiderable amount of dust. Now the people really responsible for there being any dust at all are the drivers of horses and vehicles with iron tyres. Given a road once well made and nothing allowed upon it but rubber-tyred vehicles and no horses, there would never be either mud or dust worth troubling about, and yet it is calmly suggested that motor owners are to take upon themselves or to be compelled to bear the expense of abating a nuisance really caused by other people.

The suggestion of Mr. Carus-Wilson as to cleaning the roads on the "Vacuum Cleaner" system seems a good one, but I cannot see why the cost of doing this should be thrown on to the motorists only. Let them pay their fair share together with all other users of the roads and the owners of property who are all affected by the dust nuisance.

As to taxing motors more heavily, to my thinking this would be very unjust, as we are already taxed far beyond any other road users. What should really be done is to set aside the money paid in taxes by motorists, or a large proportion of it, towards repairing the roads, and if this were done it would go a great way towards keeping them in a good condition, and though we motorists should be actually paying for

the suction of the pneumatic tyre, and it is, by the way, this same suction which injures the roads that raises the dust.—Yours truly,

F. R. L. CHALK.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The inconvenience and the dangers which have been endured this Easter as a result of the manner in which our roads are made are only a foretaste of what will be suffered by the general public during the summer months. The well-being of the population, therefore, demands that very immediate and practical steps should be taken to encourage the local authorities to build the main roads of this country of dustless materials.

Unless the State takes some active steps to encourage the local authorities in the construction of dustless roads there is no doubt that very little progress will be made in this matter.

The Roads Improvement Association are approaching the President of the Local Government Board on the question. They have asked Mr. John Burns to receive a deputation, which, among other things, will urge:

1. That the Local Government Board prepare a return of the steps

that have so far been taken by Highway Authorities to construct roads of dustless materials.

2. That the Engineering Inspectors of the Board investigate these experiments and issue a report for the guidance of Local Authorities, dealing with the results so far secured and giving such guidance as may be possible as to methods of construction, degree of dustlessness secured, durability of materials, and comparative cost.

3. That the Local Authorities be encouraged to contribute towards the cost of certain experiments with dustless materials about to be made by the Association, and that the Local Government Board appoint a representative to act upon the Committee which has charge of these experiments.

4. That the Local Government Board represent to the Chancellor of the Exchequer and the Government the desirability of giving effect to the recommendation of the Royal Commission on Local Taxation (Lord Balfour's Commission)—a recommendation subsequently endorsed by the Departmental Committee on Highways appointed by the Board—that a further contribution of one million sterling should be made annually towards the cost of the maintenance of main roads, and that that grant should be accompanied by conditions calculated to secure efficient maintenance.

5. That the Board promote legislation empowering County Authorities to fix a minimum width for all trunk roads.—Yours truly,  
W. REES JEFFREYS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As I am extremely interested in the above question, and having spent the Easter holidays in Llandudno, I was greatly struck by

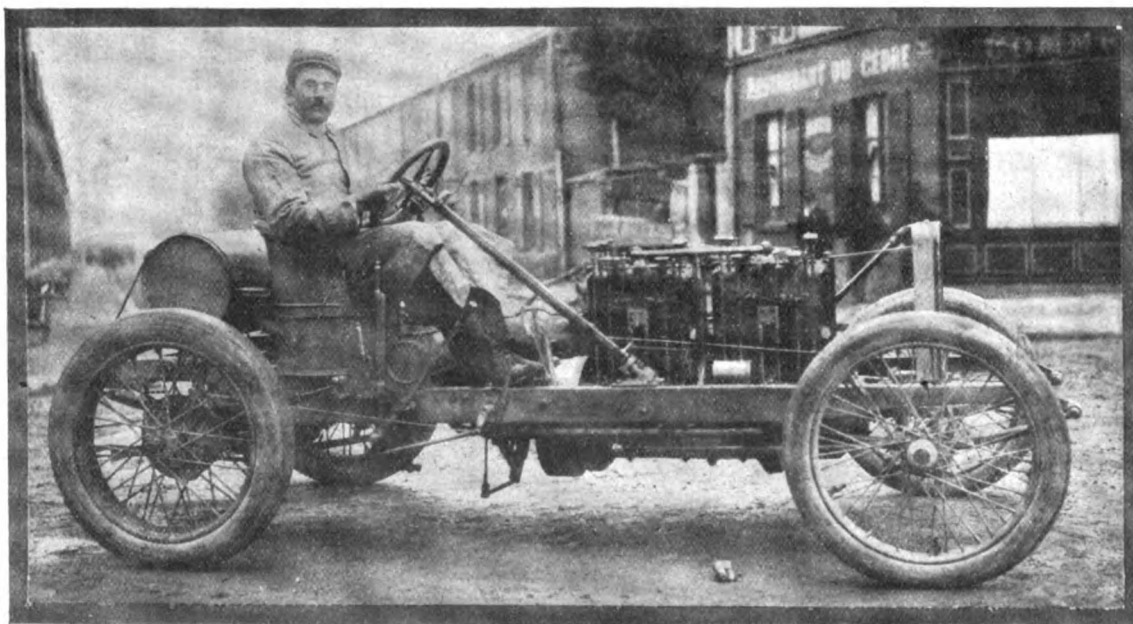
he saw me a quarter of a mile away and that I stopped just before I got to him. He then came up to me and asked what was the matter. I told him that the light had gone out and I had stopped to relight it. He then took my name, etc. In my evidence I drew attention to the fact that I had been summoned for driving a motor-car without a light. That my machine was not a car, but a motor-cycle with a fore-car attached. They said that that would not have any bearing on the case. Proceeding, I admitted that the light was out. As I was travelling along the road my companion called out to me that the light had just gone out. I immediately brought the machine to a standstill, got off, and was in the act of relighting the lamp when the constable stepped up and asked what was the matter. I told the magistrate that it was an accident which could not have been avoided, that it was not committed wilfully or negligently. They immediately imposed a fine of £1 and 7s. 6d. costs. I at once asked them if I was not to be allowed to bring a witness forward to give evidence in my defence. They said no, as I had admitted the offence it was not necessary, and they would not alter their decision. The publication of this may warn others to keep clear of the "justice" of the Bedford authorities.—Yours truly,

H. PROUDMAN.

### MOTORIZING IN INDIA.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have been requested by those chiefly interested in the state of the motor-car industry in India to call the attention of the readers of your valuable organ to the particulars of a case that has recently been tried at the Police Court, Bombay, when Mr. C. H. Bayne, who was



Hanriot on the Darracq Car he will drive in the race for the Grand Prix de l'A.C.F. It will be noted that the change-speed lever is at the side instead of on the steering column, a new departure for the Darracq Company.

the attitude of the authorities there in connection with motoring matters generally, and the dust question in particular, as compared with that of the County Authorities in other districts. I had an opportunity of talking with several of the County Councillors in Llandudno, and they are most anxious to do everything possible to encourage motorists to visit their town, and are prepared to go to considerable expense in treating the roads in order to make them more pleasant for those travelling over them.

I am enclosing herewith a report showing how this question was treated at a meeting of the Council held last week, and I am also sending you particulars of some police court cases which prove that it is possible for one to expect fair treatment at the hands of the Llandudno magistrates. There was some difference of opinion in the case of one motorist who was summoned for exceeding the limit, as there was some question as to whether he really was travelling at a greater speed than that allowed, but the magistrate gave him the benefit of the doubt, and this in the face of evidence from three police officers.

My reason for writing to you is that it is a pleasure to find a place where one is treated fairly, and I think that we as motorists should, if possible, just show them that we appreciate this.—Yours truly,

W. M. LETTIS.

### PREJUDICE OR JUSTICE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was recently summoned at Bedford for the offence of driving a motor-car without a light. The constable in giving evidence said that

charged with driving his motor-car in a rash and negligent manner, received the following extraordinary sentence:—One day's imprisonment and to pay a fine of Rs. 200, or in default to undergo 15 days' imprisonment. The magistrate further ordered that the accused's licence for the remainder of the period be suspended and declared him to be disqualified to hold the licence. Out of the fine only Rs. 50 were ordered to be paid to the complainant as compensation.

The chief points that one wishes to bring to the notice of your readers are:—(1) This was a pure accident and a first offence; (2) these prosecutions of motorists in Bombay are unfortunately coincident with the arrival of a new Police Commissioner by name Souter, a rabid anti-motorist; (3) the degradation of permitting a European to be tried and sentenced by a native judge; (4) Mr. Cursondas Chibildas is a Hindoo, with absolutely no knowledge of motor-cars, speed, or anything else connected with them; (5) the whole judgment is biased and vindictive, as is evidenced by the following:—A fine of Rs. 201 permits appeal to the High Court, so by fining the man Rs. 200 an appeal was prevented; (6) the one day's imprisonment brands the man as a convict; (7) the deprivation of a licence (for ever) seems to be illegal—it absolutely precludes a man from earning a living; (8) Government must be woefully callous of their own interests in such matters. No less than 500 cars have been imported into Bombay during the last five months, the value being £200,000. A Government duty of 5 per cent. amounts to no less than £10,000. Yet they permit a Commissioner of Police to institute all kinds of prosecutions, admittedly carried through with a view "to stop these obnoxious vehicles in Bombay."

When I was in India there was a body called the Motor Union of



Western India. Has the energy which originally characterised this body disappeared?—Yours truly,

ERNEST ESDAILE.

### THE AUTOMOBILE ASSOCIATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Many conflicting interpretations have been placed upon the decision of our special meeting at the Cordingley Exhibition. I therefore ask your indulgence to explain that although our warnings in reference to speed will for the present be extended to all drivers, there are innumerable other advantages which must and will be confined to members.

Patrols are under orders to ignore queries shouted by non-members from passing cars. This practice is objectionable and on occasions rather embarrassing. Our subscribers know how to obtain their requirements, and either the brass car badge or the membership card is their passport. Further, with our confidential bureau scheme it is possible for members (only) to drive through districts in which there are no A.A. scouts and still comply with the law of speed limit in places where the police in ambush invite its infringement.

Even as our organisation has been used unblushingly and criticised superficially by the motoring deadhead, so may we expect an avalanche of enquiries as to how all this is done. To all of which I am directed to reply that the subscription is two guineas per annum, the Automobile Association's offices are 18, Fleet Street, and the secretary is—Yours truly,

STENSON COOKE.

### THE A.C.G.B.I. EXAMINATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—You have occasionally received from me information respecting the scheme of holding examinations for the Club's driving and mechanical proficiency certificates, and I am greatly obliged for all the assistance you have given.

The basis of this movement is the establishment of a standard of proficiency by which the competent driver is distinguished from the incompetent, and the advantage to automobilism arising from the complete realisation of this object cannot be over-estimated. The examinations are, of course, conducted with the utmost impartiality, each candidate being judged entirely on his merits, and a certificate granted accordingly. I may mention, also, that no paid driver's certificate is issued to a candidate unless his character is satisfactory.

The Club, being an unbiased and independent body, can form a judgment on these matters, and therefore the Club's certificate is a guarantee of the holder's capability to properly perform his work. Examinations have been conducted throughout the provinces, Scotland and Ireland, and are frequently held in London; the fullest possible information concerning them will be readily given to enquirers.—Yours truly,

J. W. ORDE.

### ACCUMULATORS v. DRY BATTERIES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a 10-h.p. twin-cylinder De Dion car, and I am in trouble over my ignition. As you know, they are at present run on a dry battery. Every thousand miles or less I have to replace this for a new one, which costs me a guinea a time. What I wish you to inform me is this, can I drive the car equally as well on a 4-volt accumulator, or must I have a 6-volt, and will the latter damage the coil? I may say the car is a new one built September last, and is without fault, excepting the battery.—Yours truly,

E. A. KENT.

[Either a 4-volt or 6-volt accumulator will work the ignition satisfactorily, but our correspondent will get better results from 6 volts, and the coil will easily stand the voltage. De Dion dry batteries give 6 volts when they are new, so that the coils are made to take this voltage, but of course the dry batteries will not keep it up, and as the points of the sparking plug have been arranged with a fairly wide space between them, which the 6-volt current pressure of the battery allows, when the battery loses its strength the plug either misses, or only a very thin spark results. A well-charged accumulator always gives far more satisfactory results in the long run, and the cost of recharging is only a fraction of the cost of dry batteries.]

### SIX-CYLINDER CARS AND THE PUBLIC.

TO THE EDITOR OF *The Motor-Car Journal*.

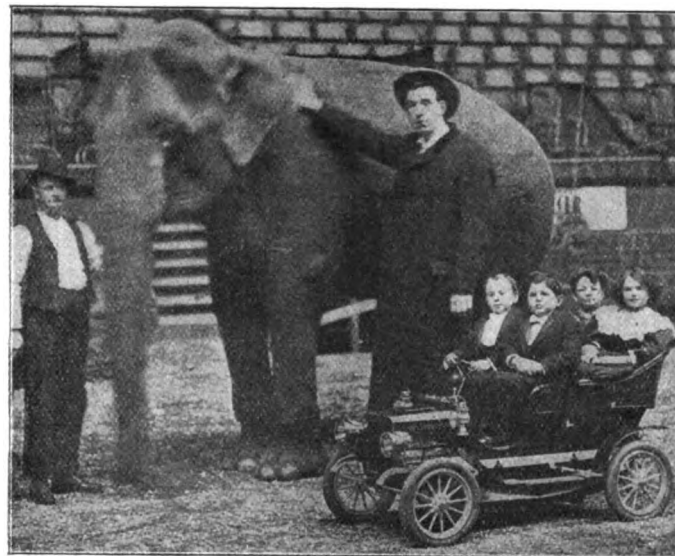
SIR,—Referring to the letter on this subject in the *M.C.J.* of the 21st ult., your correspondent "C. A. R." might have some weight if he gave us his name. With regard to the buying public being enthusiastic about six-cylinders, I do not think there is any doubt as to this, but I question the existence of the "ring." I think, if "C. A. R." carries his mind back to the recent discussion in the various papers in connection with six-cylinder cars, he will find that Mr. S. F. Edge has done his utmost to induce manufacturers to adopt the six-cylinder principle; so well, indeed, has he succeeded, that I believe there are no less than forty-two firms now making six-cylinder cars.

What is understood by a ring? Surely it means "limitation," if anything. If inducing others to adopt your beliefs is to form a ring, then apparently Mr. Edge might be legitimately accused of being a party to it. Facts, however, seem to point the other way, Mr. Edge having been engaged for some time now in spreading the doctrine of the six-cylinder, not in limiting its development.

With regard to the six-cylinder providing excellent talking points, this is correct, as there is very little to be said for the other side in connection with high-powered cars. Anyone who has had the good fortune to ride in a six-cylinder car quickly gets past the talking point stage. He knows then the difference between the spasmodic ambles of the four and the poetry of motion of the six. As to the two extra cylinders giving more trouble, this I deny *in toto*. Surely no one who knows anything of the modern motor-car would seriously suggest that a four-cylinder car needs more repairing than a two-cylinder car, power for power. We know, in fact, that a two-cylinder car of high power destroys itself and wears itself out in half the time that a four-cylinder on equal conditions would do. The same difference is to be found, if the engine be a powerful one, between a six and a four as between a four and two. It is surely too late in the day to talk about extra cylinders bringing extra troubles; six cylinders do not complicate, they simplify.

Your correspondent also raises the question of cost. In a buyers' guide recently published in one of the automobile papers I find that here again he is in error, there being quoted in that four-cylinder cars costing more than the Napier six-cylinder, and some of the cheaper six-cylinder vehicles would come quite a long way down the list of the prices given for the four-cylinder cars, so that even the question of extra cost raised by your correspondent is not borne out in fact.—Yours truly,

L. F. BISHOP.



Motor-car has invaded Barnum and Bailey's Show. Our illustration depicts the four Gulliver Lilliputians in a miniature vehicle, overshadowed by George Auger, the 8-foot Welsh Giant.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Mr. Munckton's letter in the last issue of the *M.C.J.*, like those of most six-cylinder advocates, is off the point. I thought made it quite clear that I admitted that there were advantages in the six-cylinder, but my point is this. The price asked for the six-cylinder is out of all proportion to the increased cost in manufacture and the few advantages. The six-cylinder is being boomed in certain quarters for obvious reasons, and the "great demand" that Mr. Munckton talks about shows how easily the British public can be spoofed by clever advertising and booming. Perhaps Mr. Munckton will feel more at ease when I tell him that I am not in any way interested in a four-cylinder firm who do not manufacture a six-cylinder.—Yours truly,

C. A. R.

### ELECTRICITY OR PETROL?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As one of the pioneers of the electric carriage industry in this country, may I be allowed the privilege of availing myself of your valuable space in replying to recent correspondence in the Press on this interesting subject? BECAUSE

Because reckless statements have recently been made as to the prob-

able cost of maintaining and running an electric 'bus this is no excuse for equally reckless and unsubstantiated statements to be made regarding the upkeep of a battery of accumulators for an electric landaulet or brougham, which in his letter is put down at sixpence per mile run. The actual cost of maintaining and recharging a battery suitable for an electric brougham, where every advantage is taken of concentrated and collective management, should not exceed twopence per mile. I have run such batteries for a competing firm on very inefficient vehicles at twopence per mile and with a substantial profit.

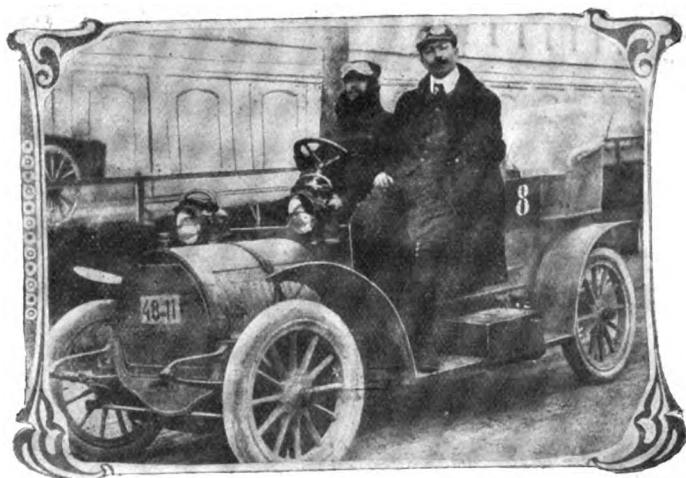
What the actual cost of the upkeep of the petrol 'bus really is remains to be proved.

That the boom is good for the manufacturers is patent to everyone, but whether the petrol 'bus is to prove a boom to the shareholders remains to be seen.

As to the statements that hitherto all attempts to use electric accumulators even on tram lines have failed in this country, I do not know of any such attempt during the last ten years, and, considering how little the accumulator has been understood and the vast improvements made during this period in the details of their construction, I see no reason why not only should tram cars be propelled by their own batteries but that even a 'bus propelled by the same means could be run with at least as much profit as its petrol competitor, and most certainly in both cases to the greater comfort in every conceivable way of the community at large.

The way in which many of the petrol 'buses are run is, in my opinion, disgraceful, the daily increasing noise and smell will become intolerable, and I am confident that the electric 'bus will be hailed with delight by the population of this great city. That the public would hail with delight the advent of the electric 'bus goes without saying, but whether the manufacturers of the petrol 'bus would be equally enthusiastic is another story.—Yours truly,

CARL OPPERMAN.



The Marchand car which made such a fine performance in the recent Milan-San Remo light car reliability contest. Messrs. Tamagni and Raggio, who are seen seated on the car, will, we learn from the Premier Motor Co., Ltd., the British agents, pilot Marchand cars in future events of the 1906 season.

### MOTOR QUERIES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In answer to "W. A. B.'s" letter in the *M.C.J.* of the 14th ult., with reference to the setting of inlet valves, I beg to differ somewhat with him. Having made numerous experiments in this direction, I found that piston speed plays a great part in this matter. With an engine running at 800 revolutions per minute, I found that the inlet valve could be held open 12 mm. up the compression stroke without back pressure in the inlet pipe. The same engine running at 1,600 revolutions per minute gave back pressure when the valve was held open only 4 mm. up the stroke. Although at higher speed the acquired momentum of the mixture was much greater, there was certainly no ramming effect, this being checked by the back pressure. With reference to horse-power, this varied a few decimal points in favour of the valve being closed early, but on consumption this was found to be more economical by 10 per cent., which from my point of view is a question of great importance.—Yours truly,

H. J. TAYLOR.

### TROUBLE WITH DE DION GEAR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have had great trouble lately with the expanding clutches of my 4½-h.p. De Dion voiturette. When driving they suddenly give and

lose their grip, bringing the car to a stand. After the usual adjusting they will again drive for a variable distance, seldom more than a few miles, when the same occurrence takes place. After they fail the clutch lever and expanding arm remain in their original position, so I presume the cause of the slip must be within the gear-box. This fault has previously occurred, and the gear-box was overhauled, when the pinions and bearings seemed to be in excellent condition, but the expanding arm, which is fitted with the right and left hand screw thread, seemed a little worn and was replaced by a new one. The car went well then for about 500 miles, when the events described have again occurred. The car has done about 12,000 miles. I may say that the longitudinal groove in the expanding arm is kept in place by a steel pin, which is kept in its place by a split steel band that encircles the arm. I will feel very grateful if some of your readers will kindly suggest the cause of the fault and a remedy.—Yours truly,

MEDICUS.

[We would advise "Medicus" to have new fibre fitted to his clutches in gear-box, as no doubt this is the trouble. The pinions in this type of gear being always in mesh, the greater wear comes on the clutches, and once worn to a certain degree, any amount of adjustment will not bring them in sufficiently tight to drive. The matter of new fibre is not an expensive one, and the alteration would doubtless effect a remedy.]

### A PEUGEOT QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be very grateful for information on the following point, which I think will appeal to other readers as well as myself. I have a two-cylinder 7-h.p. Peugeot, a reliable, useful little runabout for station work, etc., the hind wheels of which have lately taken to spreading, in spite of the extremely light body containing two seats. I conclude it is the wear in the differential gear-box, which is placed about a foot from the left hind wheel—in fact, the axle shows signs of a slight opening there.

I should like to know if there is any danger in this. At two motor shops they advised me to have a new axle, box, etc., complete, evidently scenting a job, but if it is merely rather unsightly, I would wait till I gave the car a general refit. Hoping you will kindly give me the benefit of your valuable experience in this.—Yours truly,

SAILOR MAN.

### AN OBJECTIONABLE DEVICE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I venture to heartily support the remarks made by "Twenty-miles-an-Hour" in the last issue of the *M.C.J.* An exhaust cut-out on a modern high-powered touring car can from all points of view only be regarded as an instrument of public torture, and I for one hope that the day of this particularly pestilent and really inexcusable device will soon be abolished. The matter is one which might well be taken up by the authorities of the A.C.G.B.I. or the Motor Union. There are two other points which might, in my opinion, equally well receive their attention.

If the use, among traffic, of excessively dazzling and confusing lights—sometimes as many as four in number upon a single car—which give it the appearance of a battleship repelling a torpedo attack and blinding all other users of the road, could also become obsolete and be followed into desuetude by the practice of employing, in land travel, unnecessarily startling and hair-raising fog horns, the pastime of motoring would be freed from much of the ostentatious vulgarity which now too frequently characterises it.—Yours truly,

AN EIGHT-HORSE MOTORIST.

### A TREMBLER QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am the owner of an 8-h.p. De Dion. When on the road the engine frequently drags, as if something was holding it back, and then it will plunge forward, and continues to drag and plunge for a short distance, till it goes off splendidly for about a quarter of a mile or so, and then starts dragging and plunging again, and so on. The spark is not very reliable, and I think it causes the trouble by misfiring, and then picking up, and misfiring again. I have been recommended to get a trembler coil fitted, as I am told the trouble will then cease. I had the accumulator charged a few days ago, and it is correct, but the trouble arises at the sparking plug. Would any of your readers kindly give me their opinion on the matter, and state whether they think that by fitting a trembler coil and commutator the trouble will cease?—Yours truly,

R. ASHWORTH.

HIRING MOTOR WAGONETTES.—We have an inquiry from a Scotch hotel-proprietor anxious to hire a motor-car or wagonette for the summer season.

NUMBER PLATE FOUND.—Messrs. Kell and De Lotz, 38, East Street, Farnham, picked up a number plate, P. 1498, on the Guildford road on April 30th. The owner can have it on application to the firm.

## CLUBS AND ASSOCIATIONS.

### THE AERO CLUB.

THE Aero Club held the second of its meetings at the Crystal Palace on Saturday. Messrs. C. F. Pollock, V. Simons, and J. T. C. Moore Brabazon formed the ascending party. The balloon was taken in a direction directly down the Thames, and immediately a party of friends pursued the balloon in Mr. Brabazon's motor-car, followed by the Hon. C. S. Rolls with Mr. F. H. Butler. The balloon rose to a height of 2,700 feet and travelled at a rate of thirty miles an hour. Owing to the force of the wind some difficulty was experienced in finding a spot for descending, owing to many of the fields in Kent being planted with hops which had been just "poled." Mr. Pollock brought the balloon safely to the ground, however, near Stroud. On arriving at the nearest railway station the balloon party encountered Mr. Rolls, who had chased the party from the Palace.

### SOUTHERN.

THE 100 miles reliability trial of the Southern Motor Club for the Howlett challenge cup will be held on the 12th inst., starting from the Crown Hotel at Morden, then on to the Spring Hotel at Ewell, turn to the right by the Spring, keep straight on the main road till the trams are reached, then take the road on to the Angel, Thames Ditton (7½), to Esher (10), along the Fairmile Common, through Cobham, past the Hut (16), through Ripley, into Guildford, then turn (before going down the hill) down St. John Street, which is the second turning on the right past the railway bridge, leading into Guildford (25), returning exactly the same way back (50). This course is to be covered twice.

### MOTOR YACHT CLUB.

THE club house of the Motor Yacht Club will be opened on the 12th inst. Recent accessions to membership include the Bishop of Ripon, Admiral R. W. Fisher, Col. Montagu Day, and Surgeon-General R. H. Quill.

### CARDIFF.

A HILL-CLIMBING COMPETITION for motor-cycles will be held by the Cardiff Motor Club on Wednesday next. It will be confined to members of the club and take place on the Pentrych Hill, Taffs Well. Entries should reach Mr. G. W. Blackaller, the hon. secretary, 19, University Place, Cardiff, not later than Tuesday morning.

### BLACKHEATH.

THE opening run of the season took place on Saturday last, to The Beacon, Westerham Hill, Kent, where, although the afternoon proved somewhat inclement and cold, about thirty members and friends sat down to tea. Amongst those present were Messrs. F. Beadle (Ford), H. Beadle (Rover), Leonard Beadle (Regal), W. F. Butcher (Clement-Talbot), H. A. Cunis (Krupcar), Dr. J. S. Goodall (Horley), Professor Carlton J. Lambert, vice-president (Argyll), T. Marshall (De Dion), H. J. Reeves (Quadrant), J. H. Reeves (New Orleans), and E. W. Stabl-Johnson (Star). The next meet will take place on the 19th inst., at the Railway Hotel, Westerham.

### IRISH.

QUITE a large number of members of the Irish Automobile Club were in attendance on Monday when his Excellency the Earl of Aberdeen, Lord Lieutenant of Ireland, formally declared the new premises open. His Excellency was received on his arrival by the chairman, Sir W. G. D. Goff, Bart., Messrs. Thomas Talbot Power, vice-chairman, W. Leybon, hon. treasurer, E. White, hon. secretary, and Chaytor, secretary. The following members were also present:—The Earl of Drogheda, Messrs. T. L. Plunkett, Hum Bland, T. H. Hall, Dr. Smith, J. N. Hone, R. J. Meccredy, Colonel Thomas, L. J. O'Higgins, J. B. Dunlop, A. Montgomery, H. Malley, G. P. A. Colley, J. M. Davies, W. H. Kingsbury, J. B. Dunlop, jun., W. C. Wisdom Hely, H. S. Close, J. C. Percy, J. G. St. George, W. L. Hayes, and F. W. Perry. Letters of apology being received from the Lord Mayor of Dublin and from Sir Horace Plunkett, K.C.V.O., president of the club, who were unable to attend.

### YORKSHIRE.

THE Yorkshire Automobile Club had their first club meet on Saturday, when some 130 members visited Harrogate, those present including Messrs. Wm. Armitage, W. Ashford, S. Broadbent, Guy Barrett, W. Bartholomew, C. H. Cooper, K. M. Chadwick, C. B. Crawshaw, A. W. Dougill, T. W. Gaunt, C. F. Guest, J. Harrison, H. T. Hirst, L. Hey, A. Kirk, E. Gordon Learoyd, Y. A. B. Lockley, H. O. Leather, A. W. Macleod, J. H. Pickford, W. Robertshaw, S. Russell, R. Steele, G. Scholey Smith, P. A. Stainer, H. Tomlinson, A. Towler, W. Tempest, J. W. Watson, Dr. J. Crossley Wright, A. L. Whitehead,

H. Wyles, and, S. W. Wilkinson. A very enjoyable afternoon was spent, and the chairman, Mr. E. H. Hepper, and Mrs. Hepper entertained the members and friends to afternoon tea at the Hotel Majestic.

The following gentlemen have been elected to membership of the club:—Messrs. S. MacFarlane, Leeds, F. Roper, Leeds, W. H. Hanson, Barnsley, Sidney Girling, London. It was also decided to join the Manchester Automobile Club in an inter-club meet at the Empire Hotel, Buxton, on 23rd June.

### AUTO CYCLE.

WITH Mr. B. Chatterton in the chair, J. W. G. Brooker gave a paper on lubrication to this club on Thursday of last week. Those who participated in the discussion included Messrs. J. Veitch Wilson (Price's Patent Candle Company, Ltd.), Albert E. Newton (Vacuum Oil Company, Ltd.), Wm. Scott Taggart (the Henry Wells Oil Company), Dr. Seward, Lieut. Windham, Van Heeydenk, and M. de Prele (London Road Car Company).



Touring in Savoy. The Cascade de la Serraz, near Chambéry.

### WOLVERHAMPTON.

ON the 26th inst. the Wolverhampton and District A.C. will hold an excursion to Hereford, when petrol consumption trials will take place. On the 4th prox. there will be an inter-club run with the Nottingham Club. Hill climbing competitions, a picnic and reliability trials are also included in the programme of the season.

### THE MOTOR VAN, WAGON AND OMNIBUS USERS' ASSOCIATION.

THE following circular with reference to the condition of the roads in London has been addressed by the Motor Van, Wagon and Omnibus Users' Association to the companies operating motor vehicles:—

"The Motor Van, Wagon and Omnibus Users' Association has under consideration what steps can be usefully taken in the interests of the companies operating motor-omnibuses to bring pressure to bear on various Borough Councils in the matter of road surfaces in London. The excessive wear and tear caused by the condition of disrepair into which they are permitted to fall, and the slow and leisurely way in which repairs are made, involve a very heavy burden upon the traffic using the highway.

"They are therefore asking:—1. What action your company taken in the way of approaching Local Authorities in the mat

2. What roads in London do you find are usually abnormally bad.
3. The number of breakages that your vehicles have suffered, and which you attribute to the irregularity of the paving.

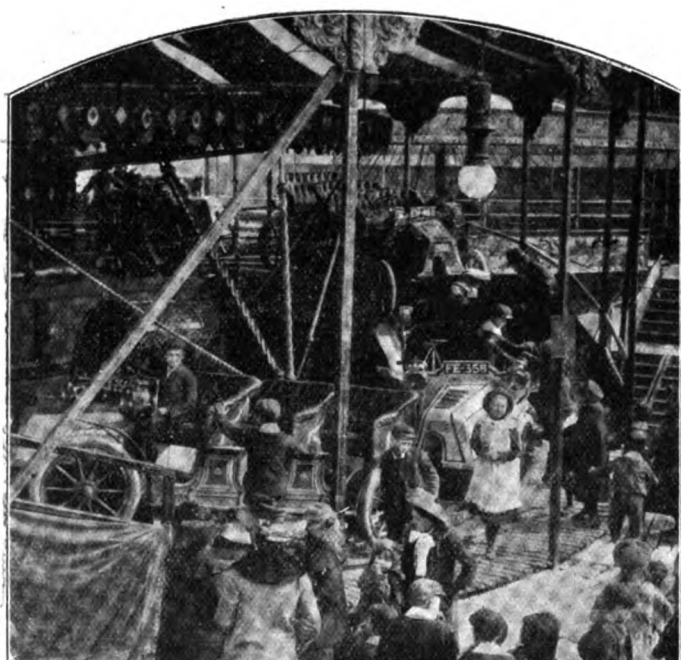
"The committee are also considering at the same time the question of central standards and refuges, and in this connection will be glad to have the experiences of companies, and what statistics of accidents caused by the existence of central standards are in the possession of users of heavy vehicles."

### KENSINGTON.

A WELL-ATTENDED meeting of automobilists living in Kensington was held at the Royal Palace Hotel on Thursday of last week, when it was unanimously decided to form the Kensington Automobile Club.

A code of rules was adopted, the annual subscription was fixed at one guinea, and it was agreed that ladies should be eligible for membership.

A committee was elected consisting of Dr. L. C. Dobson (chairman), Drs. W. S. Cox, E. Arbould and W. H. O. Copeland, Messrs. W. H. Thompson, W. Forster, L. A. Bidwell, E. F. Philbrick, and T. C. Owen. The hon. treasurer is Mr. M. de Selincourt, and the hon. secretary is Mr. J. Horace Reeves, of 6, Penywern Road, Earl's Court, S.W., who will be pleased to answer all enquiries concerning



A feature of the recent pleasure fair at Lincoln was the Motor-car Roundabout. As will be seen from the illustration, the usual machines were replaced by realistic imitations of motor-cars. Even pneumatic tired wheels were fitted, but these have no work to do, the weight of the cars being carried on small iron wheels which run on a track.

the club. A vote of thanks to the Motor Union, responded to by Mr. Jeffreys, concluded the proceedings.

Already nearly thirty members have been enrolled, and it is clear that there is room for a club with a modest subscription in the West End of London.

### A JOINT MEET.

IN weather more in keeping with December than the end of April, a large company of automobilists assembled at Ashby-de-la-Zouch on Saturday, the occasion being a joint meeting of the members of the Nottinghamshire, Derbyshire, Leicestershire, Northants, and Midland Clubs. Amongst others present were Messrs. F. A. Bolton, F. A. Smith, Booth Granger (hon. secretary), J. W. Carson, H. Bircumshaw, H. Belcher, W. D. Wells, H. H. Bowden, M. Ross Browne, E. W. Lewis, P. L. Huskinson, S. Clifford, and H. C. Wright, of the Notts Club, Mr. Kennard (Market Harborough), Mr. E. G. Mawbey (president), and Mr. A. M'Alpin (hon. secretary), of the Leicestershire Club; Mr. C. J. Allin (hon. secretary), and Mr. C. T. Leech (hon. secretary), of the Derbyshire Club, Mr. T. H. Ryland (hon. secretary), of the Midland Club, Mr. E. M. C. Instone, and Mr. Spencer Downing.

In all there were over seventy cars present, and many of the drivers had had a hard time of it on the road. The Nottingham members, before they reached Ashby, ran into a violent hailstorm, and when they arrived at their destination they found a thorough mid-winter scene.

### MOTOR UNION.

THE meeting of the General Committee of the Motor Union at Birmingham on Saturday, the 26th inst., will be made the occasion of an inter-club meet. The Midland Automobile Club, who are the hosts of the Union on this occasion, have determined to make the gathering a huge success, and have arranged a varied and attractive programme. On the preceding Friday members will have the opportunity of viewing works typical of the British motor industry, as the Daimler, Wolseley, and Lanchester Motor Companies have thrown open their factories to inspection. The committee meeting will be held at the Grand Hotel on the Saturday morning, to be followed by a luncheon. A gymkhana in aid of the funds of the Moseley Convalescent Hospital has been arranged to take place in the grounds of Moseley Hall in the afternoon. There are various competitions and entry forms, and full particulars can be obtained from the hon. secretary, Midland A.C., Grand Hotel, Birmingham. The combined dinner of the Motor Union and the Midland Automobile Club will be held at the Grand Hotel, and motorists from all parts of the country will be attending this important gathering.

### ESSEX.

ON Saturday the Essex Motor Club held its first open hill climb on Lippett's Hill, at High Beech, Epping Forest. The results were as follows:—

Motor Bicycle Handicap (open).—F. Hulbert, 3-h.p. Triumph, allowed 3 sec., 1; R. M. Brice, 3½-h.p. Brown, scratch, 2; H. L. Cooper, 3-h.p. Triumph, allowed 12 sec., 3; Stanley Webb, 3½-h.p. Quadrant, F. W. Applebee, 3½-h.p. Rex, and Owen Summers, 5-h.p. Vindec, won the members' prizes.

Passenger Motor-Cycle Handicap.—W. Hodgkinson, 6-h.p. J.A.P., scratch, 1; F. Cozens, 10-h.p. Lagonda, allowed 8 sec., 2; F. P. O'Reilly, 4-h.p. C.I.E., allowed 5 sec., 3. The members' prize was won by Cozens.

Car Handicap (members).—E. H. Richards, 16-24-h.p. J.P., allowed 5 sec., 1; Mrs. Price, 7-h.p. Star, allowed 25 sec., 2; Albert Brown, 20-22-h.p. Brown, scratch, 3.

### HEREFORDSHIRE.

THE following is a list of those who have either entered cars for the Frome's Hill climb on the 24th prox., or have intimated their intention of doing so:—

Entrant.	Car.	Entrant.	Car.
Adams Mfg. Co. ..	Adams Hewitt.	R. L. Jefferson ..	Rover.
Anglo-American Co. ..	Ca lillac.	P. Leech ..	Darracq.
Ariel Motor Co. ..	Ariel (2).	Legros and Knowles ..	Iris.
P. Brodtmann ..	—	Mapplebeck, Stuart Co. ..	—
Gibson Brooks ..	—	Capt. T. Masui ..	Germain (2).
Cars Ltd. ..	New Lealer.	Metallurgique Cars ..	Metallurgique.
Dean and Burden Bros. ..	Sc ut.	F. W. Peckham Motor	—
Duryea Co. ..	Duryea.	Synd. ..	Maxwell.
F. Eastmead ..	Sunbeam.	J. K. H. Priolean ..	Rochet.
C. Edge ..	Napier.	—	Schneider.
Phillip Graham ..	—	T. C. Pullinger ..	Humber.
T. J. Harman and Co. ..	Vinot.	C. S. Rolls and Co. ..	Rolls-Royce.
E. D. Heinemann ..	Platin.	Seymours, Ltd. ..	—
H. C. Holder ..	Daimler.	Vauxhall Eng. Co. ..	Vauxhall.
Hollingsdrake Motor Co. ..	de la Buire.	Wolseley Tool, etc. Co. ..	Wolseley.
Humber, Ltd. ..	Humber.	T. H. Woollen ..	Clement Talbot
C. Jarrott ..	Crossley.	—	(3).

THE Manchester and Yorkshire Automobile Club will meet at the Empire Hotel, Buxton, on the 23rd prox.

ON Saturday the North-East Lancashire A.C. held a run to Blackpool, making the Queen's Hotel their headquarters.

THE newly acquired club-house of the North East Lancashire A.C., at Kensington Place, Sudell Cross, Blackburn, is now being decorated and furnished.

THE Lanchester Rural District Council has granted permission to the North Eastern Automobile Association to hold a hill-climbing contest at Lanchester on June 16th.

### THE BRIGHTON MOTOR TRIALS.

THE expenditure which the Borough Council of Brighton had sanctioned for relaying Madeira Road in that town came under review in the case of "The King v. the Mayor, &c., of Brighton (ex parte Shoesmith)," heard before the Lord Chief Justice, Mr. Justice Ridley, and Mr. Justice Darling in the King's Bench Division on Monday, it having been challenged by Mr. Shoesmith, a ratepayer, who said it was illegal.

The technical form in which the litigation came before the Court was the argument of a rule nisi for a certiorari which had been obtained calling upon the mayor and corporation to show cause why orders for the payment of £2,500 and £500 should not be brought up into this court in order that they might be quashed. According to Mr. Shoesmith's case, in May last year Madeira Road, which was about a mile in length, was in good condition and did not need any repair at all, but, because the Automobile Club wished to hold trial speeds there, the Corporation had the existing road picked up and relaid it with a material known as tarmac. In this, it was said, they had acted improperly, as they saddled the town with unnecessary expenditure, and had deprived residents and visitors of the use of the road during repaving and during the week in which the speed trials were held. Visitors and residents,



it was said, were also deprived of the use of Madeira Terrace, the principal place in the town to which invalids resorted.

The Corporation did not deny that the immediate occasion for adopting this method of paving was the fact that the Automobile Club competition was in contemplation. The Council, it was said, acted well within their powers under the Municipal Corporations Act, which gave them the right to exercise their judgment and discretion in such a matter. The fact of having the automobile speed trials near the town, it was pointed out, would benefit ratepayers, as it would bring visitors.

After hearing the speeches of counsel, the Lord Chief Justice said the case was of considerable importance, as it involved the review of the expenditure of public money by a local authority. He came to the conclusion that the object from the beginning to the end of this expenditure was the desire of the Automobile Club to come to Brighton, and the desire of the Corporation to have the speed trials there. The fact that a public highway was temporarily closed did not weigh with him so much as the object of the expenditure, which in his opinion was illegal, and was not justified by any plea that the expense was incurred in the exercise of a proper judgment or discretion. The other judges concurred, and the rule for a writ of certiorari was made absolute, with costs. A stay for a fortnight was granted with a view to a possible appeal.

### THE LEGALITY OF WARNING.

A CASE affecting the interests of motorists was heard on Monday at Enfield Police Court. Walter Dunn, of Waltham Cross, was summoned for obstructing the police. The evidence showed that some plain clothes police officers were laying a trap for motorists. To a driver who was travelling very fast the defendant shouted, "There are police down the road. Look out," whereupon the driver pulled up.

Inspector Twist said that it was the coming profession for people to warn motorists. An association employing scouts with badges on their arms, and carrying discs to warn motorists of police traps, had been formed, and had boasted of having saved three hundred people on the Brighton and Portsmouth roads within four week-ends.

The magistrates held that such warning as the defendant gave did not constitute an offence, and the case was accordingly dismissed.

At Croydon Mr. William Farmer Little answered to an adjourned summons for an alleged obstruction of the police while timing motor-cars in London Road, Norbury, on Sunday, March 4th. The result was given in our last issue, but we may now mention that the Bench stated that they had given careful consideration to the case, but did not consider it came within 48 and 49 Vic., cap. 75. The case would therefore be dismissed.

Mr. Muskett said the matter was particularly important to the police, and the Commissioner would doubtless consider an appeal. If that was desired, he hoped the Bench would have no objection to stating a special case.

The magistrates intimated that they would offer no opposition, and the matter will now be fought out in the Divisional Courts, where the Motor Union will appear in support of the decision of the magistrates.

### POLICE TRAPS.

FROM one end of the small suspension bridge which crosses the Ripley Road at Pain's Hill a clear line of sight can be had across the fields to the Royal Oak, about half a mile distant on the London side of Cobham. A handkerchief waved from the bridge indicates the passing of a car underneath, and the policeman with a stop watch at the Royal Oak has ample time to prepare his welcome for the hapless motorist. This trap was tried for the first time a few days ago.

A CORRESPONDENT has been able to locate a trap on the road from Romsey to Winchester. It is between the first and second milestones on leaving Romsey, and situated in a dip between two hills. The police hide in or near some farm buildings, but the whole country just there affords good cover; two of them were disguised as innocent looking yokels, and they seemed somewhat sad when our correspondent ferreted them out.

A POLICE TRAP exists on the Bodmin-Truro road, nine or ten miles from the latter city.

THE police-trap between Sawbridgeworth and Bishops Stortford, on the main London-Cambridge road, is one which should be avoided, if possible. The distance is about four miles, and the cars from Cambridge are generally stopped at Sawbridgeworth for the inspection of licences. Those cars coming from London have their numbers taken, and, as the police on the watch for these are in hiding behind a hedge, care should be taken.

ON the west side of Devizes, at the bottom of the hill leading to Trowbridge and Bath, there is a measured distance of 220 yards, with constables at each end.

POLICE espionage is threatening the popularity of Bournemouth with motorists. The Christchurch police are watchful on the main entrance to or outlet from Bournemouth via the New Forest. The particular spot is known as Jumper's Corner and Iford Bridge. Another trap is in operation at the entrance to Bournemouth from East Dorset, viz., Wimborne way. The stretch of road is from Red Hill to Winton. Possibly the time is coming when the local hotel proprietors will have to call in the aid of the Automobile Association to frustrate police activity.

At Haddington Sheriff Court the first prosecutions resulting from the recently started motor "trap" near Haddington have been heard. James Cameron, motor-car driver, Edinburgh, pleaded not guilty to being the driver of a car which was going at the rate of twenty-seven miles an hour, on 14th April. Sergeant Rae gave evidence that he and Constable Veitch timed the car with ordinary—not stop—watches. They were both at one end of the mile, the mark at the other end being a house. They hid behind a bush, and timed the car to do the mile in 2 min. 10 sec. Sheriff M'Leod quite admitted that this method of timing a motor-car was just a bit rough, and in this case there was a big margin. He found the charge proven, and in considering what would have to be paid for this forbidden joy it was his duty to have regard to the practice of his colleagues in the Sheriffdom. He rather feared that until Princes Street tariff was a bit raised he would have to be content in the country in a case of this kind with the comparatively small sum of £3.

THE police have a trap in the Bolton Road, Lancaster.

THE police trap between South Charlotte Street and Frederick Street, Edinburgh, has been in active operation.

### ROAD REPORTS.

SURREY.—On the authority of Mr. Edwin Ellis, chairman of the Highways and Bridges Committee of the county of Surrey, we are able to state that the county authorities there are spending very large sums of money in experimental road material, with, so far, some sadly disappointing results.



A correspondent sends us a photograph, reproduced above, of a car returning to the Talbot works in Ladbroke Grove, W., and, whether for good or evil, two policemen shown in the photograph were evidently timing and taking the number of the car. On the other hand, one of the vigilant passengers was spilling confetti on the road to warn others of the danger which they themselves had run into. The snapshot was taken close to Wormwood Scrubs, so that the trap system is evidently drawing in on the London confines.

BURLEY-IN-WHARFEDALE.—The medical officer of health for this Yorkshire resort says that 300 yards of the main road has been treated by floating boiling tar upon its surface. An even, smooth and hard coating is given. No mud forms upon it, and after rain it is clean and firm. So far, after four months' trial, it has proved very efficient and has not been affected by the frost.

CHURCH.—At the last meeting of the Church (Lancashire) District Council it was decided to try some of the dust laying preparations now being put upon the market. Mr. Grimshaw suggested that the Council should consider the advisability of following the practice latterly adopted in Accrington of sprinkling the macadam roads with creosote oil. He had it on good authority that by sprinkling the road once a week they would to some extent allay the nuisance.

OSWESTRY.—The roads within the borough are generally considered to be in good condition. Those in the north-west district of Shropshire are on the whole very good. Mr. G. William Lacey, the Borough Surveyor of Oswestry, is about to give a trial on a portion of the main roads through the town to Akonia, for the purpose of dust prevention.

KNARESBOROUGH.—In consequence of the dust nuisance caused by motor-car traffic which passes through Killinghall, the Knareborough Rural Council has been asked to water the road through the village.

COOKHAM.—It was urged at the last meeting of the Cookham Rural District Council that the cost of motor-car licences should be

largely increased to assist in paying for the greatly advanced cost of the upkeep of roads.

**NORTHWICH.**—Some of the roads in the neighbourhood of Northwich have been treated with calcium chloride for the prevention of dust by Messrs. Brunner Mond and Co., Ltd., with good results.

### NEW COMPANIES REGISTERED.

**AMALGAMATED MOTOR-BUS COMPANY.**—Capital, £200,000. To adopt agreements with C. W. French, the London Omnibus Carriage Company, Ltd., and the British Automobile Development Company, Ltd., and to carry on the business of motor-car, omnibus, van, and cab proprietors, carriers of passengers and goods, etc.

**UPPER WHARFEDALE MOTOR-BUS COMPANY.**—Capital, £1,500. Motor-car, cab, and omnibus proprietors, carriers, etc. The first directors are Messrs. A. Pattinson and R. W. Harker (managing directors), and E. Hodgson. 5, Charles Street, Bradford.

**MERCEDES DAIMLER OMNIBUS COMPANY (COVENTRY).**—Capital, £1,000. 1, Broad Street Place, London, E.C.

**THE ST. VINCENT MOTOR AND CYCLE COMPANY.**—Capital, £20,000. To acquire and carry on the business of Mr. William M'Lean, motor and cycle manufacturer, Glasgow.

**ALLIANCE MOTOR-BUS COMPANY, LTD.**—Capital, £200,000. To carry on the business of motor-omnibus, car, cab and van manufacturers and proprietors, carriers of passengers and goods, engineers, etc., and to adopt an agreement with Motor Enterprises, Ltd. The first directors are Messrs. H. F. Clutterbuck, F. W. Kerr, the Hon. G. E. Hill-Trevor, H. W. Dawson, J. A. McCandlish, and S. K. Albright.

**TACCHI'S PATENTS, LTD.**—Capital, £100. To acquire from Mr. P. G. Tacchi the patents granted to him for improvement in motors, motor-cars, and accessories, and to carry on the business of manufacturers of and dealers in automobiles, motor-cars, cycles, carriages and vehicles, etc. Registered office, 78, Hamilton House, Bishopsgate Street Without, E.C.

**MALTBYS MOTOR WORKS AND GARAGE, LTD.**—Capital, £15,000. To take over the business of motor-car manufacturers, garage proprietors, &c., carried on by Mr. J. H. Maltby at High Street, Sandgate. Registered office, Bank Chambers, 27, Sandgate Road, Folkestone, Kent.

**TRIUMPH MOTOR COMPANY, LTD.**—Capital, £100. To carry on the business of manufacturers of motors, motor-cars, carriages, cycles and other vehicles, locomotives, engines, etc. The Triumph Engineering Company, Ltd., has also been registered with a capital of £100.

**ARMES MOTORS.**—Capital, £5,000. To establish factories and workshops for the manufacture of motors and motor machinery, etc. 115, High Holborn, W.C.

**HELIS CELL AND ACCUMULATOR COMPANY.**—Capital, £1,000. Electrical engineers and manufacturers, &c. First directors, Messrs. J. T. Szk and H. Hunt. 12, New Oxford Street, W.C.

**LONDON ELECTROBUS COMPANY.**—This company, recently registered with nominal capital £100 in £1 shares, has increased said capital to £305,000 by creation of 299,900 ordinary and 5,000 deferred shares of £1 each on April 20.

### MOTOR-CAR ACCIDENTS.

A MOTOR-CAR accident occurred on Monday morning at Markyate Street, a village between Dunstable and Luton. Mr. Charles Preston, of Lancaster, was been driven by his chauffeur, Albert Carter, when at a crossing in the main road the car ran into a horse and hay-cart, driven by a man named Horace Peddar, in the service of Mr. Timberlake, a local farmer. Horse, motor-car, and hay-cart were at once hurled in a heap. Peddar, who had both legs broken, and Mr. Preston, whose head was seriously injured, were removed to Hemel Hempstead Infirmary, where the latter has since died. The chauffeur, who, it is stated, did not see the cart, received some nasty cuts about the head, and the horse was so injured that it had to be killed. On Tuesday an inquest was held at Hemel Hempstead concerning the death of Mr. Preston. The inquiry was adjourned. The chauffeur, Albert Edward Carter, was arrested on Tuesday evening by the police on a warrant charging him with manslaughter, and taken before the magistrates at Hemel Hempstead on Wednesday.

**PRIVATE BARKER**, of the 14th Hussars, quartered at Shorncliffe, in dismounting from a motor-car before the vehicle had stopped, at Seabrook, between Hythe and Folkestone, fell. The wheel passed over his head, and he was killed.

A SERIOUS motor-cycle accident occurred on Tuesday to Mr. James Moore, of Morecambe. Mr. Moore was passing across High Bentham, and put on speed to take the steep gradient up Robin Lane. In avoiding a barrow he dashed against the stone wall of a school. He was removed to the house of a relative, and lies in a dangerous condition.

### PUBLIC MOTOR SERVICES.

ON Tuesday the G.E.R. Co. established a service of motor-omnibuses for the conveyance of passengers, light goods and parcels between Ipswich, Freston, Woolverstone, Chelmondiston, and Shotley.

**GIVING** evidence before the London County Council (Tramways and Improvements) Bill Committee of the House of Commons, Mr. Richard Tilling (managing director of T. Tilling, Ltd.), has declared that, in his opinion, the motor-bus is the vehicle of the future. Mr.

Lewis Coward, K.C., on behalf of the bus companies in London, said that from Peckham alone motor-buses crossed Westminster Bridge 488 times a day and horsed omnibuses 224 times.

### CARS ACROSS FOOTPATHS.

**GEORGE NORMAN**, George Maudsley, and Joseph Tapley were summoned at Blackpool on Monday, under the Town's Police Clauses Act, for drawing a motor-car across the footpath. It was stated that about five o'clock on Thursday of last week the defendants were seen to push a motor-car from the Promenade across the footpath into the motor garage, 8, Central Beach. Mr. Robinson, who defended, pointed out that in the section under which the case was taken it was necessary to be proved that the car had caused obstruction and annoyance or danger to residents or passengers. He contended that it had not done so. The car had been brought from the station by another car. It had no petrol and had been pushed into the shop, where it was kept for stock purposes. He contended that the case was on similar lines to those of ordinary tradesmen who had heavy goods delivered at their doors by cars, and who dragged the goods across the footpaths into the shops. The magistrates dismissed the case.

### CASES AGAINST MOTORISTS.

**JESSE BRINKLOW** was at Marylebone Police Court charged with having been drunk while in charge of a motor-car at Malden Road, Kentish Town, with recklessly driving the car, and with assaulting Police-constable Sadler. The first hearing was reported last week. In giving judgment Mr. Paul Taylor said that he was convinced that there was no intention on the part of Brinklow to injure the constable. He was satisfied, however, that there had been reckless driving, and on that charge he fined the prisoner £20 with 40s. costs or two months' imprisonment. On the charge of drunkenness he fined him 40s.

**FRANK APPLEBY**, of Walthamstow, was summoned at Stratford for driving a motor-cycle in Woodford in a manner dangerous to the public, on April 1st. Constable Sharp, 107 K, said that at 1.35 p.m. he saw defendant riding at Woodford Wells at from twenty-two to twenty-four miles an hour. He was "flying past the other traffic." At Whitehall Road several people had to run back on to the pavement, and two ladies were nearly knocked down. The witness ran into the road and put up his hand to the defendant, who pulled up in something like eighty yards. The delay in hearing this summons was occasioned by the machine being registered in Ireland. Mr. Tabrum, chairman of the bench, said, "I am afraid we must do the same as in another case, 20s. and costs. You do us poor motorists a lot of harm. If you had a spin where there were not so many people it would be different."

AT Croydon, two summonses against motorists have been heard. Mr. Staplee Firth pointed out in a case in which Anthony Hoboken, of Epsom, was the defendant, that the watch of one of the constables gave the time over the measured distance as 15 1.5 sec., the other officer's registered 16 sec., and urged that the evidence was therefore unreliable. The defendant, however, was fined £10 and costs. Hubert W. Ellis, of Chiswick, for driving at 30 miles an hour, was similarly fined.

Place.	Summoned for	Result.
Chertsey ... ..	Several cases of exceeding legal limit	£3, etc.
Kingstown ... ..	No light	1s., etc.
Leicester ... ..	Dangerous driving	£5, etc.
Bingham ... ..	No rear light on motor lorry	Dismissed.
Henley-in-Arden ...	Dangerous speed	£5.
Coleshill ... ..	Reckless driving	Dismissed.
Aberdeen ... ..	No identification mark	£3.
Mortlake ... ..	Exceeding regulation speed	£3, etc.
South West London	Exceeding legal limit	£2, etc.
Lancaster ... ..	Several cases of furious driving	£3 to £10 each.
Southampton ...	Five cases of exceeding the legal limit	£3 to £4 each.

THE King of Spain travelled to London from Southampton on Tuesday on a Daimler car.

**MESSRS. WARD AND GOLDSTONE**, of Strangeways, Manchester, have sent us a circular giving particulars and illustrations of the various motor-car ignition specialities they have placed on the market. These include charging dynamos and adaptors, accumulators, voltmeters, electric tail lamps, etc.

**MESSRS. LEGROS AND KNOWLES, LTD.**, have just completed an Iris 24-h.p. car, with shooting brake body, for Mr. A. F. Bassett, of Camborne, Cornwall. The vehicle is very wide and roomy, with seating capacity for eight people in the back and two on the front seat. The brake is also capable of carrying up to 30 cwt. of luggage when required, and the seats are completely removable for this purpose.

# THE Motor-Car Journal.

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## COMMENTS.



THE Royal Commission on the Motor Car Acts, presided over by Viscount Selby, has practically completed the taking of evidence, and is now engaged in the consideration of its report, which, however, is unlikely to be ready for publication until after Whitsuntide. The report will deal not only with the working of the Motor Car Acts in this country and the regulations made under them, as well as with the injury to the roads alleged to be caused by motor-cars, but will also comprise a review of the law and practice in the principal foreign countries in relation to motor-cars. Recommendations as to what charges should be imposed in this country in respect of motor-cars and how any money thus raised should be applied are also expected to be made by the Commission, but the likelihood of legislation based on the report being adopted this year is as remote as ever.

### Novel Ballooning.

THOSE intrepid balloonists, Messrs. F. H. Butler and Pollock, on Tuesday made a somewhat novel ascent in the balloon "Dolce far Niente." Starting late at night, they arrived over the Devil's Dyke, near Brighton, where they decided to anchor till the morning. The night was a moonlight one, and from the dizzy height the scene below was grand. In the early morning the notes of the cuckoo were heard, and the songs of the nightingale and other birds afforded a concert which was indeed as unique as it was enjoyable. The party came down at Brighton next morning, and Mr. Pollock with the balloon on board returned to town by the 8.45 a.m. train.

1 in 170.

AFTER all, motorists are not of so dark a hue as some of the magistrates and provincial motorists would have us believe. Police-sergeant Waghorn, who is a profitable officer to the Haywards Heath authorities, grew quite confidential in the local police-court on Monday, and told the magistrates that at Slaugham 170 cars were timed on Easter Monday, and only one was stopped. During three days the police there timed more than 400 cars, and found that only eleven were exceeding the limit of police prosecution. All this is satisfactory to those who escape, but those who fall victims have to pay fairly heavily for the experience.

### The Traders' Mark.

THE letter with regard to the use of the general identification mark published on another page suggests some points to which traders should give heed before the future legislation with regard to the automobile becomes the subject of debate in Parliament. Let it be premised that the object of numbering vehicles is simply to provide a ready means of identification should the owner or driver be subsequently wanted. Then we would urge that a general mark, associating all the vehicles stocked for purposes of sale or used by way of

trade, should be given each trader in order to distinguish his vehicles in case of misdemeanours by any of the drivers. The record which he has to keep will then enable anyone to single out the driver of any particular car. Such a simple rule would obviate all the legal quibbling that has been associated with the definition of "cars on trial," "intending purchaser," and similar terms very interesting as intellectual exercises for the legal profession, but extremely expensive for the ordinary commonsense person. Uniformity with regard to the charge to be imposed for such marks is also desirable, and the tax might be brought down to the lowest possible limit. Small firms in rural districts having only one car in their possession are charged similar terms to those which are enforced on houses owning a score of vehicles. If such is to be the rule, one universal fee of a guinea instead of the three pound maximum should be advocated. Hitherto it seems to have been taken for granted that the object of such charges was to replenish local funds, which last year benefited to the extent of £61,967 from ordinary registration and licensing fees. Legislators should be content with simplifying such matters on lines of strict economy, in order to encourage, and not to retard, an advancing industry.

### Instructions to Drivers.

SOME directions which the New Arrol-Johnston Car Co., Ltd., have just issued to their drivers, and to all who may be in charge of cars, appear so excellent that they may be given the wider publicity of our columns with advantage to the whole automobile movement. According to these, no corner should be rounded at more than six to eight miles per hour, and in narrow streets or where traffic is heavy this speed should be reduced to walking pace. When pedestrians crossing the road show undue fear or panic the car should be pulled up immediately. Though drivers of horses may be in the wrong, pull up and show them every consideration, even to leading the horse past the car if necessary. Now and again the pace of the car should be compared with that of the horse-drawn vehicles travelling in the same direction. Cyclists and other forms of traffic should be given as much room as possible, and adequate care exercised when passing a tramcar. If professional drivers, as well as those who use their own cars, would pay regard to such suggestions as these, local prejudices would be readily dispelled.

### On the Footpath.

TROUBLE is brewing at Blackpool in connection with the right of motor garage proprietors to use the path in front of their premises for the passage of cars from the roadway to the shop. Last week we recorded a case in which the Chief Constable was worsted; now the matter has been revived in another instance raised in the police court on Monday. It appears that last month Motors, Ltd., Blackpool, applied to the Corporation for permission to make a crossing opposite their garage on Central Beach. Later they were informed by the borough surveyor that the application had been refused. Acting upon advice, Henry Culpan, one of the company's representatives, drove a motor-car over the footpath twice, and when told by the police he would be reported he replied that he had not caused

any obstruction. The Chief Constable on Monday stated that the prosecution was under the Blackpool Improvement Act, 1893, under which he need not prove obstruction. For the defence, Mr. Roland Robinson said that the Act under which the information was laid was subject to the law of the land. The owners of the garage really owned the land to the centre of the carriage way. After a long retirement by the Bench the chairman announced that they would have to dismiss the summons, but would state a case to ensure a settlement later. It was a great hardship that the application of Motors, Ltd., had not been dealt with by the Corporation. This raises an important point of more than local concern.

#### Encouragement Necessary.

If the town councils and other administrative bodies are prepared to accept the payment of rates by traders and generally to regard them as desirable persons, they should facilitate rather than retard the business of the individual firms. It does not need much knowledge of the ways of the world to see that if a motor garage becomes a financial success it is to the advantage of the Corporation in every way. There-



King Alfonso and Princess Ena on a 40-h.p. Daimler.

During His Majesty's visit to Osborne no less than five Daimler cars were placed at his disposal, and the whole of the time he was in England the cars ran with very great consistency, His Majesty expressing his appreciation of these British-built vehicles.

ore a far-seeing authority would go to the extent of providing crossings on the pavement to firms whose location is likely to be permanent, and we would suggest to the Blackpool people that such an expenditure would be more profitable to the town than raising issues in the police-court, which only place their governing council in a parochial light before the public.

#### In Ceylon.

FROM a correspondent in Ceylon comes an interesting letter with regard to the difficulties experienced by motorists. It tends to show that the ways of officialism are much the same throughout the British Empire. In Ceylon it is said that the pariah dogs "live on pneumatic tyres and the calves of motor-cyclists." No ownership can ever be determined of a dog that brings a motorist to grief, but, should the beauty of the mongrel be spoiled by a passing car, half a dozen, or more, owners of the valuable "hunting" animal come forward claiming compensation. Hence the proposal that motorists there are making to the effect that dogs should be registered, and that no

actions should be allowable with regard to animals of an unregistered category. The hint may also be conveyed to motorists here to always demand to see the licence for any dog for which claims may be made. Such a precaution may save trouble; for the fear of the Inland Revenue is not yet wholly lost, even in respect to dog licences.

#### The Careless Chinese.

ACCORDING to an American lady who resides in China, the chauffeur question is the great difficulty with regard to the progress of automobilism in that country. The roads in and around Shanghai, she says, are excellent, with no speed limit outside the city, while inside the city a speed of thirty miles an hour is virtually permitted. There are a good many motor-cars in Shanghai, but very few arrests have taken place. In case of trouble the police take the name of the owner and the number of the car, and unless someone is killed or badly injured prosecution seldom follows. Most of the motorists employ French or Chinese chauffeurs, but the latter are very unsatisfactory, although they readily grasp the mechanical part of their work. The majority, however, are very careless.

#### Markyate.

MARKYATE has a gloomy sound to motorists, having been associated with two accidents, both of which have been attended with fatal results. The illustration on page 238 depicts the road on which Mr. C. W. Preston lost his life in the accident reported in our columns last week. There are danger signals on each side of the crossing, about 50 yards away. One of these can be clearly seen in the photograph.

#### A Dust Tax.

WE do not follow the reasoning of Sir John Hibbert, the Chairman of the Lancashire County Council, who at the last meeting of that body advocated that owners of motor-cars should be taxed with a view to supplying local authorities with the wherewithal to abate the dust nuisance. This seems a very unfair proposal, for it is clearly the duty of the Councils to provide proper highways for public traffic. They neglect their work and then grumble because motorists draw attention to the matter by heaping clouds of dust upon their heads. Surely this is scarcely right. Rather would we see the authorities that have made so much profit out of registration and licensing fees utilise that money to put their roads in order. Fortunately the Lancashire Council did not give great heed to the proposal of its chairman, and has had the good sense to allocate £500 to be spent on experiments towards allaying the dust nuisance.

#### The Motor-Omnibus in London.

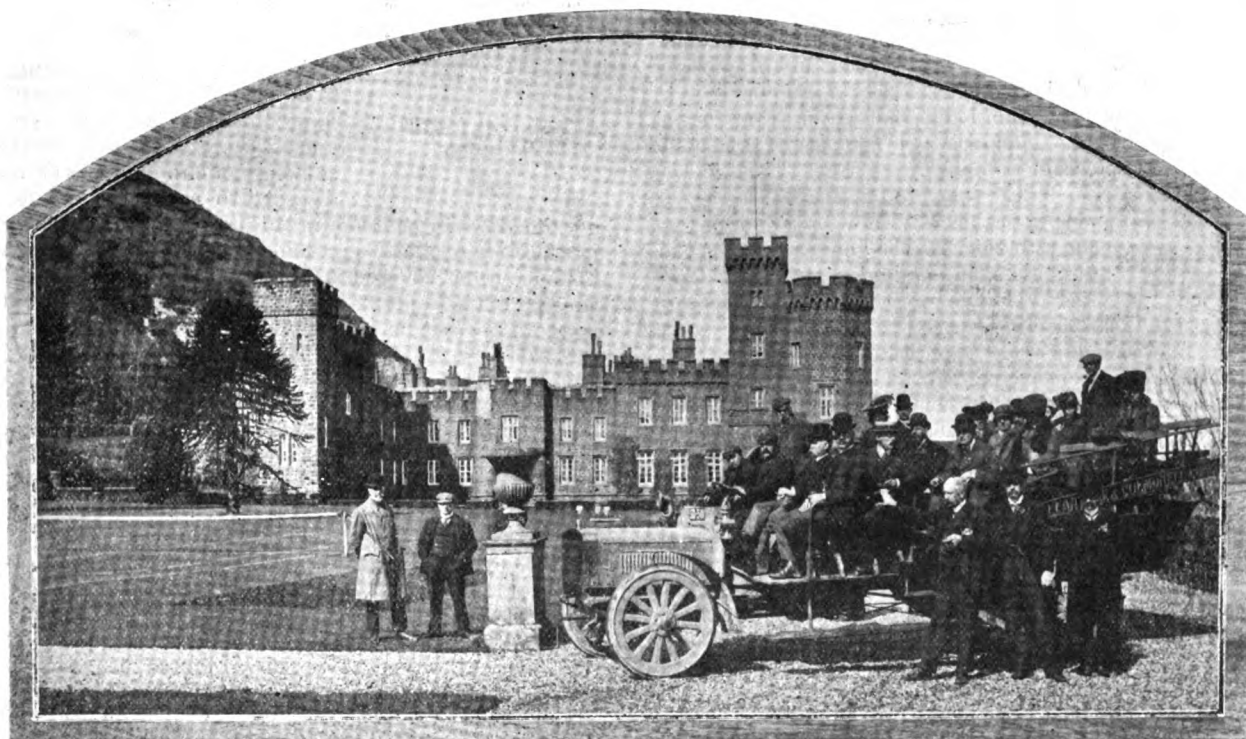
AT the next meeting of the Wandsworth Borough Council a report will be received from the Highways Committee on the subject of the noise caused by motor-omnibuses. In reply to a letter from the Council in this connection, the Commissioner of Police wrote that he had directed special attention to certain points affecting the construction of motor-omnibuses, and had issued regulations which he trusted would have the effect of mitigating the undoubted nuisance caused by some of these vehicles. The whole industry was at present in an experimental stage, and he was satisfied that manufacturers and proprietors were seeking for a tyre which would be free from the defects at present noticeable; that on this account, to avoid hampering unduly a young and important industry, it was essential that the police should interfere with circumspection while endeavouring to ensure that there shall be no unnecessary annoyance. The committee recommend that the Commissioner be thanked for his letter, and that his attention be called to the annoyance caused by motor-omnibuses using the side roads in Putney upon the termination of their journeys, and that he be asked to take steps with the view of preventing the cause for complaint.



**The Motor-car and the Circus.**

So many revivals of languishing industries have been made possible by the favour with which the automobile is now regarded, that some are in danger of being overlooked. We had never associated the future of the circus as having been brightened by the coming of the car, although one firm of steam roundabout constructors has gone into the heavy vehicle business as a relief from the growing tedium of the old-time pleasures. Mr. Fred Ginnett, whose name is redolent of the tent and the ring, has assured the ubiquitous interviewer that the motor will save the circus from the starvation with which it is threatened. Cheap railway trips and the popularity of the variety theatre have been adverse factors in the later career of the circus manager. But the motor-car now suggests such economies in organisation that Mr. Ginnett has become optimistic with regard to the future. Some of the show-carriages have required six or eight horses to convey them from town to town, and from forty to fifty animals have had to be

recently made reference, has given his Council the benefit of his views on motorism generally. He traces a three-fold influence to the "volumes of dust which in dry weather are sent up by these flying machines," and then enumerates the contamination of the air, the injury to vegetation and the "permeation of all dwellings near the roadsides." Dr. Fisher has studied the latter aspect of the matter very minutely, and waxes eloquent in his descriptive account of how the dust operates, as an excerpt or two will show: "The house stands on the roadside with its door and windows open to admit the fresh air in hot weather. In come volumes of dust on to the clothing and food, and on to the beds on which the occupants of the house have to sleep. I shall not be surprised if time shows that the nervous system will suffer by the excessive and prolonged use of automobiles, quite apart from the risks of inhaling contaminated dust. The driver must be at attention, his nervous system is on full tension. Are we not, even in rural districts, living at a more rapid rate? Is not the whole tendency of life to overtax the powers which are given to us, both mentally and physically?"



The Churchill 24-30-h.p. Char-a-banc, which attracted considerable attention at the Cordingley Show, has now been delivered by the builders, Messrs. Durham, Churchill and Co., to its owner, Mr. Thomas Lee, of Girvan, Ireland, who intends to run it in connection with his Girvan, Ballantrae and Colmonell coaching tours. The vehicle, which is fitted with a 24-30-h.p. Aster engine and a "Champion" friction clutch and change-speed gear, was recently submitted to a trial trip from Portrush via Glendun and Cushendall to the stately Garraun Towers, North Ireland, where the photograph reproduced above was taken. In the hands of Mr. Churchill the Char-a-banc proved itself capable of taking all the severe gradients to be met with on the roads, Knocksaughey Hill, near Ballintoy, which is of considerable length, with a gradient of 1 in 6, being successfully mounted.

kept for haulage purposes. The distance travelled per day has always been limited, but now motor traction will lessen the expense of carting the show, while the addition of a few motor-buses to the plant of the circus will enable the proprietor to scour the villages round for larger audiences. Such is the view of the up-to-date showman.

**The "Deviation of Nature."**

DUST and Medical Officers of Health seem the most potent assets of the anti-motoring fraternity just now. The official who watches over the health of the people of Glastonbury, in Somerset, attributes the prevalence of influenza and other diseases that attack the respiratory organs to the clouds of germ-laden dust raised by automobiles passing through the town. Similarly, the Medical Officer of Health for Garstang, Lancashire, to whose fulminations against the motor-car we

Such, then, is the combustion of the human machine that we become predisposed to the ingress of disease. Nature is deviated from her true path, and in these days of rapid progress all around us we may have long to wait for the time when man or woman may die a natural death, and disease in its highest sense does not exist."

**Motor Fishing-Boats.**

A REMARKABLE feature in the Icelandic fishing industry of the last two years, according to the British Consul at Reykjavik, is the introduction of motor-boats for the coasting fisheries. During last year the number of these boats has greatly increased, some of them being built in Iceland itself, besides a good many being bought from Denmark. Most of these boats are open, but some people buy them decked, which will be necessary if they are to be used for the deep-sea fisheries.

The experience hitherto obtained from the motor-boats is fairly satisfactory, as far as fisheries are concerned, several of them having got a fairly good catch. At Seydisfjord and Reykjavik insurance for motor-boats has been established, which is highly necessary.

#### In Praise of Tring.

THIRTY-ONE miles from London, and standing 450 feet above the sea level, on a slope of the Chiltern Hills, is the town of Tring, delightfully surrounded with fine contrasts of hill and wooded scenery. It is a country of palatial residences. Within easy motoring distance is Tring Park, with the famous private Zoo of Lord Rothschild; Ashbridge, the seat of Earl Brownlow; Ascott, the home of Mr. Leopold de Rothschild, the motor-boat enthusiast; Mentmore, the seat of the Earl of Rosebery, and other houses of note. The district has historic associations of the Puritan days, and within visiting distance of Tring is Milton Cottage, Hampden House, and Jordans, where William Penn is buried. Within the county much is being done for the convenience of motorists, and the Hertfordshire Public-house Trust Company, Ltd., has seven establishments within its area, of which five are provided with motor garage and petrol stores. One of these is the Rose and Crown Hotel, at Tring, which stands upon the main road from London to Aylesbury and the North. The road is 100 feet wide, and access to the garage is pleasant and easy.

#### San Francisco.

FROM cable advice we were able recently to refer to the good work of the automobile in saving many lives and much valuable property during the sad happenings that have desolated San Francisco. The letters that are now coming forward add to the meagre information then available, and testify that a good deal of the rescue work would have been impossible but for its agency. Cars were commandeered by the troops and employed for their transportation from point to point in the devastated sections of the city, and when whole streets were blocked with debris, only the motor-car could be used to secure something like a prompt despatch service. A special guard of sixty soldiers was placed in charge of the stocks of petrol; and the authorities, seizing the position at a glance, practically took charge of all the automobiles that were available. The motor trade suffered severely; save a few garages located in the outlying districts, all the important stores were situated in the stricken district. The branch of the White Company was destroyed, as was that of the Pope Company, while the depot of the Goodrich Tyre Company was wiped out. The Cadillac Company were fortunate in saving twenty-one of their vehicles, which were taken over by the authorities for relief work.

#### Cost of Operation.

WHEN the Argyll depot was opened in Newman Street, W., much attention was directed to the confidence felt in that vehicle by Mr. E. H. Watson, the chairman of Argylls, London, Ltd. He offered prizes to drivers who should run any of the cars in which he was interested for 5,000 miles at a cost below what he claimed to be reasonable. Now that the first of these has been claimed, and as there are many other drivers on the point of completing the specified distance within the suggested amount, the figures given on another page will be of general interest. They give a total expenditure of £25 11s. 3d., an average of 1.181d. per mile, the petrol consumption being at the rate of 16.74 miles per gallon. When it is remembered that this 10-12-h.p. car has been employed for the conveyance of travellers, and that the greater part of the distance has been run in London, the figures seem all the more creditable—the frequent starting and stopping necessary in such service militating against phenomenal records. Mr. Watson gave £42 as the maximum amount of expenditure allowable under the scheme, and although the petrol is taken at trade rates and

the accumulators were charged from the user's own electric light installation, all must agree that the figures which appear on page 252 are a tribute to the economy as well as the reliability of the Argyll car.

#### The Scottish Trials.

THE fact that Mr. M'Donald, of the Fife Arms Hotel, Braemar, has just cut the snow on the Spittal of Glenshee Road, past the Devil's Elbow and Cairnwell summit, reminds us of the imminence of the Scottish Reliability Trials, which promise to be an even more important event than they were last year. The cars entered, a list of which has appeared in our columns as officially recognised, will have a selling price aggregating £45,000—a fact which should make an impression among the villagers, who are doubtless looking forward with zest to the second coming of the cars. Several competitors have lately been over the course of the trials, and they owe a debt of gratitude to Mr. M'Donald, whose ministry to their wants has often been a source of pleasure to Scottish motorists.

#### A.C.G.B.I. Hill Climbs.

ARRANGEMENTS are being made for a hill climb at South Harting on the same lines as last year, on Saturday, June 23rd. There will be three classes, as before, a cup and silver medal being awarded to each class, while the Club's gold medal will be given in addition for the best performance, irrespective of class, on a handicap by the Club's formula. The distance to be covered is about one mile, and vehicles will be timed from a standing start with a flying finish. South Harting is 3½ miles from Petersfield. There will also be a hill climb for the "Henry Edmunds" Hill Climbing Challenge Trophy on Saturday, July 14th, in Blackdown Park, Fernhurst, Sussex, by kind permission of Mr. F. S. Philipson-Stow, who has again kindly lent the drive for the occasion. The trophy was presented by Mr. Henry Edmunds in 1902, the details of the competition being left entirely in the hands of the Club, and the trophy always remaining on the Club premises.

LORD WOLVERTON has just acquired a 45-h.p. Mors car with limousine body.

WE are assured that there is no truth in the rumour that the General Petroleum Company, Limited, has amalgamated with the Standard Oil Company.

THE Twickenham District Council is being supplied with a 5-ton steam wagon fitted with interchangeable dust collecting and water tank body, made by the Lancashire Steam Motor Company, Ltd.

MESSRS. GEORGE POLKEY, LTD., have opened a new London office at Finsbury Pavement House, Finsbury Pavement, E.C., where Mr. John Polkey will be in charge of the firm's motor lamp department.

FOR the picture of the motor meet in Golden Gate Park, San Francisco, reproduced in our issue of the 28th ult., we were indebted to the "Auto Era," published by the Winton Motor Carriage Company.

MESSRS. A. AND A. PAYNE have removed from 172 to 72 and 74, Queen's Road, Peckham, S.E., where they have garage accommodation for 150 cars. Their body building department is in Woods Road, and the other premises being on the main road to the south coast should attract the notice of motorists going that way.

THE Chester and North Wales Motor and Garage Company, Limited, have almost completed their extensive repair shops and garage in the City Road, Chester, within a few yards of the railway station. The main repair shop has a ground floor area alone of 6,000 square feet. The Hon. Cecil T. Parker is the chairman of the company, with Mr. Philip G. Wayne, A.M. Inst. E.E., acting as managing director. Mr. Ernest W. Harding is general manager.

## THE AUSTIN 25-30-H.P. CAR.

(Concluded from Page 222.)

Dealing now with the transmission, a special effort was made in designing this portion of the car to arrange the gearing so that in supplying a chain-driven or a live axle model only the

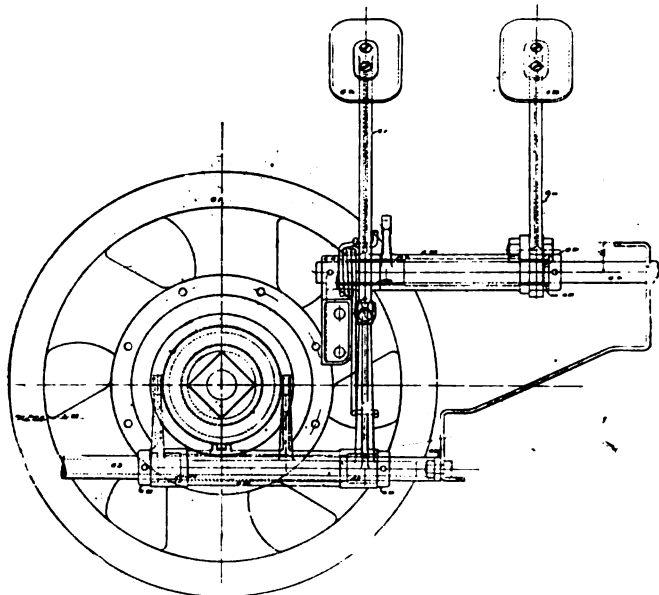


Fig. 4.—View showing arrangement of Clutch and Brake Pedals.

rear axle and the differential gear-box, which is separate from the main gear-box, will require changing. The change-speed gear-box, wheels, brake mechanism and the operating gear remain the same in both cases. The clutch is of the multiple disc type, there being twenty-four plates, alternately steel and phosphor bronze, running in oil. The thrust of the spring is self-contained, so that no end pressure is put on either the engine or the gear-box, while a clutch buffer is provided to facilitate speed changing. A view of the gear-box, which provides four forward speeds and a reverse, is given in Fig. 6, from which it will be seen that it is provided with a central web, dividing it into two compart-

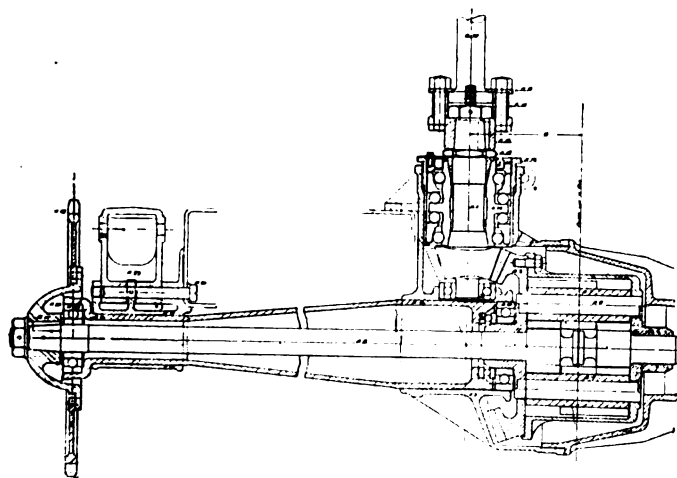


Fig. 5.—Half Sectional View of Differential Shaft. The left part of the drawing is in elevation and the right portion in plan.

ments, and enabling the two shafts to be each supported on three ball bearings, so that there may be no spring, and consequently a minimum of noise from the gears. Furthermore, the gear-box is not jointed, so that the grease cannot escape. Large inspection covers are, however, fitted, giving ample access to all the parts. The movement of the sliding gears is effected by a

single lever working in a "gate" quadrant through rods in the gear-box itself, which do not project through the ends, and as the rocking shaft moving these rods is at the top of the box no grease is able to leak out from the action of this part of the mechanism. By means of a patent form of locking gear only the one gear at a time can be engaged, the others being meanwhile positively locked.

While, on the one hand, the gear-box is brought closer to the clutch than usual, it is, on the other, separated from the differential shaft, connection being made between the two by means of a jointed shaft of special design. The differential gear is provided with an adjustment in each section which permits the bevel gears, which are provided with double thrust ball bearings, to be put in their exact position for effective and quiet working and for taking up any wear. The outer bearings of the differential shaft, as will be seen from Fig. 5, are immediately under the centre line of the sprockets, which are bolted to a dished centrepiece so as to be more readily removable. The final drive from the differential shaft to the rear road wheels is by Renold  $1\frac{1}{4}$ -in. pitch roller chains working on large chain wheels, the front pair having 34 and the rear 35 teeth. The

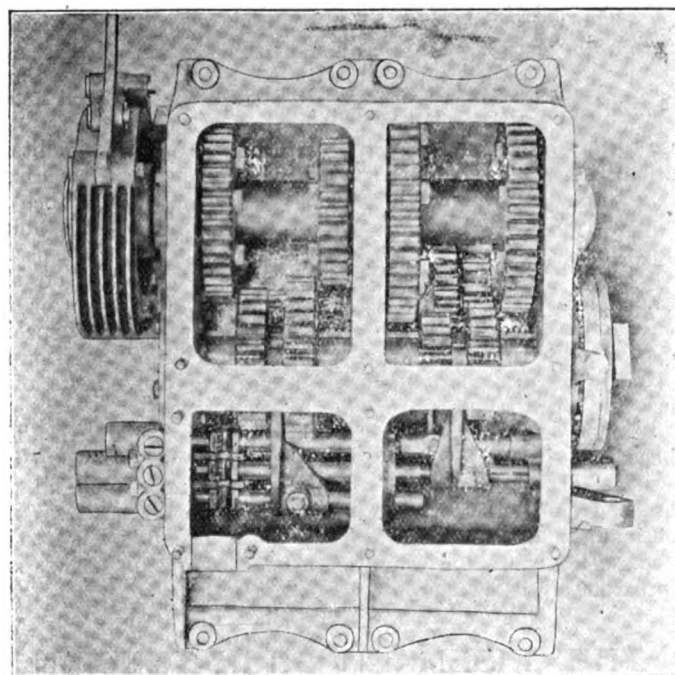


Fig. 6.—View of Gear Box with Cover removed. The water-cooled Foot Brake is also seen at the left.

rear chain wheels consist of rings bolted to the brake drums, and are thus readily renewable. A noteworthy feature of the radius rods is the provision of universal joints, which prevent any strain being transmitted to them.

A contracting metal-to-metal brake is fitted to the rear of gear-box, as shown in Fig. 6. The drum is water-cooled automatically when the pedal is depressed to apply the brake, and the external surface of the shoes is provided with ribs to dissipate the heat. The side lever operates through balancing gear, expanding brakes in drums formed solid with the hubs of the rear road wheels. The drums are lined with cast-iron rings, which can be easily and cheaply renewed. Strong springs release the brake shoes and hold them against stops to prevent their making any noise. The compensating gear fitted to the rear brakes is so arranged that no rods or wires are outside the frame, giving the car in this respect a clean and neat appearance.

The steering gear is of the irreversible type, with provision for taking up wear without dismantling any portion. The tube connecting the swivel arms is placed at the rear of the front axle. The back axle is of tubular construction, while the front one is forged out of one piece of steel. The steering pivots are

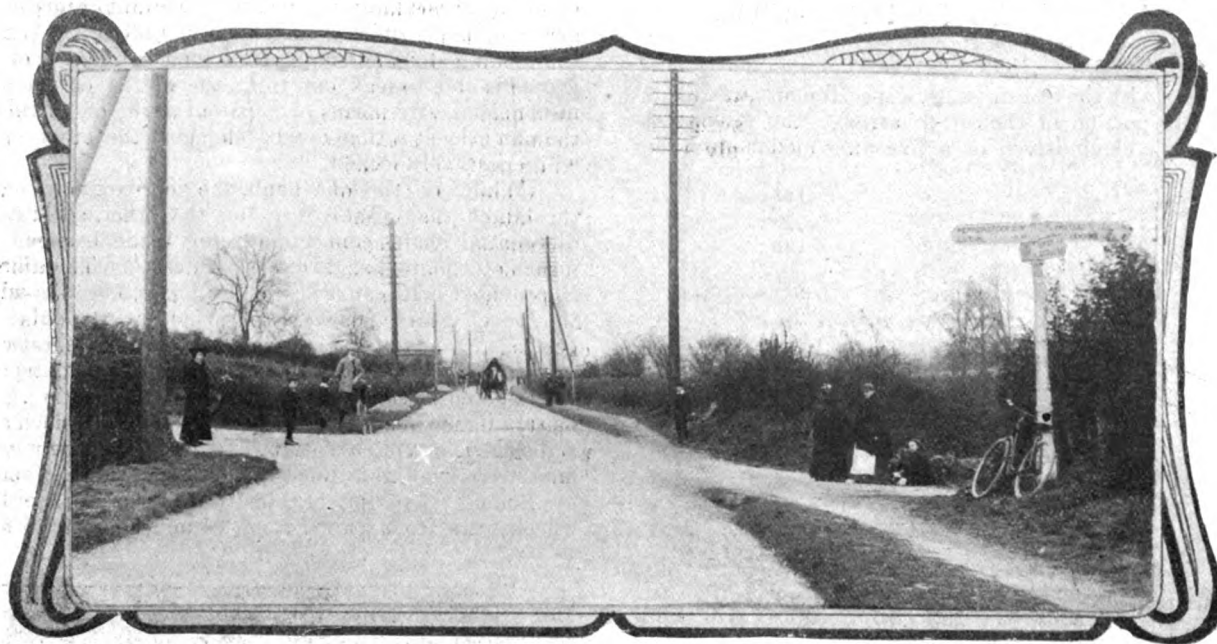


Photo by

The Scene of the Fatal Motor-car Accident at Markyate.

[Ashwell Morgan.]

close to the wheels, and are fitted with ball bearings to facilitate the steering. The engine and gear-box are entirely encased in by a readily removable shield. The petrol tank, which is made of copper, is fitted at the rear of the frame, and holds approximately fifteen gallons of spirit. It is of a special shape, the top being curved to follow the outline of the frame at this point. The petrol is fed to the carburettor by pressure obtained from the exhaust by means of a special device fitted with a strainer. An auxiliary hand-operated pump is fixed to the dashboard, and a large filling cap admits of a quick and clean replenishment.

Some general particulars may in conclusion be added. The wheel base of the vehicle is 9 ft. 9 in., and the track 4 ft. 7 in., the width of the frame behind the dash is 2 ft. 11½ in., and the distance from the latter to the rear cross member is 7 ft. 7 in., sufficient for a roomy side-entrance body of any design to be fitted. Finally we may mention that the weight of the chassis is approximately 18 cwt.

## THE EISEMANN HIGH-TENSION MAGNETO.

CAPTAIN THEO MASUI, the British agent for the Germain cars, has recently issued some useful hints with regard to the Eisemann high-tension magneto, from which we take the following:—"If there should be any trouble with the ignition, look to the sparking plugs and the wiring, especially the contacts. See that there is no water causing short circuit. Presuming that the magneto is clean, that the wiring is correct, that there is no short circuit or wires broken inside, and that the sparking plugs are clean and in good order, it must be the magneto itself or the coil which is out of order. To test the magneto, remove the plugs and disconnect the low-tension wire from the brush. Then, when slowly turning the engine by hand, a good spark should occur between the two platinum points. If there is no spark or a weak one it may be that the platinum points are out of order. To adjust the latter, the platinum screw should be turned by the special spanner until the distance between the points, when the hammer is on the cam, is about the thickness of a visiting card. The demagnetisation of the magnets very seldom occurs, and if the machine is found to be working well, it must be the coil which is out of order. The magneto can be easily removed by unscrewing a single butterfly nut; care should be taken, when putting it back again, to have the gears in the same position as before removal."

## USEFUL NOTES.

If doubt is felt as to the ability of the car to climb a steep hill, or the brakes to hold the car, and there is a sprag on the vehicle, it should be lowered at the foot of the hill and dragged all the way up.

A THING done right is done for ever. Whenever a motorist has occasion to remedy a fault, however slight, it should be done thoroughly. Anything less is a makeshift that may serve temporarily, but eventually will turn up once more to be done over again. The rule is absolute and certain; it can be proved by seeking to evade its requirements.

EVERY owner of a motor-car should endeavour to know his vehicle sufficiently thoroughly that he is at least capable of recognising when adjustments and repairs have been properly made, if he does not care to make them himself. It is an old truth, and will stand repeating a good many times, that a little attention before starting out will in many cases save a great deal of annoyance, if nothing more serious, on the road. Take lubrication, for example. It is not an onerous task to see that each part has its proper supply of oil, yet neglect of this precaution is responsible for a lot of unnecessary trouble. Once let a bearing or rubbing surface run dry, and it will in a very short time wear more than in a season's running under proper conditions.

WORN gear-wheels are almost insatiable in the matter of lubrication, and should be well looked after, as they are subject to considerable friction, and any wear quickly shows itself in lost motion or backlash. It is better to be a trifle over generous than too sparing, although no good can come of swamping in oil where it cannot lubricate anything.

If acetylene lamps are to be expected to give satisfactory service, the gas generators should be thoroughly cleaned every time they are filled. A good way to do this is to use a hose and water under pressure, compressing the end of the hose so as to make the water stream out forcibly. See that all the residue is thoroughly removed from the generator before refilling with carbide. The lamps are sometimes not hung properly on the brackets. The latter may be inclined forward from the vertical, causing the light to strike the road close to the car, and showing very little light ahead, or they may be inclined backward, causing the light to shine upwards, and leaving the road close to the car in comparative darkness. The remedy in both cases is obvious.



## THE TARGA FLORIO RACE.

THE first race for the trophy known as the Targa Florio, presented by the Chevalier Vincenzo Florio, was run off on the Island of Sicily on Sunday last. The contest was open to cars the chassis price of which is below 20,000 francs (£800), and the details of which corresponded in all particulars with the stock vehicles. The race was over a very winding and hilly circuit, measuring 148 kilometres, this having to be covered three times, giving an aggregate of 444 kilometres (277½ miles). The starting point was at Buonfornella, the route then lying *via* Snello, Castelbuono, Geraci, Petralia, Sottana, Castellane, and Cerdà. Nineteen entries had been received, but of these only ten put in an appearance at the weighing in on the 5th inst. The day broke with every promise of fine weather, and a large crowd of spectators gathered together as the starting hour approached. The competitors were despatched at ten minutes intervals in the following order:—

	a.m.
1. Lancia, 40-h.p. Fiat ... ..	6 0
2. Le Blon, 35-h.p. Hotchkiss ... ..	6 10
3. Cagno, 40-h.p. Itala ... ..	6 20
4. A. Fournier, 24-h.p. Clement-Bayard ... ..	6 30
5. Bablot, 50-h.p. Berliet ... ..	6 40
6. Pope, 40-h.p. Itala ... ..	6 50
7. M. Fournier, 35-h.p. Clement-Bayard ... ..	7 0
8. De Caters, 40-h.p. Itala ... ..	7 10
9. Rigal, 40-h.p. Itala ... ..	7 0
10. Graziani, 40-h.p. Itala ... ..	7 30

Practically all made good starts, the smartest to get away, however, being Cagno, Bablot, and Lancia. The departure of Le Blon attracted considerable attention by reason of the fact that Madame Le Blon was seen to be acting as *mechanicien*. Lancia was the first to finish the round; Cagno, however, ran into second position and made the fastest lap of the day, viz., 2 h. 50 min. 10 sec. A. Fournier, who was driving a Clement-Bayard, collided with a bridge, and, his back axle being damaged, abandoned; while Pope, of the Fabry Automobile Company, London, who was making his *debut* in a big race, had to retire owing to difficulties with the petrol supply on his Itala car. In the second circuit the quickest times were made by Graziani and Rigal. Cagno, however, took only a few minutes longer and was now the leader. All the other six competitors left in the race successfully completed the second round. The third lap saw the retirement of Lancia (Fiat) and M. Fournier (Clement-Bayard). The best time was made by Cagno, who finished first at 3.52 p.m., over an hour in advance of the next man. Rigal and Bablot suffered delay in this round owing to water being poured into the petrol tanks instead of spirit. The appended table shows the result of the race:—

Driver.	Car.	1st Round.	2nd Round.	3rd Round.	Total Time.
		h. m.	h. m.	h. m.	h. m.
1 Cagno ... ..	Itala ... ..	2 50	3 17	3 25	9 32
2 Graziani ... ..	" ... ..	3 25	3 9	3 31	10 5
3 Bablot ... ..	Berliet ... ..	2 56	3 51	3 33	10 20
4 Rigal ... ..	Itala ... ..	3 7	3 12	4 6	10 25
5 De Caters ... ..	" ... ..	3 33	3 39	3 26	10 38
6 Le Blon ... ..	Hotchkiss ... ..	3 45	3 55	4 29	12 9
Lancia ... ..	Fiat ... ..	2 56	4 22	—	—
M. Fournier ... ..	Clement-Bayard	3 6	4 40	—	—
A. Fournier ... ..	" ... ..	—	—	—	—
H. Pope ... ..	Itala ... ..	—	—	—	—

Cagno's average speed works out at 29 miles per hour, Graziani's at 27½ miles, Bablot's 26·8 miles, Rigal's 26·6 miles, De Caters' 26 miles, and Le Blon's 22·8 miles. As will be seen, the race was a brilliant victory for the makers of the Itala cars, for out of the five vehicles four finished the whole distance. The one driven by Cagno is rated at 40-h.p., the dimensions of the four-cylinder engine being given as 130 mm. bore by 140 mm.

The Chevalier Florio has since announced that a sum of no less than £4,000 will be offered in prizes for the 1907 Targa Florio, £1,600 going to the winner, £400 to the second, £200 to the third, £120 to the fourth, £80 to the fifth, and £40 to the sixth. £1,200 will be awarded to the firm whose team of three cars makes the fastest collective time, while £360 will be set aside for prizes for those who make the fastest time in each lap.

## CONTINENTAL NOTES.

## The Elastic Wheel Competition.

Seeing that only three competitors in the elastic wheel competition in France managed to survive the ordeal, the task of the jury in awarding the prizes was an easy one. Each one received a first prize and all three hold the Chantemerle Challenge Cup for a year. The Soleil and the Garchey wheels both derive their elasticity from rubber rings fixed in the hubs, forming a sort of buffer between the latter and the rim. In the Garchey arrangement the diameter of the rubber ring is about 6 in. across, and from 1 to 2 in. thick. Its circumference bears a wide flange, by which it is held to the wheel proper. In addition to the ring, three rubber roller bearings are placed at equal distance near the circumference of the wheel, which take up the more violent shocks. The Soleil wheel has two concentric steel hubs, the smaller one, which receives the axle, being the hub proper, and the other assembling the spokes. The two are united by the elastic portion of the wheel, a large collar of solid rubber, in which the bolts are embedded. In the Edmond Levy wheel the elasticity is obtained by means of



An Automobile Wedding.

An interesting automobile wedding took place at the Church of St. Michael and All Angels, Hellenburgh, N.B., last week. The bridegroom was Mr. Charles F. Green, son of the late Mr. Phillip Green, Judge of the Supreme Court of India, and the bride Miss Winifred M. Smith, daughter of Mr. W. Alexander Smith, of Taybank, Chairman of Argyll Motors, Ltd. The bride, the bridegroom, and most of the guests drove to the church in motor-cars, and the long line of Argyll landaulets, limousines and open cars, stretching from the church door right down to the Sea Front, attracted much attention.

two rubber circles, one at each side, lodged in a groove between the inner and the outer rim, and held in position and protected by a face plate. All three wheels are shod with solid rubber tyres.

## Touring in France.

Motor touring in France is now in full swing, and, judging from present appearances, a much larger number of British and American motorists are preparing for a spin over the grand French roads during the current year than ever before. Avignon seems just now to be a favourite rendezvous, for among those who visited the old town on a recent Sunday were the Duke and Duchess of Westminster, on a 90-h.p. Mercedes; Field Marshal Sir George White, the hero of Ladysmith, and Lady White, on a 40-h.p. Bollee; Prince and Princess Mohamed Ibrahim, on a 40-h.p. Mercedes; Count Vladimir Skerzewski, on a 24-h.p. Mors; and Countess Arnoldi, on a 35-h.p. Rochet-Schneider.

### The Forezien Touring Competition.

A touring competition organised by the Automobile Club Forezien, of St. Etienne, was held last week. The actual competitors, who numbered seventeen, were divided into several categories, based on the bore of the cylinders. The first day's run was from St. Etienne to Avignon. Fourteen cars safely completed the journey, but the day was not without incident, for the vehicle carrying the officials broke down, and there was no one to time the competitors into Avignon. A 70-h.p. Rochet-Schneider driven by Vitalis also caught fire and was seriously damaged. The return to St. Etienne was made on the following day over another route. The first place in the section for cars having four cylinders of a bore of 120 mm. was taken by a 24-h.p. Berliet driven by M. Plattier. In the section for engines of 110 mm. cylinder bore an 18-h.p. Mieuisset piloted by M. Riviere secured the premier position. M. Paret (16-h.p. Berliet) was the winner of the section for motors of 100 mm. bore, and M. Dubost, on a 14-h.p. Clement-Bayard, of the 90 mm. bore category.

### A Belgian Touring Competition.

Under the patronage of the Belgian, Spa and Liege Automobile Clubs the newspaper "La Meuse" is organising a touring

named. Orders have been placed for three Serpollet twenty-seated 'buses, which are expected to be put in operation by July 1st next.

### Police Activity near Paris.

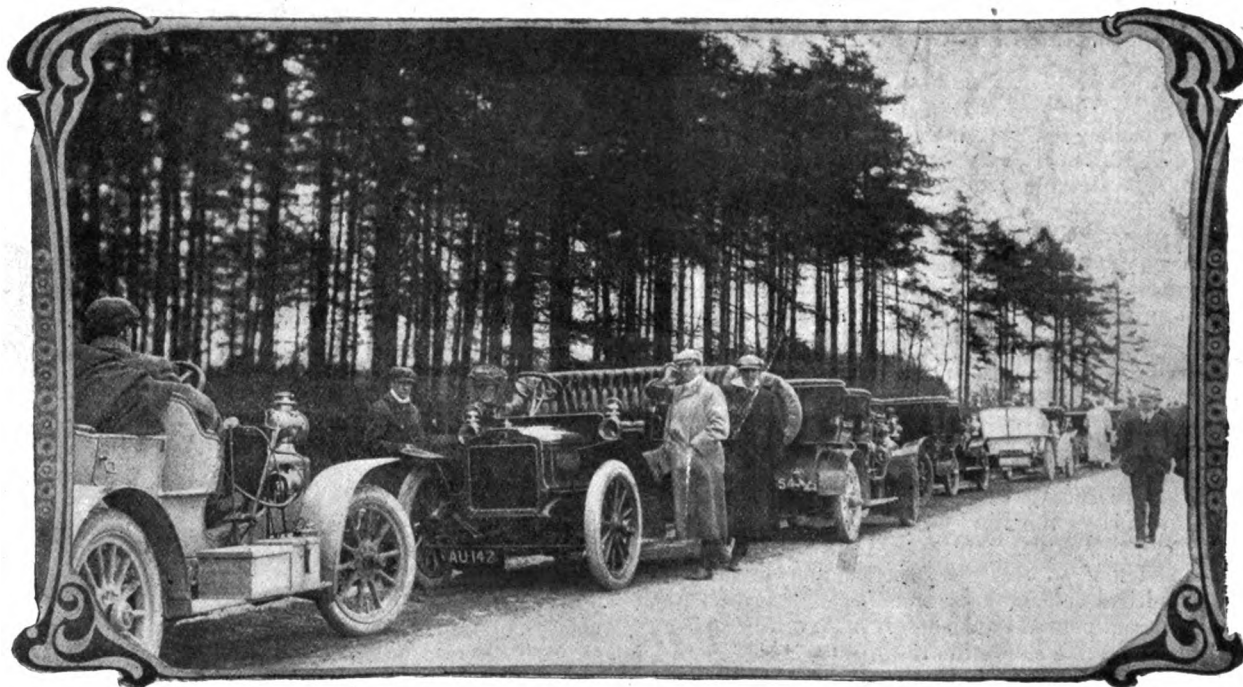
Saint Germain-en-Laye and Sevres, near Paris, should at present be given a wide berth by motorists as the police have of lately been unduly active. At the police court at Sevres, the other day, no less than seventy-three summonses for furious driving were dealt with.

### A German Motor Body Building School.

The Technical Institute in Aschaffenberg, which already comprises a school for chauffeurs, has decided to shortly add a department for automobile body construction. The object is to familiarise practical carriage builders with the requirements in the construction of bodies for motor-cars.

### Public Services in Italy.

Public motor-car services are rapidly increasing in number in Italy, especially in the vicinity of small towns in mountainous localities where the passenger and goods traffic is insufficient to justify the installation of an electric tramway. There are already several lines which exceed 100 kilometres in length,



The Nottinghamshire Club's Speed Trials at Clipstone. (See page 250.)

competition for the 4th June next. The competitors will be classified on an average speed basis ranging from 20-25 kilometres to over 40 kilometres per hour. The course to be covered, which measures 128 kilometres, starts and finishes at Spa, and takes in Vielsalm, Aywaille, Lonveigné and Malchamps. Several steep hills are included in the route.

### The Race for the Grand Prix de l'A.C.F.

With the view of freeing the Sarthe circuit from neutralisations and dangerous crossings, several slight changes have been made in the course, and last week the Sarthe Automobile Club had the modified route carefully measured. The distance works out at 103.18 kilometres, or approximately 64½ miles. This has to be covered altogether twelve times by the competitors, six on each of the two days.

### Public Services in Switzerland.

La Société des Transports Automobiles de Geneve à Annecy is the name of a company which has just been formed in Geneva to inaugurate a public motor-car service between the two places

which have been in operation for some time and have given satisfactory results. The services usually comprise a number of vehicles capable of maintaining an average speed of about twelve miles per hour on average roads, carrying about twenty passengers and a certain amount of luggage. The Societa Romana Tramways-Omnibus is now making experiments with motor-omnibuses. Five different types, viz., Thornycroft, Germain, Daimler, Scheibler, and Delahaye, are being tried.

### Miscellaneous Items.

The French Automobile Club has confirmed its decision not to organise the French team for the Vanderbilt Cup race. Motor-car builders in France may, however, enter for the contest individually.—The postal authorities in Vienna are experimentally using motor-bicycles with side car attachments in the collection of the mails.—A service of motor-cabs is shortly to be started in Marseilles.—It is reported that an Itala six-cylinder car is being prepared for the 1907 season.—The men employed in the motor-car works in Turin have joined the general strike movement. A serious disturbance took place in the city on Monday.

## THE DAIMLER COMPANY.

AS was shown in the last balance-sheet of the Daimler Motor Company, success has come to one of the original English motor companies. In celebration of this it was decided to entertain those motorists who had contributed to such a result to luncheon at the Works at Coventry. This pleasant reunion took place on Wednesday of last week. The assembly of motorists was unique, such a gathering of representative automobilists—trade and amateur, foreign and British—never having before been brought together in a British motor works. Recognising the common feeling of pride in their success, the directors invited many of their trade rivals, and, for the convenience of those who journeyed from London, a special train was engaged, by which most of the guests travelled.

The sight at Coventry was, to those who had known the works in the old Daimler and M.M.C. days, an astonishing one. To what had been solid floors before spacious galleries have succeeded, and the antiquated plant has given way to up-to-date machinery—a credit to Mr. Percy Martin, whose aims at

immense quantity of vehicles, the sale of foreign cars must surely become restricted in this country. The function was one which those who were present will not easily forget, and that the directors of the Daimler Company were entitled to celebrate their success amongst their friends all readily acknowledged.

Mr. Edward Manville was in the chair, and, after the usual loyal toasts had been honoured, proposed "Automobilism." The Daimler Company, he said, might well be associated with automobilism, because he thought he was right in saying the growth of motoring in this country was almost exactly contemporaneous with the first institution and progress of the Daimler Motor Company, and it followed that as the Daimler Works were originally instituted in Coventry, where these were now, Coventry might be looked upon as in this country the mother town of automobilism. As to the progress of the Daimler Company itself, it was sufficient to say that three years ago the area covered by its workshops was exactly one-fourth of what it was to-day. In three years it had increased fourfold, and, as a matter of fact, the real increase had been in the last two years. They were at the present moment engaged in extending their production, and hoped to continue to do so for some years to come. The chairman announced that the company would in the ensuing year devote special attention to increasing the foreign business in Germany, the United States, and Italy, and also that it was proposed to turn attention to commercial motor vehicles.



The Lunch in the Daimler Company's Works at Coventry.

standardisation have been fully realised. His work has been ably aided by Mr. E. M. C. Instone, the general manager, and to both of these gentlemen the directors have given a support and encouragement which has been an immense factor in transforming the fortunes of the company, until it now ranks as one of the most successful automobile organisations in the world.

The lunch, which played a prominent part in the proceedings, was served on the upper floor of the works, and was of the most *recherche* description. Showing how perfect everything was in the way of entertainment for the guests, a pocket-book was presented to each, with his name in gold, and carrying in its folds the fact that this letter-case was made from the leather with which Daimler motor carriages are upholstered. The leather is of the very best quality, and the pocket-book one which we are sure all who were present will be proud to carry and use. The system of management seemed to be of the most perfect description, and with works like those of the Daimler Company, England need not fear the supremacy of the foreigner; while with the capacity of these works for turning out an

Mr. R. A. Rotherham responded for automobilism as connected with the city of Coventry. Sir John Macdonald also responded, and gave some interesting reminiscences of the early days of automobilism in this country. With regard to the future, he strenuously urged that everyone connected with the manufacture, and particularly the manufacturers, should set their whole energies to work to secure that in the next five or ten years attention should be given to the state of our roads. What they wanted to impress upon the public was that there was a vast source of increased wealth of this country in having roads which it was not expensive to use for the purpose of commerce. Messrs. S. F. Edge and F. Coleman added their congratulations.

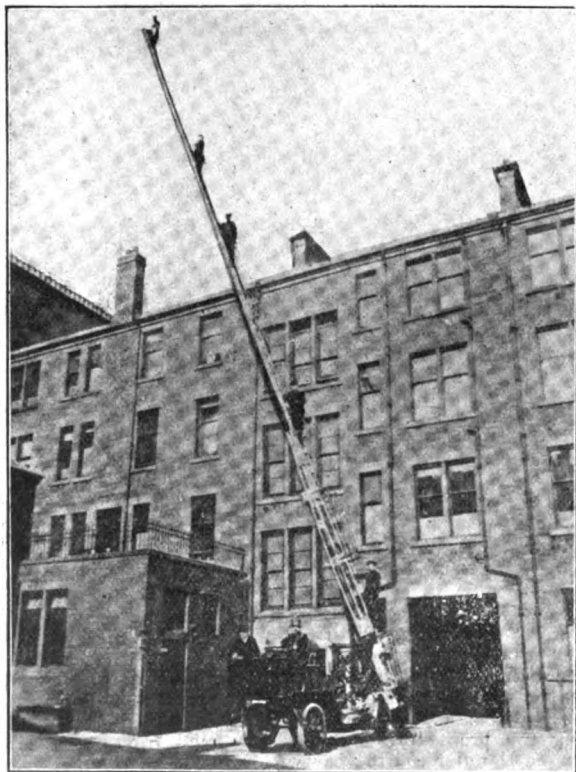
During the proceedings a cable was read from Atlantic City, stating that a Daimler touring car with five passengers had made a new mile record for the fully-equipped touring cars, doing the distance in 55.45 sec. Mr. Percy Martin, whose name had been mentioned by Mr. Coleman in eulogistic terms, was asked to respond, and in the course of doing so observed that the principles of manufacture illustrated in the works they were visiting were similar to those adopted in America, such as the principles of standardisation, the manufacture of quantities, and so forth, and if followed must lead to success in a greater or less degree. The work of adapting them to English practices had really been rendered easy by the valuable co-operation he had received from those surrounding him.

Mr. Rees Jeffreys proposed "The House of Commons," response being made by Mr. A. E. W. Mason, M.P. for Coventry. Col. Crompton proposed

"The Automobile Club and the Various Trade Societies, the Motor Union, the Society of Motor Manufacturers and Traders, the British Empire Motor Trades Alliance, and the Roads Improvement Association." Col. Holden replied (on behalf of the Automobile Club), Mr. Sydney Straker (for the Society of Motor Manufacturers and Traders), Mr. E. M. C. Instone, and Mr. C. Sangster, the last named for the British Empire Motor Trades Alliance. Mr. C. Vernon Pugh proposed the toast of "The Press," and on the proposition of Capt. Longridge the company also drank with musical honours the healths of the past and present chairmen of the Daimler Company, Sir Edward Jenkinson and Mr. E. Manville.

## A MOTOR FIRE ESCAPE FOR GLASGOW.

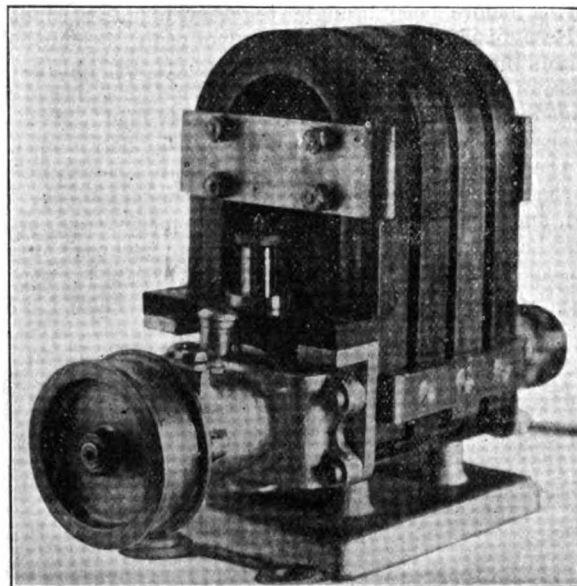
**M**OTOR-VEHICLES for fire brigade use have lately been adopted in several of the leading cities in the kingdom, but a new step in this direction has just been taken by the Corporation of Glasgow by putting into service a motor turntable fire escape. The machine, which was supplied by Messrs. Henry Simonis and Co., of Norfolk Street, London, W.C., is of the petrol-electric type, the power being furnished by a 30-h.p. four-cylinder engine, which drives a dynamo, the latter being connected up to two electric motors acting directly on the front wheels. Thus all differential gear, chains, etc., are done away with, while the danger of skidding is claimed to be considerably minimised through the machine being drawn instead of pushed. Owing to the full lock the machine, despite its length of 27 ft., is able to turn in a very small circle. The escape portion of the vehicle itself is also of noteworthy design. Hand labour is entirely done away with, the ladder being extended by means of a small carbonic gas plant. The latter is of such capacity that it can extend the ladder to a height of 85 ft. within 20 sec. Furthermore, a turntable is



provided which enables the firemen, without moving the body of the machine, to bring the escape to any desired window on either side of the street. The ladder does not require to be leaned against the building, but will, without any support except its own base, carry half a dozen firemen divided over its full length, which enables the machine to be used as what is known in Fire Brigade circles as a "water tower," the men playing with jets of water upon the building from different points of the ladder.

## A NEW MAGNETO.

**W**E illustrate herewith a new magneto which is being put on the market by Mr. T. W. Barber, of Grosvenor Mansions, Victoria Street, Westminster, and which has been specially designed as a substitute for accumulators. The machine is so arranged that it can be used in conjunction with existing contact makers and induction coils, it being connected up in the circuit just as an ordinary battery. As will be seen, the



machine consists of four duplex horse-shoe magnets, within which rotates an armature specially wound to give about-four volts, even when running slowly. The machine, which weighs complete about 21 lbs., can be located in any suitable position to enable it to be driven off the engine either by a belt or gear in the ratio of about 10 to 1. It can be easily fitted on a car, and will work with the attention only required by the lubricators; driving it at full speed when on open circuit or switched off does no harm, and it cannot be damaged by over-driving, one having been given a long test at a speed of 10,000 revolutions per minute. At slow speeds, too, as we have personally tested, the apparatus gives a good fat spark, so that it should well meet the requirements of those motorists who are anxious to adopt magneto ignition in place of accumulators.

A GARAGE with inspection pit is being constructed at the Queen's Hotel, Queenstown.

VISITORS to the east coast will find good motor-car accommodation at most of the seaside resorts. Messrs. E. Mills and Co. have a large garage near the railway booking office at Clacton-on-Sea.

A PATENT for a laminated paper tyre for motor-cars has been taken out by Dr. J. W. Carhart, of Austin, Texas, U.S.A. The paper used is a heavy binder's board, cut by means of a band saw into segments corresponding to the circle of the wheel; the tyre is built up on the rim by adding one layer or segment to another with white lead or other paint between.

"THE Motorist's Handy Pocket Guide and Note Book" is the name of a little work which has just been published by Mr. Henry King, of the "Hampshire Advertiser" Company, Ltd., Southampton, and of which a copy has been sent us. It is from the pen of Mr. H. M. Cook, of the Motor Engineering Works, Devizes, and contains in a small size a large amount of information which will be found useful and interesting by all motorists of a mechanical turn of mind. There are three main chapters—mechanical, electrical, and thermal—each dealing with different aspects of the petrol motor. Following this is a list of the different identification marks for motor-cars and a diary in which to keep a record of motoring trips.



SIR ALEX. HENDERSON, Bart., has been elected a vice-president of the Motor Union.

THE Royal Commission on Motor Cars held their thirty-third meeting on the 26th ult. There were present Lord Winchester (in the chair), Sir D. Harrel, Sir W. Forwood, Mr. Henry, Mr. Mure, Mr. Monro, and Capt. Bigham (secretary).

No less than ten Metallurgique cars have been entered for the Herkomer Touring Trophy, four of which are of 60-80-h.p.

THE Cefn (East Denbighshire) District Council has adopted a resolution in favour of a tax of £20 a year being placed on motor-cars for the benefit of local authorities.

Two whip thong makers appearing as debtors in the Southwark County Court have declared that ruin is coming upon their trade, owing to the advance of the automobile.

A NUMBER of Swift cars are already in service in Canada, and in order to increase their popularity the Swift Company had a fine exhibit of half a dozen vehicles at the Toronto Exhibition.

FROM the proprietors of Perrier, the French natural sparkling table water, comes an excellent road map of England and Wales which is quite as good as the beverage whose name it bears. It indicates both main and subsidiary roads.

MESSRS. J. J. COULBECK AND PALMER, of Royal Chambers, Kettering, held the first of their monthly motor-car auctions in that town last week. It was a great success, there being a good attendance of both the trade and private buyers, a large number of lots being disposed of.

THE funeral of the late Mr. George Thomas, of the Motor Car Garage, Waterloo Street, Swansea, was notable from the fact that, apart from the horse-drawn hearse and one mourning coach, the mourners followed in half-a-dozen motor-cars. The Welsh Automobile Club sent a wreath.

MESSRS. J. W. BROOKE AND CO., LTD., have issued a marine motor catalogue, which, in addition to illustrations and descriptions of the firm's engines, contains much information with regard to engine dimensions which will be of service to boat builders and designers desirous of arranging for the Brooke engines being fitted in their boats.

THE directors of Argylls Motors, Ltd., have resolved to declare an interim dividend on the ordinary shares of the company for the half-year ending March 31st last at the rate of 10 per cent. per annum, the said dividend to be paid on May 15th, when the dividend on the preference shares, at the rate of 6 per cent. per annum, will also be paid.

THE Cyclists' Touring Club, which some time since secured from the French, Belgian, Swiss and Italian Governments free entry for the motor and other bicycles ridden by its members, has now completed arrangements whereby the users of motor-cycles other than bicycles, viz., tricycles, quadricycles, tri-cars, etc., may enter France duty free upon production of a special triptych and the usual continental Customs ticket applicable in such cases.

WE understand that the Beaufort Motor Company, Ltd., with a nominal capital of £125,000, of which £50,000 6 per cent. preference shares (participating in the profits *pro rata* with the ordinary shares) will be offered to the public for working capital within the next few days. Beaufort cars are well known for their excellence of construction and reliability, and, independent of the home market, they are running with great success in Shanghai, New Zealand, South Africa, India, etc. Much attention is also being paid to motor-buses and industrial vehicles, large contracts for which are in hand. In view of the future demand for motor-boats of every description, the new concern is taking over Lory's Yacht Agency, Ltd., one of the oldest established businesses of its kind in the country, whose offices at 175, Piccadilly, W., will in future be run as the marine department of the Beaufort Company. Temporary works have already been secured close to London, fitted with up-to-date machinery, and negotiations are proceeding for extending the same, in view of the large business already in hand.

## HERE AND THERE.

A PROPOSAL is being made for the provision of a motor racing track at Eastbourne.

SIX G.W.R. motor-cars were requisitioned for the conveyance of members of the Household Brigade Race Club between

Maidenhead Station and Hawthorn Hill on the occasion of the point-to-point races there.

"It is quite expected that a tax will be levied on motor-cars," said the *Daily Mail* in an anticipation of the Budget.

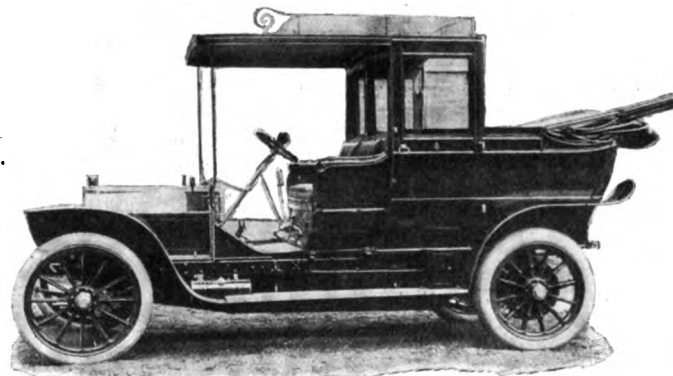
MESSRS. H. VAN RADEN AND CO., LTD., have opened a London office at 8, Cecil Court, Charing Cross Road, W.C.

MR. W. H. STONE, of the Taunton Hiring Garage, Staple-grove Road, Taunton, has added a 10-h.p. Humber and a Rover car to his "stud."

FINES imposed on motorists in Huntingdonshire last year totalled £428, equivalent to a reduction of a halfpenny in the pound on the county rate.

OWNERS of White cars are appreciating Mr. Arthur Garratt's fine picture, "An incomparable White day in the Park," to which reference has previously been made in these columns.

SINCE his return home the Prince of Wales has obtained delivery of a new 30-h.p. Daimler fitted with a brougham body by Messrs. Hooper and Co., Ltd., and also of a new 35-h.p. Daimler limousine. Both vehicles are luxuriantly fitted, and maintain the standard of English carriage work. Messrs.



Hooper and Co. recently converted the King's Mercedes limousine into a limousine landaulet, delivery of that car, which is illustrated above, having also been made this week.

THE Bridges Committee of the London County Council has issued a small book on London bridges, giving an interesting account of their construction and maintenance.

THE Health Superintendent of Southport is to use a motor-bicycle when on his rounds of inspection. The corporation are making an allowance of £20 per annum for the upkeep of the machine.

DURING the recent visit of the King and Queen to Marseilles, De Dietrich cars were placed at their disposal. Rougier, the well-known racer, piloted the Royal car, and was presented by King Edward with a handsome souvenir.

MESSRS. LEGROS AND KNOWLES, LTD., have secured a contract to supply a motor-tower wagon for tramway purposes to the Halifax Corporation. The tower wagon will be mounted on the Iris light commercial vehicle chassis specially adapted for this purpose.

AN exceedingly graceful act was performed by the King of Spain before embarking at Southampton last week. The car which conveyed the Princess Henry of Battenberg by road from London, and also brought Her Royal Highness and Princess Ena back again to town, was a magnificent 40-h.p. Delaunay-Belleville. His Majesty inspected and was greatly interested in the car, and, to mark his appreciation of the services of G. E. West, the chauffeur who drove their Royal Highnesses, conferred on him the Spanish order of "Isabel la Catolica."

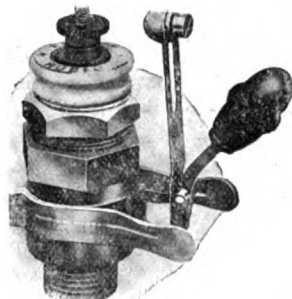
MR. W. GEO. WILLIAMS will be the general manager of the Deasy Motor Car Manufacturing Company.

A 5-TON steam wagon of the Foden type is to be supplied to the Royal Sanatorium for Consumptives at Midhurst.

THE Auckland Automobile Association have conducted a 400 miles reliability trial. It attracted thirteen entries.

MR. JOHN HARGREAVES, of Templecombe, Somerset, has, we learn, ordered a six-cylinder Hotchkiss car from the London and Parisian Motor Company, Ltd.

BOUGIE POGNON, LTD., have just brought out the simple yet ingenious sparking plug switch illustrated herewith. With one



of these devices fitted to each of the plugs of a multi-cylinder engine the sparking thereby obtained through accumulators and coil or by high-tension magneto in each cylinder can be readily tested. The illustration shows the switch in position but out of operation. To test any one cylinder the switches of all the others are closed by bringing the knobs at the top into contact with the upper metal

portion of the sparking plugs, the high-tension current then passing straight to earth, so avoiding all internal short-circuiting and consequent breaking down of coil-winding and magneto-armature, which so frequently arises through disconnecting high-tension wires from the sparking plugs when testing multi-cylinder motors.

MESSRS. ASTER, LTD., are bringing out a new 40-h.p. Aster engine fitted with low tension magneto ignition, specially designed for motor-bus propulsion.

THE "New Speedwell Motor Company, Ltd.," has been formed to absorb the present Speedwell Company. The capital will be £50,000, and the cars will be made at Chiswick, W.

THE London Motor Tyre Company, whose capacity for good work has lately been demonstrated to us, are removing their offices from New Oxford Street to the works, 9A, Newman Street, W.

THE offices of the Automobile Mutual Protection Association, Ltd., have been removed from the Strand to 109, Victoria Street, Westminster, S.W. The telephone number is now 662 Westminster.

THE Y. Z. tyre clip is a useful device for preventing the outer cover from creeping. It also enables an old cover to be used by cutting off the beads and placing the worn cover over a good one. Messrs. A. W. Gamage, Ltd., are placing it upon the market.

THE increased number of motor vehicles of various descriptions which are daily being put on the road must naturally increase the demand for petrol to an enormous extent, and during the coming Whitsuntide holidays, provided the weather compares favourably with that of Easter, there will be a similarly heavy demand on all the local supplies. In anticipation of this the Anglo-American Oil Company will arrange to have an adequate supply of their Pratt's motor spirit distributed throughout the United Kingdom.

A "NATIONAL" three-cylinder car was last week driven from London to Glasgow by Mr. Percy Lamb, of Lamb Brothers and Garnett. The first day's run, owing to stormy weather, only amounted to 100 miles, and a stay was made at Retford. The remainder of the journey—over 300 miles—was done the following day, and it is worthy of note that the car-made good averages, and the distance from Settle to Carlisle—a matter of seventy miles—was covered on two gallons of petrol. On Thursday of last week some 400 people turned out, in spite of the rain, to see the vehicle climb Balmano Brae with six passengers on board. The difficulty of the ascent was accentuated by the greasy cobble surface of the road, notwithstanding which the hill was successfully scaled, the gradient being, it is stated, 1 in 4½. The agency for the National cars in Scotland has been secured by Messrs. Robert Morton and Sons, Ltd., of Wishaw, who have just opened a depot in Bridge Street, Glasgow.

ARGYLLS, IRELAND, has been registered under the Companies Acts, the title of the company being Argylls, Ireland Ltd.

MESSRS. EDARTS have completed alterations to their motor garage at 22, Praed Street, Paddington, and also at Market Street, W.

MESSRS. HOLGATE AND CO. have a capital motor garage at the School Close Works, Neville Street, Leeds, where they also stock accessories for automobiles.

THE Directors of Aster, Limited, have resolved to pay an interim dividend at the rate of 10 per cent. per annum for the first six months of this year's trading.

ONE of the town councillors of Scarborough hopes to live to see the day when motor-cars will be abolished—probably another way of saying that he would like to live for ever.

MESSRS. HOYLES have accommodation for thirty cars in their garage at Brighouse. Mr. John Hoyles, the manager, has had an experience of automobiles extending over a decade.

MESSRS. BROWN BROS., LTD., have issued a new catalogue of their Brown cars, of which three standard sizes—22-24-h.p., 18-20-h.p., and 10-12-h.p.—are being made for the present season.

PALMER cord tyres are fitted to the delivery vans used for the business of the "Newcastle Chronicle." They have been in use for about eleven months, and are doing an average of 30 miles per day.

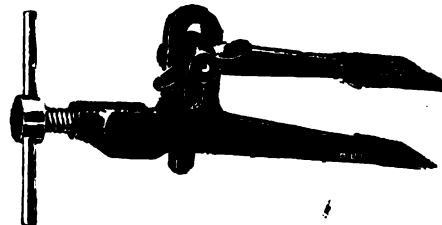
THE premises which, as mentioned last week, have been taken at Glasgow by Messrs. Robert Morton and Sons, Ltd., were recently occupied by the Caledonian Railway as their Bridge Street Station.

MESSRS. T. J. HARMAN AND CO. have sent us a copy of the new catalogue of Vinot-Deguingand cars they have just issued. It gives full particulars of the various models, while the illustrations of the different types of cars are supplemented by views of the motor, change-speed gear and other parts of the chassis.

IN a hill climbing match recently held on Viaduct Hill, New York, between a 35-h.p. Pope-Toledo car, driven by Mr. J. Judge, and a 35-h.p. English Daimler, piloted by Mr. H. N. Harding, the latter proved the victor, making the ascent of about 2.5ths of a mile up an average grade of 15 per cent. in 33.45 sec.

THE new Arrol-Johnston 12-15-h.p. and 18-h.p. cars made an ascent of Loch Striven Head a few days ago, the latter being the identical vehicle which won the Tourist Trophy. The use of a gradometer revealed the fact that the worst gradients were 1 in 3½ (near the summit), 1 in 4½, and 1 in 4¾, the average being about 1 in 5, while the surface of the road was exceedingly bad.

MESSRS. BROWN BROTHERS, LTD., have lately brought out the "Duco" patent valve spring lifter illustrated herewith. The little tool will be found most useful for lifting exhaust valve



springs to enable the valves to be readily removed; it is small, compact, very strong, and will fit all sizes of valves. One of its great advantages is that the spring can be kept raised, leaving both hands free to remove the cotter or key.

AT a meeting of the Berkshire County Council on Saturday, the chairman of the Roads Committee said that the remedy for dust was not in the improvement of the roads so much as in an altered form of car. If the centre of gravity were kept higher, and the bottom of the car shaped canoe fashion, he thought the dust difficulty would be a thing of the past. He added incidentally that such a change would reduce the speed of motor-cars to ten miles an hour, an announcement which was greeted with shouts of laughter.

## SOME CURRENT TOPICS.

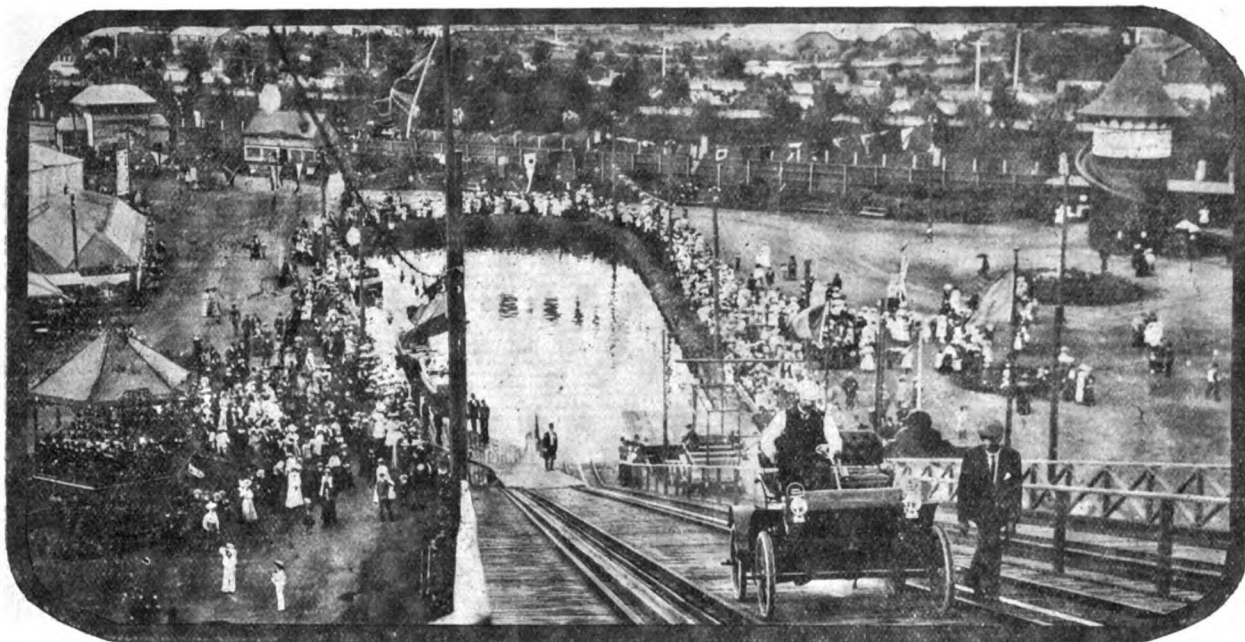
### Why Wait?

From the very beginning of automobilism there have always been a number of persons who have announced themselves as firmly determined to buy a motor-car some day, but who have been waiting, and are still waiting, for what they consider a "perfect" vehicle. Of course, many who express such sentiments are not sincere, and are merely endeavouring to disguise an inability or a disinclination to expend the price of a good car, but undoubtedly there are others who are actually waiting in good faith for the coming of their ideal vehicle. Their idea is that some wonderful system will be brought out which will render all present machines fit only for the scrap heap, and so they wait and wait, missing years of enjoyment, for the car which never comes. As a matter of fact there is very little probability that the car absolutely perfect in equipment and

it obsolete before he receives an adequate return on his investment.

### Labour Troubles in the French Motor Industry.

The general strike movement in France inaugurated on the 1st inst. has spread to the motor industry, especially at the works at Courbevoie, Puteaux, and Suresnes, to the west of Paris. The principal demand of the men is a reduction in the weekly hours of labour from 60 to 54 hours. A few small firms are reported to have made the concession, but the larger concerns are standing firmly together, with the result that strikes have been declared at, among others, the C. G. V., Gladiator, Lacoste, Krieger, Vinot, Darracq, and De Dion works. On Friday a disturbance occurred at the De Dion factory, where a number of the strikers got inside the works and damaged a few of the machine tools and one or two finished cars. Since then a number of soldiers have been drafted into the district, with the view of quelling any further disorder. The strike has also extended to several of the large works in the provinces, including those of the De Dietrich and Peugeot companies. The suspension of work is naturally seriously interfering with the trade, and the outlook for importers in England and America



Mr. Warden on an Oldsmobile Ascending the Water Chute at Princes' Park, Melbourne. This has a gradient of 1 in 34, and is 220 ft. long.

satisfactory in price will ever come, and there is nothing in the history of other important inventions, such as the bicycle, the sewing machine, or the many applications of electricity, for example, to warrant such expectation. In almost every case the differences between the models of the last year or so and those of the present day are comparatively unimportant, and while many small improvements have increased the efficiency and modern methods of production have lowered the prices of the apparently perfected article, the fundamental principles of operation remain the same.

### No Startling Innovations.

It is the general opinion of well-known constructors and others best qualified to judge that the lines on which future development in automobile construction will take place are already well defined. The tendency is not for startling innovations, but rather for taking existing systems and gradually improving them, as experience shows that such is advisable; but even this process must be very gradual. The would-be automobilist may therefore safely go ahead and purchase the car which best meets his requirements among existing models, with a certainty that no revolutionary inventions will make

is anything but bright, especially in view of the fact that in many cases deliveries were, even before the strike, considerably behind time.

### A Shock Absorber Competition.

As mentioned in our last issue, the "Auto" is organising, in conjunction with the Ligue des Chauffeurs, a competition of shock absorbing devices. The object of the competition is to reduce the vibration and motion to which the occupants on the back seats of a car are subjected when the road is at all rough. Briefly, the scheme consists in fixing a receptacle to the floor of the vehicle, at the back, in which will be placed two or more open wide-mouthed bottles, filled to the brim with water. The cars will then be driven from Paris to Bougival and back, *via* Nanterre and Rueil, within a maximum pre-arranged time. At the end of the trial the contents of the bottles will be carefully measured, and all those competitors who have not lost more than the maximum quantity allowed—to be fixed later—will be awarded a certificate. In order to give an equal chance all round the tyres will be required to be fully inflated, although cars with spring wheels will also be allowed to enter. The event promises to be of both an interesting and useful character.

## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
27-33, Charing Cross Road, W.C.]

### THE MOTOR CAR ACT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have just had an experience with what I believe to be a new police method for extorting fines from the motorist, and if they are within their rights in acting as they have done, I think motorists might as well sell their cars, and the manufacturers close their works. I was driving from a town in Essex to Cambridge, and saw no signs of police either in the villages or between. A few days after, on returning home, I found a letter from the superintendent of the police asking for the name and address of the driver of car No. —, and giving me notice that the matter was under consideration with a view to taking proceedings against me for exceeding the speed limit between two villages which he named. I did as requested, as I believe I am obliged to do so under the Act of 1903. I am now waiting developments.

Do you know if the police are within their rights in issuing summonses in this manner, without attempting to stop the car and give

of the *M.C.J.* will lend his valuable assistance and support in endeavouring to stop the use of this public nuisance.

I feel sure all considerate and thoughtful motorists who truly have the cause of automobilism at heart, and who wish to enjoy the pleasures of the road with other users in comfort, will agree that it is much to be deplored that such a diabolical invention should be used in face of the bitter prejudice already stirred up in the public mind against motorists and the dust nuisance, without adding another terror and nerve destroying device and one which has a tendency to raise more dust than ever.

I consider it most selfish and inconsiderate of those who are adopting it, and it is these people who have no consideration for others, but simply live for themselves, who, caring nothing for the comfort of others, adopt it for the sake of obtaining a little more h.p. out of their cars to tear and scorch over the country, who will in future legislation do harm to the movement.

I have just received a letter in answer to mine from one of the leading motorists of the country, who replies:—"Re exhaust cut-outs, I think these quite unnecessary—we have had many inquiries, and people asking for them. I have had one fitted to my car, and have been trying it in France very carefully, and I can find no advantage in using it, and I think it a most undesirable adjunct on a motor-car."

I have written to the A.C.G.B.I. and the Motor Union on the matter, and trust that steps will be taken to make the use of this device illegal, if such can be done.—Yours truly,

J. R. GREATOREX.

Hon. Correspondent A.C.G.B.I. and Motor Union.



The Essex Club's Hill Climbing Competition at Laindon. Mr. Burnett Tabrum starting on his 12-h.p. Wolseley. (See page 250.)

one a chance to obtain evidence in one's favour. I should like to have challenged the watches and the distance, and also called my passengers as witnesses, but this is impossible now, as I do not even know the place at which I am supposed to have exceeded the limit.

This method must surely reduce the whole thing to a farce; a policeman has simply to take our numbers and we are compelled by law to incriminate ourselves. A burglar has a better chance; they at least have to be identified. Also it is impossible to warn others of the trap (if it exists at all) either by confetti or cycle scouts, as the location is unknown.—Yours truly,

F. H. M.

[According to the Act no person shall be prosecuted for the offence of exceeding the legal limit unless "he is warned of the intended prosecution at the time the offence is committed, or unless notice of the intended prosecution is sent to him within such time after the offence is committed, not exceeding twenty-one days, as the court think reasonable." This is one of the anomalies of the Act which should be removed. Prosecution should only be permissible under this section when the motorist is warned at the time; otherwise it is often impossible to obtain local evidence which might secure an acquittal.]

### AN OBJECTIONABLE DEVICE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am very glad to see that some other motorists besides myself are raising a protest against the most objectionable device known as "exhaust cut-outs." I quite agree with your correspondents "Twenty-miles-an-Hour" and "Eight-horse Motorist," and I trust that the Editor

### SLIDING CHANGE-SPEED GEARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the letter under this heading in the *M.C.J.* of the 28th ult., I beg to say I am the patentee of three change-speed gears, one of which is of the sliding type. With this gear it is possible to change speeds without any grinding or tearing of the teeth; in fact, the edges of the gear wheel teeth are not filed or cut away as is the usual practice. I have also provisionally protected a device which, fitted to any type of sliding gear (any speeds) will make it absolutely foolproof, the gear wheels sliding into mesh without any grinding or noise whatever. This device will shortly be placed on the market. I may say it can be fitted to any existing gear at a very slight cost.—Yours truly,

HENRY W. WALKER.

### THE MOVEMENT IN CANADA.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I shall be in London again shortly, when I shall be pleased to give you a fuller report, if you wish, of my impressions re the motor trade in Canada. In the meantime, however, I may say that a very wrong impression has been given by some recent papers read and published in England, the trade over here being neither so extensive (the population of this large country only being about the same as London), nor so easy to capture as some people interested in motor shows would have us believe. Also a majority of European cars are not suitable for this country in many details, such as clearance, wheel gauge, size of



wheels and tyres, cooling arrangements in the hot weather, protection of lubricating oil pipes and other parts from freezing in the cold weather, spring suspension, and last, but not least, strength to stand the bad roads.

I have found the roads in the immediate neighbourhood of Montreal good as roads go over here, but within five miles of Toronto I had an experience of being stuck fast in mud well over the axles (34 in. wheel) on a main road. It took six hours, and the assistance of men, boards, horse and engine power, to get us out of the mud hole. I demonstrated most satisfactorily to myself that for many months of the year Canadian roads, in some districts at any rate, are quite impassable for motors. I spent the Easter holidays at Ingersoll, a small place about 100 miles west of Toronto, where I sampled the roads by means of horse and buggy, and found the conditions just about the same as outside Toronto. Taken as an average, November to May must be considered as a close season for motors. Conditions of most of the country roads—winter, snow; spring, thick mud; summer, thick dust.—Yours truly,  
**ERNEST ARNOTT.**  
 Montreal.

### THE AUTOMOBILE ASSOCIATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—May I inform your motoring readers that our well-known cyclist organisation will at an early date be extended to the Bath road? Our cyclists are picked men, trained with great care in order that the policy of the Automobile Association, namely, the creation of a better understanding between all users of the roads, may be faithfully carried out. In view, therefore, of the excellent work now being done on other main roads, and for the reason that we wage quite as determined

three types, and when a driver came for the Club certificate on the well-known English car, the Lanchester, the officials did not know what to do, as none of them knew anything about a Lanchester, and at first did not want to examine the driver, but they finally decided to test the driver, passed him, and gave him the Club certificate. Might I ask of what value that Club certificate is? Now I should like you to publish some letters as to doings of the Automobile Club, as why should the whole of England be controlled by just what the officials in London want, or to what does not quite please them?

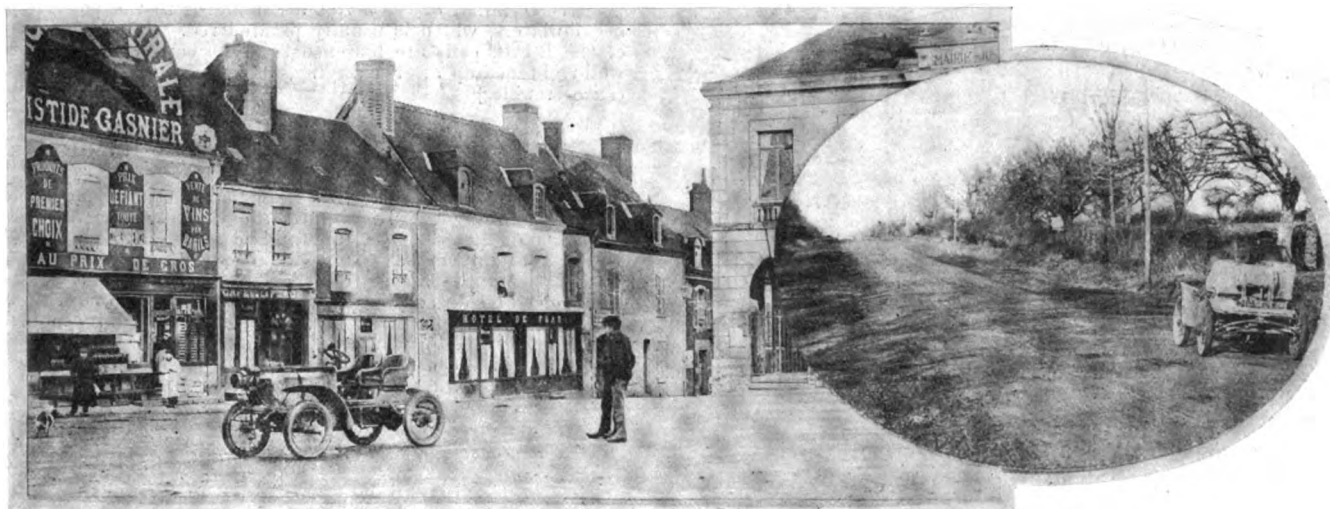
What I particularly want to point out is the system on which the Automobile Club is run. There is a certain set who have got together, who propose one another at the ballot year after year for the committee, and unless you belong to that committee it is impossible to get justice done to anybody else. Of course they assist the trade to their utmost, but to see that people get fair play is not a thing they go in for.—Yours truly,

**F. FORESTER.**

The letters to which Mr. Forester refers are, unfortunately, too long for full publication. Briefly they are as follows:—

From Mr. Forester to Mr. A. Stanley, as chairman of the A.C.G.B.I., calling attention to the election of Mr. S. F. Edge to a vacancy on the committee after he had failed to secure election in the members' ballot a fortnight before; also to the striking off the list of applications for official repairers the name of a local petrol agent by Mr. Orde owing to a difference of price.

From Mr. Stanley to Mr. Forester in acknowledgment of the foregoing and to say that those who had worked with Mr. Edge "took the first opportunity of a vacancy on the committee to elect him."



The Village of Vibraye.

A straight stretch between St. Calais and Berfay.

### VIEWS OF THE SARTHE CIRCUIT, ON WHICH THE RACE FOR THE GRAND PRIX DE L'A.C.F. IS TO BE RUN.

war against the furious driver as we do against the iniquitous open country motor trap, my Committee hope that the Bath road extension will attract a large number of local members. Upon this the continuance of our work must necessarily depend.—Yours truly,

**STENSON COOKE.**

### IGNITION TIMING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a four-cylinder 12-16-h.p. Peugeot car, 1904 model. I find the spark fires when the piston is down about half an inch of the explosion stroke. I always had the impression that the spark should occur just before the connecting rod was over the centre. In this case it is over the centre by half an inch. The contact maker is driven by chain on dash, and engine seems to work all right.—Yours truly,

**J. E. HENDERSON.**

### A.C.G.B.I. METHODS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I see that in 1904 there were several letters in the motor journals as to how to save the Automobile Club, and as far as one can judge it has got from one set into another. First of all, I should like you to draw the attention of the public in your journal to the incompetent Automobile Club officials, or experts, whatever you like to call them, who are sent round to the different towns to pass motor drivers for the Club certificate, for which I believe a heavy charge is asked. Now it has come to my knowledge that in Shrewsbury, the other day, three officials were sent down whose knowledge of cars was restricted to about

Mr. Forester to Mr. Stanley, enclosing copy of letter from Mr. J. Orde to the local repairer refusing application as, "judging from my experience, it is evident that you are quite unsuitable."

Letter from Mr. Groves to Hon. F. Forester:—

When Mr. Orde called at my private house on Sunday, December 3rd, 1905, I was not appointed official repairer to the Automobile Club, and was there for the convenience of any motorist who might call for petrol on a Sunday. I have never been asked by the Automobile Club to contract for motor spirit, and I only charged Mr. Orde the same as I charge other parties on a Sunday. We all arrange a certain tariff in Shrewsbury.

Mr. Stanley's reply that he did not think the committee deserved censure.

Mr. Forester's acknowledgment of the "strength of the rules of the Automobile Club in favour of the club committee," and asking if the price of petrol to officials of the Club was to govern the appointment of repairers.

Mr. Stanley's reply promising that the complaint shall be inquired into.

[We would suggest to Mr. Forester that avoidance of political references would not detract from the value of his correspondence, but rather add to the weight it is calculated to carry with a committee that abjures politics in its official capacity.]

### A PEUGEOT CAR QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the query under this heading in the last issue of the *M.C.J.*, I should advise "Sailor Man" to have his back axle seen to without delay, as without doubt this is very much worn to allow the

wheels to spread. I should hardly think a new axle was necessary if new bearings were fitted; unless, of course, the case has become strained out of true. But in any case it should be seen to, as, in the event of the axle giving out, the result may not only be disastrous, but it is very risky trusting to it when known to be faulty.—Yours truly,

J. H.

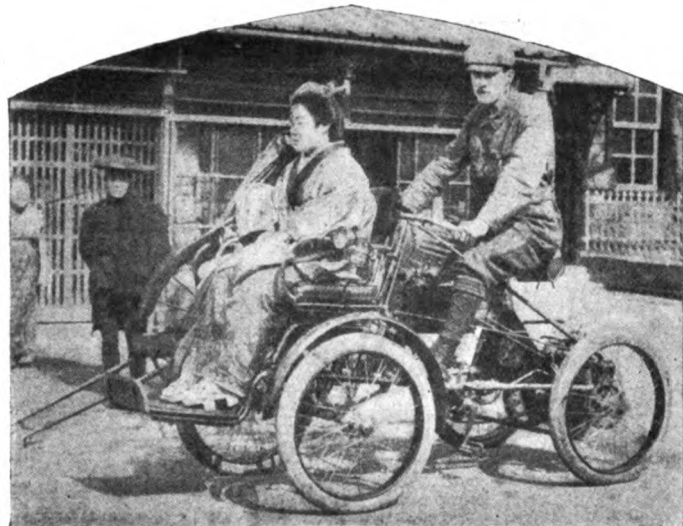
### ALLEGATIONS OF PREJUDICE DISPROVED.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In the Press of January last a lengthy report was given of an ex-parte application before Justices Ridley and Darling, in which it was alleged that, as a justice of the peace, I was biased in hearing a motor-car case at Chelmsford because I was the editor of the *Essex Weekly News*, in which paper a report in reference to the matter had been published, and that I had been in correspondence with the solicitor for the defence upon the subject.

I shall be obliged if you will, in fairness, allow me to say that the rule was discharged, with costs, by a Divisional Court on Friday, presided over by the Lord Chief Justice, and that Mr. Justice Darling, who was one of the judges who granted the rule, and who sat in the Divisional Court on Friday, in his judgment stated that he did not understand the facts in anything like the form in which they were now presented before the Court, and that the allegations which had been made against me had been absolutely disposed of by the affidavits which had been made in the case.—Yours truly,

GEO. W. TAYLOR.



Motor-Cycling in Japan.

[Automobil Welt.]

### THE USE OF THE TRADERS' MARK.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In a business we are opening we shall be buying and selling motor-cars and having them on hire. We cannot gather from the Motor Car Acts whether the general identification mark referred to in proviso (b) to sub-section (4) of section 2 of the Act of 1903 will cover such cars when they are being let out, or when we are using them ourselves, or whether we shall have to get the registration of such cars transferred from last owner.

We presume we shall require a general identification mark in any case to cover us in trials of customers' cars. Can you inform us as to the cost?—Yours truly,

A NEW FIRM.

[The general identification mark is assigned to dealers or manufacturers on payment of an annual fee not exceeding £3. This mark "may be used on any car on trial after completion, or on trial by an intending purchaser," but cannot apply to vehicles let on hire. In our "Comments" we make further reference to the matter. It should be remembered that Inland Revenue charges are a separate item.]

### TIMING EXTRAORDINARY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—At Milnthorpe, near Kendal, there were heard before the local magistrates recently three cases for driving above the legal limit. The evidence given by two policemen who worked the trap was, that over a measured quarter of a mile, the Hon. Geoffrey Howard, M.P., in a powerful motor-car (30-h.p. Napier, I believe) travelled the distance in thirty-five seconds, timed by a stop watch and an ordinary watch; a 16-20-h.p. Clement car did the same time exactly, and a motor-cycle did the same time. Three vehicles of such dissimilar power were sworn to have done

this remarkable performance, and yet there are people who do not believe in miracles, nor justices' justice. But the magistrates convicted on this evidence.—Yours truly,

GEORGE TRESNON.

### CHARGING ACCUMULATORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you, or any of your competent readers, would advise me as to the best way of charging the accumulator of my two-cylinder car from thirty-two E.P.S. cells with smallest waste and at least cost. Could it be done by coupling two of the cells to the accumulator, or should I couple three cells and insert a small resistance? I do not wish to have a lamp in use all the time if it is not necessary.—Yours truly,

R. J. WESTON.

[To recharge a 4-volt accumulator from cells forming part of a lighting set, it is necessary to connect up to three cells of the large set, and put a resistance in series with the accumulator being charged. Two cells would not be sufficient, because the voltage will only balance with the small accumulator, and three cells would be too much. Therefore the resistance is necessary. If a small ammeter is connected in the circuit, the amount of the resistance can be regulated to obtain the right charging current. It is advisable to charge from those cells in the large set which are used as the spare cells, these being, as a rule, under-worked, and charging from them should make no difference to the whole set when it is in use. This method of re-charging is the most efficient, and there is practically no waste of voltage, and it is also very regular and certain. Care must be taken to connect the positive terminal of the 4-volt accumulator to the positive pole of the accumulators, which is usually painted red. If the connecting bolts of the E.P.S. cells are loosened to make connections, they should be well tightened up after charging, as loose connections heat up and cause trouble.]

### THE VAGARIES OF "JUSTICE."

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Recently at the Brighton Police Court a motorist was fined £10 for exceeding the speed limit. Immediately afterwards a chauffeur from a trade firm who was said to have driven a 20-h.p. Leon Dusek on the Madeira Road at *sixty miles an hour* (while one policeman averred that it passed like an express train) was let off with a £5 fine. Why do magistrates differentiate in this way? Is there one scale of fines for the motor trade and one for private owners? Possibly, motorists would be indebted to you if you would ventilate this question in your valuable paper, as, if law courts are supposed to dispense justice, it should not be possible to fine one man £2 and the next £20 for practically the same offence.—Yours truly,

ADLEY TOLKIEN.

### THE DRIVING EXAMINATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to some recent remarks concerning the excessive cost of obtaining the Club's driving and mechanical proficiency certificates, I am pleased to say it has been an undoubted advantage to me to hold them. It facilitates the obtaining of employment and enables men to get the best wages for their services, and what is more still to the credit of the Club, they often put qualified drivers in situations, which is in itself a great benefit for a man out of employment, so personally I have not regretted the expenses incurred for the examination. I also endorse Mr. Orde's statement that it is a thorough and unbiased examination both for ability and character.—Yours truly,

DRIVER-MECHANIC.

REGAL CARS.—"A. G. R." writes:—"I am the owner of an 8-h.p. single-cylinder Regal car, De Dion engine, and am thinking of having some small alterations made. Could any readers favour me with the name and address of the London agents of the Regal vehicles?"

FUEL FOR STEAM CARS.—"J. M. A." writes:—"Would you or any of the readers of the *M.C.J.* kindly inform me where I could procure what is termed "Borneo Spirit," or other cheap grade petrol, for use on steam cars?"

TYRES.—"F. C." writes:—"Will some of your readers who have used both the Hopkinson solid tyre and the Ducable cushion tyre kindly give me their experience and their opinion of them after sufficient trial?"

MR. A. HORDEN, Scott Road, Beckenham, Kent, will give £50 reward for information leading to the apprehension of the thieves who stole his car, a 15-h.p. Panhard of the 1903 type, from his garage recently.

THE Beaufort Motor Company write that they are well able to hire out motor-cars, wagonettes, lorries, and vehicles as required by the Scottish hotel proprietor writing last week.

NUMBER PLATE BT 195 has been found. The owner can have it on application to A. H., 16, Wharncly Road, Loughborough.

THE NEW LEADER CARS.—"R. C." writes:—"Will any of the users of new Leader cars give their experience of same?"

## CLUBS AND ASSOCIATIONS.

### THE ROADS IMPROVEMENT.

At the annual meeting of the Roads Improvement Association, held on the 4th inst., at 1, Albemarle Street, Piccadilly, W., Mr. Robert Todd, who took the chair, in moving the adoption of the annual report, dwelt at length upon the "dust question," which is being taken up very seriously by the Association. He said it was very difficult to convince local highway authorities that a good road was cheaper than a bad one. It might cost a little more to construct in the first instance, but the cost of maintenance would be reduced to a minimum, and moreover a properly made road was practically dustless. The fault was to be found in the use of improper binding material. Too much mud and dirt were used by the majority of road makers.

The Rt. Hon. Earl Cadogan, K.G., was re-elected the president of the association. Other officers elected were the Hon. Arthur Stanley,

La Givre (Mr. J. Virgo-Vincent), Nore (Mr. L. Miles), De Dion (Mr. J. S. Holmes), Noyalen (Mr. J. Stirling), Bouton (Mr. J. W. Stocks), Arab (Mr. H. J. Walker), Javelin (Mr. A. G. Fentiman), Napier Major (Mr. S. F. Edge), Penelope (Mr. S. Wilensky), Marguerite (Mr. E. Illy), Iniada (Mr. F. B. East), Bobolink (Mr. F. C. Keller), Alaric (Mr. E. H. Heinke), Skidbladhir (Mr. G. W. Cobham), Trial (Mr. A. W. Bradbury), Tua (Mr. H. Meinhardt), and Janus (Mr. Seymour Harger).

### MANCHESTER MOTOR CLUB.

THE club held its first competition of the season on Saturday, up the Snake Hill, near Glossop. There were 29 entries and of these twenty-five competed. The hill course of one and a half miles starting from the "Shooting Box" corner has an average gradient of 1 in 12, though in places it steepens to 1 in 6 or 8, and of the twenty-five competitors only twelve managed to reach the finishing point. The results were as follows:—

- 1.—A. V. Baxter, 5-h.p. "Vindex" Motor-bicycle.
- 2.—H. Hurst, 32-h.p. White and Poppe Tri-car.
- 3.—A. H. Albert, 34-h.p. "Quadrant" Motor-bicycle.

The winner did a fast performance and takes no less than four prizes, including the club gold medal, the "Humber" vase (held one year) and two special prizes offered by the president, Mr. Dawley Brown, for the winner and best time. Hurst, the second man, being on a tri-car with single-cylinder engine, takes three prizes.



[Photo by

The Meet of the British Motor Boat Club at Kingston-on-Thames.

[Argent Archer.

M.P., vice-president; Mr. Robert Todd, chairman; Mr. W. Worby Beaumont, M.Inst.C.E., vice-chairman; and Mr. W. Rees Jeffreys, hon. secretary and treasurer.

### IRISH.

At the last committee meeting of the Irish Automobile Club some modifications were made as regards the Reliability Trials and Hill Climb for the 13th, 14th, 15th, and 16th of June. It was decided that there should be two independent classes, one for amateur drivers, who are ordinarily resident in Ireland as members of the I.A.C., who are not connected with the trade, and the other an open class, in which both the trade and amateurs may compete. The full conditions will be published shortly, together with the formula on which the marking, so far as the hill climb is concerned, will be based.

### BRITISH MOTOR BOAT CLUB.

THE opening meet of the British Motor Boat Club took place at Kingston on Saturday. Admiral Sir William Kennedy, K.C.B., led the flotilla of launches belonging to members of the club up-stream. The commodore, who was accompanied by the vice-commodore, the Marquis of Ailsa, and Lieut-General Sir W. Wright, was on board Elgiva, and as he left the landing-stage the following boats dropped into line: Fulsked (Mr. Miall Green), Flemette (Mr. Oswald Colls), Ayesha (Mr. L. Miles), Lellis (Mr. L. M. Waterhouse), Stirling (Mr. J. Stirling),

F. W. Newbury, 2-h.p. Minerva, who finished tenth in order of merit, also takes a special prize offered for best time accomplished by engines 80 by 80 mm. or under.

The other placings were: 4, A. J. Moorhouse (Chase); 5, T. Linnell (Quadrant); and 6, H. Andrews (Jap).

After the event over sixty members sat down to tea at the Norfolk Arms Hotel, Glossop, amongst the guests being Superintendent Savory, the local chief of police, to whom a vote of thanks was cordially passed.

### AUTOMOBILE AND CYCLE ENGINEERS' INSTITUTE.

A FURTHER meeting of the Automobile and Cycle Engineers' Institute was held at Birmingham on Thursday, last week, in connection with the proposal to transfer the headquarters of the Institute to London. Mr. A. E. Tucker (president) occupied the chair, but the members present were again not sufficient to form a quorum, very little interest apparently being taken in the proceedings of the Institute in the Midlands. The position was discussed in an informal manner and the business was then taken in hand by the council to deal with under the power conferred upon them by the rules. The council decided to recommend to the forthcoming annual general meeting of members several alterations in the rules which in effect would transfer the headquarters of the Institute to London. Officers were nominated for the ensuing year, including Lieut.-Col. Crompton, who was proposed

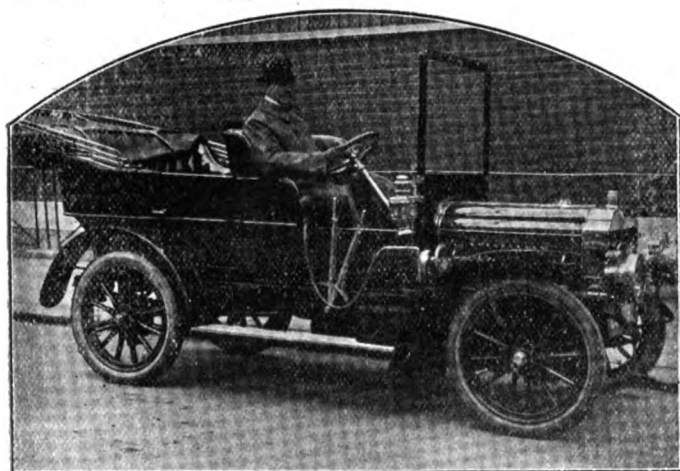
as president, and Messrs. G. Douglas Leechman and E. H. Godbolt (vice-presidents).

### THE SOCIETY OF AUTOMOBILE MECHANIC DRIVERS.

MR. A. R. IVENS having resigned the secretaryship of this society, Mr. Percy Loring is now acting as secretary *pro tem.*, and communications should be addressed to him at 51, Brick Street, Piccadilly, W. The society has been working quietly for nearly two years, and we are asked to publish a summary of its objects and rules, which are concerned with the efficiency and character of motor-car drivers, with a view to the mutual welfare of all concerned. It does not deal with questions of salary. Among contemplated activities is the provision of a club room for the interchange of ideas, the establishment of an employment bureau, and the giving of advice to drivers who may have to journey abroad. No mechanic-driver will be eligible for membership who has not had three clear years' experience in the profession. The entrance fee is 7s. 6d. and the monthly subscription two shillings.

### HERTFORDSHIRE.

At the Sun Hotel, Hitchin, a number of members attended on the second club meet of the season on Saturday. Amongst those present we noticed Mrs. and Miss Anderson (Panhard), Mr. and Mrs. Blakeley



A Bo Kow, the famous Juggler, who is known on the Continent as the Monte Carlo King, at the wheel of his Swift Car.

Photo by

[Ritton.]

(Miesse), Mr. and Mrs. Spence Brown, Mr. Hobson, Dr. and Miss Hickman (M.M.C.), Mr. Albin Hunt (Mors), Mr. and Mrs. Jay (Crossley), Mr. and Mrs. C. McWhirter (James and Browne), Mrs. Monro (tri-car), Mr. E. T. Pryor, Dr. Rudyard, Mr. Claude Watney (Pipe), Mr. and Mrs. Webster (Mors).

In the unavoidable absence of the hon. sec. a member of the committee called the attention of members to the forthcoming "Consumption Trial" for petrol cars, on Saturday, the 19th inst., and the Motor Union meet at Birmingham on the 26th inst. The chairman, Mr. McWhirter, strongly advocated attendance of members at this representative gathering of motorists.

### NORTH LONDON.

THE second run of the season took place on Saturday to Harpenden, where tea was taken at the George Hotel by forty-eight members and friends. Col. H. F. Bowles, the president of the club, took the chair.

After tea the first of the club competitions was held, the idea being to start, stop, reverse, start again and reach a given point, on a hill. The result was as follows:—

			Sec.
1st.	Chas. Smith ...	12-h.p. Darracq ...	49 4-5
2nd.	Max Graddon ...	24-h.p. Panhard ...	50
3rd.	Branson Griffiths ...	10-12-h.p. Humber ...	52 3-5
4th.	E. Swinger ...	8-h.p. De Dion ...	56 2-5
5th.	G. Smith ...	12-h.p. Darracq ...	59
6th.	R. W. Paul ...	10-h.p. Wolesley ...	63 1-5
7th.	W. Cornwall ...	16-h.p. Albion ...	66 1-5

Messrs. Horton and Cutler also started.

Col. Bowles will entertain the members and their friends at Forty Hall, Enfield, on the 26th inst.

THE Sheffield Automobile Club will have a motor-car run for crippled children on the 14th prox.

By permission of the Automobile Club, the committee meetings of the Aero Club will now be held at 119, Piccadilly. Lady Bowen has been elected to membership.

### NOTTINGHAMSHIRE.

THE meet of the Nottinghamshire Club on the private road of the Duke of Portland at Welbeck, on Saturday, was a great success. There were four events on a card which provided a full afternoon's entertainment, and from the club's point of view the most important was the Flying Kilometre Handicap, limited to standard touring cars, for the Wilson challenge cup and gold medal. In this the power, weight, and price of the car were all taken into consideration in framing the handicap, and how well the committee had done their work was proved by the fact that at the finish it was impossible to decide between Dr. Hogarth, who drove his 12-16-h.p. Talbot, and Mr. Spencer Downing, who had a 10-h.p. Alldays. Both cars will have to be further weighed before the committee can arrive at their verdict, and, needless to say, the result is being awaited with considerable interest. Twenty-three out of the thirty cars entered competed, and remarkably fast times were accomplished by some of the higher-powered motors. The competitors were as follows:—

#### FLYING KILOMETRE HANDICAP.

R. G. Hogarth, 12-16-h.p. Talbot	...	...	...	+
Spencer Downing, 10-h.p. Alldays	...	...	...	+
Miss L. B. Starkey, 12-14-h.p. Argyll	...	...	...	0
W. Hutchinson, 30-40-h.p. Daimler	...	...	...	0
D. McCraith, 10-12-h.p. Humber	...	...	...	0
A. N. Lee, 8-10-h.p. Humber	...	...	...	0
E. E. Fewkes, 15-h.p. Napier	...	...	...	0
A. Metheringham, 14-h.p. Minerva	...	...	...	0
F. A. Bolton, 30-40-h.p. Daimler	...	...	...	0
H. Bircumshaw, 16-20-h.p. Richard-Brasier	...	...	...	0
E. W. Wells, 30-40-h.p. Daimler	...	...	...	0
H. Belcher, 16-20-h.p. Humber	...	...	...	0
H. Belcher (No. 2), 10-12-h.p. Humber	...	...	...	0
J. A. Doran, 22-h.p. Minerva	...	...	...	0
M. Ross Browne, 15-h.p. Darracq	...	...	...	0
R. L. Jones, 16-20-h.p. Humber	...	...	...	0
E. W. Lewis, 16-20-h.p. Rover	...	...	...	0
R. M. Wright, 10-12-h.p. Humber	...	...	...	0
C. Johnson, 20-h.p. Rolls-Royce	...	...	...	0
T. C. Pullinger, 16-20-h.p. Humber	...	...	...	0
M. Ross Browne (No. 2), 16-20-h.p. Richard-Brasier	...	...	...	0
J. C. Wilson, 30-h.p. Daimler	...	...	...	0
J. Gaskin, 16-20-h.p. Argyll	...	...	...	0

The final event of the day was a scratch test over the flying kilometre, and for this the majority of the cars were stripped of mud guards, lamps, &c., in order to reduce weight and wind resistance. Thirteen cars competed. A new 30-40-h.p. Daimler, owned by Mr. E. W. Wells, and driven by his son, Mr. W. D. Wells, secured the gold medal, but how closely matched cars and drivers were may be gathered from the fact there was not more than two seconds difference between the first four. The placings were as follow:—

#### FLYING KILOMETRE (scratch event) for gold medal.

E. W. Wells, 30-40-h.p. Daimler	...	...	...	1
F. Coleman, 18-h.p. White steam car	...	...	...	2
W. M. Hutchinson, 30-40-h.p. Daimler	...	...	...	3
J. C. Wilson, 28-36-h.p. Daimler	...	...	...	4
F. A. Bolton, 30-40-h.p. Daimler	...	...	...	5
J. A. Doran, 22-h.p. Minerva	...	...	...	6
C. Johnson, 20-h.p. Rolls-Royce	...	...	...	7

The success of the White car was all the more notable as Mr. Coleman did not appear to really get under weigh until after he had passed the starting line. This performance on the level should sustain the interest felt in the car's hill climbing achievements during the season.

### MANCHESTER AUTOMOBILE CLUB.

THE Manchester Automobile Club had their fourth run of the season on Saturday, the destination being Moreton Old Hall, a few miles south of Congleton. It is the custom of the club for the members to travel independently to the meeting-place, thus helping to mitigate the trouble caused by the dust which is inevitably raised in dry weather, pending such time as the authorities are able to undertake the making of roads which will be found suitable to the new traffic they have to carry. The outward run was performed by all the cars in good style, and on the return journey the bursting of a tyre was the only mishap of note.

### ESSEX.

THIS club held their hill climb and brake test competition at Laindon Hills, Essex, on Saturday last. The competitors attended at Brentwood Station, where the cars were duly weighed on the weigh-bridge belonging to the Great Eastern Railway, and they then proceeded to Laindon, a distance of seven miles.

The whole of the members and their friends were the guests of Sir Joseph Dimsdale, Bart., to luncheon at his charmingly-situated residence, Goldsmiths, on the hill. Nearly one hundred and fifty members and friends sat down to luncheon, after which a hearty vote of thanks, moved by Mr. Burnett Tabrum, J.P., and seconded by Col. W. Nevill Tufnell,



for the hospitality of Sir Joseph and Lady Dimsdale, was carried with acclamation. Sir Joseph placed one of his meadows at the foot of the hill for the use of the members as an enclosure, and assisted the club in every possible way. The whole of the proceedings were ably carried out by the officials, among whom were:—Judge, Col. W. Nevill Tufnell; clerks of the course, Messrs. L. W. Dent, E. A. Serre; marshals, Messrs. W. Forster, G. Earle and V. E. Castellan; timekeepers, G. N. Finlay and the official timekeepers of the A.C.G.B.I.; clerk of the scales, Mr. W. Forster; starter, Mr. T. Clarkson; signallers, Messrs. L. C. Clayton and S. Fearn; secretary of the meeting, Mr. F. Lindus Forge.

Twenty-six cars had entered the competition, but only the following put in an appearance at the start, although thirty-five cars attended the meet:—

Mr. J. Gurney Fowler	...	24-h.p. Panhard.
Mr. Burnett Tabrum	...	12-h.p. Wolseley.
Mr. F. P. Cayley	...	6-h.p. De Dion.
Sir Charles B. Locock, Bart.	...	16-h.p. Fiat.
Mr. R. L. Curtis	...	7½-h.p. Wolseley.
Mr. Japh Mason	...	10-h.p. Royal Enfield.
Mr. Japh Mason	...	26-h.p. Simms-Welbeck.
Mr. J. R. B. Newman	...	18-h.p. Mercedes.
Mr. E. E. Bentall	...	8-h.p. Crypto.
Mr. C. E. Castellan	...	24-h.p. Elswick.
Mr. Arthur J. Mills	...	16-h.p. Gladiator.
Miss Edith Miller	...	10-h.p. Panhard.
Dr. Butler Harris	...	15-h.p. Ariel.
Mr. E. E. Bentall	...	16-h.p. Richard-Brasier.
Mr. B. W. Tolhurst	...	20-h.p. Lancaster.
Mr. F. Lindus Forge	...	14-h.p. Star.
Mr. F. Lindus Forge	...	7-h.p. Star.
Mr. Robert Page	...	20-h.p. Mercedes.

A stop had been arranged half-way up, and at the steepest part of the hill, having a gradient of one in seven, cars had to stop within a marked space of ten yards for thirty seconds, and the restarting proved to be a very severe test, as several cars failed here. After arriving at the finish the cars returned by another route down into the members' enclosure.

The quickest time was made by Captain Newman, and the second best by Mr. J. Gurney Fowler, but, as the competition was a handicap, the quickest time is not necessarily the winner. The handicap has not yet been worked out, but will be notified in the *M.C.J.* in due course.

THE Norwood Motor Club held a run to Sevenoaks on Saturday. On Sunday they went to the Old Ship Hotel, Brighton.

A MOTOR cycling club is being formed by Mr. R. M. Stevenson, 54, Truro Road, Wood Green, N.

MOTOR-CYCLES will be started before the cars in the Motor Cycling Club's run to Edinburgh.

A MEETING of the Kent Automobile Club was held at Folkestone on Saturday, the following members being present:—Dr. C. M. Vernon, Mr. Harold F. Holman, Dr. C. H. Tamplin, Dr. C. A. White, Mr. S. H. Page, Mr. W. P. Bolton, Mr. A. H. Reed and other members and friends.

ON Wednesday, the Cardiff Motor Club held a hill-climbing competition for motor-cycles at Pentryrch Hill, Taff's Well.

### A SCHOOLBOY'S VIEWS ON MOTORING.

A TEACHER at a County Council School in South London instructed his boys a few days ago to write a short essay on any subject they liked. Motoring was the subject chosen by one of the boys, whose effort we reproduce below:—

My father as got a motor. It is not so very big, but it holds us all. The number of it, is A \* \* \* \*; that means London. The horsepower is 8 it goes 20 miles an hour. It can go more than that, but the police won't let you, on Saturday there were three motor's, first one was a very big one, and second one, was about the size of our own. The first one I mentioned, was going more than 20 miles an hour, and the police made us all stop. He said it was not the last two, but the first one. If he did have a fine, that would mean 5 pounds out of his pocket. We have had our motor 2 years this month. We have never had a fine, and we don't wish to have one. And we never had an accident; it goes pretty quick. I love going in it, and I like going in other ones as well. We have been to Blackpool and plenty of other places as well on it. I wish we had a shade on it, as it would keep the rain off.

### ROAD REPORT.

WEST SUSSEX.—The West Sussex County Surveyor reports that the main roads as a whole have been well maintained during the past year, and that, with a few exceptions, their condition has been improved. The increase in motor and other heavy traffic has been considerable, and several experiments have been carried out during the year with a view to the abatement of the dust nuisance, and also with a view to finding a more economical form of road maintenance. So far, the Surveyor reports, these experiments have proved fairly successful, but it is yet too early to give an opinion as to the saving, if any, over the old form of maintenance. The experimental patch of tarred material laid on the Horsham and Brighton road, near Lower Beeding, after four years, is still in splendid condition, and shows little, if any, signs of wear.

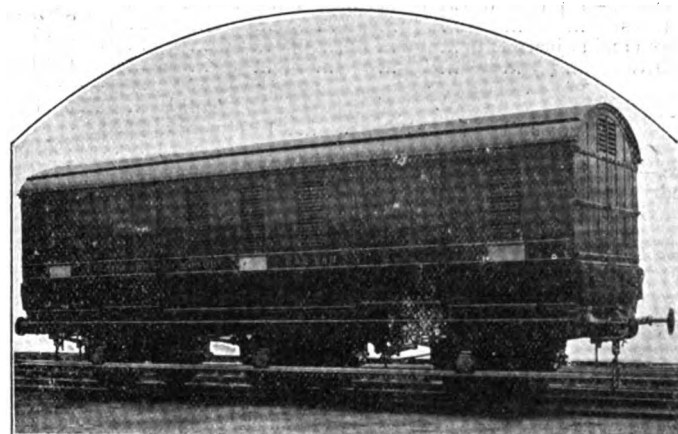
### THE MARKYATE ACCIDENT.

AT Hemel Hempstead last week, Albert Carter, chauffeur to Mr. C. W. Preston, of Lancaster, who was fatally injured in a motor-car accident at Markyate Street, Bedfordshire, on the 30th ult., was charged with the manslaughter of Mr. Preston.

P.S. Boarder said he was in his house at Markyate Street, and heard a motor-car pass the front door. He said to his wife, "That is going at thirty miles an hour." He rushed to the door to try and take the number, but could not, as the car was travelling fast out of sight. A few minutes later he heard of an accident in the direction in which the car was going, and, jumping on his bicycle, he rode to the scene, at River-hill cross roads. He there saw a horse lying on the road with one leg nearly cut off. A cart was lying upside down, and there was a motor-car about twenty yards away. Horace Peddar, who had charge of the cart, was lying in the road shouting, "My legs are broken!" He assisted him, and then saw Mr. Preston lying by the side of the road with severe injuries to his head. Mr. Preston was conscious, and said in a low tone, "Are we to blame?" He replied, "I don't know." The witness then asked the chauffeur if he had sounded the horn, and he replied "Yes, all along the road." There were danger signals at the cross-roads where the accident happened. The accused was remanded, and bail was allowed in £100.

At Hemel Hempstead on Tuesday the chauffeur was charged with manslaughter. Mr. J. Murphy, who prosecuted for the police, said that when the accident happened the prisoner had driven the car from Coventry to Markyate, a distance of sixty miles, in two hours. It was for the Bench to decide whether that was a reckless speed. The case was adjourned until Saturday, the 12th inst., bail being allowed.

The adjourned inquest in connection with the Markyate motor accident took place on Tuesday afternoon at Hemel Hempstead Infirmary. Horace Peddar, the man who was leading the horse and cart into the



The Midland Railway Company's Special Motor Car Van.

main road when the collision occurred, and who sustained a broken leg, in evidence taken at his bedside, said he heard no hooter. He thought he could get across the road before the motor passed, but it seemed to come upon him all of a sudden. It was some distance away when he first saw it, but did not appear to slow down. The jury, after deliberating an hour and a half, disagreed, voting ten to three in favour of negligence on the part of the chauffeur. The coroner accordingly adjourned the inquiry to the date of the Herts Assizes, June 27, for the judge to direct the jury.

### THE EMISSION OF SMOKE BY MOTOR-BUSES.

THE Motor Omnibus Company (Limited), of Albany Street, Regent's Park, has been summoned for using at London Road, Southwark, on seven days, locomotives which emitted smoke, vapour, and smell to such a degree as to be a nuisance to the public. The magistrate, Mr. C. Chapman, in giving a considered judgment, said the question raised in these cases was whether the words "and consuming as far as practicable their own smoke" were meant to cover the case of negligence by a servant. It was not free from difficulty, but after considering all the cases bearing upon it he had come to the conclusion that the general words were intended to cover every sort of failure which was not attributable to temporary accident. The evidence which had been given for the defendants showed clearly that with really skilled drivers it was practicable to avoid any smoke being emitted from the engines, and it was not disputed that owing to over-lubrication by the chauffeurs in each case smoke was emitted. He thought the defendants were using a locomotive which was not consuming, so far as practicable, its own smoke, and were liable to the penalty provided. No sort of crime had been created by the statute, and the doctrine of *mens rea* did not apply. In "Niven v. Greaves" an owner was held liable for the negligence of a stoker, though the furnace was properly constructed, and in "St. Helens District Tramways Company v. Wood" a company using mechanical power was penalised for the negligence of a driver in not

ighting his lamps. Lord Justice Day remarked that it seemed hard upon the defendants, but they might have secured exemption by bringing the actual offender before the Court. This the present defendants had not done. However, as the case appeared to be one of first instance, and the defendant company were not to blame, they would only be fined 40s. and costs in each case.

Mr. Curtis-Bennett asked the magistrate to state a case on the point of law as to whether the owners or the drivers were responsible.

Mr. Cecil Chapman readily consented to state a case upon the first summons, and to allow the other six, which had not been heard, to stand over, pending the result in the High Court.

### THE ARGYLL PRIZE-WINNER.

WHEN the London depot of the Argyll cars was opened, prizes of £5 were offered to the drivers who completed 5,000 miles at a running cost of less than £42. The first to claim the award is W. W. Perks, driver to Messrs. Mac Dowall, Stevens, and Co., who writes:—I beg to say I have completed 5,192 miles on a 10-12-h.p. two-cylinder Argyll at a total cost of £28 19s. 5d., as per the attached copy taken from my firm's books. Nearly all my mileage has been done over some of the worst roads to be found for a radius of thirty miles round London, and the car has been on the road every day, doing an average of fifty to seventy miles, with the engines only stopped during the dinner hour. I have not been laid up once on the road.

	£	s.	d.
Petrol.—310 gallons	11	7	2
Oils.—Engine oil, 13 gallons	£2	10	0
Machine oil	0	10	0
Grease and paraffin	0	4	3
Paste, dusters, and waste	3	4	3
Renovals.—4 plugs, 6 valve springs, 1 fan belt, 2 ball races	0	13	9
Repairs and adjustments	2	9	10
Sundries	6	16	6
	0	19	9
Total	£25	11	3
Total miles run, 5,192	16	74	per gallon.
Expenditure £25 11s. 3d.	1	18	d. per mile.
Tyre.—One inner tube (not used)	1	14	0
Sundries.—1 oil can	0	1	6
1 spoke brush	0	2	6
Hose for garage	1	0	0
1 second-hand accumulator	0	10	0
	£3	8	0

### POLICE TRAPS.

A POLICE TRAP was in operation on Saturday last on the Kingston road, near the Robin Hood Gate of Richmond Park. It was apparently in control of three constables, two being in plain clothes.

The police trap at Alconbury Hill, Hunts, is being very actively worked.

A TRAP has been arranged on the Aylesbury road between the twenty-seventh and thirty-first milestones, at Little Berkhamsted and Ashton Clinton.

AT the High Wycombe police court on Saturday the police admitted that the "old police trap" had been abandoned as it was now too well known by motorists.

CORNISH readers should beware of the traps on the road between Bodmin and Truro.

THERE is a trap on the road leading from Rickmansworth Station to Cheries. The measured distance is two miles and the production of licences is frequently demanded by the police in charge. Another reader informs us of a trap on the road from Rickmansworth to Amersham. This is worked across a field, and is situated between Chorley Wood Common and Cheries.

### MOTOR-CAR ACCIDENTS.

A MOTOR-CAR, containing Mr. W. Bansted, of Wimbledon Common, and a lady named Miss Harne, was descending a steep hill at Titsey, near Limpsfield, on Monday, when the brakes failed to act, and the car rushed down the hill at a tremendous speed, swerving from one side of the road to the other. At the bottom of the hill the car crashed into a park fence, and turned a complete somersault, throwing the occupants out. The lady was injured, and the car wrecked.

WHILE Mr. and Mrs. F. G. Lucas, of Addison House, Bedford Park, and Mr. and Mrs. Dean, of Sutton Lodge, Chiswick, were motoring along the Bath road at Calcot, near Reading, on Monday afternoon, they encountered a miller's wagon, the leading horse in which swerved across the road at the approach of the motor-car. To avoid a collision the chauffeur steered towards the bank and ran into a telegraph pole, which caused the motor-car to overturn. All the occupants were thrown into the road, but no one was seriously injured, and after being attended to at a cottage near by, they were able to return home by train. The motor-car was considerably damaged and both horses in the wagon were injured.

ON approaching a crossing just outside Retford the chauffeur of

Mr. Louis de Silva the other evening seems to have misjudged the distance of the red light danger signal, and, being unable to pull up in time, the car ran into the gate, the frame of which was smashed. The occupants of the car were thrown out, but were, fortunately, uninjured beyond receiving a severe shaking. The vehicle itself was much damaged and was subsequently towed to Mr. C. Clark's garage at Retford for repair. Mr. de Silva and his driver received good attention at the hospitable quarters of the Road Club, Ye Olde Bell, Barnby Moor.

### CASES AGAINST MOTORISTS.

AT Milnthorpe, the Hon. Geoffrey Howard, M.P., was summoned for exceeding the speed limit. The police evidence was to the effect that on Good Friday the hon. gentleman drove his motor-car over a measured quarter of a mile at Bentham in 35 seconds, over twenty-five miles an hour. A fine of £5 and costs was imposed. A similar fine was imposed against Thos. Parkinson, motor-car driver, of Lancaster. Defendant was driving Mr. Argles, a local magistrate, from Lancaster to Haversham on the evening of the 19th inst., and the Bentham "trap" was covered in 35 seconds. George Tresnon, draper, Lancaster, was fined £3 and costs for driving a motor-bicycle over the same course at the same rate.

ON Saturday three motorists were before the Lancaster County Bench. One, George Smith, of Leeds, was charged with exceeding the speed limit over the Burton road quarter of a mile on April 18th. Mr. Willey, of Leeds, who appeared for the defendant, cross-examined the police witnesses, commenting on the crude method of signalling, and pointed out that there were three operations necessary. First there was the signal, then the man with the watch had to receive it, and thirdly he had to set going and next to stop his watch. Those operations must take time. He also criticised the watch, and called expert evidence to show that the watch was of a type that was slow in movement for timing purposes, because when the seconds hand was stopped by the timing policeman it stopped all the workings of the watch. During the progress of the case the chairman handed down a roughly drawn sketch of the "trap" and the signalling-place to Mr. Willey, with the remark, "We know the trap very well." Both the defendant and the owner of the car, Mr. Kirk, gave evidence stating that they were of opinion they were not going at anything like the speed limit, and they were both experienced motorists. Mr. Kirk said he knew they were in the vicinity of a police trap from information given him on the road, and they drove slowly in consequence. A fine of £5 and costs was imposed.

MR. ALBERT J. ROWLANDS, of Gwynfryn, Bangor, was charged with driving his car over the Bolton road trap at 23½ miles an hour on Easter Sunday. The police evidence was criticised by Mr. Lewis, of Bangor, who appeared for the defendant, and who had been one of the passengers in the car. Another North Wales solicitor, Mr. Rowland Hartley Gascoigne, who had also been in the car, gave evidence. The point made by Mr. Lewis was that they were warned before they reached the trap by a motor-tricyclist, and that they were certain they were travelling within the limit. It was because they honestly felt they had a proper answer to the charge that the defendant and his friends had travelled from Bangor to Lancaster to defend it. Had they not been so convinced in their own minds they would have found it much cheaper and more convenient to let judgment go by default, with a letter to the Bench. A mass of evidence was given to the effect that the car was not travelling at more than fifteen or eighteen miles an hour. The defendant was fined £5 and costs, and ordered to pay costs for not producing his licence when demanded.

Place.	Summoned for	Result.
Retford	Exceeding legal limit	Dismissed.
Shoreham	Exceeding legal limit	£4, etc.
Milnthorpe	Exceeding legal limit	£5, etc.
Hove	Dangerous driving	£4, etc.
Farnham	Exceeding legal limit	£1, etc.
York	Dangerous driving	5s., etc.
St. Neots	Seven cases of exceeding legal limit	One dismissed; in others fine of £5, etc.
High Wycombe	Exceeding legal limit	£1.
Bow Street (London)	Dangerous driving	£3 3s.
Acton	Driving a motor-bus at a speed exceeding twelve miles per hour	£3, etc.
Long Eaton	Driving dangerously	£2 2s.
Nottingham	Reckless driving	Dismissed.
Gravesend	Dangerous speed	£18, etc.
Marplebone	Dangerous driving	£5, etc.
Totnes	No rear light	10s.
Haywards Heath	Eleven cases furious driving	Aggregate fines and costs £70.
Colchester	No identification mark	5s., etc.
Watford	Reckless driving	£2, etc.
Cambridge	Dangerous speed	Dismissed.
Lancaster	Exceeding legal limit	£5, etc.
Beaconsfield	Exceeding legal limit	Dismissed.
Uxbridge	Exceeding legal limit	£3, etc.

# THE

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be at the wheel of a 40-h.p. Ariel Simplex, while many of the other drivers who figured in the Trial of 1905 will again take part in the competition. Several of the new competitors are, we hear, already familiarising themselves with the intricacies of the route, which will be a pleasing variant on the first and last stages of the 1905 Trial. Edinburgh will be the first resting-place instead of Dundee, and owing to the absence of the Aberfeldy hill climb the travellers will enjoy a glimpse of Killin and its picturesque country.

### Slow Round Curves.

letter emphasises the point we made last week as to drivers going carefully round curves, particularly in unfamiliar localities, and the slowing down in narrow roads. As was then mentioned, some of the leading automobile firms issue very complete directions to their drivers on these points, and private owners should be equally mandatory with regard to their chauffeurs. Mere verbal instructions are frequently disregarded ; gentlemen should, therefore, when engaging drivers, give them written instructions as to slowing down when approaching curves and easing their speed in narrow ways. An interesting point is brought out in the letter with regard to the value of the parallel footpaths which run along many broad roads and which secure protection both to the pedestrian and to the user of the road. These may be advocated wherever the width of the highway permits, but even then all danger is not averted. There are many people in rural districts who prefer the broad carriage way as a walking ground, and who require something more than the hooting of the horn to take them to the side of the road. They constitute a problem with which the rector of Dodington and other gentlemen in like circumstances might deal.

### Necessary Lessons.

**Necessary Lessons.** TEACHERS in the schools and parsons in the villages might well join in warning young children, and older persons who have not altogether put away the habits of early days, of the dangers that lurk in disobedience to the ordinary promptings of common sense. Before crossing roads people should give heed to the traffic that can be seen or heard ; once determined to pass over the roadway they should not hesitate when reach-

ing the camber of the highroad ; that portion of the road used by carts, motor-cars, and horses is not a public playground ; pedestrians should keep to the path or the side of the road ; and a little thought should be given to the ordinary business of walking. The man who travels *à pied* must recognise his responsibilities on the road just as much as the man in the car, and the enforcement of such suggestions as those we have indicated on our rural population should be regarded as among the essentials of education.

### Mileage and Direction Posts.

**Mileage and Direction Posts.**

WHEN his chauffeur was summoned at Chertsey for exceeding the legal limit, Mr. Marshall Hall, K.C., remarked that it would be an enormous advantage to motorists wishing to keep within the law if the miles were indicated on the direction posts. Then they could accurately time the pace at which they were going. Mr. Hall was returning from the New Zealand Golf Links (Byfleet) on a recent Sunday when "captured." He was sitting beside the chauffeur, and desired the police inspector to take his (Mr. Hall's) name instead of that of the driver. It being a case of exceeding the limit, however, the officer did not do so. Mr. Marshall Hall said the police treated him most courteously and fairly. Yet he contended that it was impossible for a police officer, however good his intentions, to take the time accurately with one chronometer. There were five persons in the small car, which had just crawled over a bridge, and it was absolutely impossible to get up a speed of thirty-nine miles an hour in such a short distance. He always instructed the chauffeur to proceed very slowly over bridges, as he felt that one day a terrible accident between two cars would occur on the crown of a bridge. On his oath he believed they were not proceeding at the pace alleged by the police. Despite this, however, the driver was fined.

### A Helpful Hint.

**A Helpful Hint.**

THERE is much to be said in favour of Mr. Hall's idea being universally applied. In several districts it is already carried out, and on hundreds of milestones there are evidences—worn, discoloured and faintly legible—that mileage measurements were once made public. Possibly the clearest direction posts yet adopted by any local authority are those of the Cheddar country, where a good height and sensible lettering are characteristics that find favour. Of course we do not desire to reduce the scenery to the tameness of a map, but, just as every post office should have the name of the hamlet which it serves conspicuously painted on the outer wall, so the finger-posts might be utilised as measurement recorders, enabling travellers to judge of their rate of progression and affording useful information that all who run, or walk, may read.

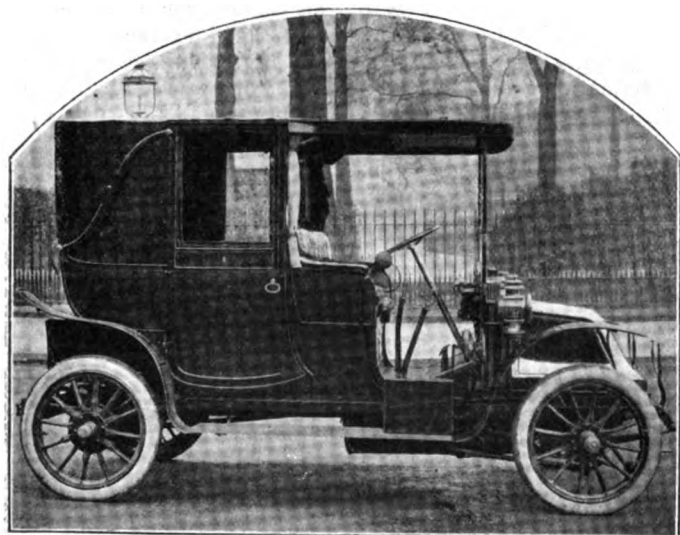
### Motor-Car Imports and Exports.

**Motor-Car Imports and Exports.** ANOTHER very large importation of foreign motor-cars and automobile parts into this country took place during last month. The returns now available show that no less than 591 cars were imported, their value amounting to £224,639. Parts were responsible for a further £178,590, giving a combined

total of £403,229 as compared with only £293,903 in the corresponding month of last year and £202,499 in April, 1904. For the first four months of the year the aggregate imports have amounted to £1,527,291, an increase of nearly half a million sterling. The exportation of British-built cars continues to show a slow but steady upward tendency. Last month 62 vehicles were shipped from this country of a value of £23,645. Parts accounted for a further £16,747, the combined total of £40,392 comparing with only £26,225 in April, 1905. For the first four months of the year the aggregate exports have attained a value of £199,570, an increase of £91,120.

### An Injustice to Great Britain.

THE question which an Irish member asked the President of the Local Government Board on Monday served to illustrate one of the anomalies of taxation in this country. It was complained that Irish motor-car owners who brought their vehicles to England had to pay a tax of £2—a charge which Mr. Burns showed was levied on cars and carriages alike without respect to the power that moved them. In Great Britain the tax falls upon all carriages; in Ireland owners of such vehicles escape the infliction. Hence the confusion which arose with regard to the matter.



The Renault 10-14 h.p. Four-Cylinder Landaulet which Messrs. Renault Freres, Ltd., have just supplied to His Majesty the King.

### Not the Fault of the Motorist.

Not often does a magistrate recognise that motorists may, in spite of police evidence, be in the right when prosecuted for dangerous driving, or any of the other offences to which they are said to be addicted. A Harrogate motorist has been summoned at Bradford for driving to the danger of the public, the occasion being when he collided with a horse-drawn trap in such a way as to cause serious injuries to the driver of the latter. There was the usual police evidence as to speed, but, fortunately, other witnesses were able to declare that the horse and cart were on the wrong side of the road, and that the motor-car sought to get around to avoid mishap. This was further proved by Mr. J. G. Hammond, whose car was that referred to, and ultimately the stipendiary magistrate, Mr. C. Skidmore, said the Bench were not satisfied that the car was being driven recklessly or negligently, and they were not satisfied that it was driven at a speed dangerous to the public. The person to blame was the driver of the trap. Mr. Hammond had exercised very great care and precaution in trying to avoid a collision, which forced him upon his wrong side of the road. The summonses had, therefore, failed, and they would be dismissed. Yorkshire motorists should be thankful in the possession of such a fair-minded magistrate.

### Carrying by Motor-Boat.

PICKFORDS have already familiarised Londoners with the fact that they have eighty-three motor-vehicles in public service carrying goods and parcels to the orders of their clients. They are now appearing as motor carriers on the river, having added a motor cargo craft to their steamers which ply from London to Portsmouth and Southampton. The advent of the motor-boat to the realms of commerce is a significant event, for it suggests a new line of thought to the Canal Commissioners now sitting, and should encourage builders of such vessels to develop the commercial motor-boat just as car constructors are finding wide avenues of usefulness in the vehicle for the use of the trader.

### The Derby Club.

ALTHOUGH the Derby and District Club has been comparatively silent in the automobile world, it has done much useful work, and from the report on another page our readers will recognise the interest that attaches to some of its doings. It is more than two years since it adopted the policy of not holding organised runs, but merely appointing a meeting place, leaving the route to be selected by the members according to their individual tastes and convenience. Apparently the members are partial to hill climbs, for the second one is being undertaken to-day (Saturday), and on the 2nd prox. they will participate in the Du Pre Challenge Cup hill climb, limited to members of their own and of the Notts and Leicester Clubs. A similar event will be again contested in July. These, with a gymkhana at Burton-on-Trent and a run to delightful Dovedale, should prove pleasant alternations to the meets of the Motor Union, which will be loyally supported by the motorists of Derby.

### Motor 'Buses v. Tram-cars.

DURING the recent discussions at the A.C.G.B.I., none were of such real importance as that which followed Mr. E. Manville's paper on "The Field of the Electric Tramway and Motor Omnibus." Several leading authorities from the engineering, financial, legal, and other points of view gave their views, and now we have received a very luminous and exhaustive answer to all the criticism from the author of the original paper. Mr. Manville has devoted time and thought to the matter, and we regret that pressure on our space prevents more than the publication of a part of his reply in our columns. The suggestion he makes that the motor-'bus may have to bear some of the cost of road construction sounds novel from the motorists' side of the case, but is, perhaps, perfectly natural to one who has had wide experience in tramway matters. Summing up the whole matter, Mr. Manville believes that both motor-'bus and tramway has its own field, and that only in few cases will the conditions be such that it will be difficult to decide which system is the more applicable. Where ill-advised competition should unfortunately arise, the public on the one hand and the shareholders on the other will decide on the survival of the fittest, and he suggests that no amount of academical argument will alter this, the practical issue.

### Railway Enterprise.

THE London and North Western Railway Company have commenced running a service of motor-omnibuses between Watford Station and Croxley Green, a large village situated three miles from Watford, which has hitherto had no means of railway communication. With the new hourly motor-omnibus service, Croxley Green is brought within 55 minutes of London, by way of Watford Junction Station on the company's main line, and the inhabitants have not been backward in taking advantage of the new facilities. The omnibuses, after running through Watford Market Place and Harwoods Estate, reach the Rickmansworth road at the golf club, situated in Cassiobury Park, the beautiful estate belonging to the Earl of Essex, where



members are set down ten minutes after leaving the station. The vehicles then skirt Cassiobury Park until the Grand Junction Canal is crossed, where the road turns westwards, and after another mile of fine open country they reach Croxley Green Church in little over twenty minutes from the start. The company will shortly inaugurate another motor-omnibus service between Watford and Harrow and Wealdstone Stations, by way of Bushey Heath, and for this purpose some powerful motors are being constructed, to negotiate the severe hills between Bushey Station and the Heath, some of which are as steep as 1 in 12.

#### Cardiff and its Motor-Wagons.

THE experience of the borough of Cardiff with regard to scavenging by motor vehicles as a substitute for horses has been much commented upon, and some reference to the actual facts of the case may be useful as well as of general interest. The Corporation has had four motor vehicles at work, and from the discussion at the last meeting it was evident that the authorities were scarcely satisfied with regard to the higher

#### Short Sightedness in Douglas.

FORTUNATELY the object of the A.C.G.B.I. in holding its Reliability Trials in Manxland was not to convert the local authorities to incline favourably towards automobilism. Had such been the aim of the annual incursions into the island we should have had to write of "Love's Labour Lost." Knowing of the education in motoring that the people have had, and being certain of the popularity that motor-cars would enjoy with visitors, two owners of such vehicles have made applications to ply for hire at Douglas during the season. But, alas! the Town Council has rejected the proposal, and only one councillor seems to have shown sufficient enlightenment to have declared in favour of the idea. It is to be hoped his action will not cost him his seat at the next election; but doubtless local influences have been at work, and the whip of the Jehu had been flung—metaphorically, of course—around the Council Chamber, rendering all willing to prevent the admittance of a new rival. There is no doubt that the institution of a motor-car service in the Isle of Man would prove an advantage to the northern part



The A.C.F.'s Odotachymetre Competition. The competing cars with the speed indicating and mileage recording instruments starting on the 100-kilometre Road Test. (See page 262.)

cost of the motor scavenging as compared with the older style. In the end the city engineer was directed to make minute inquiries as to the methods adopted in other towns where such vehicles were in use, and make an exhaustive report to the Council.

#### The Royal Commission.

DOUBTLESS the fact that the Motor Car Commission has not yet reported has influenced the Local Government Board in its replies to the suggestions of the Roads Improvement Association. It provided the President of the Board with a reason for delaying adequate answers to questions relating to automobilism which were propounded in the House on Tuesday. We would suggest that those interested in furthering the cause of motorism in Parliament should now direct their interrogations with a view to hastening the publication of the Report. All semblance of hasty legislation must be avoided by opportunity for careful consideration of the proposals by those directly concerned before they are embodied in a Bill.

#### A Luxury for the Rich?

of the island and spread prosperity over the whole area. Surely a *modus vivendi* can be arranged, and if the hired motor-car is not to prowl about the promenades it might be allowed to carry visitors to those northern districts which, at present, are but a name to many who seek recreation in Mona.

FROM St. Albans has gone forth a communication to all the District Councils of the country setting forth the disadvantages of dust and advocating the development of a great national movement for its abolition. More than that, those who watch the fortunes of the Hertfordshire town would like to gather in more revenue from the hapless motorist in order to provide him with a well-watered surface. This decision is now being discussed with much heat and, in some cases, reason in many parts of the country. Away in Cumberland the Countess of Carlisle, whose son represents the district in Parliament, has been discussing the matter with the members of the Brampton District Council, and suggesting that a heavy

tax should be imposed upon motorists, "as motoring is a pure luxury at present." We do not know whether the Countess will be disposed to regard us as ungallant, but, despite her well-emphasised views on this point, we must be allowed the privilege of differing from her ladyship.

#### The Man of Moderate Means.

MOTORING may be regarded as a luxury for the rich, but it is also a delightful recreation for the middle-class man and the small trader. The ownership of big cars that seem to devour police traps in their course, leaving only the smaller ones to be engulfed in the machinations of the police, is, of course, only possible to a wealthy person; but the majority of vehicles seen upon the roads belong to people who do not disown the description of "men of moderate means." The professional man engrossed in his work all the week finds a motoring week-end the best tonic that any physician can prescribe, and the trader rejoices in early closing and steady motoring as a happy combination for which St. Lubbock and the Petrol Engine may be jointly thanked. More than that, despite the despondent utterances of a company chairman, the minor form of automobilism, the motor-bicycle, has its devotees, as the roads of all our town suburbs testify any Saturday or Sunday. However accurate may be her opinions on other matters, the Countess of Carlisle must be regarded as speaking tangentially from the truth when alluding to motoring as but a luxury of the rich.

#### Pioneer Workers.

THE retirement of Mr. S. R. Rhodes from the honorary secretaryship of the Wolverhampton Automobile Club brings to mind the services that have been and are being rendered to the motor-car movement by scores of earnest workers throughout the country. There is no doubt that the present proud position of motoring is due in a great measure to the provincial and other organisations that have allayed prejudice and disarmed opponents in influential circles. The honorary officers of such clubs have given splendid service, and can be assured of the value of their work in many ways. The case of Mr. Rhodes is illustrative of several instances that might be given of untiring devotion to the work. He convened the first meeting of the Wolverhampton Club, and not until considerations of health make his resignation imperative has he ceased to promote its prosperity and extend the influence of the automobile movement in his locality. Such men as Mr. Rhodes must be acclaimed as among the best friends of automobilism, and when the motor-car becomes universal their pioneer labours should be gratefully remembered.

#### Sense at Scarborough.

THE whole is wiser than the part is sufficiently akin to Euclid's wording to pass muster in the present age. Certainly the statement is true of the Corporation of Scarborough, which has been considering a proposal on the part of its Watch Committee that application should be made to the Local Government Board for a regulation limiting the speed of motor vehicles in the town to ten miles an hour. This was decided by the Watch Committee on Monday afternoon, but in the evening the Town Council met and rejected the recommendation, apparently recognising the fact that such restriction was not calculated to be in the interest of the townspeople.

#### The Police Inquiry.

WHEN it was announced that a Royal Commission was to inquire into the subject of policemanism, we had hoped the strange methods of combined truth and dubiety which flourish among some county constabulary forces would have formed a section of the investigation. The Automobile Association would have been able to furnish some interesting evidence

on that point, and have convinced the Legislature that the doings of the rural police with regard to motorists are often more atrocious than some of the allegations which have been made against one division of the Metropolitan force.

#### In the Thames Valley.

To those motorists who would explore the beauties of the Thames Valley Maidenhead presents many points of vantage. The great Bath road runs through the town and forms its main street, while the recent freeing of Maidenhead Bridge from tolls is a matter of interest and economy. This is situated at the eastern entrance to the town, and close by is Brunel's famous railway bridge, which spans the river by means of two brick arches. Maidenhead is the centre of beautiful scenery of no ordinary character, Cliveden, Marlow, Dropmore, Burnham, Windsor, Stoke Poges, Chalfont St. Giles, and Bisham Abbey being all within easy return. The town is also happy in the assistance to its prosperity given by a Chamber of Commerce, which keeps a watchful eye on the way the local authorities look after the roads and generally seeks the welfare of the district.

#### Water instead of Reason.

SOME idea of the false notions prevailing in some circles with regard to the dust problem was indicated at the last meeting of the Romford District Council, when a resolution was adopted to the effect that "all motor-vehicles should be in some measure further taxed, and that a grant from the revenue so derived should be made towards the expenses of watering the roads in every district used by motor-cars." This is folly indeed. Firstly, further taxation would bear heavily upon a class of people who are already sufficiently burdened in that direction; and, secondly, the watering of roads is but a temporary expedient that only the water companies would appreciate. We must go to the bottom of the matter, and that means looking after the foundation rather than wetting the surface.

THE WILBURY STABLES COMPANY, LTD., who are proprietors of the Eaton Riding School at Hove, also own a motor garage.

"MESSRS. JAMES BEACH AND SONS, M.D.'s (Motor Dealers)" is the form of announcement by which one of the leading motor firms in Taunton keep their name before the local public.

THE METALLIC MANUFACTURING CO., LTD., Ardrossan, N.B., have sent us a sample of their Halax copper asbestos washers, which are made in various sizes for use on motor-cars.

MESSRS. J. GREEN AND CO., motor engineers, of Loughton, have opened a depot at High Road, Woodford. In addition to a large motor garage, the firm will carry a large stock of accessories, tyres, petrol, etc.

THE Automobile Association patrols are now attending special classes of instruction in tyre repairs by courtesy of Messrs. Harvey Frost and Co., the Continental Tyre Company, and Messrs. R. and J. Pullman.

MESSRS. KELL AND DE LOTZ, of East Street, Farnham, have issued a handy card of mems. for motorists which, in addition to the index marks for England and Wales, gives a table of distances from Farnham.

MESSRS. RICHARD BURCH AND SONS have opened a garage in the High Street, Dawlish. This, with their works at the West End of the town, will give them accommodation for about thirty more cars. The place will be available to motorists at all hours of the day and night.

FROM Messrs. Hutton, Sons and Co., of Summer Hill, Dublin, comes a copy of an interesting pamphlet they have lately issued, entitled "Notes on Motoring Troubles," which contains a number of useful hints for motorists. The end of the booklet is devoted to a description of the various cars which the firm represent, including the White, the Daimler, the Wolseley, the Siddeley, and the Darracq.

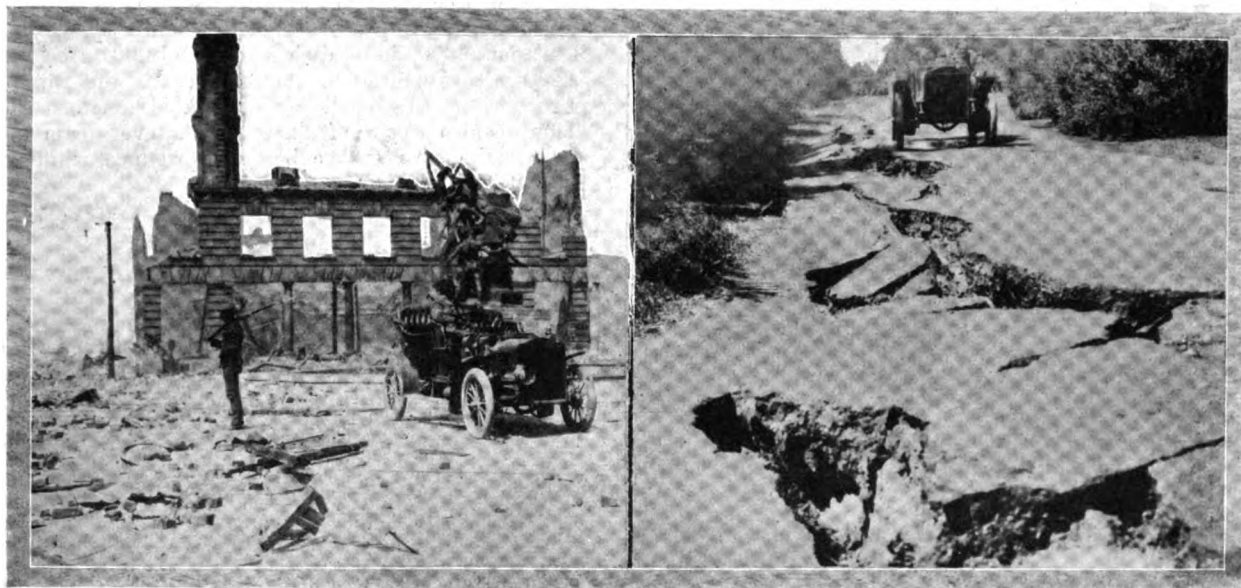
## MOTOR-CARS AND THE EARTHQUAKE.

**L**AST week we gave a brief chronicle of some of the unwonted happenings in the saddened city of San Francisco, and made reference to the splendid rescue work which was only possible by the help of the automobile. Now we are able to furnish some illustrations, which depict more forcibly than pen can tell the ravages wrought by the earthquake as well as by the fire by which it was followed.

Three hours after the great shock the city was under martial law. Every automobile appearing on the street, whether in

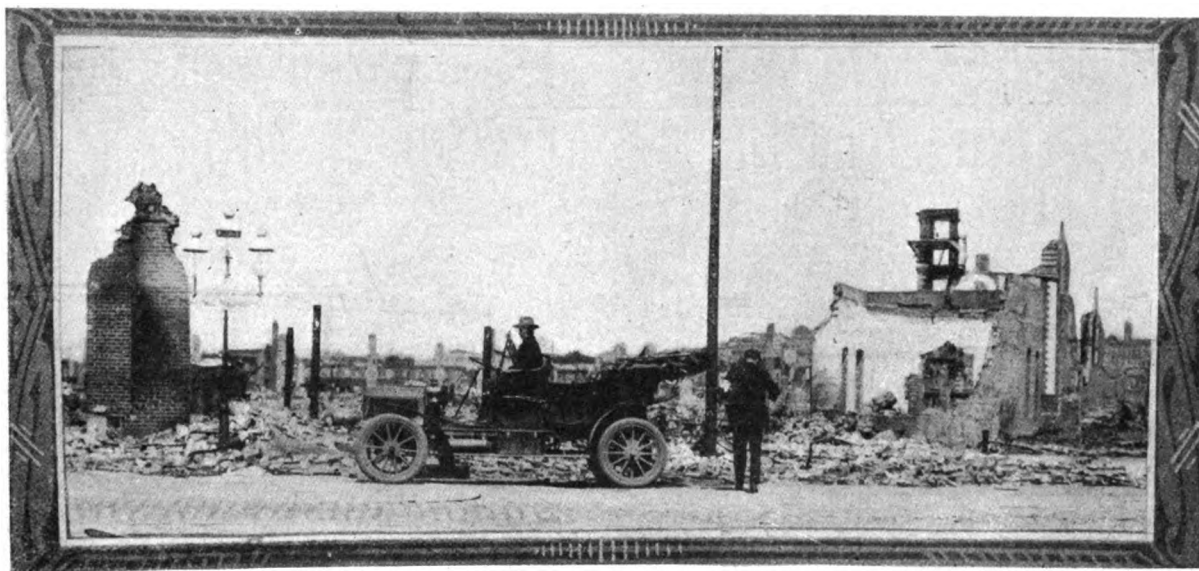
One of the first garages to be destroyed was that of the Pope-Toledo Agency, then that of the Cadillac, and then the White depot. The White people seemed to realise from the very first that the thing to do was to get their machines to a place of safety, although the fire originally started many streets away. A spot in Golden Gate Park was selected, and the cars were rapidly run out there and a watch put on them. Machines which were not in running condition were towed out.

Mr. Walter C. White, who is known in motoring circles on both sides of the Atlantic, was in Los Angeles on his way home to Cleveland from the city of Mexico, when news of the earth-



The White Car in Military Service.

Fissures in Golden Gate Park.



Inspecting the Ruins at San Francisco.

charge of the owner or some one else, was accosted by a soldier and put in the service of the militia. The name of the owner, the name of the car, the number of the vehicle, and the hour of the day was written down, and a duplicate copy given to the owner or driver. The machines were in no way spared, often being run without tyres during the four days of the fire. Rubber tyres could not stand the hot streets and pavements that many of the cars travelled, and they collapsed, never to be replaced until the car went out of commission. The principal use of the automobiles was in hurrying doctors and nurses to the injured and carrying explosives to blow up the buildings.

quake reached him. He determined to go to San Francisco, a distance of 475 miles, on his steam car. It proved a trying task—the roads were cumbered with telegraph poles and trees, bridges were lying in ruins, and great fissures in the roads—such as are seen in our illustration of what was previously the main roadway through Golden Gate Park—obstructed the travellers. On reaching the city limits the car was commandeered, Mr. White volunteered as driver, and was ordered to the Mechanics' Pavilion, where he met Mr. C. A. Hawkins, the local manager of his company, and together they rendered valuable aid to the authorities.

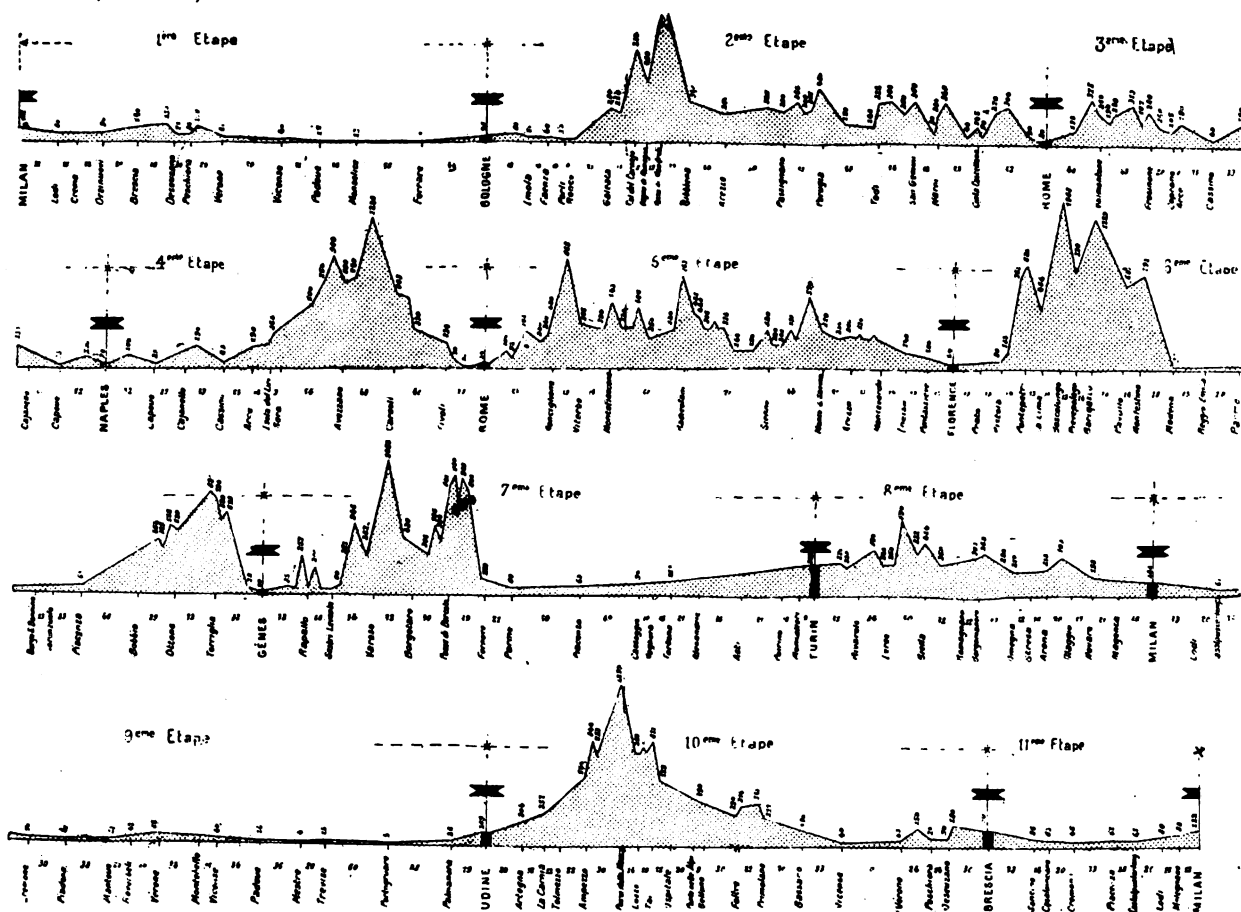
## THE ITALIAN COPPA D'ORO TOURING CONTEST.

WHAT is by far the most important and difficult competition of touring cars which has so far been organised is that which is at present being held in Italy under the auspices of the Automobile Club of Milan. The trial will last for eleven days, the total distance to be covered amounting to no less than 2,420 miles, divided into eleven daily stages, as follows:—

May 14.	Milan, Brescia, Verona, Padua, Bologna ...	432.7 kil.
" 15.	Bologna, Arezzo, Perugia, Rome ...	451.8 "
" 16.	Rome, Capua, Naples ...	245.7 "
" 17.	Naples, Frosinone, Rome ...	227 "
" 18.	Rome, Viterbo, Arezzo, Florence ...	371.5 "
" 19.	Florence, Pistoia, Modena, Genoa ...	436.4 "
" 20.	Genoa, Parma, Turin ...	448.2 "
" 21.	Turin, Arona, Novara, Milan ...	226.9 "
" 22.	Milan, Verona, Udine ...	468.8 "
" 23.	Udine, Vicenza, Brescia ...	403.6 "
" 24.	Brescia, Cremona, Milan ...	158.2 "

will prove quite as much a trial of the hill-climbing capabilities of the cars and their brake-power as of their speed qualities. The course crosses the Alps several times, and on five different days the cars have to ascend from the plains to altitudes of between 6,000 ft. and 7,000 ft. The daily runs have been divided into a number of controls between which minimum and maximum speeds of 18½ and 25 miles per hour are required. Any competitor who completes a stage in more than fifteen minutes under the time allowed will be disqualified.

The winner of the event will be the competitor whose average speed over the whole course is the closest to the maximum fixed, while in the case of a tie as regards average the award will be made to the least costly chassis. The first prize consists of the Coppa d'Oro, or the Gold Cup, which is worth no less than £800, and a cash prize of £1,000. A gold plaque and £240 in cash will go to the second car; the third will receive £200, while £188 will be distributed amongst the next five. There is also a prize of £280 to whatever team of cars of the same make achieves the best performance, while £200 will be



Profile of the Route to be covered in the Italian Coppa d'Oro Touring Competition. The distances are on a scale of 1 to 2,500,000, and the altitudes 1 to 25,000.

The majority of the cars taking part in the event are of Italian construction, they numbering thirty-five out of the fifty-two entries, and consisting of eight Diatto-Clements, five Isotta-Fraschinis, three each Itala, Züst, Fiat, Rapid, and Marchand, two Florentia cars, a Bianchi, an Otav, and a S.A.L. Great Britain is represented by four cars—a Daimler, driven by Mr. A. D. Grigg, a Leader (Mr. Shaw), and two Napiers (Macdonald and Glentworth). The French competitors include one each Peugeot, Aries, La Buire, and Krieger, and three Dions. The German cars in the event comprise two Mercedes and three Benz, and three Martinis are upholding the credit of the Swiss motor industry.

The severity of the task can be judged from the fact that while the average daily distance is 220 miles, the journey to be made on six of the days extends to close upon 300 miles. From the accompanying profile of the route, for which we are indebted to "La France Automobile," it will be seen that the competition

gained by the most successful amateur driver who has not competed in 1905 or 1906. The King of Italy's prize will also be awarded on the same conditions, while there is a long list of smaller prizes too numerous to mention.

The start took place at 4.30 a.m. on Monday last, but the cars, which were sent off at two minutes intervals, began to take their places in the line at 3 a.m., so that there was little or no sleep for the competitors, passengers and officials on Sunday night. A ballot had been held for the order of starting, which resulted in the first two places falling to the lot of British competitors, Mr. Grigg, on a Daimler, heading the list, with Macdonald (Napier) second.

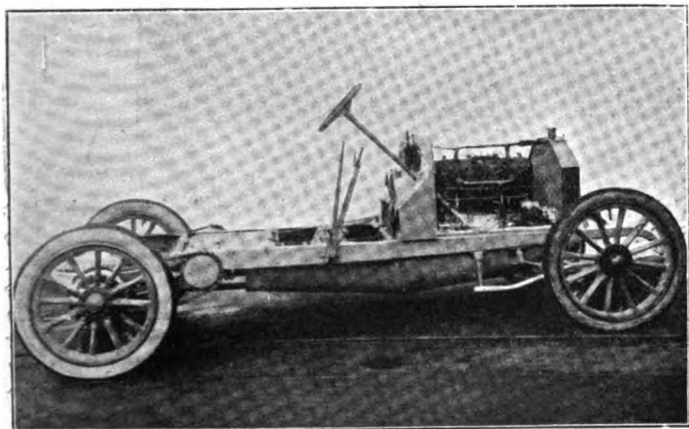
Out of the fifty-two entries forty-eight actually started, the absentees being the Leader, the S.A.L., the Krieger and the La Buire. At Lodi the Daimler, which started first, still held the premier place. Raggio was delayed three-quarters of an hour in repairing the petrol tank of his Marchand car, while



Verutto, who was driving the Rapid, No. 40, gave up owing to a burst cylinder. Macdonald (Napier) was the first to reach Verona, followed by Cagno on an Itala. The Daimler car was reported to have met with an accident near this place. Three competitors retired at Padua—No. 37, Conti on a Zust, No. 38, San Donnino on a Marchand, and No. 3, Campana on a Peugeot. The causes are not yet known. The last part of the journey from Padua to Bologna was notable for the large number of sharp corners which had to be negotiated, but no accidents are recorded. Out of 48 starters 41 successfully completed the journey, the missing ones other than those already referred to being a Rapid, a Mercedes and a Diatto-Clement. On Tuesday the run was from Bologna to Rome, a distance of over 280 miles, where the King of Italy personally welcomed the travellers.

### THE ZUST PETROL CARS.

**S**TILL another addition has to be made to the already long list of Italian-built petrol cars on the English market. We refer to the Zust vehicles, which are made at Intra, on the shore of Lake Maggiore, and at Milan, and the British agency for which has just been acquired by the Farman Automobile Company, Ltd., of Long Acre, London, W.C. The cars are being made in two sizes—50-h.p. and 28-h.p. We give a view of the chassis of the latter in the accompanying illustration, from which it will be seen that, generally speaking, the design follows lines adopted in the well-known Mercedes vehicles. As the first of the Zust chassis is not expected for a few weeks, we defer a full description to a later occasion, but in the meantime may briefly mention that the motive power is supplied by a four-cylinder engine having all the valves operated off a single cam shaft, which, like the one operating the low-tension magneto ignition, runs on ball bearings. A special form of automatic carburettor furnishes the mixture, while the power of the engine is transmitted through a disc clutch to a gear-box giving four speeds and a reverse, with direct drive on top speed. From the differential shaft side chains convey the power to the rear road wheels. Ball bearings of the D.W.F. type are used on the road wheels and in the gear-box. The Zust cars enjoy an excellent reputation in Italy, their design and



Chassis of Zust 28-h.p. Car.

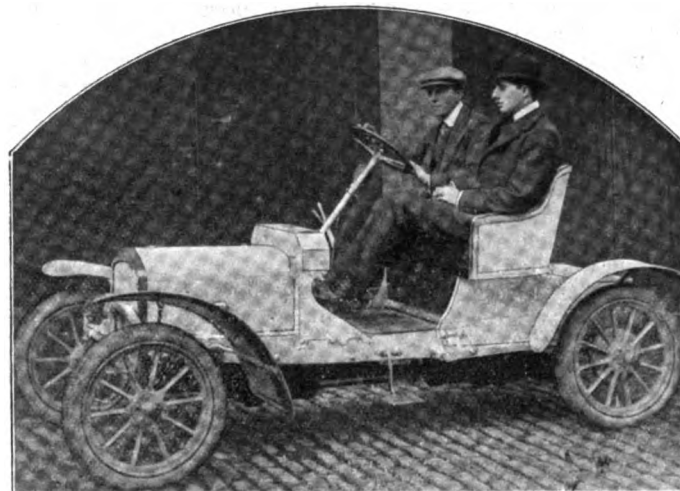
construction ranking them among the high-grade automobile productions of the country.

THE new Arrol-Johnston Motor Car Company, Ltd., have just completed a handsome 12-15-h.p. landaulet for Mr. C. W. Fulton, of Paisley.

THE Premier Motor Company, Cornwall Street, Birmingham, the British agents for the Marchand car, have now installed one of their workshops with up-to-date machinery, and are open to do all kinds of repairs.

### A RUN ON A SIZAIRE-NAUDIN CAR.

**W**E had an opportunity a few days ago of making a short trial run on one of the Sizaire-Naudin 8-h.p. two-seated cars, the British agency for which has been secured by Messrs. T. J. Harman and Co. The little vehicle comprises quite a number of special features, and formed one of the attractions at the last Paris Salon and also at the recent Cordingley Show. A fairly complete description of the car, together with illustrations, was given in the *M.C.J.* of December 16th last, but we may mention that not only is the frame and suspension on novel lines, but



The Sizaire-Naudin 8-h.p. Car.

that the transmission is also of a special design, the ordinary gear-box being dispensed with, and the three speeds forward and a reverse obtained by peculiarly-shaped pinions on the end of the cardan shaft. Other noteworthy characteristics of the car are the ignition, which is automatically advanced and retarded by means of a centrifugal governor, and the clutch, the latter simply consisting of a flat disc which is pressed close up to and against the inner face of the flywheel. Coming now to the trial run, the route was along Regent Street, W., the car wending its way through the thick traffic without the slightest difficulty. Once on a clear road a good speed was quickly attained, and although the easy springing of the frame gave us at first a somewhat new sensation, yet this quickly passed away, and the easy riding qualities enforced themselves upon us. On the way home the ascent of the steep gradient known as Netherall Gardens, N.W., which has become by common consent the testing ground in the London area, was included in the journey. Although the little car easily climbed the hill, Mr. Littlejohn, who was at the wheel, was, however, not altogether satisfied, so, after a slight adjustment of the trembler, a second trial was indulged in. On this occasion not only did the car run up in excellent style but we stopped and started on the steepest part of the gradient, the "pulling" powers of the engine and the efficiency of the clutch being thus well demonstrated. The car is exceedingly simple to manage, the number of levers and pedals being reduced to a minimum. Apart from the usual change-speed lever and hand brake there is only one pedal, which controls both the clutch and the foot brake, and one lever on the steering wheel, this regulating the speed of the engine by means of a variable lift to the inlet valve. The customary ignition lever is dispensed with by reason of the automatic advance and retard already alluded to, and which appears to give very satisfactory results in practice, no tendency to "knocking" being discernible in the course of the run. Altogether, our experience of the Sizaire-Naudin, although a short one, gave us a good opinion of the little vehicle, and, in view of its relatively low price, we are not surprised to learn from Messrs. Harman that it is meeting with favour at the hands of a large number of motorists of moderate means.

## SOME CURRENT TOPICS.

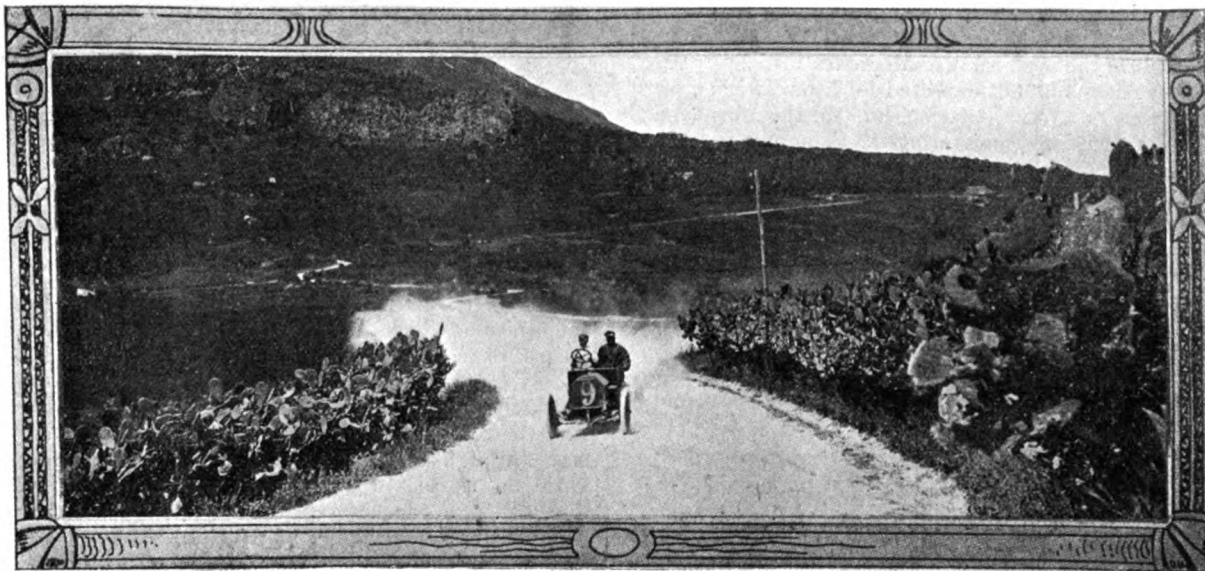
### The Arrival of a New Car.

The arrival of a new car is generally a long-expected and frequently much-delayed event, occasioning a thrill of excitement in the bosom of even the veteran motorist, which with the tyro is often accompanied by an amount of anxiety regarding the new-comer's constitution and treatment, not inaptly comparable with that of a mother on the advent of her "first." It is unlikely in these days that an absolute novice will receive his car without the opportunity for practical instruction of some kind, as many did in the early days of the movement, and this should be followed—if not, as it should be, accompanied—by a careful study of the use and function of every part of the mechanism. Where the owner is already familiar with some other type of car, special note should be taken of any important differences in the driving arrangements, as the general tendency to more or less uniformity in these makes small discrepancies more puzzling. Special note should be taken of the position of every lubricator, grease-cup, and other oiling arrangements,

tank and see that the cock at the bottom of the water system is closed. Fill all grease-boxes, if present, see that axle-boxes are lubricated, and that the gear-box and differential case are plentifully supplied with lubricant. For this a thin grease, or mixture of grease and oil, is best; if too thick, the gear wheels cut a track in it without oiling themselves. The addition of a few ounces of good graphite is beneficial in most cases. Fill all drip or other lubricators with a good motor oil, not too thick to travel along the pipes, and see that the crank-case of the motor has its charge of the same, and that the steering-pivots are also attended to. The tyres should always be pumped up hard. It is presumed that the car has been registered, and that the necessary driving and excise licence has already been obtained, as no one may start on their motoring career before these requirements have been satisfied.

### Picnicing in Surrey.

Quite a number of London motorists have discovered the fact that one of the pleasantest spots in Surrey for a motor picnic is on the summit of Boxhill, near Dorking, whence spreads out a most magnificent panorama. We visited the spot last week-end, and found eight or nine cars had already arrived before us, some of their passengers enjoying the beautiful view, others a ramble through the woods, and a few a siesta on the grassy banks. Boxhill can be reached *via* Epsom, Leatherhead,



The Targa Florio Race. On the Road between Buonfornella and Cerda.

remembering that each working part must be supplied with lubricant from somewhere.

### See to the Lubrication.

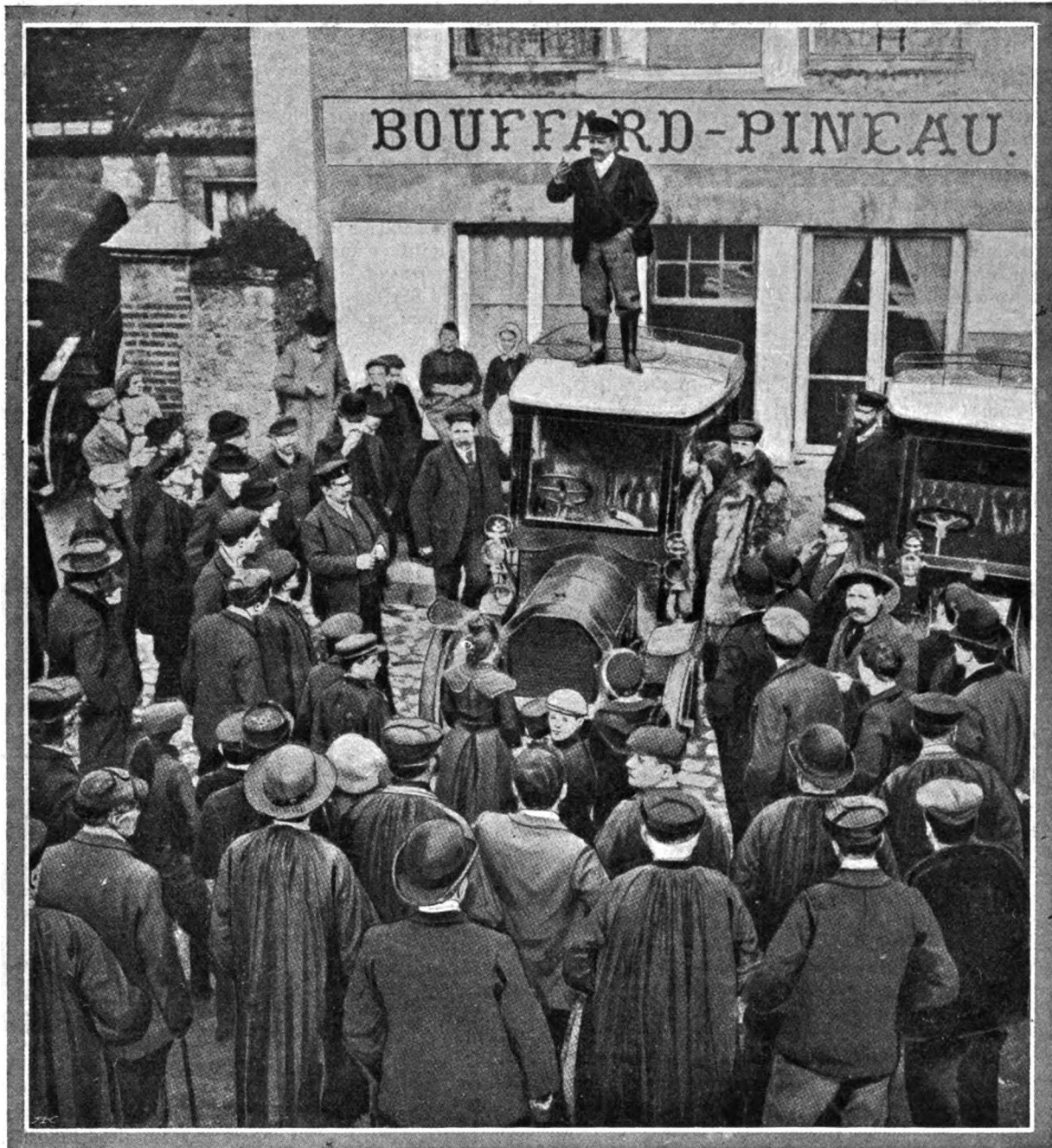
The chief attention a new car requires is in the matter of lubrication, which should be free and plentiful, with due consideration for the troubles induced by excessive supply to the cylinder. This usually causes rapid fouling of ignition points; but a new cylinder generally lets more oil past the piston at first than after a little running, so the supply should not be cut down too much from this symptom unless persistent. All important nuts and bolts should be scrutinised for looseness after a run, especially those supporting detached parts of the mechanism, such as the silencer, carburettor, piping, pump, etc., not, of course, omitting those of the steering gear and brakes. It is not always superfluous to verify the freedom of petrol, water, and lubricating oil pipes from obstructions arising from dirt or waste left in the tanks.

### Preparing for a Run.

The novice may find the following *resumé* of operations useful in the starting of his car, it being impossible, of course, to include variations necessary with some types. First, fill the petrol tank, using a funnel with a strainer. Next, fill water

and Burford Bridge, but in this case the car had better be left at the latter place, as the ascent is by a steep zigzag road. The best way to go with the car to the top of Boxhill is *via* Sutton, Banstead Downs, and Burgh Heath. A mile or so from the latter place there is a fork in the road, the left leading to Reigate, and the right—the one to be taken—to Boxhill. After a run of about three miles across the open common land a very dangerous corner has to be negotiated at Pebble Coombe. The road to be taken bears sharply to the right and then to the left. A triangular danger signal has been erected near the spot, and the motorist who makes the run will be well advised to slow up and have his car well in hand as soon as he reaches the warning post. The way continues for a mile or so along an undulating but ever-rising road until, after a bend to the right, the beautiful scene which opens out on the left indicates to the traveller he has arrived at his destination. The return home may be made *via* the zigzag road already alluded to, and thence *via* Leatherhead and Epsom. The descent of the hill is, however, rather trying, and we prefer to journey back by the same route as that followed in the outward trip, introducing a change at Burgh Heath by taking at that point the Ewell road, and on *via* Cheam and Morden. The distance out and home is, roundly, fifty miles.

## THE RACE FOR THE GRAND PRIX DE L'A.C.F.



Every effort is being made to make the villagers acquainted with the importance of this event, not only from the point of view of sport, but also as to its benefit to the Sarthe district. Cinematograph Entertainments are being given in all the principal places on the Circuit, and where no suitable building is available, an open-air address is, as the above illustration shows, substituted. [*Allgemeine Automobil Zeitung*.]

THERE are fifteen motor-cars plying for hire at Southport. PRINCE FREDERICK LEOPOLD of Prussia has just ordered a 40-h.p. Benz car.

THE Royal Hotel at Winchester is now fully modernised by the addition of a motor garage, where petrol, lubricating oils, etc., are stored.

MR. BEERBOHM TREE has placed an order with Messrs. Donne and Willans, Ltd., for a 30-35-h.p. Rochet-Schneider car fitted with a landaulet body.

THE REV. R. GRIFFITHS, chaplain to the Medway branch of the Missions to Seamen, has ordered from the Burnham Motor and Boat Company, Limited, a 17ft. carvel built open launch, fitted with a 5-h.p. "Truscott" motor, for use as mission tender, and to give greater facilities for boarding vessels in bad weather and against strong tides.

THE Great Western Railway Company has put into light goods service in London an electrical wagon of 2-tons capacity.

THE County Council of Wigtown is making application for the restriction of the speed of motor-cars on some of its roads to ten miles an hour.

THE Engineering Section of the London Chamber of Commerce is bringing the subject of highway administration to the notice of various important associations.

THE congregation of one of the churches in Dundee is about to consider an offer made by a motor-car company to purchase the building, with a view to its conversion to a motor garage.

IN consequence of the motor-car fatality at the Cobham cross roads on Good Friday, the Surrey County Council have given instructions for the erection of four danger symbols at the respective approaches.



## CONTINENTAL NOTES.

### The Rhone Touring Competition.

The Automobile Club du Rhone is organising a competition of touring cars for July next. The event will commence on the 12th by a run from Lyons to Vals-les-Bains *via* Duerne and Le Puy, a distance of 250 kilometres, while on the 13th a circular trip from Vals to Mayres and Bleymond and back, 270 kilometres, will form the programme. On July 14th there will be a 16-kilometre contest on the Escrinet Hill.

### The Italian Motor Car Industry.

La Societa Officine de Luca Daimler per Costruzione Meccaniche Automobili is the title of a company which has just been formed in Naples with a capital of £130,000 to build motor-cars under licence from the English Daimler Company.

### The Tour of France Competition.

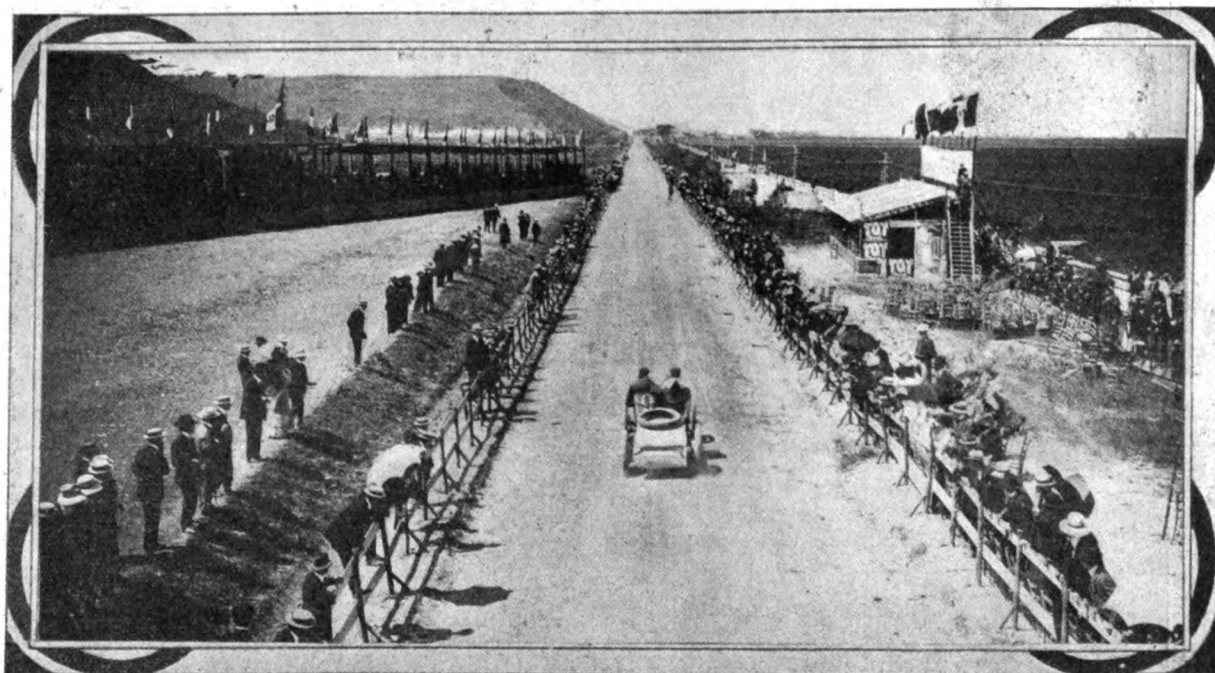
Owing to the labour troubles in the French automobile industry, and the inability of many of the competitors to complete their machines in time, it has been decided to postpone the

### Public Services in France.

A public motor-car service has lately been inaugurated between Villiers-sur-Marne and Plessis-Trevisse. Similar connections are also shortly to be started between Vauvois and Baigneux (Cote d'Or), and between Beaune and Nolay.

### The Labour Troubles in the French Motor Industry.

The motor-car industry in France continues at a standstill. At a meeting of the employers last week it was unanimously decided not to agree to the men's demand for a reduction in the daily hours of working from nine to eight, and for the "English week" of fifty-four hours with pay for sixty hours and a half-holiday on Saturday. A deputation also waited on the Minister of the Interior with regard to the protection of the factories by the military authorities. On Monday posters were put up in the towns of Suresnes and Puteaux announcing that the works would be opened on Tuesday morning at eight, when those workmen who were so inclined could restart on the old terms. In order that no disturbance should take place the Minister of the Interior had drafted a large number of soldiers into the district. As we go to press we learn that the number of men who went in on Tuesday was in some cases satisfactory, but in



The Targa Florio Race. A View of the Grand Stands at the Starting and Finishing Point.

start of the contest known as the "Tour of France," for motor-cycles and voiturettes, from the 12th to the 22nd inst.

### The Odotachymetre Competition.

Twelve entries were received for the French Automobile Club's competition of speed-indicating and distance-recording instruments, as follows:—

- |                               |                               |
|-------------------------------|-------------------------------|
| 1. Glaenger et Perreaud.      | 7. Deutsche Tachometer Werke. |
| 2. Jacquemier.                | 8. Auzout.                    |
| 3. Junghans.                  | 9. Delasalle.                 |
| 4. Cowey Engineering Company. | 10. Jules Richard.            |
| 5. Cowey Engineering Company. | 11. H. Bieh.                  |
| 6. Otto Schulz.               | 12. Krauss.                   |

The instruments were first subjected to careful inspection and test at the A.C.F. laboratory, and on Thursday last week were submitted to a 100-kilometre trial on the Montgeron-Ozoir-la-Ferriere road, they having been fitted to cars of not less than 15-h.p. for that purpose. All but one took part in the run, the absentee being the Junghans, the car to which it was attached having been deranged in course of transit by rail from Germany. The judges are now preparing a report and the awards will be made in due course.

other instances not more than 10 per cent. of the staff came back. According to one estimate no less than 25,000 men connected with one branch or another of the motor industry are on strike. As a result of the troubles it is reported that two firms of motor-car builders have decided to transfer their works to other countries—one to England and one to Italy.

### Public Services in Switzerland.

A company has just been formed at Stein, in the Canton of Schaffhausen, to establish a public motor-car service between Waldstatt, Hundwil, Stein and St. Gallen.

### Miscellaneous Items.

The Touring Committee of the A.C.F. is organising a motor-car lamp competition and also one for devices to prevent the emission of smoke by automobiles.—Owing to the disturbance to production caused by the labour troubles in France the organisers of the competition of voiturettes for the Hydra Cup have decided to postpone the event until next year.—The municipal authorities of Goes, Holland, are reported to be in the market for a motor fire engine.—The German Reichstag has adopted the Bill imposing taxes on motor-cars.



THE L. and N.W.R. have had a special form of van constructed to deal with their increasing traffic in motor-cars.

THE Maidens and Dunure Railway was opened for traffic on Thursday, and the Turnberry Station Hotel of the Glasgow and South Western Railway was also made ready for the reception of visitors.

THE Rajah Muda, of Sarawak, has just taken delivery of a 10-12-h.p. car from Argylls, London, Ltd., and he is now driving the vehicle himself.

MESSRS. JARROTT AND LETTS, LTD., have just delivered a 22-28-h.p. Crossley car to the Earl of Crewe. It is fitted with a handsome limousine body to seat seven persons.

In the Nilgherry (India) hill-climbing trials recently held Major Babbington won the cup on a 7-h.p. Swift. His car was the same vehicle that distinguished itself in the 1904 Light Car Trials.

WE understand that the following leading hotels of Plymouth have agreed to give free garage accommodation to motorists staying thereat, viz., the Royal, the Grand, Chubb's, the Albion, the Continental, and Farley's hotels.

At a meeting of the Council of the Cyclists' Touring Club, held in Edinburgh on Saturday, it was announced that 12,726 members had exercised their right to vote upon the question, "Are you in favour of steps being taken to broaden the basis of the club, so as to admit all tourists to membership?" and that the result showed 10,495 in favour and 2,231 against.

DURING the storm in the Peak district last week, Mr. R. J. Kerr, of Chapel-en-le-Frith, was returning home in his motor-car when it stuck fast in a deep cutting full of water across the roadway, and the occupants narrowly escaped. Horses were subsequently attached to the vehicle, and the party were conveyed home.

THE Hastings and St. Leonards Motor-Car Company, Ltd., has been formed with headquarters at 289, London Road, Hastings, to carry on business as carriers of passengers and goods. An interesting programme of trips has been arranged, and Messrs. E. C. Eldridge and A. Hart, the managing directors, are hopeful as to the success of their enterprise.

BRIGHTON TOWN COUNCIL, at a special meeting, have decided, by twenty-four to fifteen votes, to appeal against a decision recently given by three judges in a divisional court, declaring illegal a payment of £3,000 for laying with tarmac the undercliff used for the motor speed trials last year on the ground that the work was done before it was necessary.

VISITORS to the Burford Bridge Hotel, near Dorking, on Sunday, were much impressed by the valuable assistance which the motor-car is able to render in a case of accident. A Mr. Hodson and his wife were climbing over the precipitous slopes of Box Hill, when by some mischance the former missed his footing and fell a distance of some 50 feet, sustaining a compound fracture of the left arm. A passing motorist conveyed Mr. Hodson to the hotel at the foot of the hill, but, there being no surgeon nearer than Dorking, and no other vehicle available, his friends despaired of securing medical aid before Mr. Hodson became exhausted through pain and loss of blood. Fortunately, however, Mr. H. Gutteridge drove up to the door on his Peugeot car, and took Mr. Hodson into Dorking, where first aid was administered. Mr. Gutteridge subsequently drove Mr. Hodson to the station, and saw him safely on his way to his home in town, where he is progressing quite satisfactorily.

## HERE AND THERE.

THE directors of Messrs. J. I. Thornycroft and Co., in their report to be submitted to the meeting on Tuesday next, refer to the expenses in the experimental work in connection with motor-buses, and express

the belief that, as a result, they have produced a satisfactory vehicle.

MR. A. C. MACLAREN, the captain of the Lancashire cricket team, has been presented with a 10-12-h.p. Humber motor-car by admirers of his prowess in the cricket field.

On the order for the second reading of the Mersey Railway Bill in the House of Commons on Tuesday, an instruction was moved in opposition to the granting to railway companies of power to run motor-omnibuses in competition with local authorities.

THE Home Secretary has informed Mr. Weir, M.P., that in the Metropolitan area during April of last year the number of accidents caused by motor-cars, including motor-cycles, was 433, of which 134 resulted in personal injuries and nine proved fatal. In the same month 424 accidents were caused by motor-omnibuses, seventy-six resulting in personal injuries and three proving fatal.

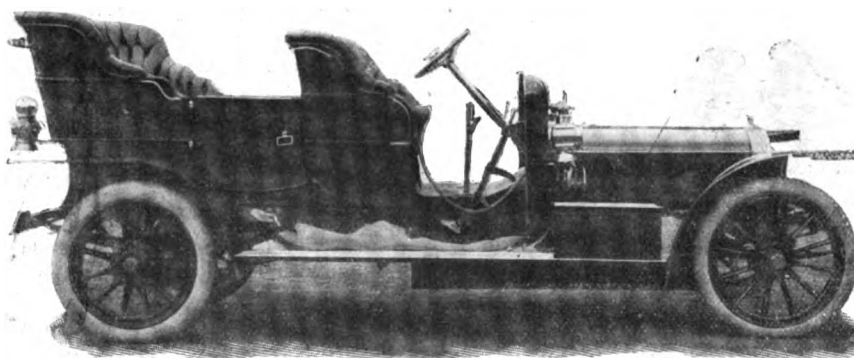
THERE has just been completed, at Messrs. Spencer's works at Highbury, a balloon de luxe to the order of Messrs. Leslie and Ernest Bucknall. This aerial craft is named the "Enchantress." The gas vessel itself is a sphere of 50,000 cubic feet capacity, made of 360 panels of silken material, sewn together in brick fashion, for strength. The first trial took place on Monday from Wandsworth to Littlehampton, the greatest altitude attained being 8,000 ft.

THE deflation of a balloon at Stagsden, a village midway between Newport Pagnell and Bedford, on Monday, was attended by a serious explosion, which resulted in seven persons being so seriously injured that they had to be removed to the Bedford County Hospital.

The descent was successfully made, but while the balloon was being emptied of its gas an explosion occurred. It is surmised that one of the onlookers, in lighting his pipe, must have caused the explosion, a pipe and a box of matches being subsequently found in proximity to the balloon.

A NEW garage has been opened at Lincoln by Messrs. R. M. Wright and Co. It stands on an area of a little over 1,000 square yards, and will have accommodation for fifty cars. It is near Messrs. Wright's present depot, in the centre of the city, has roads on two sides, and is close to the Witham, which makes it very convenient for motor-boats. Mr. Wright, who has had a great deal of motoring experience, has not lost sight of the minor details, and is to be congratulated on having such an up-to-date garage.

CAPTAIN DEASY, on a 20-24-h.p. Martini, has ascended Balloch Hill, between Lochcarron and Applecross, on the western borders of Ross-shire, carrying six passengers and luggage together with surveying instruments and complete bioscope outfit. The ascent, which was made from the shore of Loch Kishorn, is one of 2,250 feet in six miles. The average gradient is 1 in 10, but there are severer gradients of 1 in 7 and 1 in 5 with dangerous turns. The complete climb occupied just 36 min. Previously in Argyllshire the party ascended the precipitous hill at the head of Loch Striven, a gradient of 1 in 3½, and other steep inclines leading to Otter Ferry and Loch Fyneside.



The Standard 30-h.p. Six-Cylinder Car built for Mr. F. E. Swann.

ABOUT eighty firms were represented at the automobile exhibition recently held at Montreal.

ACCUMULATORS can be charged at Mr. L. L. Sharland's, Winton Motor Works, Jewry Street, Winchester.

MESSRS. J. KEELE AND CO. have recently supplied a 20-28-h.p. Spyker car to Mr. Max Pemberton, the well-known author.

THE Nizam of Hyderabad has placed an order with the Daimler Motor Company, Ltd., for one of their cars for State purposes.

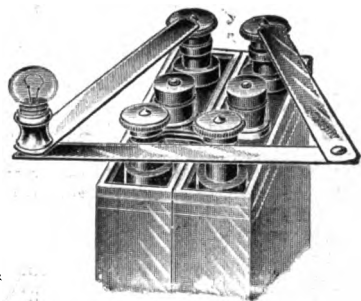
ONE of the most completely equipped motor establishments in Northern Britain is the Arcade Motor Garage, 431, Union Street, Aberdeen.

TROUBLE is said to be brewing among the Vanguard motor-car drivers with the management of that concern with regard to the conditions of service.

DECORATED motor-cars will figure largely in the reproduction of the Nice Carnival at the Crystal Palace on the 1st and 2nd prox. in aid of the Royal Waterloo Hospital.

To celebrate the opening of Mr. J. Fryer's new garage at Leominster, Mr. J. Harley Nott entertained the members of the Herefordshire Club to luncheon on Saturday. Mr. Fryer, whose motoring activities at Kington are well known in the Wye Valley, afterwards entertained the party, numbering about fifty members and their friends, to tea at the Feathers Hotel, Ludlow.

WE illustrate herewith a useful little novelty which has lately been put on the market by Messrs. Brown Bros., Ltd. It is known as the "Duco" Waistcoat Pocket Lamp, and it is intended for use in testing accumulators. By means of the arrangement adopted a good contact with the terminals can be



obtained; the device is well made, and is practically indestructible, and folds to fit the waistcoat pocket. The lamp is removable and is fitted with standard thread.

FROM the American Motor League of New York we have received a copy of a useful little book it has just issued for the use of its members under the title "Roadside Troubles." It explains in plain words the power used in driving motor vehicles, the nature of petrol, and how it should be used and stored—in fact, there is hardly a point in connection with motoring that is not dealt with in the twenty chapters comprised in the work.

THE guarantee of the Acme Rubber and Tyre Company, 343, St. Vincent Street, Glasgow, is in the following terms:—"We guarantee all repairs done originally by us for three calendar months from date of leaving our works, barring accidents and tyres run deflated." Motorists who send their tyres to be repaired by this well-equipped firm will have the satisfaction of knowing that no work is undertaken unless they have reasonable hope of its proving satisfactory in every way.

THE "Mascot" cars, which are made in three sizes—10-12-h.p. double-cylinder and 16-20-h.p. and 20-22-h.p. four-cylinder—and which were only introduced by the Farman Automobile Company, Ltd., towards the end of last year, have quickly become a popular type, as may be gauged from the fact that during a recent week orders were placed for no less than seven vehicles. Lieut.-Col. Coote, of Creaton, Northamptonshire, has ordered a 14-16-h.p.; Mr. Allan F. Joseph, of Cairo, a 16-20-h.p. with landaulet body; while 20-22-h.p. cars are being built for Mr. T. B. Burnham, East Grinstead; Mr. W. D. Stewart, Wallington; Mr. Alfred Naylor, Ware; Dr. Williams, Sherborne, Dorset; and Dr. Sydney Harvey, Queen's Gate, W.

THE Glasgow and Paris Motor Garage and Repairing Company, Ltd., has been registered in Scotland.

A FREE ALCOHOL BILL—so far as industrial purposes are concerned—is on its way through the Congress of the U.S.A.

THE Isle of Wight Central Railway Company has decided to introduce a railway motor-car service as an auxiliary to the present system.

MR. C. JARROTT says that the chains of the Coventry Chain Company, fitted to his 40-h.p. Crossley car which made the recent successful run to Monte Carlo, behaved admirably.

WE hear that some experiments are being made with a new preparation which increases the power of petrol. It is put up in small tubes, and only a few drops are added to the contents of the petrol tank.

MANY complaints are being made concerning the nuisance created by motor-omnibuses in the Fulham district. The neighbourhood particularly affected is Walham Green, where an extensive motor-omnibus depot is located.

THE South Wales Motor Garage Company, whose garage is in Park Street, Cardiff, have now a showroom in St. Mary's Street in the same town. Mr. Parker Thomas, who has driven in several A.C.G.B.I. trials, is the manager of the concern.

AT the annual meeting of Components, Ltd., Mr. Frederick Walker, referring to the trade of the year, said "the demand for motor-bicycles suddenly fell off and they had gone out of favour and out of fashion." And yet they may still be seen upon the road.

THE new price list of the Aston Motor Accessories Company, Ltd., of Birmingham, whose specialities for motor-cars are favourably known, contains drawings and descriptions of the Amac pump, radiator, plug, contact-maker, terminal clip, lubricators, and other devices of good design and finish.

THE motor industry is flourishing at Peterborough, and one large engineering firm recently established there is engaged on motor-bus work. Messrs. Thos. Brainsby and Sons, of Long Acre, W.C., and Peterborough, are also busy at their extensive works building motor-car bodies for many of the leading firms and notabilities. Altogether the motor industry gives employment to a large number of hands at Peterborough. The rates are low, five railways serve the city, and there is plenty of land available near the main lines. The prediction of Mr. G. C. W. Fitzwilliam that Peterborough would soon become one of the most prosperous towns in the Midlands is being realised.

FROM Mr. André A. Godin, of Red Lion Square, London, W.C., we have received a copy of the 1906 catalogue of Ducellier motor acetylene and paraffin lamps which he has just issued. Special prominence is given to the latest patterns of self-contained headlights with optical condensers. They are provided with a tap which cuts off the water supply at the same time as that of the gas, thus allowing the charging of a head light months before it is required to be used. Like other Ducellier head lights, they are worked with ordinary commercial carbide; their lighting power has been scientifically designed so that the lamps in question will project a light from 250 to 350 yards ahead. They contain a charge of carbide which will give a continuous light of over six hours if necessary, and recharging can be effected without emptying the water. Attention may also be drawn to the helmet-shaped and round projectors. The last-named model is not fitted with feet, crown, or a handle, and is therefore very easy to clean, besides giving it a smart appearance. After some useful information with regard to the method of using the lamps, space is devoted to particulars of the latest form of extensible and swivelling brackets for all sizes of acetylene head lamps. These brackets are fitted in pairs, and are connected to the steering rod by means of flexible cable, so that when steering the car the head lamps fitted on the swivelling brackets move together with the front wheels and at the same angle, thus allowing the light to be projected in the right direction when rounding a corner. The measurements of the brackets, taken from centre to centre, which each individual head lamp will fit, are also given, a feature which will doubtless prove very useful to intending purchasers. Altogether the new list is a well-compiled and artistic production.

## THE MURPHY PETROL GAUGE.

WE illustrate herewith a petrol depth gauge known as Murphy's, and intended to be fitted to the dashboard of motor-cars, which is being manufactured and put on the market by Messrs. Schaffer and Budenberg, Limited, Manchester. Fig. 2 gives a general view of the gauge, which can be fitted in any position—above, below, or on

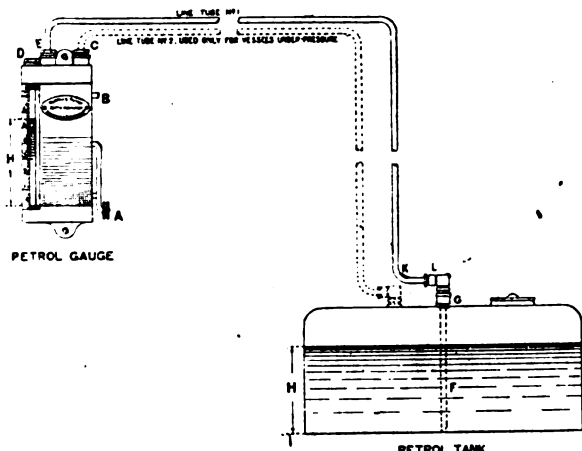


Fig. 1.—Diagram of Connections.

a level with the petrol tank. The instrument can be easily fitted on any car without the necessity of removing or even emptying the petrol tank. There is merely a dip pipe F, as shown in Fig. 2, screwed into the top of the tank at G and dipping into the petrol to the bottom of the tank, and connected at K with the instrument on the dashboard by an air-line pipe. The dashboard instrument is itself charged with ordinary petroleum, i.e., paraffin oil, by unscrewing the filling plug D

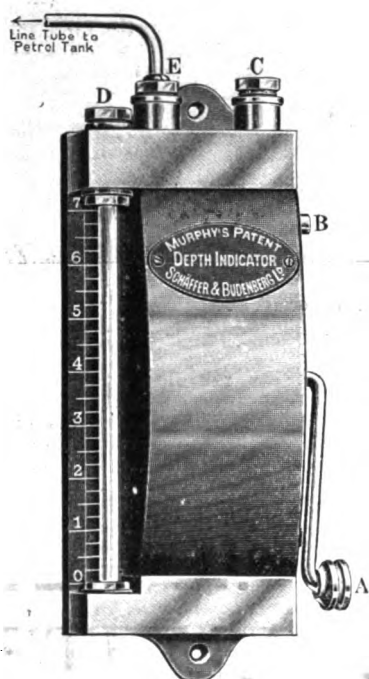


Fig. 2.—General View of Indicator.

over the gauge glass and pouring in about half a wine-glassful. The petroleum will appear at the base of the gauge glass when sufficient has been added. To ascertain the amount of petrol in the tank the lever A at the side of the instrument (Fig. 2) is gently raised and then lowered to its lowest point. A quantity of air is thereby forced through the line tube E E (Fig. 1) and the dip pipe F out into the tank. This simple movement causes

a column of indicating liquid to rise in the gauge glass of the instrument to the exact height of the liquid being measured. One complete stroke of the lever is sufficient, each succeeding stroke merely producing a duplicate reading. For petrol tanks under pressure a second line tube is used to connect the second coupling on the petrol gauge with the top of the tank, as indicated in dotted lines in Fig. 1. This has the effect of equalising the pressure on the liquid in the tank and that on the indicating liquid in the gauge. When connected in this way the instrument, as before, shows the exact depth of the petrol in the tank, and is unaffected by whatever gaseous pressure may be present. The gauge can also be used in conjunction with water tanks, water then taking the place of petroleum in the instrument; it is a device which will be found useful in many ways. Thus, when starting out for a run, one can tell at a glance the amount of petrol which the tank contains, instead of having to go through the operation of removing the cushions, unscrewing the top of the tank, and measuring the height of the petrol by means of a stick or tube. When actually running, too, it is useful, for on approaching a town one can tell at once if it is advisable to stop and get in a fresh supply of spirit.

## A SUBSTITUTE FOR THE INSPECTION PIT.

WE illustrate herewith an ingenious yet simple motor platform which has been brought out by an American firm for use in garages where it is not possible to have an inspection pit. The illustrations show the platform so clearly that but little description is necessary; it may be pointed out, how-

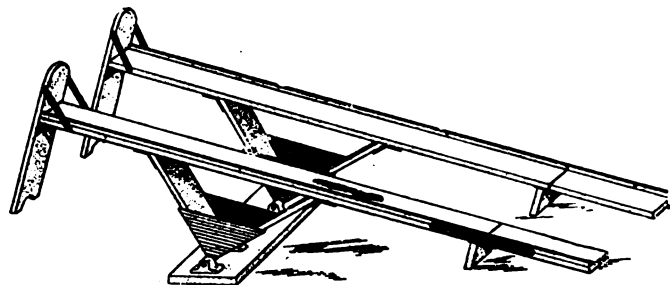


Fig. 1.

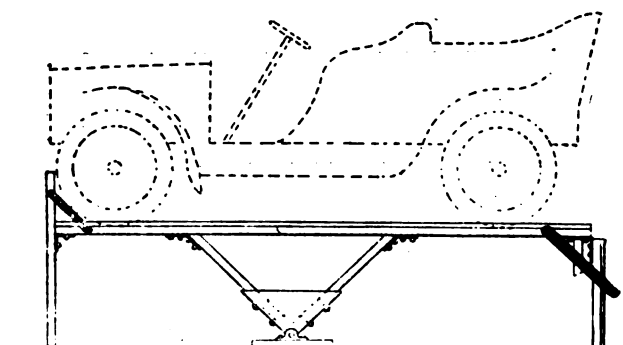


Fig. 2.

ever, that one of its principal features lies in the fact that the car is raised on to the platform by its own power. It consists of a pair of stout parallel planks supported by an inverted trestle hinged to a base. At one end of each plank is a stationary leg extending below the planks and at the other end a swinging leg, which can be brought into line with the planks. When ready for use the jack is inclined, as shown in Fig. 1; when the car is slowly run up on it the platform falls forward of its own accord, the hinged legs being then turned under and fastened in position by a bolt (Fig. 2) to support the rear of the car. The device is one that motorists could readily have made for themselves by a local carpenter.

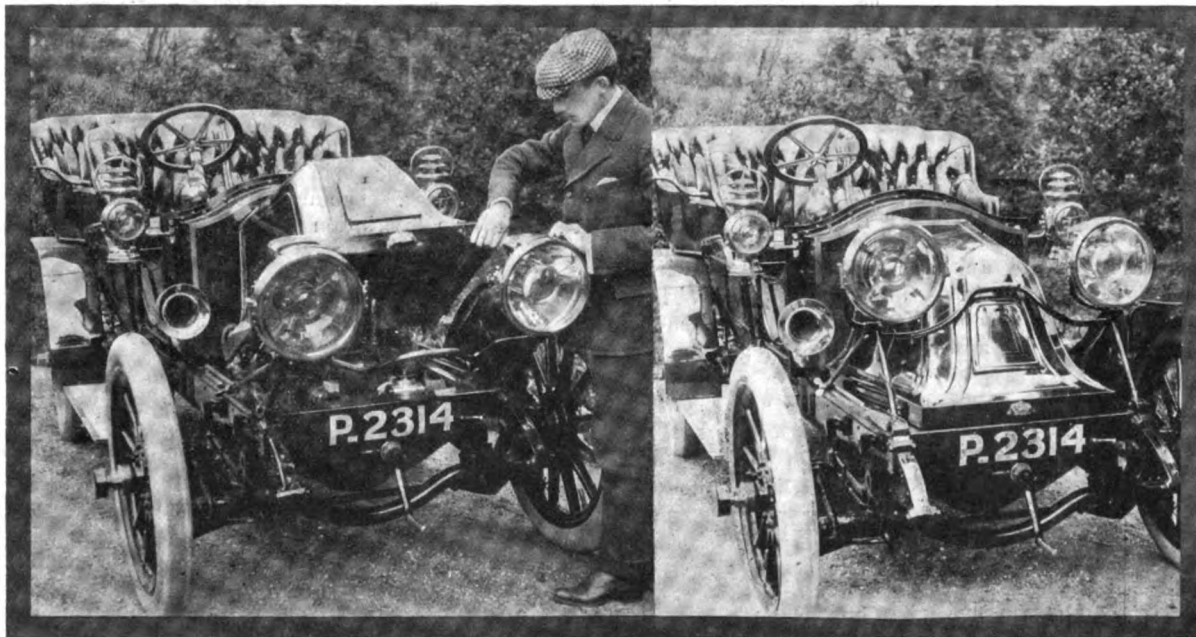
## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
27-33, Charing Cross Road, W.C.]

### AN INGENIOUS BRACKET FOR HEAD LAMPS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I send you some photos of a new form of lamp bracket which I have recently designed for my Renault car, as I think that the device may possibly interest those of your readers who possess cars in which (like the Renault) the engine bonnet is hinged to the dashboard. With all cars of this type it is a matter of some difficulty to fix the vehicle's head lights so that the raising of the bonnet shall not be impeded; ordinary lamp "forks" bolted to, and near the extremities of, the front spring hangers are almost invariably employed. This practice, however, presents three serious drawbacks, namely:—(1) The headlights (usually) project beyond the extreme limits of the car, and are therefore very liable to damage; (2) the starting handle is made almost inaccessible, and (3) the headlights are too near the ground to properly illuminate any undulating stretch of road.



The Bracket tilted forward to permit Bonnet to be raised.

The Normal Position.

#### THE MARSHALL HEAD LAMP BRACKET.

The method which I have adopted is free from the above objections, and is carried out as follows:—Each head light, which may be placed in any situation desired, is supported by two bars, pivoted together at their upper extremities, and forming, with the frame of the car, a triangle. The lower extremity of each "front" bar is pivoted to the car frame; while that of each "back" bar may be slid along in a slotted guide, attached to the car, on loosening the butterfly nut shown. The front pivoted bars are solidly connected by a cross member, which allows the whole contrivance to be pulled forward with one hand whenever it is desired to raise the bonnet. The lamp "forks" are attached to the back sliding bars, so that the lamps remain erect in all positions of the arrangement. Referring to the accompanying illustrations, Fig. 1 illustrates the position of the lamp bracket after it has been slid forward during raising of bonnet; while Fig. 2 shows normal position of the lamps. I should add that the bracket, for which a patent is pending, is absolutely rigid; one of my lamps is a lenticular projector weighing over 22 lbs.—Yours truly,

JOHN F. MARSHALL.

### SPEED OF MOTOR-CARS ON PUBLIC HIGHWAYS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As a frequent traveller along the public roads in Somersetshire, may I draw attention through the medium of your widely circulated columns to what appears to be a great and growing danger arising from the reckless and inconsiderate driving of many private motor-cars? The chauffeurs, in many instances, greatly exceed the limits of speed which ought to be observed along our narrow roads, if

public safety and the comfort of other travellers are to be the first points to be borne in mind. That in many cases they neglect the ordinary courtesies of the road I, for one, have had most ample proof. If, upon hearing the hooting of a motor-car, a bicyclist or, indeed, any other traveller, whether walking or driving, draws in upon one side, it is only natural to suppose that, when space is limited, the chauffeur will give in on his side also. But, apparently, his object is to rush every one off the road and to claim a monopoly of the highway. It is difficult to write with patience about these people, but the state of things is rapidly becoming intolerable, and our objections to this selfish and reckless driving are not lessened when we reflect that the occupants of these cars come from a distance, are of very little use to the country districts, and break up and pulverise our roads to an alarming extent in dry weather without contributing a single farthing to the local rates.

It is, however, in the narrower turns of the roads that the greatest dangers to life and limb lurk. Very often on the white roads, metallised with the carboniferous limestone of the quarries, the surface just moistened by rain or mist is extremely greasy and slippery, as the bicyclist knows to his cost. At such a time the utmost caution should be exercised by chauffeurs, as the wheels of the cars, judging from their very "wobbly" appearance, do not seem to have that grip upon the roads that they ought. A terrible accident might easily occur to any man, woman, or child in this way.

Again, the chauffeurs ought to "slow down" when they approach a curve. The accident at Knoll Wood, near Quantockshead, the

other day, when a motor-car ran into a horse and broke its leg necessitating its immediate destruction, would never, surely, have happened if a safe speed limit round the two curves of the road which follow one another there had been observed. No car should be permitted to swing round these or similar curves at a dangerous pace, and even twelve miles an hour may be dangerous, to say nothing of fifteen or twenty miles an hour. The latter limit is absolutely ridiculous along our roads. It may be tolerated when there are parallel footpaths running along broad highways, as you see them in the neighbourhood, for instance, of Oxford, but not in West Somerset.

However, I hope that, before worse things happen, a certain amount of watchful police supervision may be brought to bear by the superintendents of police upon the doings of these reckless motor-cars along our Somerset roads, and that a few sharp convictions may serve to remind the wealthy owners, who must be held responsible for their driving, that the public highway is not their monopoly in any sense of the word. In writing the above I have not a word to say against motor-cars in themselves, or those who use them in a considerate way.—Yours truly,

REV. WILLIAM GRESWELL.

### INFORMATION WANTED.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—May I ask through your columns if readers will give me information by letter directed to your office likely to be of assistance in a motor-car tour I am contemplating through England? I want to know of good hotels with a reasonable tariff at the following places which I propose to visit:—Kenilworth, Stratford-on-Avon, Gloucester,



Tintern or Chepstow, Cirencester, Oxford, Bedford, Cambridge, King's Lynn, Hunstanton, Boston, Lincoln, Matlock, Baslow and Buxton.

Advice with regard to roads, traps, petrol garages and accommodation for chauffeur will be welcomed by—Yours truly,

MOTORIST.

[Not often do we receive such a comprehensive question, but prompt letters from any hotelkeepers or petrol agents in the towns named will be forwarded to our correspondent if he will forward his address, omitted from his letter.]

### SLIDING CHANGE-SPEED GEARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—On page 208 of the *M.C.J.* of the 28th ult. we notice a letter signed "A. J. Williamson" on sliding change-speed gears. It is quite true that up to now practically the only gear which has met with any real success is the Train Balladeur system, which is mechanically absolutely wrong, for two running cogwheels are suddenly brought into mesh on their extreme edges, where circumferential speed is at its greatest.

Up to the present many attempts have been made to obviate this, but they have all failed owing to poor mechanical design, as cogwheels running loose on their shaft soon wedge together. A new gear, the Crepet, has lately been placed on the French market, which obviates all these difficulties by placing ball ring races between the cogwheels, thus preventing them from wedging and taking up surface friction. Owing to the immediate and unqualified success of this gear, the demand has

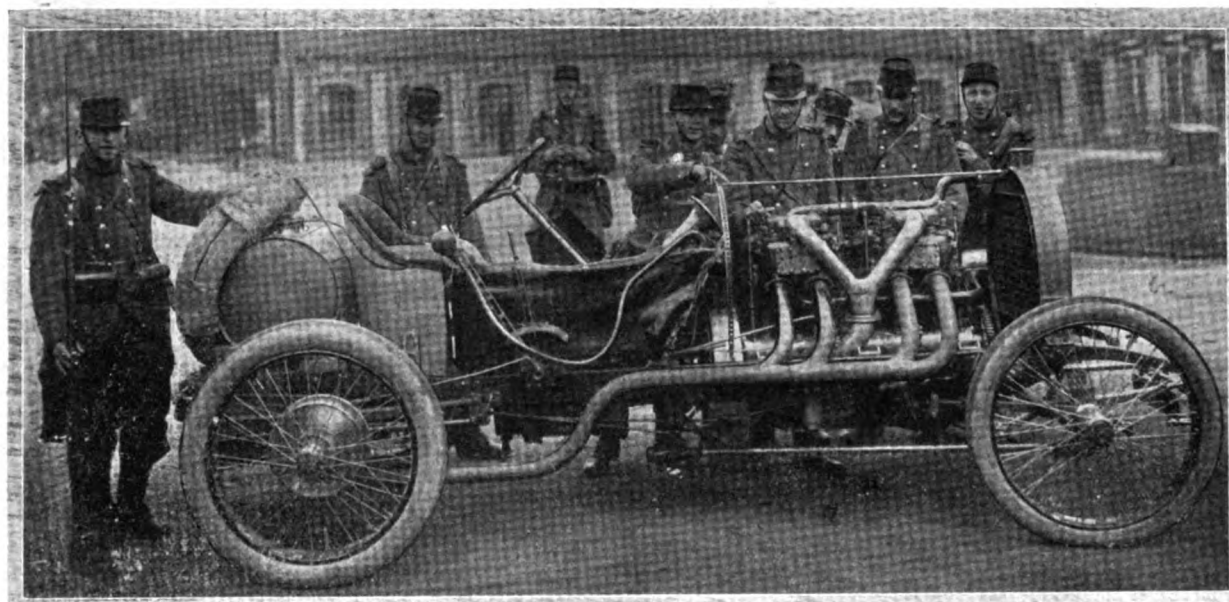
1.58 tons and 2 tons, the cost would be 4.47d. per mile. Comparing this with a cost of 0.90d. per mile would show a saving for a car fitted with solid tyres of 3.84d. per mile. In a distance of 12,569 miles, such as our client has run in a year, this would mean a saving, due to the use of solid tyres, of £201, or almost as much as the total expenses of running a car for the year, including 20 per cent. depreciation, which our client allows for, and wages, &c. It is often contended that, while the use of solid tyres may show a saving under this particular head, such economy would be more than eliminated by the excessive cost of repairs. As against this, our client shows for his distance of 12,569 miles a repair bill of £7 17s., or 0.15d. per mile. We take it that the above figures clearly demonstrate the economy of running a car which has been specially designed and constructed for solid tyres.—Yours truly,

THE ALBION MOTOR CAR CO., LTD.

### A PEUGEOT CAR QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Re "Sailor Man's" letter in the *M.C.J.* of the 5th inst., I suppose your correspondent means the 7-9-h.p. Peugeot brought out in 1904. I think he will find that the trouble lies in the ball bearings requiring adjustment, which would have a tendency to make the wheels spread. To adjust the bearing, the wheels will require to be taken off. This is easily done by removing the brass cap and then taking off the nut, when the wheels will pull off the square on the axle. When the wheels are off a notched plate will be noticed. In the tool-box will be



Owing to labour troubles, many of the leading automobile works in Paris are at present being guarded by the military. The above illustration shows a number of the soldiers on duty at the Hotchkiss Works examining one of the three new Hotchkiss 130-h.p. Racing Cars which will compete in the race for the Grand Prix de l'A.C.F.

far exceeded the supply, and it has been found impossible to place it on the English market, but very large additions having been made to the works, the gear will very shortly be for sale in Great Britain. We may state that we exhibited one of the first Crepet gears ever brought to England at the recent Cordingley Show, and were astonished at the immense number of inquiries we received for it.—Yours truly,

J. C. LYELL AND CO., LTD.

### SOLID v. PNEUMATIC TYRES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We have examined with considerable interest the report on the tyre trials held by the Automobile Club of Great Britain and Ireland during the month of March last. We have been particularly struck with the cost per car mile of running with pneumatic tyres, even under conditions in which the legal limit of speed was not exceeded. At about the same time as this report was issued we received from a client of ours a yearly statement of the expenses incurred in running his 16-h.p. Albion station 'bus, fitted with solid tyres on the rear wheels. The car weighs about 25 cwt., has accommodation for nine persons, and carries light luggage in addition. The total laden weight is about two tons. The distance run throughout the year has been 12,569 miles. Comparing the cost of tyres per mile with that shown in the judge's report, an extraordinary difference is observed. Our client's tyres cost him 0.90d. per mile, whereas, taking the mean of the tyre costs in classes C. and D., in which the weight of the vehicles was respectively

found a C-shaped spanner, which fits the notches. To tighten, turn the notched plate to the right until quite tight, then turn back a quarter of a turn. Care should be taken to see that the bearing is not too tight. I think this will remedy his trouble.

I have used a 7-9-h.p. Peugeot for two years and have not had the trouble mentioned by your correspondent. As to requiring a new axle "Sailor Man" should write to Messrs. Friswell and Co. for their catalogue of spare parts for Peugeot cars.—Yours truly,

ANOTHER 7-H.P. PEUGEOT.

### REPAIR WORRIES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—An experience of which I am at present the victim compels me to write to your paper to ascertain if any of your readers can recommend a good firm or company in Scotland or the North of England where one could have any small repairs expeditiously effected at a reasonable cost. When I purchased last year a motor-car, in my simplicity I ventured to think that the makers, for the sake of their reputation, would only have been too anxious to carry out any little repairs or renewals which from time to time might be necessary on their car; but, alas! I have been grievously disappointed. On April 6th I forwarded to the company a broken part of the steering gear, and three days later a part of the change-speed gear, to be repaired. As I had need of the car, I asked them to let me have both parts back in order as soon as possible. Notwithstanding, however, several reminders by

letters and a telegram, and even a request to return the parts that I might get them put to rights elsewhere, I am still without them, and the only satisfaction I have received is that, owing to the congested state of their work, they cannot say when they will be able to comply with my instructions. The work on both parts is, I have ascertained, only a matter of a few hours. My car has thus, of course, been useless to me for the last five weeks, and at a time when I was in need of it. I cannot afford to keep a spare car for such occasions, although I fear that anyone purchasing a car as I did must be prepared to do this unless he wishes to be placed in the same unfortunate position in which I now find myself. Such business methods can hardly commend themselves to the public.—Yours truly,

E. S. 162.

### EXCEEDING THE LEGAL LIMIT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In your issue of April 28th, under "Here and There," you instance as a great performance of what a modern motor-car can do, a run on a 20-h.p. Talbot from London to Manchester. The journey was accomplished in 5½ hours. The "performance" is certainly worth noting from an anti-motorist's point of view when one considers that the driver of the car averaged thirty-four miles an hour—in fact, a fraction over—for the entire run. I ask you, Sir, are such facts worth advertising? When everyone's hand seems against us, can we expect the police to give up traps and the public cease writing letters to the Press complaining of reckless and inconsiderate driving? To average thirty-four miles an hour on any road in England is considered very inconsiderate driving, whatever the Talbot driver may think. Of course I don't know the exact route taken; the Manchester road is, through Derby, Belper, Matlock, &c., 188½ miles.

I am not an anti-motorist, having driven various motors since



The brass Car Badge issued to Members of the Automobile Association, to be fixed to the middle of the top of the dashboard or canopy.

early '99. If entered, the 20-h.p. Talbot should, on your showing, have a good chance for the Tourist Trophy, if only for speed. Thirty-four miles an hour on a give and take is distinctly good. Perhaps the Talbot went by a short way and did not exceed the legal limit.—Yours truly,

A. STEDALL.

### TROUBLE WITH DE DION GEAR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to "Medicus" in the *M.C.J.* of the 5th inst., I had much the same trouble with my 8-h.p. De Dion, and had the clutches re-fibred several times, only to give out again. Messrs. Henry Moore and Co., of Brighton, advised me to have a metal-to-metal clutch; which I did, and so far have had no more trouble of any sort.

I have been told that if one has a "tread" on one driving wheel and not the other, the "differential" is likely to suffer; is this so?—Yours truly,

ANOTHER MEDICUS.

### DUST AND MOTOR-CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Why all these experiments to prevent dust? The thing has been done for years by the Corporation of Scarborough owing to their excellent system of road making. Some ten years ago I lived there, and was much struck by the superior roads and the small amount of repair they appeared to require. They were dustless, smooth and always dry. Even after a heavy shower there was no mud and no wet places.

It seemed to me that the roads were coated with tar and sand about twice per annum and needed no more attention. Except that they are black, I have seen no roads to equal them anywhere in the world. Two

men with brooms, and a man with a shovel and horse and cart, have an easy job removing the horse droppings and bits of paper and fruit skins that are to be found here and there, and in summer the water cart has little to do beyond spreading a disinfectant tainly over the perfect surface. There is no expensive patent material used, just common tar and sand, and the effect is perfect.—Yours truly,

C. D. L.

### THE LONDON COUNTY COUNCIL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was glad to see the reference in a recent issue of the *M.C.J.* to the exasperating waste of time which takes place in the motor-car department at the London County Council in Spring Gardens, S.W. The whole operation of taking out a registration number or driving licence wants badly remodelling. First you go up to the third floor, where you wait your turn to receive attention and fill up the necessary form. Then another form is given you with instructions to descend to the cashier's office on the ground floor to pay the necessary charges. Here you have again frequently to wait your turn, after which it is once more necessary to ascend to the third floor to secure the desired registration number or licence. Altogether the whole system is badly arranged, and if the money must be paid into the cashier's department I fail to see why some sort of small lift cannot be installed between the two offices, so that the official who makes out the licence should also take the cash and hand it over to the cashier, and so save a large amount of valuable time.—Yours truly,

ANTI-TORTOISE.

### SPRING WHEELS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—While I think all will admit that the pneumatic tyre is the greatest bugbear of the motorist and the chief factor in preventing men of small or moderate means from becoming owners of cars, yet it seems to me that the inventors of spring wheels and other contrivances of a similar nature are not going to do much towards helping us out of the difficulty. They are introducing a new complicated and expensive appliance, which, although it may to a certain extent fulfil its purpose, may also prove troublesome and costly to maintain, while to me it appears that the same result can be obtained quite simply by using wheels of larger diameter and really efficient springs on the car. Can any of your readers inform me what there is against such a very simple and obvious way of getting rid of pneumatic tyres that none of the manufacturers appear to give it a thought? Is it only fashion, viz., that of having small diameter wheels, that stands in the way, or is there something else against it? I quite see that the larger wheels would have the effect of raising the car body somewhat higher off the ground, but this would not matter for moderate speeds, and be a very positive advantage in minimising the dust nuisance. With the live axle and central drive there might be difficulties in increased torsional strain, but this would not apply to the chain drive.

I have been told quite seriously at some of the shows that a car fitted with solid tyres would soon shake all to pieces, but this I know to be absolute nonsense, as I have driven a car for eleven years fitted with solid tyres and over some of the roughest roads in the kingdom and the car is still running as well as ever, while my repair bill has been very small, but then mine really are springs, and though there is, of course, much more swaying movement to the body, yet it is far less tiring than the short, sharp, jerky movement of the cars fitted with small wheels, pneumatic tyres, and rigid springs, such as are the present fashion.—Yours truly,

J. BRYANT.

### TROUBLE WITH AUTOMATIC INLET VALVES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a two-cylinder engine fitted with automatic inlet valves. After starting engine I find it blows back into the carburettor every now and then, especially when running quick. I have ground the valves in and also fitted new ones, but this does not alter it. Would it be caused by exhaust valves? I also find the water gets very hot although there is good circulation with the pump. I will feel very grateful if some of your readers will tell me the cause of the trouble.—Yours truly,

ENGINEER.

["Engineer's" trouble is no doubt caused by the valve springs having become weak. We would advise putting stronger ones on to remedy the firing back in the carburettor. The overheating is in all probability caused by the cylinder head being carbonised inside; to remedy this, it will be necessary to remove the cylinders and clean out the same. This should effect an improvement if the water circulation is good.]

MR. E. EASTON, of 2, Garfield Terrace, Netley Abbey, has made a non-slipping motor wheel of interest to all concerned with the mitigation of the dust nuisance.

THE DAYTON CAR.—Replying to Mr. T. W. Banerji, Calcutta, the car illustrated in the *M.C.J.* of March 17th last is made by the Dayton and Mashey Automobile Works, 4160, Ellis Avenue, Chicago, U.S.A.

CARS FOR MEXICO.—Sr. M. Almeida, of Calle 52 & 502, Merida de Yucatan, Mexico, writes that he is anxious to receive copies of the catalogues of British builders of motor-cars

## CLUBS AND ASSOCIATIONS.

### KENSINGTON.

THE opening meet of this newly-formed club took place on Saturday, the venue being Banstead Downs. The following members were present:—Messrs. T. C. Owen (Panhard), H. E. Rodwell (Darracq), Prof. V. Spiers (De Dion), Dr. W. H. L. Copeland (White), Mrs. Grylls (White), J. H. Reeves (Orleans), J. J. Rawlings (Kensington), Dr. W. S. Cox (Panhard), W. H. Mapplebeck (Winton), Dr. L. C. Dobson (Humber), Dr. V. A. L. E. Corbould (Richard-Brasier), W. R. Beilby (Spyker), W. H. Thompson (Prosper Lambert), E. F. Philbrick (Mors), E. Bridgland (Vinot), D. J. Muirhead (Whitlock-Aster) and R. E. Haywood (motor-cycle). A considerable number of members regretted inability to attend, the most prevalent reason being "car not yet delivered." A run was enjoyed to the Burford Bridge Hotel, where about fifty members and their friends took tea, after which at varying intervals the cars started homewards.

The fixtures for the season include meets at the Hautboy Hotel, Ockham; the Compleat Angler, Marlow; Angel Hotel, Guildford, and attendance at the provincial gathering of the Motor Union.

E. C. Porter; 4½-h.p. Armadale, R. Batchelor; 10-h.p. Armadale, A. C. Godwin Smith.

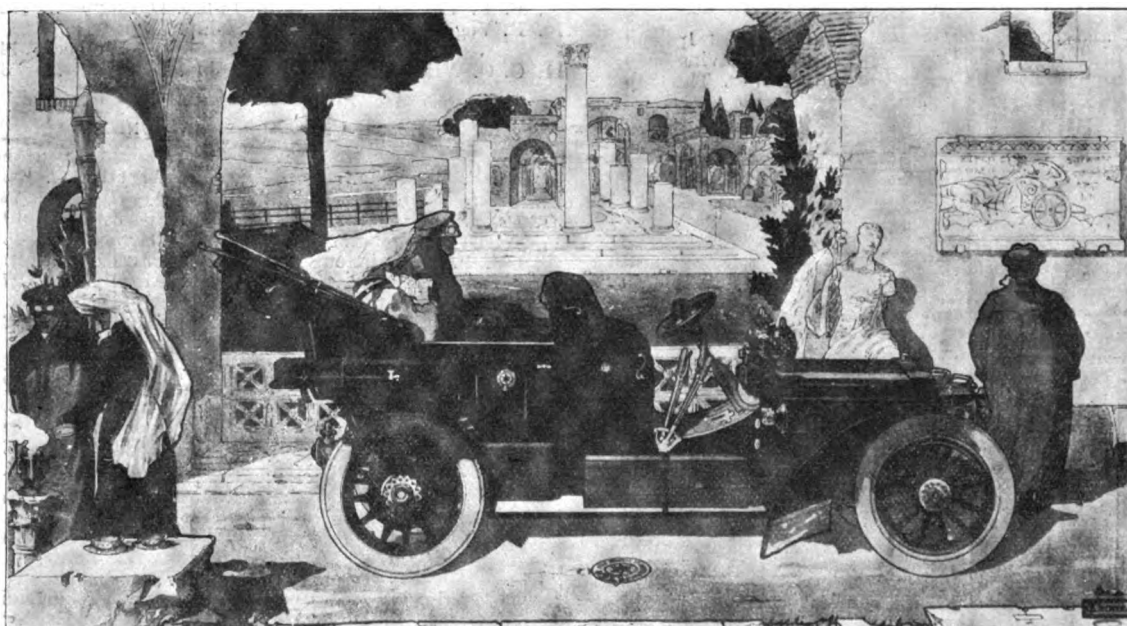
### AERO.

MR. E. RIDER COOK made an ascent in the balloon Vivienne III. on Saturday afternoon, starting from the Crystal Palace, and making the "solo" trip necessary for qualification as a pilot of the Aero Club. The atmospheric conditions were perfect, and the balloon passed over the Thames at Westminster, and, moving at the rate of fifteen miles an hour, made an excellent descent at Bedford.

### YORKSHIRE.

THE Yorkshire Automobile Club held its first inter-club meet on Saturday last, at Boroughbridge, meeting the members of the Cleveland Branch at the Crown Hotel. The meet was in every way a success, and the club will in the future arrange similar functions. Over fifty cars took part in the meet, about 150 members and friends being present.

A committee meeting was held after tea and it was decided to hold this year's speed trials on the Sands between Saltburn and Marske. The sands had been inspected by a sub-committee the week previously and were found to be eminently suitable for the purpose of holding speed trials. The agent of Lord Zetland and the District Councils of Saltburn and Redcar have been approached, and their sanction obtained to the speed trials taking place on the sands, provided that the course is properly protected; this will be done, for the club is determined not to have



The above illustration is reproduced from the picture portion of the very artistic poster just issued by the Star Engineering Company. As will be seen, it depicts a Star Car at the Ruins of Pompeii. Unfortunately our picture does not show the colouring of the poster, which is a very striking one, and should form an effective advertisement for these well-known cars.

### ESSEX.

STARTING from Ongar, on Saturday, the Essex Motor Club held a non-stop and reliability trial over a 150-miles course in Essex. A feature of the trial was the slow speed and driving tests which were held *en route*. Punctures were plentiful, and, owing to minor ailments, no competitor in the tri-car class finished. In the motor-bicycle section Mr. H. E. Blackeney, on a Werner, was disqualified for arriving too early, and first place went to Mr. F. Hulbert, on a Triumph, Mr. F. Applebee, on a Rex, being second.

### AUTO CYCLE CLUB.

ON the recommendation of the judges, the Committee of the Auto Cycle Club has decided to award non-stop certificates to the following machines, which competed in the second quarterly trial, held on Wednesday, April 25th last:—*Bicycles*—3½-h.p. Brown, R. M. Brice; 3-h.p. Triumph, F. Hulbert; 3½-h.p. Clyde, J. Shaw; 4-h.p. Werner, O. C. Godfrey; 3½-h.p. Rex, F. W. Applebee; 3½-h.p. Quadrant, L. W. Bellinger; 4-h.p. Werner, E. W. Ashworth. *Tri-cars*.—10-h.p. Invicta, W. Barnes; 9-h.p. Riley, L. Vandervelde; 9-h.p. Singer, Bert Holland; 6-h.p. Riley, A. Carpmal; 10-h.p. Lagonda, Morton Stuart; 9-h.p. Riley, J. Browning. Certificates, giving a record of the performance, will also be awarded to the following machines, which had minor troubles on the road. 2½-h.p. Kerry, G. Aldington; 5½-h.p. G.B., F. E. Cox. *Tri-cars*, 6-h.p. Invicta

a repetition of what took place at Filey last year. The superintendent of police for the district has intimated his willingness to undertake the duty of protecting the course, and the club will work in co-operation with him, and if found necessary over 100 police officers and several mounted police will be engaged.

### CARDIFF.

SOME of the results in the hill-climbing competition organised by the Cardiff Motor Club at Penttyrch on Wednesday of last week were interesting. In one event Mr. W. Pollard (3½-h.p. Quadrant) was placed first, and Mr. G. H. Smith (3½-h.p. May M.C.), was second. In the other competition the winners were Messrs. A. Williams and T. Silver respectively, each riding a 3½-h.p. Quadrant motor-cycle.

### ULSTER MOTOR CYCLE UNION.

THE reliability run of the Ulster Centre of the Motor Cycle Union of Ireland, postponed from the previous week, was held on Saturday. Owing to the increase in the number of small cars now in use by the members, it was recently decided by the committee to open the majority of the competitions to members who drive or own cars up to a certain horse-power, with the result that in the contest under notice four out of the eight competitors drove their own cars, as will be seen by the following:—T. Ireland, 10-12-h.p. Humber; T. Clapham, 12-h.p. Cottareau; J. Garrett, 8-h.p. Rover; J. Holden, 6-h.p. Rover;

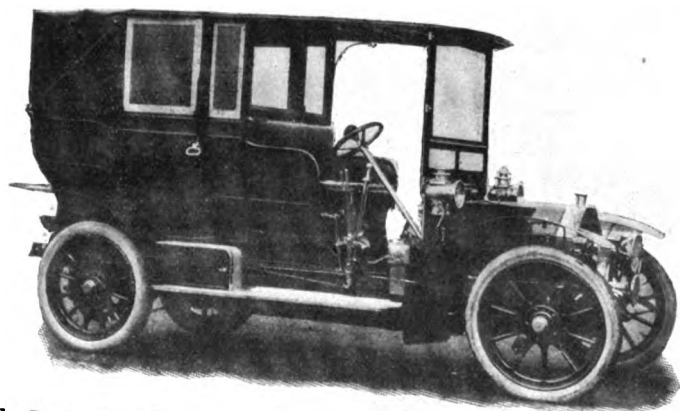
P. Savery, 3-h.p. Humber motor-cycle; J. Stewart, 3-h.p. Triumph motor-cycle; R. Kenneth, 2½-h.p. Coventry Eagle motor-cycle; C. Montgomery, 3-h.p. Rover motor-cycle. The start was effected from Fortwilliam Park, Shore Road, Belfast, at three o'clock. Owing to the continuous rain of the Friday and the early morning the roads were in a bad state for some miles, but once beyond Whitehead a change set in and an improvement was noticeable until reaching Glenbrow. From there to Coralough roads were as bad as could be, after which some miles of average surface up to Ballycastle, where the finish was reached just on minimum time, ten minutes after six. Messrs. Gorrett, Ireland, and Stewart were the first to arrive, quickly followed by the others, who finished inside schedule, with a non-stop to the credit of every one of the competitors that started in the event.

### THE MOTOR CYCLING CLUB.

THE annual twenty-four hours' motor run from London to Edinburgh, organised by the Motor Cycling Club, will take place on Friday, the 1st prox. Motor-cars will take part in the journey, and a competition for the "Schulte" cup will be held in conjunction with the run. The start will take place from the top of Highgate Hill at 10 a.m., and Edinburgh is to be reached not later than 10 p.m. the following day. Any motorist wishing to participate in the trip should at once communicate with the Hon. Sec., Mr. A. Chandler, 1 Lime Grove, Shepherd's Bush, London, W.

### ROYAL NORTH OF IRELAND YACHT CLUB.

THE motor meet and competition of the Royal North of Ireland Yacht Club was held at Cultra, Co. Down, on Saturday, having been postponed from the previous week on account of bad weather. The club



The Brotherhood 20-25-h.p. car recently supplied to the Right Honourable the Marquis of Zetland. The chassis has a 9 ft. 9 in. wheel base, and embodies all the special Brotherhood points, such as two-pedal control and automatic timing of ignition, whilst the body is a very roomy double landaulet by Hamshaw, of Leicester. A special feature is the great amount of room inside the back of the body for five people on the relatively short wheel base.

entertained the members and friends to afternoon tea in the clubhouse. Between 400 and 500 people were present, the attendance of nearly sixty motor-cars being also recorded.

The course was over a private road, having been placed at the disposal of the club by Mr. R. J. Kennedy, D.L. The total length of the hill is 700 yards, with a rise of 108 feet. The steepest gradient was 1 in 11, the average being 1 in 19½. The results were as follows:—

#### FOR CARS OF 15-H.P. AND ABOVE.

Major M'Cammon	16-h.p. Minerva	1
Mr. G. Craig	18-22-h.p. Daimler	2
Mr. F. Workman	15-h.p. Darracq	3

Mrs. Vincent Craig was the winner of the ladies' competition.

#### FOR CARS OF 10-H.P. AND UNDER 15-H.P.

Mr. F. Gardiner	10-12-h.p. Argyll	1
Messrs. W. H. and J. Carson	10-12-h.p. Argyll	2
Mr. R. E. Workman	14-h.p. Minerva	3

Miss Bostock was the winner of the ladies' competition.

#### FOR CARS OF UNDER 10-H.P.

Mr. J. W. Lemon	6-h.p. De Dion.	
Mr. A. Craig	5-h.p. Oldsmobile.	
Mr. W. P. Donnan	8-h.p. Darracq.	

Mr. R. E. Workman was hon. sec. of the Committee, which consisted of Messrs. H. Barbour, W. H. Carson, H. C. Craig, G. Craig, R. Gaffikin, C. W. Henderson, J. W. Lemon and W. C. Mitchell.

### WEST SURREY.

THE annual hill-climbing competition of this club was held on Saturday over a course of one mile near Pirbright, permission having been accorded by the Aldershot authorities. The average gradient of the hill was 1 in 25, the maximum, near the finish, being 1 in 9½ for a short distance.

One only of the twenty-six competitors failed to appear, and over 110 members and guests were present. An *à fresco* tea was served subsequently on the top of the hill, after which the prizes were presented by Mrs. Buttemer, Mr. R. McCaskill, 28-h.p. Pipe, and Mr. A. Leon, 14-h.p. Renault, being the winners in the class over 12-h.p., while Mr. A. C. Tessier, 12-h.p. DeDion, and Mr. J. F. Ponsford, 8-h.p. Clement, were successful in the class for cars 12-h.p. and under. The latter's Clement, it may be added, was a 1902 car, and had had over three years' hard work.

The handicap was framed by the A.C.G.B.I., the results and times being as follows:—

#### CLASS I.

##### CARS OVER 12-H.P.

	Car.	Handicap.	Net.
2. R. W. Buttemer	14-h.p. Renault	19 sec.	2.40
3. R. Court Treatt	16-h.p. Humber	scratch	2.35
4. J. Fletcher	20-h.p. Durkopp	18 sec.	2.42
5. G. A. Houghton	14-h.p. Renault	22 sec.	2.33
6. A. Leon (2nd)	14-h.p. Renault	12 sec.	2.13
7. R. Kirke	24-h.p. Dennis	27 sec.	2.55
8. R. McCaskill (1st)	28-h.p. Pipe	22 sec.	1.33
9. E. E. Pullman	15-h.p. Durkopp	16 sec.	3.24
10. R. Vogan	20-h.p. Simms		
	Welbeck	14 sec.	3.36
11. O. O. Wrigley	28-h.p. Daimler	3 sec.	2.37

#### CLASS II.

##### CARS 12-H.P. AND UNDER.

	Car.	Handicap.	Net.
2. Dr. B. Bond	10-h.p. Argyll	36 sec.	3.59
3. Dr. F. W. Bryden	10-h.p. Argyll	75 sec.	3.9
4. Dr. F. W. Bryden	6-h.p. Speedwell	91 sec.	4.14
5. W. G. Crothers	9-h.p. Darracq	48 sec.	4.11
6. Col. F. H. Fairtlough	12-h.p. Darracq	21 sec.	4.13
7. Dr. A. Fennings	12-h.p. Argyll	27 sec.	2.22
1. W. C. Houghton	10-h.p. Argyll	69 sec.	2.25
9. Miss Jenkinson	6-h.p. Siddeley	46 sec.	3.22
10. Major Kingdon	10-h.p. Humber	scratch	4.20
11. Dr. Minchin	8-h.p. De Dion	132 sec.	2.28
12. J. F. Ponsford (2nd)	8-h.p. Clement	76 sec.	2.6
14. Col. Rawstorne	8-h.p. Cadillac	50 sec.	3.0
15. R. S. Robertson	6-h.p. Wolseley	38 sec.	3.3
17. A. B. Tessier (1st)	12-h.p. De Dion	57 sec.	1.42
17. Dr. R. Thorne-Thorne	12-h.p. Darracq	21 sec.	3.59

The handicap is the time in seconds to be deducted from actual time of ascent.

### LADIES'.

THE following ladies have recently joined the Ladies' Automobile Club of Great Britain and Ireland:—Mrs. Robert English, Mrs. Guthrie, Lady Hamilton, Mrs. R. H. C. Harrison, the Hon. Mrs. St. John Mildmay, Lady Rodd, and Mrs. Horace Walpole.

The club will hold an automobile gymkhana in the grounds of the Ranelagh Club on the 30th of June. The committee have prepared a varied and interesting programme of six, or, rather, as the first and last are subdivided, eight events. This year it has been decided to open the competition to the sisters and daughters of members, and the Committee hope that many entries will be received before the 25th of June.

### DERBY.

ON Saturday the first of this season's competitions of the Derby and District Automobile Club was held at Hill Cliffe Lane, near Derby, in the form of a handicap hill climb. In order to do away with paper calculations the Derby Automobile Club have instituted a new form of handicap. Of course, as is the case with all such arrangements, it has possible drawbacks, but, judging from the extremely close finishes seen on Saturday last, its success may safely be taken as assured. One advantage over all other handicaps is that the winner is proclaimed at once. All the cars are sent up the hill against the watch, and the members are expected to do their best on this trial run. The cars are then drawn in pairs and the heats run off, the slower car starting first with its time allowance, and the driver first passing the finishing line passes into the second round, when the process is repeated until the final pair decide who is the victor. The closeness of the finishes, especially in the final and semi-final rounds, proved most satisfactory to the competitors and spectators alike; the final especially was a most exciting finish, Mr. F. A. Bolton, a vice-president of the club and the hero of many club medals, on his 30-40-h.p. Daimler, just failing to catch Mr. Cyril Smith driving an 8-h.p. Rover, the latter's consistent driving, by the way, being one of the features of the afternoon. The following were the results of the competition:—

First round.—Fletcher, 9-h.p. Mohawk, 1 min. 15 sec. start, beat.



Paget, 18-h.p. White; Mell, 15-h.p. Darracq, beat Eaton, 6-h.p. De Dion, 1 min. 5 sec. start; C. Smith, 8-h.p. Rover, with 43 sec. start, beat Burford, Minerva Trimo; Turnbull, 20-32-h.p. Darracq, beat Hewitt 8-10-h.p. Humber, who took 1 min. 39 sec. start; Bolton, 30-40-h.p. Daimler, beat Clifford, 10-h.p. Minerva, 1 min. 44 sec.; Leech, 18-22-h.p. Daimler, beat Joule, 15-h.p. Darracq, 38 sec. start.

Second round.—Mell beat Fletcher, 3 min. 13 sec. start; C. Smith, 1 min. 44 sec. start, beat Turnbull; Bolton, scratch, beat Leech, 53 sec. start.

Third round.—Smith, with 1 min. 6 sec. start, beat Mell; Bolton drawn a bye.

Final.—Smith, with 2 min. 36 sec. start, just managed to reach the finishing line before Mr. Bolton, thus taking the silver medal and Mr. Bolton the bronze.

Between the first and second rounds many of the members of the club and their friends adjourned to the house of Mr. H. E. Currey, of Tarncliffe, who had very kindly invited them to tea, and a most enjoyable half-hour was spent in the grounds, where Mr. Currey, assisted by his brother and sisters and their staff, attended most assiduously to the wants of their visitors.

The competition was extremely well attended by the members and their friends and others interested in the trials, and, besides those members already referred to, there were present Dr. W. G. Copestake, W. Sayer, N. Sayer, G. F. Reading, H. Jefferson, A. Ford, Ross-Browne, Major F. W. Peacock, C. A. Newton, H. E. Currey, and numerous friends and others, including Mr. W. Harvey Whiston, Rev. Cecil Currey, Misses Currey, Miss Slade-Jones, and Misses Sayer.

The final round was decided about 7 o'clock, after which the cars began to disperse. As has been the case on former occasions, the weather was perfect and the roads all that could be desired. The timing arrangements were, as usual, in the hands of Messrs. C. T. Leech (hon. treasurer) and Chas. J. Allin (hon. secretary), who on this occasion were assisted by Mr. P. E. Joule (assistant secretary) and their labours were considerably simplified by a pair of field telephones, an innovation initiated by the Derby Automobile Club, which proved of inestimable value in the timing arrangements, the wire, of which there was over a mile, having been laid down earlier in the day by these three officials of the club, who must have been extremely gratified at the immensely satisfactory result of their labours.

To-day the club, at the invitation of Mr. Francis A. Bolton, visit Oakmoor for the third year in succession, who on this occasion has most kindly extended his invitation to the members of the Nottingham and Leicester Clubs, and as an additional attraction Mr. Bolton is offering a silver cup for an inter-club hill-climbing competition, which will be contested by four representatives from each of the three clubs.

Mr. W. E. R. JACKSON, of 9, Hillside, Sunderland, is the Hon. Sec. *pro tem.* of the motor-cycle club that is being formed at Sunderland.

THE North East Lancashire Automobile Club have a reliability run from Whalley to Edinburgh, starting on the 18th inst.

TO-DAY (Saturday) is the last day for receiving entries for the Frome's Hill climb of the Herefordshire Club.

MR. A. W. MOORE is succeeding Mr. S. R. Rhodes as hon. sec. of the Wolverhampton Automobile Club.

AT the Derbyshire and District hill-climb on Saturday last, Mr. Bolton on a 30-h.p. Daimler did the fastest time, and Mr. Leach on an 18-h.p. Daimler the second fastest time.

A HILL climbing competition for motor-cycles, promoted by the Blackburn and District Motor-Cycle Club, was held at Withnell on Tuesday.

## THE ELECTRIC TRAMWAY AND THE MOTOR-BUS.\*

IT is a source of satisfaction to know that the paper is regarded as of sufficient importance to bring together an audience which represents the greatest experience obtainable in this country, both in regard to the operation of tramway systems and of those motor-omnibus systems now running, and, as was only to be expected in these circumstances, the remarks made on both aspects of the question, when intelligently read, form a most reliable and instructive criterion as to the relative fields of these two methods of rapid and popular transit.

I believe that I am justified in considering that the danger of side-slip is ever present, for even in fine summer weather there is the certainty of the omnibus meeting on its route with recently watered pavements, which is even more dangerous from this point of view than pavement that is continually wet, as in the winter weather, and the reference to ordinary touring motor-cars is not justified, since in the case of these it is within the power of the owner to use anti-skidding devices which are not commercially practicable at present for motor-omnibuses.

Again, the danger of the motor-spirit getting on fire in the omnibus is of an entirely different order to the similar danger which exists in a touring car, as the occupants of the latter, being only four or five in number, can readily alight; whilst the passengers in a crowded motor-omnibus might have much greater difficulty in getting free from the place. No doubt this special danger will be minimised in the future by the construction of the bodies of motor-omnibuses from non-inflammable material.

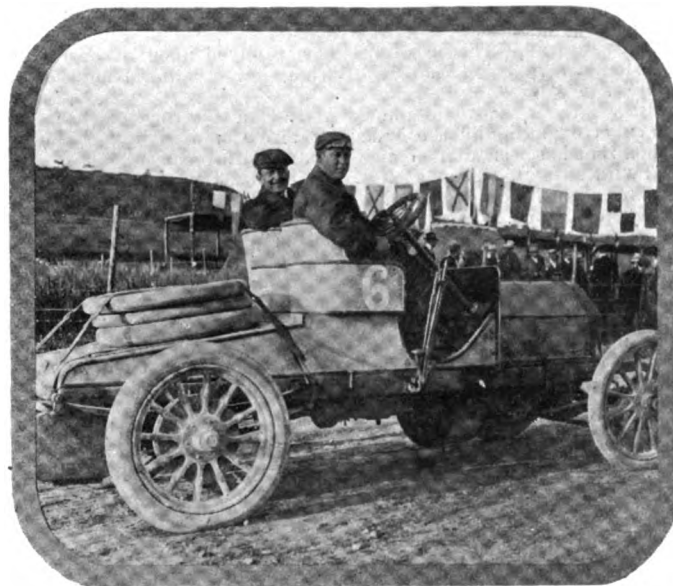
That motor-omnibuses have a large advantage over tramway systems in regard to the absence of need of going to Parliament for

powers when in the hands of private companies is very true, but it by no means follows that if motor-omnibus traction increases, as we hope it may, a general Motor Omnibus Act may not be passed by Parliament involving exactly the same sort of procedure on the part of promoters of such undertakings.

In order to do justice to the motor-omnibus, I have always assumed that improvements in their wear and tear will be made, but the actual expenses at present being incurred in the upkeep of motor-omnibuses do not maintain them in a really satisfactory condition, and most of those running in our streets are, in fact, wanting in greater maintenance, and, before we can talk of the material reduction in the cost of their upkeep, the leeway must be made up between the present comparatively inefficient maintenance and that which will be sufficient to meet the public point of view.

There is a very great deal in the contention that the running of tramcars on fixed rails is a possible help to the rest of the traffic of the road rather than the reverse. Certainly it prevents the whole of the width of the roadway being monopolised, as it often is at present in the London streets, by the motor-omnibus, an evil which is going to increase in the future, when greater numbers of these vehicles are running, and which may effectually serve as an object-lesson, disproving the academical pronouncements of those who maintain that by their use greater numbers of passengers are going to be carried with better convenience to other users of the road than is the case with electric tramway systems.

Motor-omnibuses have up to the present time been equipped with too small a power, and at the present moment the newer types



Mr. H. Pope on the Itala Car he drove in the Targa Florio Race.

of motor-omnibuses are employing motors which are even more than double the power of those originally used, and this will, no doubt, lead to more satisfaction being obtained from these vehicles in the future than in the past. At the same time, it must not be forgotten that the use of larger engines, generally exerting far less than their full power, may lead to increased fuel consumption, and thus to a certain extent neutralise the advantages otherwise gained. It, therefore, seems to me that to meet in an adequate manner the demands for increased power, some other method must be adopted than that of merely increasing the horse-power of the prime mover. In this connection it must also be recollected that the electric motor does not suffer from the same disabilities as the internal combustion engine, since increasing the power of the motor does not necessarily involve any appreciable difference in the energy consumed when working on light loads; and, further, the increases in the power of the electric motor may be obtained with but small increase of weight, whereas in the case of the internal combustion engine material differences in this direction are necessitated.

The statement as to the strain which the motor-omnibus is subjected to owing to the condition of the paving over which it runs raises a point of great importance, since the question of motor traffic may not be solved until the question of the roads is taken more seriously by the general public. This point raises the issue as to whether motor-omnibuses are for all time to be freed from the cost of the proper maintenance of the roads, or whether they are to be saddled with their fair proportion of this, as are the tramways, which do not wear the roads, the paving of which they pay for.

I should like to draw attention to the possibility of the motor-omnibus industry having, in the future, to add another item to its annual cost sheet, i.e., that of paying a portion of the maintenance of the road. In that case, the gulf which at present separates it from the economical

\* From Mr. Manville's reply to the recent discussion at the A.C.G.B.I.

costs of running electric tramway systems in crowded centres will be appreciably increased, and material improvements in other directions of costs will have to be made to keep it even in the position it occupies financially at the present time. I entirely agree that, so far, the motor-omnibuses now running have not had the advantage of proper organisation, both in maintenance and running, which electric tramway systems under experienced management have. It may be, however, that when the motor-omnibus systems are subjected to the same rigorous maintenance the present costs of upkeep may have to be materially increased. There is a great field for the use of motor-omnibuses as feeders to tramway systems, and, therefore, the supporters of the motor-omnibus who wish to see this field developed should behave less cavalierly to tramway systems than they have been in the habit of doing.

### ROAD REPORTS.

**ESSEX.**—Experiments are about to be carried out by the Essex County Council on the main road at Springfield, near Chelmsford, with the object of minimising the evils caused by the dust raised by motor-cars. During the past week the portion of the highway between Springfield village and Stump Cross Lane has been closed to vehicular traffic, necessitating a drive over the green and round by the church. The surface of the road has been treated with a preparation of tar.

**KENT.**—The Kent County Council have withdrawn from the proposed experiments in connection with dustless road materials.

**BLACKPOOL.**—The new road to Blackpool via Kirkham is now open and will be much favoured by East Lancashire motorists. Danger signals have yet to be erected at several of the sharp turns.

**PULVICIDE** is a new preparation for laying the dust. It takes the form of an emulsion, which is mixed with water and then applied to the roads by the ordinary water-cart.

**EASTBOURNE.**—The corporation has resolved upon a considerable extension of tarred slag roadways, with a view of minimising the dust nuisance.

**BUXTON.**—A portion of the main road in Buxton has been laid with cubette paving by the Welsh Granite Company, Ltd. This is a method that has been adopted in Germany with great success.

**TWICKENHAM.**—The Twickenham District Council have prepared plans for a much-needed widening of St. Margaret's Road, close to the top of The Avenue. The scheme has been before the council for over fifteen years, but it is felt that the increasing traffic, particularly in connection with motor-cars, now renders the widening imperative.

**SUSSEX.**—An experiment in dust prevention has been in progress at Billingshurst, Sussex. Mr. W. H. Puttock obtained permission of the Horsham Rural Council, and several of his neighbours have assisted, with the result that about 150 yards of the ordinary macadam road have been given a coat of boiling tar. The experiment has been tried on the old Roman road, Stane Street, the actual cost working out at 1½d. per yard super.

**MIDHURST.**—A direction board with arms indicating the directions of Haslemere, Petersfield, and Chichester, has been placed at the end of the market square at Midhurst, a corner where many motorists have previously gone astray.

### NEW COMPANIES REGISTERED.

**WOKING AND DISTRICT MOTOR 'BUS COMPANY, LTD.**—Capital, £3,000. To carry on the business indicated by the title. Bank Chambers, Woking, Surrey.

**LONDON DAIMLER COMPANY, LTD.**—Capital, £1,000. To carry on the business of motor-car, omnibus, van and cab proprietors, carriers of passengers and goods, etc. Registered office, 1, Broad Street Place, E.C.

**MANCHESTER ELECTROBUS COMPANY, LTD.**—Capital, £100. To adopt an agreement with the X Electric Accumulator Company, Ltd., and to carry on the business of motor-omnibus and vehicle proprietors, jobmasters, contractors, carriers of passengers and goods. Similar companies for Birmingham, Lancashire, Yorkshire, Nottingham, and Liverpool have also been registered, as well as the Provincial Electrobus Company, Ltd.

**ANGLO-FRENCH HERALD MOTOR COMPANY, LTD.**—Capital, £120,000. To adopt an agreement with Hamon and Co., and to carry on the business of manufacturers of and dealers in motor-cars, etc.

**MOYEU A ROUE ET FREIN PICQUENOT.**—Capital, £5,000. To acquire the right to work and exploit a French brevet d'invention granted to F. Grois and L. Picquenot, relating to an axle comprising free wheel and brake for bicycles and automobiles.

**NORTHERN GARAGE, LIMITED.**—Capital, £3,000. To carry on the business of manufacturers, letters to hire, repairers, cleaners, storers and warehousemen of and dealers in automobiles, etc.

**OSBORN AND CO., LTD.**—Capital, £1,000. To manufacture, sell, let on hire and deal in motors, etc. The first directors are Messrs. W. E. Owen and F. J. Osborn. Registered office, 6, Great Marlborough Street, W.

**MILDMAY MOTOR AND CYCLE STORES, LTD.**—Capital, £500. To acquire the business carried on by Mr. S. C. Stevens at 80a, Newington Road, N., as the "Mildmay Motor and Cycle Stores."

**MOTOR MAIL TRANSPORT SYNDICATE, LTD.**—Capital, £5,000. To carry on the business of engineers, manufacturers of motor-cars, motor wagons and accessories, transport agents, financiers, &c.

**AUTO SYNDICATE, LTD.**—Capital, £1,000. Objects: To acquire and turn to account certain patent rights known as "Auto-Mixte" (System Pieper), to promote companies, &c. Registered office, 30, Moorgate Street, E.C.

**NEW SPEEDWELL MOTOR COMPANY, LTD.**—Capital, £50,000. To carry on the business of manufacturers of and dealers in motor-cars, etc., and to take over the agreement entered into by Messrs. J. W. H. and A. J. Dew for the acquisition of the business carried on by the Speedwell Motor and Engineering Co., Ltd., at 151, Knightsbridge, S.W., and at Chiswick, W. The first directors are Messrs. M. L. Braithwaite, H. W. Howe, C. H. Dodd, A. J. Dew (managing director) and J. W. H. Dew (works manager). Registered office, 151, Knightsbridge, S.W.

**CLYDE MOTOR BOAT COMPANY, LTD.**—£1,500. To carry on the business of owners, hirers, builders, designers, storers, repairers, and cleaners of motor-boats, &c. Registered office, 48, West Regent Street, Glasgow.

**MAIL MOTOR COMPANY, LTD.**—£1,250. To carry on in Grimsby and Caistor, Lincoln, the business of carriers of passengers and goods, constructors and proprietors of automobiles, motor-cars, motor-boats and vessels, omnibuses, &c.

**MOTOR INVESTMENTS.**—£5,000. Objects as indicated by the title. **TENAX TYRE AND RUBBER MANUFACTURING COMPANY, LTD.**—£500. To carry on the business of manufacturers of motor and other tyres, agents for the manufacture of rubber, gutta percha, and gums of all kinds, &c.

**SCOTTISH ELECTROBUS COMPANY, LTD.**—£100. To adopt an agreement with the X Electric Accumulator Company, Ltd.

### COMPANY NEWS.

**THE ANGLO-FRENCH HERALD MOTOR COMPANY, LTD.**, closed its subscriptions on Wednesday. The capital is £120,000, and the first issue has been of 75,000 £1 shares.

**A. DARRACQ AND COMPANY (1905), LTD.**—At the extraordinary general meeting of A. Darracq and Company (1905), Limited, held on Friday, the 11th inst., Mr. J. S. Smith-Winby, who presided, said that the Board had been asked at previous meetings why the company had not taken up the manufacture of motors for heavy traction. The reply had been that Mr. Darracq was carefully studying the question, and that, until he was satisfied the problem had been satisfactorily solved, both for buyers and users of these vehicles, the company had determined not to embark on this branch of manufacture. With regard to such types as the Darracq Company were producing, Mr. Darracq was convinced that petrol would continue to hold the sway, but with weights of five tons and upwards it was necessary to look for some other motive power. Electricity might be dismissed as outside the region of practical politics, and when steam was mentioned thoughts turned to Mr. Leon Serpollet. They had decided to enter into arrangement with Mr. Serpollet, which would result in a combination of the inventive genius of that gentleman with the genius of Mr. Darracq as a manufacturer and factory organiser, backed up with ample facilities and working capital. The Serpollet omnibus was of over 40-h.p., and able to be driven up steep hills and over bad roads, either in town or country, with ease, rapidity, noiselessness and smoothness. The chairman then referred to the details of the agreement, and moved its adoption, which was carried unanimously.

### PUBLIC MOTOR SERVICES.

**THE Great Eastern Railway Company** are running a service of motor-buses between Lowestoft and Southwold.

A **MOTOR-BUS** service is to be established between Bridport and Axminster.

**ARRANGEMENTS** are being made for an extension of the motor-car service recently inaugurated in Kent, and there will soon be a service of motor-buses between Margate, Ramsgate, and adjacent villages.

A **NEW Arrow** line of motor-buses has commenced running from Shoreditch Church to the West End of London.

At the last meeting of Holborn Borough Council, the Works Committee reported having communicated with the Commissioner of Police and the London County Council with reference to the noise caused by motor vehicles and the dropping of lubricating oil on the asphalted carriage-way pavements in the borough.

By the refusal of the Select Committee of the House of Commons to sanction the construction of a line of tramways from the Marble Arch to Cricklewood, the motor-bus may be said to have gained a substantial victory. And this, notwithstanding the joint applications of the London and Middlesex County Councils for the tramway.

### THE ALBERT BROWN TROPHY.

THIS competition, organised by the Motor Cycling Club for cars of which the principal parts must be of British manufacture, will take place to-day, and should prove interesting, on account of the somewhat novel lines on which it will be run. The basis on which the awards will be made is a combination of reliability and weight carried for petrol consumed. Owing to the fact that the cars competing must be "home made" and be driven by members of the club, the entry is not a large one, but it is anticipated that as British-built cars increase in numbers the trophy will

be more severely contested in future competitions. The start will be made from Slough, and the route will be *via* Farnham Royal, Beaconsfield, High Wycombe, Dashwood Hill, Aston Rowant, Fullington, Stalhampton, Thane, Aylesbury, Wendover, Amersham, Beaconsfield, and Slough, a distance of seventy-five miles, which will have to be covered twice. The following are the entries:—

J. H. Reeves	...	4-cylinder 95 by 110 New Orleans.
F. J. Jenkins	...	4-cylinder 95 by 110 Rover.
A. Candler	...	1-cylinder 114 by 125 Rover.
C. V. Brown	...	4-cylinder 114 by 130 Rover.
E. Perman	...	2-cylinder 102 by 106 Bel-zie.
J. Platt Betts	...	1-cylinder 95 by 110 Rover.
Miss A. Bess Wood	...	6-cylinder Napier.
F. H. Johns	...	1-cylinder 114 by 120 Rover.
S. J. Sewell	...	4-cylinder 95 by 110 Rover.

The club has secured the services of Mr. F. T. Bidlake to act as timekeeper for the whole of the season's events.

### THE STORAGE OF PETROLEUM.

THE Rapid Road Transit Company, of Great St. Helens, E.C., were fined 40s. and 23s. costs at West London Police Court for improperly storing petroleum. The prosecution was at the instance of the London County Council, one of whose inspectors found five barrels of petroleum in an open yard at the defendants' premises in Prince's Road, Notting Hill, instead of in an adjacent receptacle licensed for the purpose. It was explained for the company that all the men had left the yard, on strike, on the day in question, and the contractors' carmen had simply "dumped" the barrels in the yard.

### A CAR ON FIRE.

CONSIDERABLE excitement was aroused in East Grinstead on Sunday, when just outside the Dorset Arms Hotel a motor-car suddenly burst into flames. It seems that a party of five gentlemen in a motor-car alighted at the hotel, and it was found necessary to replenish the petrol tank. Suddenly the petrol, which was evidently overflowing, ignited. The car had been drawn up close to the kerb in front of the hostelry, and directly it caught alight the hotel was in danger of catching fire. As it was, the signboard and the porch caught alight, and the front portion door and window frame were blistered by the heat. The car was dragged from its position into the centre of the road, and there it was allowed to practically burn itself out, the only portions saved being the tyres.

### TRACTION ENGINE OR STEAM WAGON.

THE Eastern Motor Wagon Company, Limited, of Bow Road, London, E., have come out successfully from an attempt on the part of the Staffordshire police to define a heavy steam wagon as a traction engine. The wagon was one of the earlier type of "Foden" lorries, weighing nearly seven tons unladen, and was being taken to the makers' works at Sandbach to be reconstructed. The traffic manager, Mr. A. E. Brassington, was in charge of the wagon at the time the vehicle was stopped at Trentham, near Stoke-on-Trent, and was then told that there was a bye-law in force in Staffordshire under which all vehicles had to carry two head lights, and at the time this wagon was only showing one light, on the off side. The police-sergeant took the registration number from the front, and asked to see the driver's licence, and also copied the particulars as to weight which were painted on the wagon. The company expected to receive a summons for non-compliance with the county lighting bye-laws, and were prepared to contest the charge on the ground that no bye-law could override the regulations of the Local Government Board, so far as motor vehicles were concerned. They were served with two summonses, first for using a locomotive without having a third man to attend to passing vehicles, and the second for not showing two head lights as required by the Locomotives Act, 1865.

When the case was heard the police sergeant admitted that the defendant had afforded him every explanation, and that a bright light was burning on the off side. The defence produced a photograph of the wagon, so that the magistrate could see that it was not a traction engine, and produced a copy of the Heavy Motor Car Order, pointing to Article 4, Section 5, under which the vehicle was registered. They also produced the certificate of registration, and the Use and Construction Order as to lights. The magistrates said that the summonses should not have been issued, and dismissed them both. On an appeal as to costs, they granted an order for four guineas against the police.

### THE IDENTIFICATION OF THE DRIVER.

BEFORE Mr. Horace Smith, at the Westminster Police-court, Robert St. John Willans, of Gillingham Street, Pimlico, has answered a summons, under the Motor Car Acts, for failing to give information which would lead to the identification of the driver of a motor-car for reckless driving on the Portsmouth road, at Cobham, on the 5th ult.

Mr. Muskett, who appeared for the police, said the proceedings were taken under section 1, sub-section 3, of the Motor Car Act, 1903. If a person had, in fact, committed an offence by reckless or negligent

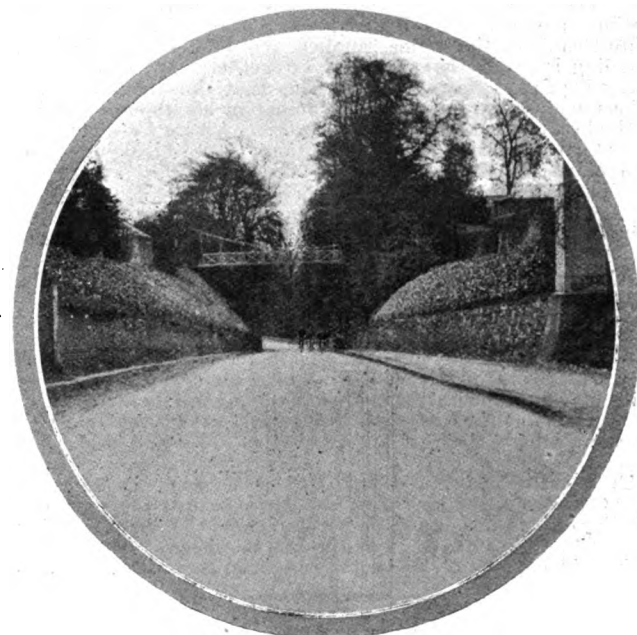
driving, or to the common danger, it was incumbent upon the owner to assist by giving all the information in his power which would lead to the identification of the driver.

It was alleged that the motor-car of which the defendant was the owner was being driven on a particular day at a reckless or excessive speed. At the time it was impossible to obtain the name and address of the driver, and as it was desired to obtain this and take proceedings against the driver, the Surrey police worked in conjunction with the Metropolitan police, and Inspector Green in due course called upon the owner, who resided in the Metropolitan police district. He asked for the required information, and stated the grounds upon which it was required. Mr. Muskett submitted that the owner was bound by law to give this information, and if he did not he was liable to a penalty under the section.

Mr. Horace Smith agreed that the interpretation really was that the owner shall give every information in his power to assist in the identification of a driver.

Mr. Staples Firth said the summons had been trumped up at Scotland Yard. It had been deliberately concocted. The Surrey man came, and was given all the information he wanted, and then four days later another officer from the Metropolitan police called. It is an outrage that these charges should be concocted for the purpose of taking proceedings against motorists. The police are trying to obtain evidence to bring another charge against us. I submit that the summons absolutely fails. It is contrary to all notions of English law that one person should be compelled to give information against another.

Mr. Horace Smith imposed a fine of £10, and as both sides asked



Pain's Hill, near Cobham, Surrey. The Police are working a Trap from the Footbridge seen in the Picture.

Photo by

(Colonel Boscworth.)

for costs, his worship set one off against the other, and allowed none save that for the summons.

### THE MAIDENHEAD BRIDGE CASE.

RECOLLECTIONS of the struggle for the freeing of the Maidenhead bridge from tolls are revived by the case of Taylor v. the Corporation of Maidenhead, which was in the Courts on Saturday. This case was originally an action in which the writ was issued in 1902, Mr. Taylor claiming 4d., paid by way of tolls over Maidenhead Bridge, and asking for an injunction restraining the Corporation from levying toll on the ground that it was illegal. In 1904 an Act of Parliament was passed abolishing tolls over the bridge, but the action was continued. In February, 1905, when the plaintiff said his costs amounted to about £5, the Corporation offered to consent to a dismissal of the action without costs, but the plaintiff declined the offer. His lordship remarked that after the passing of the Act of Parliament the action became one of 4d. only. He made an order allowing the plaintiff £5 costs up to February, 1905, the costs of the Corporation since that date to be set off against them. The plaintiff's application for a stay of execution pending an appeal was refused.

### A BOMBAY APPEAL CASE.

At the Bombay High Court, on the 11th ult., the Chief Justice, Sir Lawrence Jenkins, delivered judgment in the case referred to by Mr. Ernest Esdaile in his recent letter to the M.C.J., and which excited the greatest interest amongst motorists of all classes in Bombay. Mr.

Bayne appealed for revision of sentence of one day's imprisonment, a fine of Rs. 200 and permanent withdrawal of his licence passed on him by the Third Presidency Magistrate, for negligent driving of a motor-car.

The Chief Justice declared that the sentence of imprisonment could not stand. He could not say that the fine was so severe as to call for the interference of the Court in revision. Dealing then with the order that accused should be permanently disqualified from holding a licence, Sir Lawrence Jenkins said, arguments of this part of the case need not be considered, for this part of the sentence was illegal. It was admitted by the prosecution and by the magistrate himself, who had very properly made a representation to the High Court to this effect and had requested the annulment of the order. There was only the question of the period of the disqualification and the Court ordered the period of suspension to be reduced to three calendar months from the day of the magistrate's order.

#### CASES AGAINST MOTOR-BUS DRIVERS.

WILLIAM ARTHUR TICHNER, a motor-'bus driver, was summoned, at the South-Western police-court, for failing to make prompt and effective use of such means as would stop the action of the machinery when his 'bus was stationary so far as was necessary for the prevention of noise; also for quitting the car without taking due precautions against its being started in his absence. Mr. Muskett, prosecuting for the Police Commissioner, explained that the grievance was that when the 'buses were put on the rank at the journey's end the machinery was allowed to continue in motion, and that the drivers did not take the available steps to stop the horrible noise that was sometimes created. The defendant said that before leaving the car he throttled down the engine, applied the brakes, and, in fact, did everything but stop the machinery altogether. Mr. de Grey, after a lengthy inquiry, came to the conclusion that the driver took all precautions against the restarting of the car in his absence. What the actual effect of the words "due precautions" were he did not know; it might mean every possible precaution, or it might mean reasonable precautions. The driver did take reasonable precautions, and therefore he dismissed the summons. With regard to the noise, he was of opinion that the case had been made out, and he imposed a nominal penalty of 2s. 6d., with 2s. costs. This ruling also applied to three other drivers summoned for similar offences.

At the Thames Court on Saturday, Joseph W. Hussey, 17, Stadium Street, Chelsea, motor-car driver, was summoned for driving a motor-'bus at a speed exceeding twelve miles an hour in the Bow Road, and several witnesses having given evidence of a contrary character to that of the police, the magistrate, Mr. Dickinson, said it was a question of estimated speed on one side and mechanical proof on the other. He could not imagine a more accurate method of testing the speed than by using stop-watches, and the constables had passed tests for taking the times. He could not doubt their evidence, and defendant would be fined 20s. and 23s. costs.

THOMAS ROBERTSON SIMMONS, driver of one of the Great Eastern Motor Omnibus Company's cars, was summoned at the same court for a similar offence, and in this case it was stated that he was going at a speed of 13½ miles an hour, but it was admitted that the two stop-watches did not agree. Defendant was fined 5s. and 23s. costs.

#### POLICE TRAPS.

THE measured furlong in the London Road, Morden, is in daily operation.

POLICE activity continues on the Lancaster-Carlisle road.

HITHERTO the road to Folkestone has been fairly safe to motorists—a state of things that appears to be coming to an end, owing to local enthusiasm for the game of police traps.

It would appear that we shall have to do for the drivers of motor-'buses what we have previously regarded as mainly for those who steer cars, viz., give particulars of special traps intended for their capture. The police have a measured furlong in the Bow Road for the purpose of keeping observation on the motor-'buses plying between Bow Bridge and Putney.

A CORRESPONDENT who follows our list of police traps each week writes that he ran into one the other day which has not been previously notified. It is on a 220 yards length close to Edgware, on the road from Buckingham to London. Three officers are located within half a mile of the spot where the tram lines commence.

#### MOTOR-CAR ACCIDENTS.

At Battersea, Mr. Troutbeck has held an inquest on Arthur J. Porter, whose death occurred as the result of a motor-car accident on April 26th. Sydney White said that on April 26th he saw a cyclist riding towards Battersea, in Windmill Road, Wandsworth Common. At the same time a traction engine, with three trucks, was proceeding in an opposite direction, and a motor-car followed it. The cyclist passed in front of the engine, when the motor-car dashed into him and knocked him some considerable distance. The car pulled up and the deceased man was taken in it to hospital. The engine was large enough to conceal the cyclist from the car and the car from the cyclist. The Coroner, in summing up, said that when driving in London one had to be prepared

for unreasonable and reasonable occurrences. The jury returned a verdict of "Accidental death," attaching no blame to the driver of the motor-car.

AN accident occurred on the hill leading from Beachy Head to Eastbourne on Monday. A motor-car owned by Mr. James Bussey, of London, was being driven down the hill rather late in the evening, and when turning the corner near the reservoir skidded and overturned. The occupants were thrown out, and both sustained bruises.

A RATHER serious motor accident, involving injuries to a Hastings lady and gentleman, has occurred on Silver Hill, between the villages of Hurst Green and Robertsbridge. By some means the driver, Ernest Oliver, lost control of the vehicle, which dashed into a bank at the right-hand side of the road. The impact caused the car to overturn, and the three occupants were violently thrown out.

WHILE a motor-car, containing half a dozen persons, was being driven along Telegraph Road, Gayton, in the direction of Birkenhead, on Monday, it came into collision with a motor-cyclist named Watson, of Hoole, Chester, who was seriously injured.

KNOCKED down by a motor-car in Nottingham Road, Ilkeston, a boy named Levett, aged six, has had his skull fractured, and died at the hospital.

#### CASES AGAINST MOTORISTS.

A MOTORIST named Thomas Carpenter, of Ealing, was sentenced to a month's imprisonment in the second division by the Guildford magistrates on Saturday for driving to the common danger at Shalford, and failing to stop when called upon to do so by the police. Evidence was given that the car was travelling at a speed of 37½ miles an hour. Seven previous convictions, three for driving to the common danger, were proved. Carpenter gave notice of appeal.

SEVERAL cases of exceeding the legal limit have been heard at the Croydon County Bench, fines of about £3 being the average. In one case the defendant had not sufficient money to pay the fine and the chairman lent him the balance on his promising to return it.

ALBERT JOHN CARTER, chauffeur, was again charged at Hemel Hempstead on Saturday with the manslaughter of Mr. Charles Preston, of Lancaster, who died from injuries he received in a collision between a motor-car in which he was riding and a hay-cart at Markyate. He was committed for trial.

AT the West Riding Court, Bradford, Abraham L. Rhodes, managing director of the Rhodes Electrical Engineering Company, Bradford, was summoned for driving a motor-car to the danger of the public. The case for the prosecution was to the effect that on the afternoon of April 25 last the defendant was driving a car on the Leeds and Bradford road at Calverley. As it ran along from Bradford its speed attracted the attention of two constables, who timed it from the moment when it apparently was passing the Farmer's Inn until it reached Four Lane Ends, which distance of 490 yards was traversed in twenty-nine seconds. For the defence it was denied that the speed had been as great as had been stated, and that there was at any time danger to the public. The defendant and others who were in the car with him declared that the speed never reached above fifteen miles per hour, and that for some time the vehicle kept pace with the tramcar past which it had been alleged to "flash." The chairman, Sir Theo Peel, said that the magistrates were satisfied that the car had been driven to the danger of the public. They had considered whether to suspend the defendant's licence, but in view of the fact that there was really nothing against him they had decided to impose a fine of £10 and costs.

MR. ALAN KING, of Chiswick, was the defendant on three summonses issued by the police at the Chiswick Police Court for, (1) exceeding twenty miles an hour on Good Friday in Chiswick High Road, (2) for driving at a speed dangerous to the public at the same place and time, (3) for failing to notify the London County Council of his change of address. Messrs. Kenneth Brown and Co. defended. A police sergeant and two constables gave evidence to support the charge of driving at twenty-five miles an hour. In cross-examination it was elicited that the sergeant and the constable in charge of the stop watches both started the watches whilst holding them in their pocket. Defendant gave evidence stating that he had in front of him a speed indicator which registered seventeen to eighteen miles an hour and that he knew of the trap and therefore kept within the legal limit. The summons was dismissed. The police admitted, in cross-examination, that speed was the only element of danger relied upon, whereupon it was pointed out for the defence that this was not sufficient in law to warrant a conviction, especially in this case, where the speed had been successfully shown to be moderate. Further, the legal point arose that no one can be convicted twice for the same offence. The Bench advised the police to withdraw this summons. This was done. With regard to the summons for not notifying the Council of change of address, it was submitted no offence had been committed as the last postal address was available, and this was all the County Council stipulated for. The Bench dismissed this summons also.

THE Mobile Motor and Engineering Company, Ltd., of Birmingham, have appointed the Motor Electrical Engineering Company, Ltd., of North Street Garage, Leeds, as their sole district agents.



# THE Motor-Car Journal.

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## THE 1907 EXHIBITION.

In view of the great increase in the output of British and Continental firms, as compared with previous years, as well as the number of new firms entering the industry, every effort has now to be made by those in the trade to bring their productions before the public at the proper season.

Hence the importance of the Motor Car Show at the Agricultural Hall, London, which practically opens the buying season for the year. Spaces for the 1907 display are now being booked, and the new features that will be presented point to an even more successful Exhibition than the record event of 1906.

## COMMENTS.

### An Echo of Brighton.

THE position of the Town Councillors of Brighton, who attracted the Automobile Club to that southern resort by the promise of a tarmac track, is not a particularly enviable one just now. They seem to be assailed from all sides, and the costs which have been incurred are certainly not popular in the town. Meanwhile Mr. J. T. Moore-Brabazon has asked one or two pertinent questions with regard to the disposal of the profits received by the A.C.G.B.I. in connection with the event, and wants to know if there has been any decision with regard to this point. According to him the Club made a very handsome profit out of the meeting held at Brighton. It would be a gracious act on the part of the Committee if they were to pay some of the costs incurred by the Brighton Council, and thus end a matter which may otherwise leave a somewhat sore feeling.

### The Rear Light Question.

THE episode of a tail-lamp in a Lancashire borough, reported on another page, suggests an aspect of the administration of the Motor Car Act which should be carefully considered by the Motor Union. The law makes it incumbent on the motorist to keep his tail-lamp burning brightly; the superintendent of police at Church declares that the condition of the road there was so bad as to shake out the best lights; the magistrates assert that the lamp should remain lighted whatever the state of the road. Amid such conflicting views the motorist in question may congratulate himself on escaping from the penalties usually visited upon those who drive cars. But consideration of the incident in its wider aspect suggests that common sense might well be introduced.

### The Blackpool Footpath.

THE view we expressed with regard to the curious action of the Chief Constable in harassing members of the motor trade of Blackpool has been endorsed by those similarly placed in many of the north-western resorts. Local opinion, too, is against the police action. Of course, if the passage of motor-cars over the pavement constituted a fairly regular breakage of

the flow of pedestrian traffic we would not have a word to say in defence of the motor trader. But no such inconvenience is caused, and, in common with the local organ of public opinion, we "entirely fail to see why the Corporation should desire to put any obstacles in the way of the extensive premises on South Beach being used for the object proposed. Surely, if three or four beautifully equipped and expensive motors do stand on the land in front of the shop, it will not be a tenth part so great a nuisance as the howling pandemonium of swindling auctioneers, sweetmeat vendors, and catch-penny tricksters of one sort and another who will be found not far away. Judging from the cars we saw at the garage yesterday, the gentlemen interested in the new venture have invested a few thousand pounds in motors, and there ought to be no attempt to put these pettifogging restrictions in their way, or to call upon them to fight a costly lawsuit in defence of their rights. Those interested have offered to alter the footpath, and to keep it in repair, at their own cost." Surely, after the criticism that has been levelled at the heads of the authorities, and the sorry figure they cut in Court, common-sense may shortly prevail.

### Motor Ambulances.

SOME particulars of the performances of two motor-ambulances in the service of the Metropolitan Asylums Board will be of interest. The petrol ambulance was delivered on December 16th of last year, and has since run 3,970 miles, and conveyed 250 scarlet fever patients. On one day the ambulance covered 112 miles, and frequently the daily run has exceeded 75 miles. The electric ambulance was delivered on March 5th, and, during the forty days covered by the report presented at the last meeting, this ambulance removed 122 scarlet fever patients and ran 1,282 miles. The electric ambulance travelled much more slowly than the petrol one, and never exceeded 56 miles in one day.

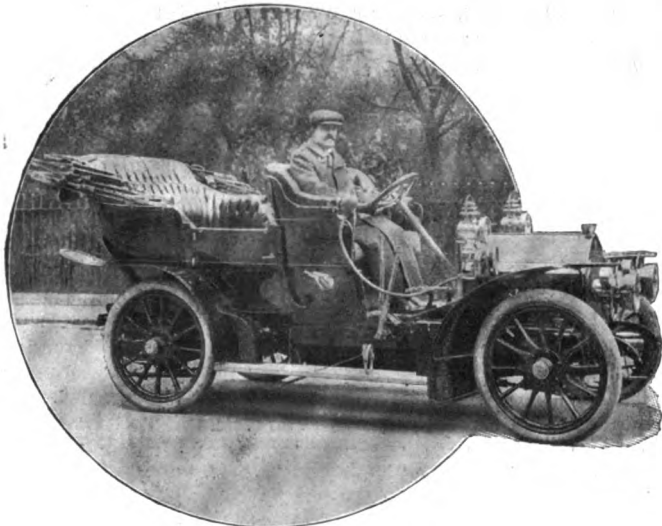
### Railway Rates on Car Bodies.

QUESTIONS of railway charges have an interest for the private owner of the motor-car as well as for the dealers in automobiles. Hence the general importance of the memorial which is now being largely signed at the instigation of the Institute of British Carriage Builders for presentation to the associated railway companies of the United Kingdom. During the last few years the coming of the motor-car has made the present classification of "carriage bodies" inconsistent with the requirements of the industry, and as this governs the rate upon which they are conveyed, the anomalies that have grown up press hardly upon carriage and motor body builders. It is pointed out that the firms in these industries require to convey to various points a partly finished article, which is in the nature of a raw material used by other traders in manufacturing varying articles which are placed in Class 5, the highest for any kind of goods. It is anomalous that the minimum rate per "body," whatever its nature or value, should be 5 cwt. in all cases. For example: that the trader should be called upon to pay the same freight for a light car, weighing

$\frac{3}{4}$  cwt. and valued at £3, as for a landau body weighing 5 cwt. and valued at £50. Several railway companies have recently decided that three light "bodies" can no longer be packed one in the other as a consignment, the effect being to largely increase the rate of freight, which it is suggested might be fairly adjusted by the institution of a separate classification for light "bodies," without which it is feared that traffic in goods of this kind will be seriously reduced, if not prohibited. The memorialists therefore submit that, having regard to the circumstances of the case, the existing classification itself, or the interpretation placed thereon, should be so modified as to allow of the articles in question being given the advantage of more equitable rates and conditions.

#### Commercial Van Trials.

At a meeting of the Committee of the Motor Van, Wagon, and Omnibus Users' Association, held last week, the Trials Committee reported that they had met the Committee of the Automobile Club, and that progress had been made with the preparation of the regulations for the forthcoming trials of commercial vehicles. It is now proposed that the trials shall take place in February and March next, and that the entry list will be closed on November 30th of this year. It is expected that the regulations for the trials, when formally approved by the Automobile Club and the Association, will be issued next month. The van trials have had a chequered career, the interest which was previously awakened and then dispelled being still remembered by those who have followed the history of the automobile. We trust, however, that the announcement now made will actually be realised in due course.



Mr. Wright Anderson on his 12-15-h.p. De Dietrich Car.

#### Frome's Hill.

THE hill climbing competition of the Herefordshire Club, to be held on Thursday, at Frome's Hill, has developed into an event of some importance, and the proceedings at the dinner to be held in the evening at Hereford will recall reminiscences of the Light Car Trial. The contest will have at least one novel feature in the fact that arrangements have been made with the police authorities to report to Mr. Wilfred Groom, the hon. secretary, any case of furious driving by competitors while within the borders of the county, and the proof of these charges will carry with it the disqualification of such contestants. In the open class sixty-seven cars have entered, the drivers including Capt. Masui, Capt. D. H. Morgan, Messrs. G. Usmar, Clifford Earp, E. H. Lancaster, P. Brodtmann, C. Jarrott, C. Friwell, E. E. Leverett, H. C. Holder, G. H. Woods and other well-known motorists, while several cars new to the competitions in this country will make their debut.

#### Mr. Burns on London Traffic.

IN view of the important position he now occupies with the Department that is nearest the regulation of motor matters from the administrative point of view, the contribution of Mr. John Burns to the current "Pall Mall Magazine" is of special interest to all who are studying the tangle of London's traffic. He regards the report of the Royal Commission on the subject as "a palpable hint to the present Government to co-ordinate, unify, consolidate and vest in one body the scattered duties now imperfectly discharged" by a dozen authorities and innumerable companies, to the derangement of traffic and the entrenchment of the streets against the citizens of the capital city of the empire. Mr. Burns rightly insists that the widening of roads is useless, and that it is a waste of money to construct tramways unless the whole problem is taken in hand with the view of being dealt with on a broad and adequate plan. The value of the Strand and Regent Street is lessened by the way in which their approaches and thoroughfares are allowed to be congested.

#### Tramcars v. Motor Buses.

WHILE, however, there is much common sense as well as picturesque phrasing, the article is vitiated by an exaggeration of the tramway, as though it were to be the avenue to a delectable country of freely moving traffic. The rapidity with which the motor-bus has come along, the lessening of noise and smell which is already marking its advance, and its ubiquity of motion, should have led Mr. Burns to some other conclusion than the declaration that "for housing, pleasure, trade, health, and the reduction of time wasted by the mere size of cities, tramways are the only, as they are the cheapest and best, remedy and solution." This seems too conclusive and sweeping an assertion, and one which overlooks the advantage that must be obtained by any form of traffic that can move without restrictions imposed by specially laid tracks, and which can glide among the sinuous streets of our overgrown cities, where tramways would be instruments of annoyance and positive danger.

#### The Auto Cycle Club's Eliminating Trials.

THE difficulty in which the Auto Cycle Club was plunged when the Tourist Trophy Race was postponed to September has been overcome by the thoughtfulness of Lord Derby, who, doubtless owing to the good offices of the Hon. A. Stanley, has consented to allow that organisation to hold its eliminating trials for the International Cup Race in Knowsley Park. The course that will be marked out for the event is a circular one of four miles or thereabouts, with plenty of sharp corners, some of which may possibly be regarded as controls. For purposes of testing the speed of the cycles, a run of five miles will be available in another part of the park, and, all things considered, the track should result in the selection of riders well able to sustain national renown in the international event. The trials will take place on the 6th prox., and will, of course, be conducted in semi-privacy. The following entries have been received:—H. A. Collier, 7-h.p. Matchless; C. R. Collier, 7-h.p. Matchless; G. A. Barnes, 8-h.p. Barnes; C. B. Franklin, 7-h.p. J.A.P.; T. Silver, 6-h.p. Quadrant; V. Feeney, 7-h.p. Westlake; R. Marewood, 6-h.p. Westlake.

#### Loyal Lowestoft.

EVIDENTLY the automobile education of the councillors of Lowestoft has been thoroughly looked after by the motorists of the town, or those gentlemen have a larger supply of common sense than is to be found in many council chambers. The question raised by the St. Albans Rural Council with regard to watering the dust came before them at their last meeting, and was discussed in a way that did credit to the town. Mr. L. F. Orde confessed that he had been a great sufferer from the dust raised—not made—by motor-cars, but he

could not agree with the proposal to more heavily tax cars in order to water the roads. Dr. Walker made a really excellent plea on the use of motor-cars for medical men, testifying to his activities of the previous year having been impossible but for his car. Mr. Brooke, whose name is identified both with the progress of Lowestoft and the advance of the motor-car, rightly ridiculed the idea that water would solve the problem, and asserted that such was the way to ruin the roads. Ultimately the resolution to reject the proposition from St. Albans was adopted by a large majority; and we trust the friendly disposition which Lowestoft has always shown to the motor-car will find reward in the prosperity associated with motorists as visitants.

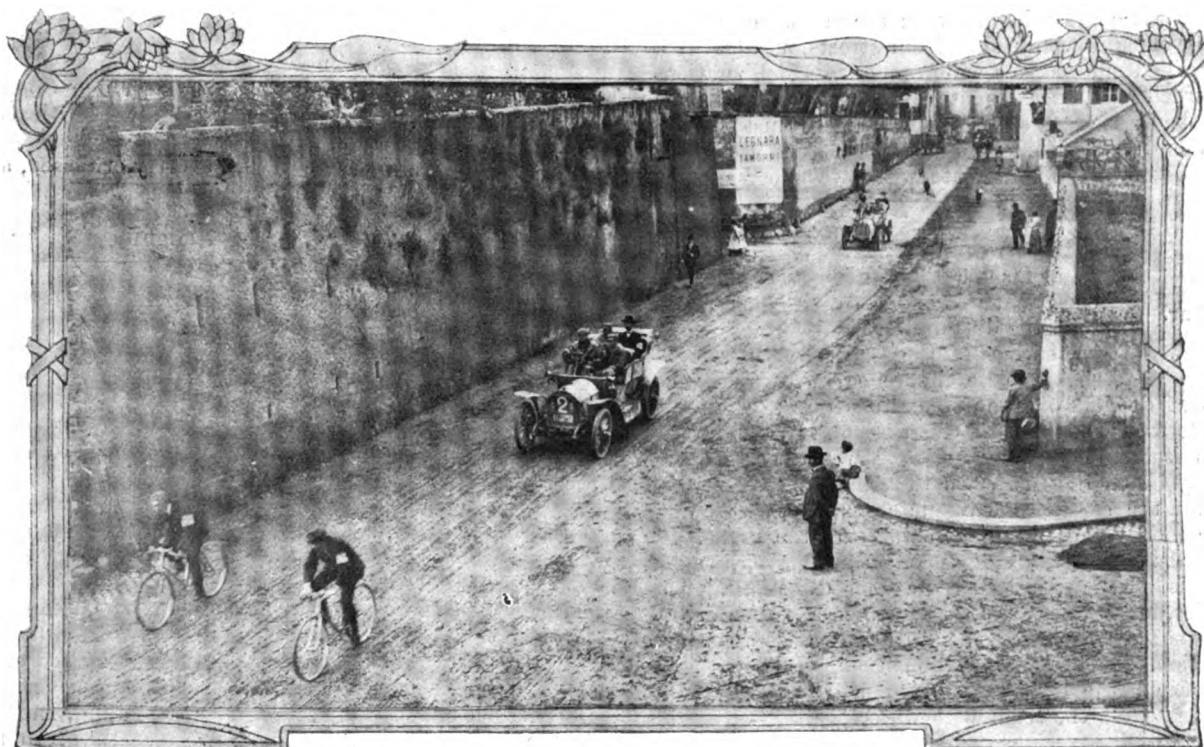
#### The Tourist Trophy Race.

ELSEWHERE we give a list of the entries which have been received for the International Tourist Trophy Race up to the time of going to press. We are asked by the A.C.G.B.I. to remind the trade that the last day for the receipt of entries at the ordinary fee of £20 per car is the 27th prox. After that

makers of the steam car are anxious to match their vehicles against the petrol cars, but the difficulty of handicapping with a view to secure equality of treatment is an obstacle which has thus far surpassed the wit of man. Meanwhile the minority of the steam car makers maintain a vigorous agitation for inclusion in trials and races, and one or two, at least, find satisfaction in the interest with which their particular vehicles are regarded by prospective motorists.

#### Scottish Notes.

In view of the importance which Scotland will assume during the next few weeks in the automobile world, special interest attaches to everything of motor-ing concern from north of the Tweed. There is likely to be considerable motor-car traffic northwards during June, and motorists themselves do not always despise the rail when anxious to cover the maximum of distance in the minimum of time. We would, however, urge upon all our Scottish readers who have influence in the necessary quarters, the desirability of arousing official opposition to the growing practice of laying police traps. There was a



The Italian Coppa d'Oro Touring Contest. The Competitors arriving at Rome. (See page 281.)

date the fee will advance £2 per week until August 27th, after which no entries will be received. The race will take place on Thursday, September 27th, and the whole object of the Club in fixing a definite allowance of fuel for a given distance is simply to limit the horse-power, and thereby the speed, of the competing vehicles. The regulation, in conjunction with the others, restricts the race to *bona fide* touring cars. This method of limiting engine power was chosen on account of its simplicity. The allowance of petroleum spirit for this year's race has been fixed at one gallon for every 25 miles of the course.

#### Steam v. Petrol.

THE A.C.G.B.I. has announced its intention to hold a steam-car trial if sufficient support is promised from the makers of such vehicles. Unfortunately no satisfaction has yet been accorded to anyone in this connection, and it is doubtful whether this attempt of the Club to bring about a match between the various types of steam cars now on the market will be welcomed by those directly responsible. The

time when Sir John Macdonald, Mr. R. J. Smith, and others, who have assisted the movement in the north, could come southwards and picture a land free from such devices. Stands Scotland where it did? The answer will be found in our Scottish Notes on another page.

#### The Motor Cab.

HAVING been duly installed on a rank in Trafalgar Square, London, the motor-cab may now be said to be on the highway to popular service. In fact, its entry into Palace Yard on Monday apprised legislators of the coming of new force among the crawling hansoms of the City. On that day Mr. Henry Norman drove a Renault motor-cab into Palace Yard, thus conveying Sir Christopher Furness to his duties in the House. The cab was fitted with a taximeter, a device that was denounced by the president of the Cab Drivers' Union, in giving evidence before the Select Committee now examining witnesses with regard to the Metropolitan cab regulations, on Tuesday.

**Club Events.**

SATURDAY was a busy day with the clubs, and our pages this week reveal an activity that spells profit for the industry and pleasure for a large number of people. Competitions and trials were held in almost every important automobile district, and the difficulties of recording all with adequate space according to the importance of the events has been greatly multiplied this season. It is an interesting sidelight on the development of a movement which is rapidly advancing to universal adoption.

**A Conference Proposed.**

A MEMBER of the Islington Borough Council is proposing that a conference of all the authorities concerned with the government of London shall be called for the purpose of promoting legislation jointly with the London County Council for "dealing with the problem of motor traffic in London." Herein we see the parochial attitude demonstrated in a very innocent way. It is not specially to look after the motor-vehicle that future legislation must be invoked; the motor-car is but a fraction of the vehicular confusion of our streets, and any conference that is called must have a wide range if its deliberations are to be regarded as of permanent value. Traffic in London must not be looked upon in a sectional aspect; it must be considered in its entirety, with, of course, a view as to future developments as well as the immediate needs of the occasion.

**Water v. Tar.**

LAST week we referred to the suggestion of some Romford wiseacres to the effect that a satisfactory method of dealing with the dust nuisance would be to water the surface of the roads, such idea being in complete ignorance of the fact that any reform must depend on the foundations of the highway. When we wrote we hoped that the suggestion of the Romford people was an isolated one; now, however, we learn that the Cheshire County Council has resolved to recommend the raising of the charge for the registration of motor-cars, with a view to expending the money thus obtained in watering the roads. If this is all a county council can suggest on such a matter, we are afraid for the wisdom of its proposals in other directions. The Kent authorities, however, seem to have shown a keener appreciation of the matter, and have come to the conclusion that the only "unobjectionable and economical method" of dealing with the dust nuisance is the tar treatment. This is certainly more efficacious than flooding the roads with water.

**A Central County.**

FROM its central position the county of Northamptonshire is known to most English motorists who travel the pleasant highways of their own country. Its gradients are fairly easy, and the road surface generally good. The road from London to Chester follows the old Watling Street through Northamptonshire for nearly seventy miles, entering the county at Old Stratford, and passing through Towcester. In his capital little guide to the district, which Messrs. Methuen and Co. have just published, Mr. Wakeling Dry also enumerates the London to Derby road, entering at Horton and going by way of Northampton into Leicestershire, and that between the capital and Nottingham *via* Rushden and Kettering. The Great North Road passes through the neck of the county at the quaint village of Wansford and runs to Stamford; and other main roads are those from Northampton to Peterborough; to Stamford through Kettering; to Brackley and Oxford through Towcester; and to Bedford. Mr. Dry is a pleasant literary companion, and his outlined trip of 140 miles through the county will add to the interest of his book, so far as the busy motorist is concerned.

**Horses and Cars.**

THERE is something so unique about the latest announcement emanating from Messrs. Withers and Co., Ltd., the well-known jobmasters, that we would make special reference thereto, in the hope of reassuring horse owners that the Equine Museum is not yet to be founded. Since 1830 the firm have been dealing in horses; they have now, "in response to the growing demand for motors as well as for horses," converted part of their premises into a motor garage, and are about to introduce the "Withers" chassis to the public. At the same time they wish particularly "that it should be understood that it is not their intention to relax their attention to their jobmasters' business. The monthly hiring of carriage horses will also be continued as before, with or without forage, shoeing, and stabling." To this feature of their business is being added the hiring out of cars, with "suitable charges for washing, polishing, lubricating, and filling the tanks with petrol." This equality of interest in horses and motor-horses seems to suggest a variation of the phrase as to the lion and the lamb dwelling together in amity.

**Methods of the L.C.C.**

EARLY in the year we commented upon the extraordinary form of licence issued by the London County Council, with its blank pages for the endorsement of anticipated offences. The whole form has been severely criticised, and also the procedure necessary at Spring Gardens for obtaining licences and registering cars. Now that the Touring Committee of the A.C.G.B.I. has given the matter consideration with a view to laying the whole subject before the Highways Committee of the L.C.C., we hope that readers who are known to members of that body will make the position clear to those whom they can influence. The travelling up and down associated with paying licence fees is neither dignified nor necessary, however useful it may be as a form of exercise. It may seem a detail, but when repeated by thousands of people in the course of a few months it amounts to a great waste of time—to say nothing of the irritation aroused.

WITH this issue appears the Index to Volume VII. of the *M.C.J.*, which is now in its eighth year of publication.

THE Brouhot Motor Company of Great Britain, Ltd., have just delivered to the Earl of Lonsdale a 40-h.p. Brouhot car.

THE municipal authorities of Bucharest, Roumania, are in the market for a motor-ambulance at an estimated cost of £800.

MESSRS. DENNIS BROS., LTD., have just received an order for six 'bus chassis for Messrs. Thomas Tilling, Ltd. The order is the result of the 9,000 mile trial recently given to this firm of 'bus proprietors.

WE learn that a new type of Mercedes car has just reached this country. It is of 40-50-h.p., the engine of which has the inlet and exhaust valves located on opposite sides of the cylinders. Among other changes are a new carburettor and an improved form of dashboard lubricator.

THE Standard Motor Company, Ltd., Coventry, last week despatched at very short notice one of their 24-30-h.p. six-cylinder cars to Montreal. They only received the inquiry by cable on Saturday, the 12th inst., immediate delivery being specified, and being in a position to give they replied to that effect, and received the order on the afternoon of the 14th. The car was at once packed for shipment, and left Coventry the next day.

AN interesting consumption trial was carried out on the 5th inst. by the Automobile Club of America. The competitors after emptying the fuel tanks of their cars were given a sealed two-gallon tin of petrol, and, travelling over a pre-determined course, the object was to see which vehicle could cover the greatest distance. Sixty-five vehicles took part in the event, the first place in which was taken by a Franklin 12-h.p. four-cylinder car which is stated to have travelled no less than eighty-seven miles on the two-gallon allowance.



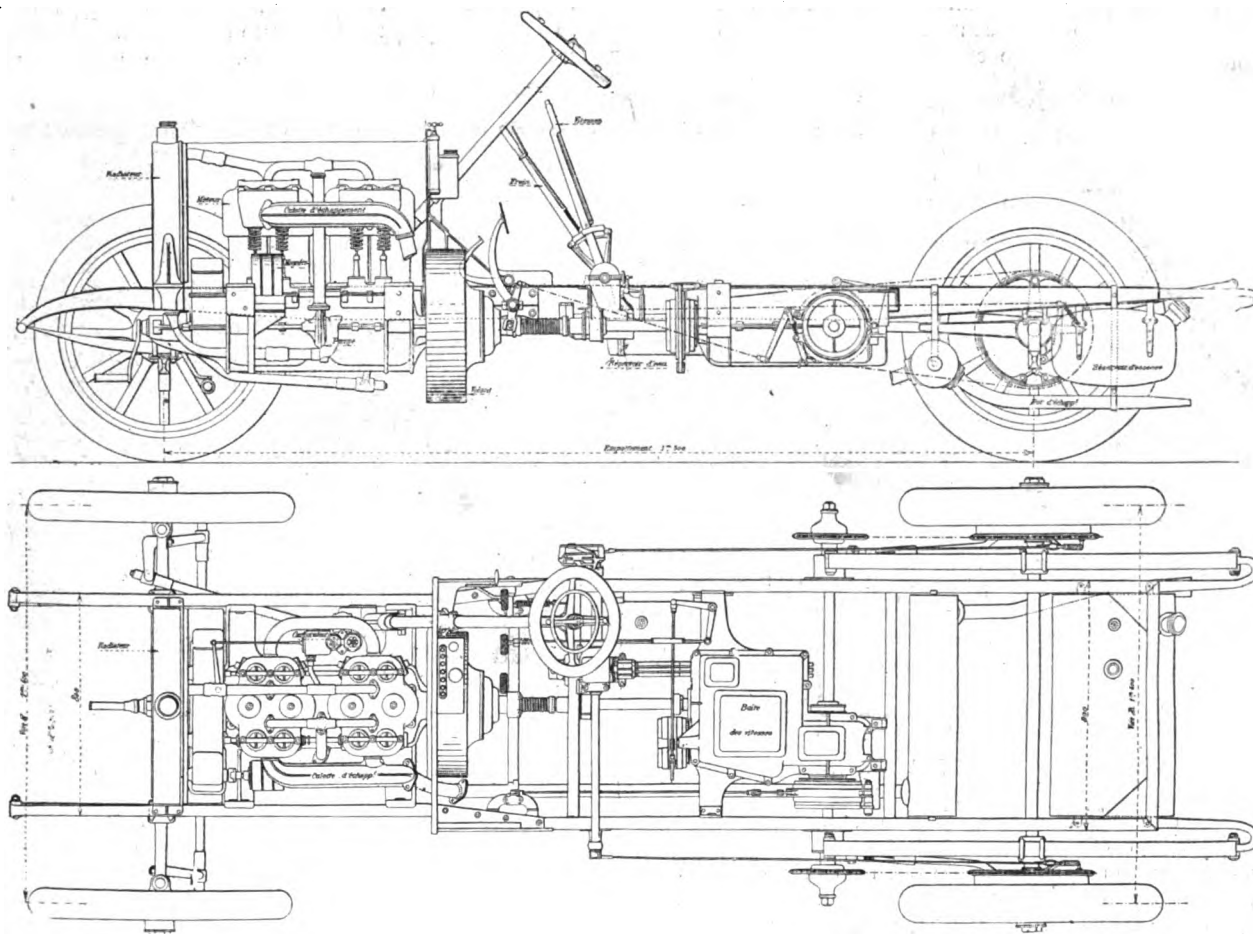
# The Westinghouse Car.



**I**N addition to the Peugeot cars, Messrs. Friswell, Ltd., have secured the sole British and Colonial agency for the cars made by the Westinghouse Company, at Havre, France, and the other day we had an opportunity of inspecting the first chassis to reach this country. It is of 30-40-h.p.—the only size at present being turned out—and, as will be seen from the accompanying illustrations, it follows in design the general lines of chain-driven vehicles. The frame is of pressed steel construction, supported by unusually long springs on equal-sized road wheels. The engine comprises four cylinders, 120 mm. bore by 130 mm. stroke, cast in two pairs. The valves are all mechanically actuated off separate cam shafts, the inlet valves being on the right and the exhaust on the left. The mixture is furnished

the engine is maintained by a Dubrulle mechanical oiler, driven by an eccentric off the motor itself.

Passing now to the transmission, the clutch, which is of the metal-to-metal disc type, is so arranged that it can be removed without interfering with the engine or the gear-box. The latter is adapted to give four speeds and a reverse with direct drive on top speed. The single controlling lever works in a "gate" quadrant. From the differential shaft the power is conveyed to the rear road wheels by side chains. Two foot-brakes are provided operated by separate pedals. One acts on a drum on the differential shaft, and the other on one at the forward end of the side shaft of the gear-box; both brake drums are water-cooled, the water being automatically turned on as the pedals



Figs. 1 and 2.—Elevation and Plan of Chassis of Westinghouse Car.

by a special form of automatic carburettor provided with two self-regulating air inlets. At low speeds only one of these opens, but when the engine is running fast the second valve is brought into action. The normal rate of the engine is 1,000 revolutions per minute, but by means of a lever on the steering wheel the speed can be regulated between wide limits, an accelerator being provided to cut the governor out of action when desired. The ignition is by low tension magneto, the make and break tappets being operated off the inlet valve cam shaft. The water circulation is maintained by a gear-driven pump and a honeycomb radiator, a current of air being drawn through the latter by the arms of the flywheel, which are made to act as a fan. The carburettor, magneto, and pump are all mounted directly on the engine. The petrol is fed to the carburettor under pressure from a large tank at the rear, while the lubrication of

are pushed forward. In addition, a hand lever at the side controls internally-expanding brakes working inside drums connected with the hubs of the rear road wheels. The axles are of H section steel, the rear one being dropped. A feature of the car is the employment of an aluminium dashboard. Ball bearings are used throughout except on the engine. The car has a wheel base of 10 ft. and a track of 4 ft. 7 in. Altogether the Westinghouse car makes a favourable impression, the workmanship well upholding the reputation of the company in other branches of engineering work.

THE value of the exports of automobiles and parts from the United States during March last amounted to £56,712, as against only £47,165 in the same month of last year.

## SOME CURRENT TOPICS.

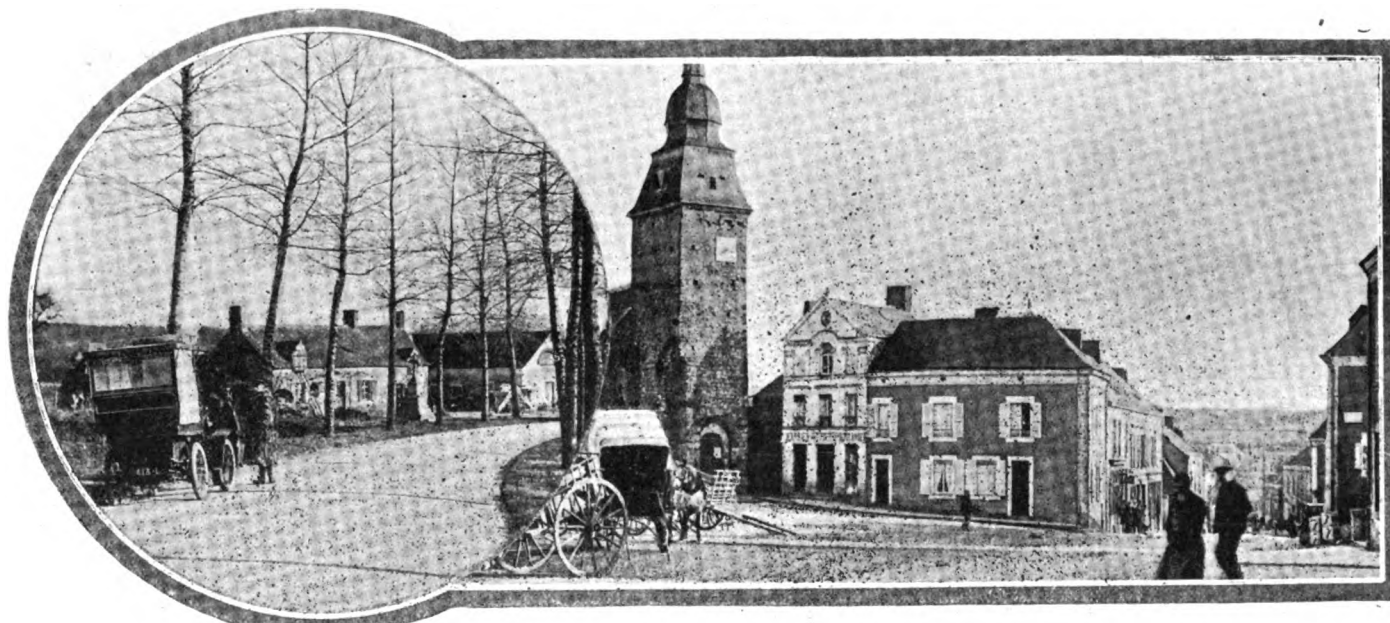
### The Popularity of Motor-Cycling.

Far from declining, as has been frequently prognosticated, motor-cycling seems, to use a popular phrase, to be going very strong, the ubiquitous motor-bicycle turning up in many unexpected places in the course of our motoring journeys. A few years ago quite a boom set in as regards the manufacture of such machines, practically every large cycle-making concern in the country taking up their construction. The natural course of events—an increase of production over demand—quickly ensued, with the result that many concerns dropped out of the business, and even out of existence, the venture into the lighter branch of the automobile industry having proved anything but profitable. While there is no question that the British output of motor-cycles is less than that of a year or so ago, it by no means follows that the pastime is a waning one. Indeed, there is indisputable evidence to the contrary, for, on the one hand, the few concerns which have continued to cater for the

gradually evolved. As regards his racing career, M. Renault remarks that he will long remember his participation in the Paris-Toulouse race with a  $4\frac{1}{2}$ -h.p. car, the engine lubricator of which was broken at the start, and in which event his maximum speed for the 500 mile run was under twenty miles an hour. Paris-Vienna, too, will not be quickly forgotten, for in that memorable contest he had to practically rebuild the rear axle and one of the road wheels on the roadside.

### Remagnetising a Magneto.

In our correspondence columns this week, a writer who signs himself W. H. H. raises a somewhat interesting query as to remagnetising a weakened magneto, an operation which can be carried out provided that the proper apparatus is available for the purpose. To remagnetise a steel magnet, it is necessary to saturate it with magnetism, and this can only be done by keeping it in a magnetic field for a suitable period of time. To do this, two bobbins containing windings of wire are necessary, made of sufficient dimensions to enable them to be easily slipped over the two poles of the magnet. A current has then to be passed through the windings, producing a magnetic field in the interior of the bobbins, which will gradually saturate the steel of the magnet and restore it to its original strength. As soon as the current is



A Bend in the Course at Ardennay.

The Village of Bouloire.

VIEWS ON THE SARTHE CIRCUIT ON WHICH THE RACE FOR THE GRAND PRIX DE L'A.C.F. WILL BE HELD.

demand report an excellent current business, while, on the other, the importation of foreign-built motor-cycles into this country is at present on a larger scale than at any previous time, and is, moreover, showing a steadily increasing tendency. From the import returns we find that during the four months ending with April last no less than 805 complete machines were imported, the value being £22,610. Motor-cycle parts were responsible for a further £9,951, giving an aggregate of £32,561, as contrasted with only £25,186 in the corresponding period of last year, and £22,681 in the first four months of 1904.

### The Origin of the Renault Car.

M. Louis Renault has given some interesting particulars of the origin of the Renault cars in one of our French contemporaries. Right from boyhood he had a great penchant for mechanics, and he was still in his teens when he built his first experimental voiturette. Although only fitted with a  $3\frac{1}{2}$ -h.p. engine, the little car ran so well that within a very short time he had received orders for twenty similar vehicles. To turn these out he and his brothers set up a small factory at Billancourt, France, from which the present huge establishment has

passing round the circuit, it will be found that the magnets are strongly magnetised, but this is only due to the presence of the magnetic field, and if the bobbins were withdrawn the strength of the magnets would disappear. It is, therefore, necessary to keep them in the magnetic field for a considerable time, varying from, perhaps, thirty to fifty hours, according to the strength of the field, which in turn depends upon the number of windings of wire on the bobbins and the strength of the current passing through the circuit. In arranging the latter, care must be taken to make the direction in which the current is flowing suitable to the poles of the magnet, so that the weakened north and south poles of the magnet are put into magnetic fields which will keep the same polarity on each pole. For various reasons it is better to have this done by an electrician, to ensure satisfaction.

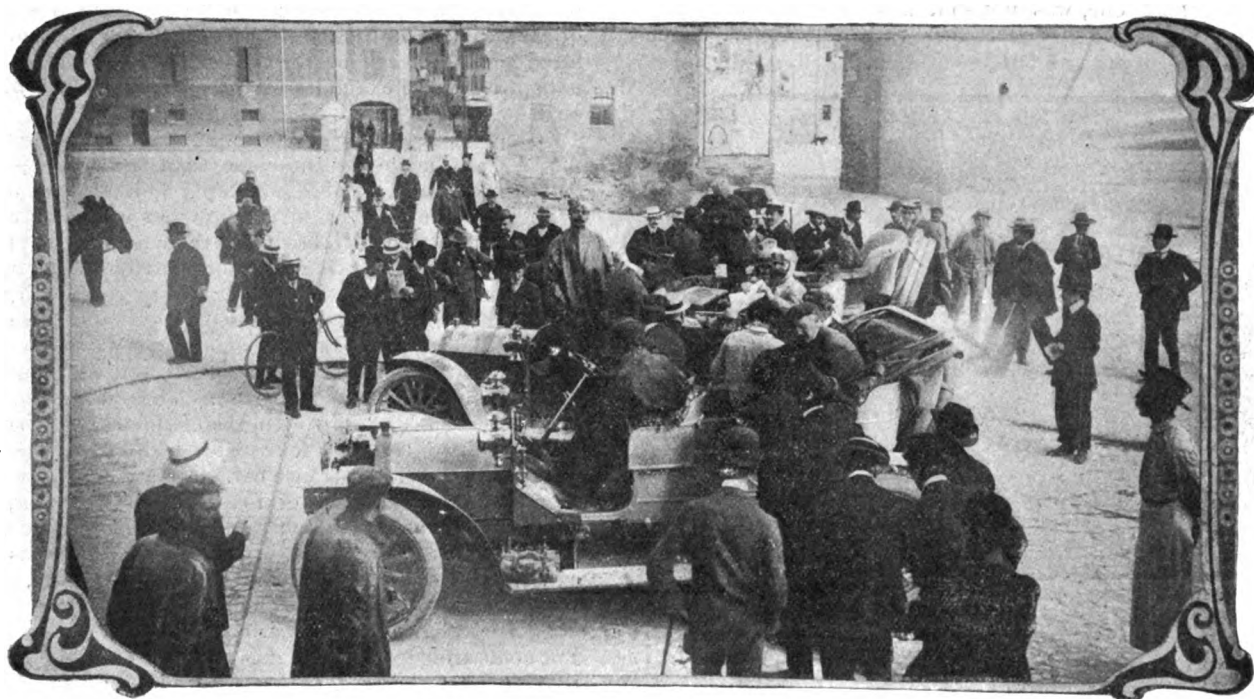
MESSRS. MANNING, WARDLE AND CO., of Leeds, who are completing an order for a number of steam rail motor-coaches for the Taff Vale Railway Company, have recently entered into contracts to supply four steam rail motor-coaches for the Great Northern Railway of Ireland and two similar self-propelled cars for the Dublin, Wicklow, and Wexford Railway Company.

## THE ITALIAN COPPA D'ORO TOURING COMPETITION.

THE Coppa d'Oro touring competition organised by the Automobile Club of Milan, which commenced on Monday, the 14th inst., has been in progress during the whole of the past week. The very long daily journeys and the hilly nature of the course to be covered render the contest by far the most severe that has so far been held, and in view of this the news that the weaker cars were quickly out of the running will not prove altogether a surprise. At the same time it must be admitted that the withdrawal of certain of the competitors was due to sheer bad luck, in one case at least a driver heading his vehicle into the ditch to avoid a collision. Out of the forty-eight who started in the event only eighteen reached Milan at the end of the eighth day's run. The English, and, in fact, all the foreign cars are at a great disadvantage in one respect, as the Italian competitors have their own depots at various towns, and any adjustments necessary can be executed there by skilled workmen while the drivers are waiting for the minimum time allowance to expire; on the other hand, the foreign competitors have to rely

153 miles, and, as compared with the previous day, over a relatively easy course. The bad weather, however, continued, rendering travelling anything but pleasant and easy. Both the Napier cars met with slight delays, the one driven by Glentworth on account of tyre troubles, and that in charge of Macdonald by a collision with a dog. The latter, however, again succeeded in arriving first. The day's run was unfortunately marred by an accident which has had fatal results. De Pasquali, who was driving a Benz car, had a nasty skid near Sessa Aurunca, as a result of which his car overturned. He was quickly taken to the hospital, but, although he lingered for a couple of days, he eventually succumbed to his injuries. M. De Pasquali, who was the Milan agent for Benz cars, was an enthusiastic motorist, and his death has cast a gloom over the trials. Other competitors who fell out on the day's run were Marsaglia (Zust), Cariolate (on a Rapid, owing to a broken road wheel), and La Manna (Diatto-Clement). Thus thirty-one out of the thirty-five cars which left Rome in the morning safely reached Naples.

The return to Rome from Naples was made on the 17th inst., when, out of the thirty-one cars which started, all but three



The Cars arriving at Bologna.

on their own resources. Notwithstanding the large area comprised in the trial, the organisation has met with universal approval. The most dangerous spots have been heralded in advance, men being stationed at numerous points of the long route with boards on which the nature of the particular danger is shown by means of arrows, curved to follow the exact direction of the approaching corner.

Bad weather was encountered on the second day's run on the 15th inst.—from Bologna to Rome, a distance of 282 miles. Forty-one cars started, and of these thirty-five finished the day's journey. Macdonald (Napier) was the first to be sent away, Grigg, who had met with an accident on his Daimler on the previous day, being unfortunately unable to start. Not only was the trip a difficult one as regards length, but it abounded with many sharp corners, and furthermore including a number of steep ascents. M. L. de Dion's car was placed *hors de combat* by a collision with Lanfranchi's Otav. The latter was, however, able to continue. Other competitors who failed to arrive were Galli (Florentia), Raggio (Marchand), Spinneli (Florentia), Tamagni (Marchand), and Bussolotti (Diatto-Clement). On the 16th inst. the run was from Rome to Naples, a distance of only

reached the Italian capital, notwithstanding the heavy rain. passed through and the muddy roads which had to be traversed. Tomasselli experienced a bad skid and ran into a bank; the axle of his Bianchi car being damaged, he was forced to abandon. Basevi (Diatto-Clement) and Beutler (Martini) are also out of the running, having exceeded the maximum time allowed for the day's journey. On Friday, the 18th inst., twenty-eight cars left Rome for Florence, a journey of no less than 232 miles—a difficult task in itself, but one which was rendered extremely arduous by reason of the fact that several passes had to be traversed and many dangerous corners negotiated. Notwithstanding this, however, the day's proceedings may be regarded as one of the most satisfactory, as all but one competitor—Coquard (Aries) safely reached Florence within the specified time. The journey on Saturday was again a long and difficult one; it was from Florence to Genoa, 272 miles. During the run the competitors had to climb passes as high as 6,000 ft., while towards the end of the day there was a thirty-mile downhill run along an ever-winding road to sea level. Twenty-seven competitors set out in the morning, of whom twenty-three were duly entered in at Genoa. Of the four

missing ones it is reported that Giovanzani (Isotta-Fraschini) retired at the start of the day's run, Graziani (Itala) gave up at Pistoia, Ceirano abandoned owing to a broken axle which his Rapid car sustained at one of the nasty corners, while Cormier (De Dion) ran into a ditch to avoid a team of mules. After some delay he got his car going again, but arrived ten minutes after the control had closed.

The position of the various leading competitors in the contest at the end of the sixth day's run is as follows:—

	Driver.	Car.	Penalisation over minimum time allowed.	
			min.	sec.
1.	Lancia ... ..	Fiat... ..	0	0
2.	Trucco ... ..	Isotta-Fraschini ...	0	2
3.	Maggioni ... ..	Zust... ..	0	7
4.	Cagno ... ..	Itala ... ..	0	10
5.	Nazzaro ... ..	Fiat... ..	0	35
6.	Boschis ... ..	Fiat... ..	1	27
7.	Fraschini ... ..	Isotta-Fraschini ...	1	38
8.	Macdonald... ..	Napier ... ..	2	22
9.	Boessano ... ..	Benz ... ..	4	28
10.	Glentworth ... ..	Napier ... ..	6	51

The journey on Sunday—from Genoa to Turin, 280 miles—although a long one, was not so difficult as some of the preceding trips. Of the twenty-three cars which left Genoa in the



A Trio of Winton Cars at a Pretty Spot near San Francisco.

morning, twenty safely reached Turin, where a large crowd welcomed the visitors. The three competitors who had not arrived when the control closed were Renaud (Mercedes), Gremo (Isotta-Fraschini), and Bosio (Diatto-Clement).

Bad weather was again encountered on Monday, when the run was from Turin to Milan. The rain came down so heavily and persistently that most of the drivers and passengers were wet to the skin long before they arrived at the journey's end. The trip was relatively a short one—142 miles—and consequently, instead of starting as usual at 4.30 a.m., the competitors were allowed a welcome rest, they not being despatched on their way until 10.30 a.m. The number of competitors was reduced during the day to eighteen, owing to the retirement of Lanfranchi (Otav) and Trucco (Isotta-Fraschini). Up to the end of the seventh day the last-named had done exceedingly well, taking, in fact, the second place, only two seconds separating him from Lancia, who is still at the head of the list, and who, barring accidents, is regarded as the winner of the event. The two Napier cars are still maintaining the British reputation in the contest. Apart from the tyres the vehicles have given practically no trouble, and their excellent behaviour has created a good impression.

A SPLENDIDLY equipped motor garage has been opened by Mr. F. C. Wallace in the London Road, Bath.

## THE ARIES AND GREGOIRE CARS.

THE other day we had an opportunity of going over the large new depot which Messrs. Osborn and Co. and Aries, Ltd., have jointly established—the interests of the two concerns being practically identical—at 6, Great Marlborough Street, London, W.C., for the sale of Gregoire and Aries cars. For some time past the premises have been in the hands of the builders and decorators, who have converted the ground floor into a spacious showroom, while a lift has been installed by means of which cars can be quickly conveyed to the basement, where washing and other facilities are available. Here, too, a supply of spare parts for both the Gregoire and Aries vehicles will be kept on hand ready for despatch at the shortest notice to any user. While arrangements are being made to permit of the carrying out of small repairs and adjustments at the Great Marlborough Street depot, the more important repairs, as regards the Gregoires, will be dealt with at the works at Shepherd's Bush, and in connection with the Aries cars at Reading, where the chassis as they arrive from the factories are tested and *mis au point*. At the time of our visit the depot, which is in charge of Mr. H. G. Norris, who has had considerable experience in motor work, was somewhat bare of cars, the labour troubles in France having considerably interfered with deliveries. By the end of next month, however, it is hoped to have examples of the various models of each make on view.

The Aries cars, which have already been described in the *M.C.J.*, are made in no less than six sizes—14-h.p. two-cylinder, 15-h.p., 22-h.p., 30-h.p., 35-h.p., and 50-h.p. four-cylinder. The vehicles, which enjoy an excellent reputation in France, are of the chainless type, their notable feature being the arrangement of the live axle, which has only the driving effort to transmit, the weight of the car being carried by a separate fixed axle. Coming now to the Gregoire cars, we learn from Mr. Fred. J. Osborn, whose connection with the motor trade dates from the early days of the 1896 Act, that quite a number of new developments are in hand. The 8-h.p. two-cylinder car is now being made in two lengths of chassis, one being adapted to receive two, three, or four-seated bodies, and the other being intended for a side-entrance car. Messrs. Gregoire are also now turning out several sizes of four-cylinder cars, for, in addition to the 15-h.p. vehicle which made its *debut* in this country at the recent Cordingley Show, a new 20-h.p. chassis is shortly expected. Perhaps the most interesting departure, and certainly one which will appeal to motorists of moderate means, is a Gregoire car fitted with a four-cylinder engine of 8–10-h.p. For some time past there has been a growing demand for a reliable little vehicle fitted with a four-cylinder motor, and we are looking forward to the arrival—about the middle of July—of the first of the new chassis with interest. Starting in a modest way at Poissy—about twenty miles from Paris—by building an 8-h.p. two-cylinder car, Messrs. Gregoire are rapidly forging their way to the front as a leading firm of automobile constructors. They have already competed in a number of trials with success, and have now set out upon a more ambitious campaign by entering two 75-h.p. racing cars for the forthcoming contest for the Grand Prix de l'A.C.F.

MR. J. K. HEARD, the proprietor of the Taunton Motor Company, is lending motor-cars on hire. His garage is East Street is lighted by electricity and he holds a large stock of accessories.

THE new catalogue of Messrs. Timson Brothers gives a good idea of the capacity of the firm to deal with the requirements of all classes of motorists, their range of accessories being extremely comprehensive.

ELSEWHERE in the present issue we illustrate a 28–36-h.p. Daimler car recently supplied to Mr. J. D. Lonsdale, Blackburn, by Atkinson's Central Motor Garage, Accrington, the vehicle being one of ten Daimlers ordered by local gentlemen from this concern during the present season.



## CONTINENTAL NOTES.

### The A.C.F. Grand Prix Race.

The entries for the race for the Grand Prix de l'A.C.F., which is to be run on the Sarthe Circuit on June 26th and 27th next, have now been definitely closed. As will be seen from the following table, there are altogether thirty-four competitors, of which twenty-five are French, six Italian, and three German:—

No.	Car.	Driver.	No.	Car.	Driver.
1.	Darracq...	Hémery.	19.	Hotchkiss	Salleron.
2.	Darracq...	Wagner.	20.	Hotchkiss	Fitzshepard.
3.	Darracq...	Hanriot.	21.	Itala	Cagno.
4.	Panhard	Heath.	22.	Itala	De Caters.
5.	Panhard	Teste.	23.	Itala	Fabry.
6.	Panhard	Tart.	24.	Fiat	Lancia.
7.	Brasier	Baras.	25.	Fiat	Nazzaro.
8.	Brasier	Lebrun.	26.	Fiat	Weillachott.
9.	Brasier	Barillier.	27.	Bayard-Clement	A. Clément.
10.	Dietrich...	Gabriel.	28.	Bayard-Clement	Villemain.
11.	Dietrich...	Rougier.	29.	Bayard-Clement	Touloubre.
12.	Dietrich...	Duray.	30.	Gregoire	De Bosch.
13.	Gobron	Rigoly.	31.	Gregoire	Tavenaux.
14.	Vulpes	Barriaux.	32.	Mercedes	Jenatzy.
15.	Renault...	Siez.	33.	Mercedes	Mariaux.
16.	Renault...	Edmond.	34.	Mercedes	Florio or Braun.
17.	Renault...	Riches.			
18.	Hotchkiss	Le Blon.			

Some surprise has been expressed in France at the absence of any British entry. Belgium, Austria, and the United States,

tion of fuel and water, speed on hills, average speed, and price of chassis. The entries so far include a Peugeot (the holder of the cup), four Rochet-Schneders, a Lorraine-Dietrich, a Brouhot, and a Cottin-Desgouttes.

### The Tour of France.

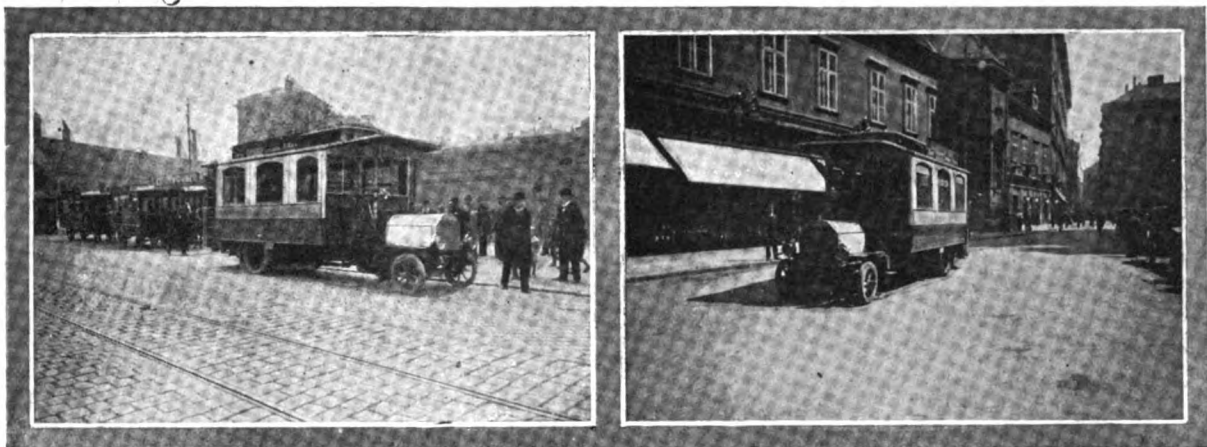
The tour of France for motor-bicycles, tri-cars and voiturettes, organised by the Autocycle Club de France, commenced on Tuesday last, and will continue until the 3rd prox., during which time the competitors will practically make a circuit of the country. The thirteen daily runs range from 80 to 158 miles, and the rules provide for a maximum average speed of 18½ miles per hour. In the light motor-bicycle class there are nine entries, seven in the third of a litre motor-bicycle category, seventeen in the tri-car section, and nineteen in the voiturette class.

### A Non-Skidding Competition.

An international competition of non-skidding devices is to be held in France on August 2nd. Full particulars of the event can be obtained from M. J. Bourcill, Saint-Chaffray, 35, Rue Bergere, Paris.

### The Labour Troubles in the French Motor Industry.

The strike of workmen at the motor-car factories in the Paris district is now virtually at an end, the majority of the employees having resumed work on Tuesday of last week. As a result of the disturbance to production, the masters are forming



Motor-Buses in Vienna.

The motor-bus has now been introduced into the Austrian capital. Although the chassis is identical with the German Daimler vehicles in service in London, the novel construction of the bus bodies gives them a strange appearance. [Allgemeine Automobil Zeitung]

which have competed in the Gordon Bennett races in the past, have also abstained from entering the Grand Prix event, which the French Club have brought forward as a substitute for the old Cup contest. It has been decided that the race shall commence at 6 a.m., and that the competitors will be despatched at intervals of a minute and a-half. The entire course is being tarred on the Lassailly system by La Société Generale de Goudronnage des Routes.

### The Paris-Tourcoing Industrial Vehicle Competition.

The arrangements for the competition of industrial vehicles, which the Automobile Club du Nord de la France will hold from June 6th to 17th next, are well in hand. So far twenty-seven cars have been entered, these comprising three Latil *avant-trains*, two Auto-Camions, a Janvier six-wheel lorry, a Louet, a Mors, a Prunel, three Clément Bayards, three Contal motor tri-cars, three Eugene Brillies, a Delahaye, three Guillermeres, a Turgan, an Aries, two Peugeots, and a d'Espine.

### The Rochet-Schneider Cup Contest for Touring Cars.

The annual competition for the Rochet-Schneider touring-car trophy is this year to be held on June 4th, over the 1905 Gordon Bennett course in the Auvergne, the distance to be covered being 300 kilometres. The event is open to four-cylinder touring cars, and the awards are made on a point basis, marks being awarded for regularity of running, consump-

an employers' association, and a fund to which each will contribute a sum equal to 2 per cent. of the annual wages paid.

### Miscellaneous Items.

The East Switzerland Motor Cycle Union is organising a 300 kilometre reliability trial for motor-cycles for the 27th inst. The route is from Weinfelden to Basel and back.—The municipal authorities of Zurich have, it is reported, decided not to allow motor-cars fitted with non-skids to the tyres to run in the city, on the ground that such devices cause the dust to rise.—A motor cycle race for the Coupe de Normandie is to be held on June 24th over a 165 kilometre circuit, starting and finishing at Caen. The total distance to be covered is 165 kilometres.—A proposal brought forward by the German Club to postpone the Circuit Europeen until next year is being considered by the International Automobile Commission.—Motorists in Algiers are complaining to the local municipal authorities of the high-handed manner of the police in dealing with motor-car traffic, summonses being issued on the slightest provocation.—A hill-climbing competition was held on Sunday last on the Platieres Hill, near Aix, under the auspices of the Marseilles Automobile Club. The fastest time of the day was made by M. Fabre on a Berliet, he making the climb in 37 sec.—The entries for the Herkomer Touring Trophy contest to date number 160.

## SCOTTISH NOTES.

INTEREST in the forthcoming Reliability Trials is developing rapidly, and, with eighty vehicles upon the road, the duties of the officials will be particularly onerous. Among the entries are half a dozen cars with six-cylinder engines, fifty-seven with four-cylinders, twelve with twin-cylinders, and five one-cylinder motors. Whereas the entries last year were equally divided between those of British and foreign origin, this year the proportion in favour of the national make is increased, there being no fewer than fifty-three English and Scottish cars entered.

At a meeting of the Paisley Town Council it has been reported by a sub-committee, to whom the matter had been remitted, that in their view the speed of motor-cars should be limited to ten miles an hour between Hawkhead Road and Ferguslie, between the Cross and Potterhill, between the Cross and Abercorn Station *via* Weir Street, between the Cross and Springbank Road *via* Love Street, and in Moss Street. The recommendation of the committee was adopted by the Council, and application will probably be made to the Secretary for Scotland.



Lord Killanin on his new Argyll Car.

Lord Killanin called recently at the Argyll Works, Alexandria, N.B., to take delivery of his new 16-20 h.p. Brougham, afterwards starting with his driver for a 300 miles tour in the Highlands. During the trip the ascent of Glen Croe was made from both Arrochar and Inverary in a storm of wind and rain, and on his return his Lordship expressed his great satisfaction with the car. The vehicle is provided with a detachable-top brougham, painted dark blue with light blue lines, dark blue upholstery, and nickel fittings.

DURING the recent Glasgow Motor Show the representatives of various exhibiting firms took advantage of the opportunity to test their cars on some of the steepest hills to be found within a day's run of the city. A favourite test hill was that leading from Arrochar, at the head of Loch Long, through Glen Croe, *via* the Rest and Be Thankful hill, to Inverary. At the time the roads were at their worst, being softened by the winter's snow and rain. Mr. David Russell, of the shipowning firm of David Russell and Co., Edinburgh, made the same ascent three days later, when it was blowing half a gale of wind, and not only reached Rest and Be Thankful, but went down the other side, lunched at Inverary, and came back to Tarbet Hotel, where he was staying for the week end. This was done in his 16-20-h.p. "Argyll," and was also accomplished with five passengers, averaging 12 stones each in weight, in the car all the time.

AMONG the projected automobile services for the coming season is one between Tomintoul and Grantown. The former place has interest as being the highest inhabited village in Britain. As was the case last year, it is on the route of the Scottish Reliability Trial.

WE hear that the Engineering Laboratory of the Heriot-Watt College, Edinburgh, is being equipped with a view to the

development of the automobile side of the work, in which Professor R. Stanfield, M.I.C.E., has always taken a keen interest. It is his intention to start a course in motor-car engineering for owners, users and drivers, the curriculum consisting of lectures, laboratory work and drawing office practice. The syllabus has been carefully prepared and should become a model of its kind. Doubtless many of the motor-car engineering firms will see the wisdom of lending engines during the term, and Professor Stanfield should have full support in his laudable effort to secure a really complete course of instruction for those interested in motoring.

A NEW motor-omnibus service has been established by the Great North of Scotland Railway Company between Alford, Kildrummy and Strathdon. Now it will be possible for passengers from Aberdeen to visit Strathdon and return the same day. This has not been practicable hitherto.

THE police trap is becoming as ubiquitous in Scotland as in the southern counties. That in Prince's Street, Edinburgh, has already been reported. Others in active operation are at Stonehaven and at Ayr, the latter being a furlong in length and located in the St. Leonard's Road. The views of Sheriff Robertson with regard to these traps, as reported on another page, will be of interest to all in the habit of touring in the northern part of Britain.

SUPPLEMENTING the short account in last week's issue of mountain climbing by motor-car, the following notes, supplied by Captain H. H. P. Deasy, will be of interest to those who contemplate travelling over the steep hills between the head of Loch Striven and Otter Ferry. The sharpest gradient is said to be 1 in 3½. Captain Deasy successfully ascended this precipitous hill, which is situated on the top of a long steep ascent, preventing the car from getting a run at the worst gradient. The surface was exceptionally rough, and there were five people on the 24-h.p. Martini. The car was driven backwards down this steep gradient, probably the steepest road in Great Britain. They then went on to the top of the mountain road to Otter Ferry, and, making a descent to Dunoon, put the car on the ferry to Greenock, and thence drove to Glasgow, from where they trained to Inverness to save time. From Inverness there was a drive over rough and narrow roads to Loch Carron, and from there up a very steep rise to Tornapress, where the ascent of Balloch Hill commences. Judging by the section of the road as depicted in route 330 of the Contour Road Book of Scotland, the ascent is a long and steep one, the surface bad, and turnings very abrupt and dangerous. The driver of the car which was hired at Inverness to take Mr. Gilbert Thomson from Glasgow, who came up specially to survey the gradients, and the representative of the Charles Urban Company, having refused to attempt the ascent, Captain Deasy was forced to accommodate these gentlemen, and their heavy instruments, on the Martini. With this abnormal load he started for the hill and successfully climbed it. The steepest gradient is 1 in 5·7, and that at one of the turnings, thereby rendering the ascent infinitely more trying than if it were on a straight part of the road. When endeavouring to descend to Applecross they suddenly ran into a heavy snowdrift, which completely blocked the way and rendered further progress impossible. This mountain road is generally considered the highest and the worst in Great Britain. In former years the mails to Applecross were sent by this way, but, owing to the difficulties of the route, they are now sent by sea. As the result of some careful inquiries made in the neighbourhood of Loch Carron, it would appear that no other motor-car has ascended this hill by its own power.

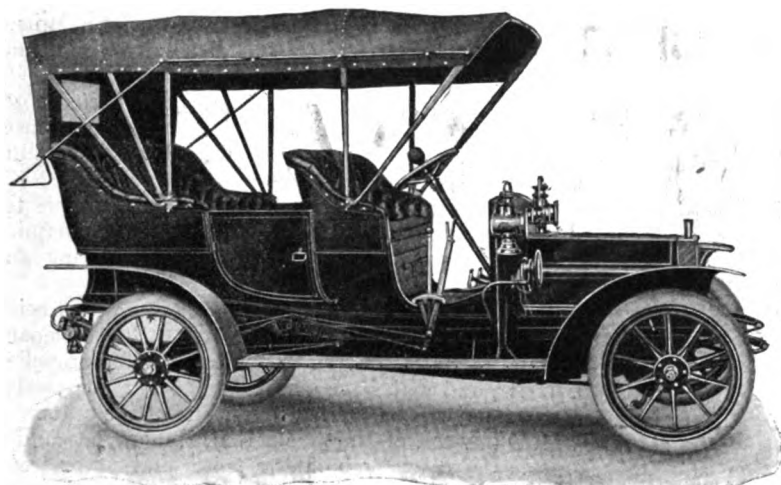
A NEW garage has been opened at Bervie, Kincardineshire, by Messrs. W. P. Davidson and Son.—Messrs. Murray have a capital repair shop at Crawford, a village on the main road from Glasgow to Carlisle.

MESSRS. J. THOMSON AND SON are opening a depot at 15, Renfield Street, Glasgow, where they will deal in motor accessories.

MESSRS. HARPER AND CO. have well-equipped motor repair works and garage in Canal Street, Wolverhampton. They also stock spare parts, etc.

THE Health Department of the Corporation of the City of London are open to receive tenders for the supply of a motor-car. They must be submitted not later than the 6th prox.

THE L. and N.W.R. Company has hotels in connection with its railway services at Euston, Birmingham, Bletchley, Crewe, Preston, Holyhead, Liverpool, Dublin, and Greenore.



The 12-15-h.p. Arrol-Johnston Car, with Cape Cart Hood, just delivered to Mr. John Osmond, of Blackheath.

CAPT. THEO. MASUI has just issued a very useful pamphlet, enclosed in a leather case, entitled "Hints on the Germain Chainless Car." The little work is one which should prove indispensable to all users of these vehicles, as hints are given on all parts likely to need attention or adjustment. The diagram and remarks as to lubrication are arranged in a very handy form. Particularly useful, too, should be the diagram of the ignition wiring, which takes in both the Eisemann high tension magneto and a reserve accumulator set.

THE vehicles and horses used in connection with the "Atlas" buses are to be sold by auction, the owner, Mr. C. W. French, having become converted to automobilism.

THE Vacuum Oil Company has prepared a special oil for use in connection with the engines on the Argyll cars. This is being put up in special tins for the London depot.

THE advent of the motor-buses of the Isle of Wight Express Motor Syndicate, Ltd., has opened up new possibilities of inexpensive travel to visitors to Ryde, which is one of the best centres from which to explore the island.

PASSING through Hampstead on Thursday last week, we came across one of the Herald 30-h.p. double-deck buses built for the Alliance Motor Bus Company, which was being subjected to a trial trip. Among the passengers were Mr. H. F. Clutterbuck and Mr. S. K. Albright, the chairman and managing-director respectively of the Alliance Company. The vehicle successfully mounted Haverstock Hill on the second speed.

THE standardisation of lamp brackets for side and tail lamps is being advocated by many motorists—both trade and amateur.

MESSRS. WITHERS AND CO., LTD., have converted part of their premises at 35, Edgware Road, into a large motor garage, and there they will carry on business as motor body makers, automobile engineers, and agents. A special feature will be made of the garage of the cars of private owners.

## HERE AND THERE.

MR. MAX GRADDON informs us that his new motor carriage building works in Mildmay Avenue, Mildmay Park, London, N., are approaching completion.

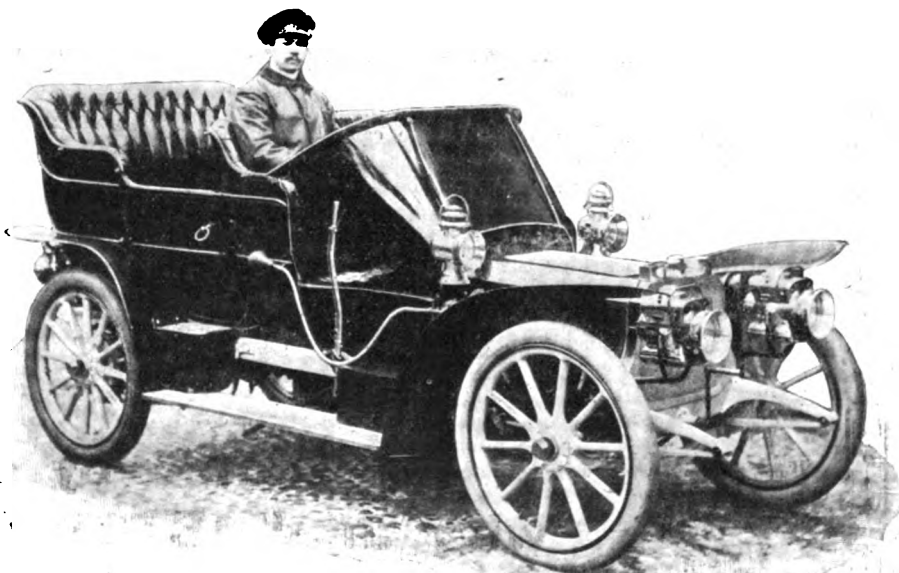
MR. MAX PEMBERTON has expressed himself well pleased with the business methods of the Motor House. With Sir Conan Doyle, Mr. Rudyard Kipling, and other well-known authors, he is an enthusiastic motorist.

THE annual motor races on the sands at Mablethorpe are fixed for Saturday, July 31st, and it is believed that the stream across, which made awkward little gullies last year, will be diverted, so that there will be an unbroken course.

MR. J. A. RYLEY, of Birmingham, has issued a new and comprehensive list of his motor specialities, which he will be pleased to send to any member of the trade who has not yet received a copy.

MR. W. F. CARPENTER has removed to 13, Cecil Court, Charing Cross Road, W.C. He is agent for C.A.V. accumulators, coils, lamps, etc.; he is also retaining his agency for Messrs. Bennett, Sons, and Shears, Ltd., radiators, tanks, bonnets, and silencers, which were exhibited at the Cordingley Show.

WE illustrate herewith a new collapsible and portable wind and dust shield, known as the "Moray," which has recently been put on the market by Messrs. Harrison and Brass, of Elgin, N.B. As will be seen, the arrangement is intended to protect the driver and his passenger on the front seat, and it is claimed to render the latter as comfortable as those at the rear. The shield, which is made of leather and lined with cloth, is supported by means of a wood frame so mounted as to give absolute protection to the arms, hands, and lower part of the body of the driver or other occupants of the car, and it does not interfere with the manipulation or operation of the steering wheel or levers, over which it projects, while, owing to the shield being bevelled inwards and rounded, it is claimed to diminish the wind resistance. The shield is fixed by four bolts to the front of dashboard and two iron pins to the elbows of the front seat. To



The "Moray" Collapsible Wind and Dust Shield in use.

gain access or egress to and from the car, it is only necessary to raise the arm of the shield from the elbows of the front seat, which can be done instantaneously, while when not in use it folds down over the top of the dash, taking up very little space. The shield, which only weighs 14 lb., can be fitted to all types of car by any coach builders or motor-car firm, Messrs. Harrison and Brass supplying the necessary fittings.

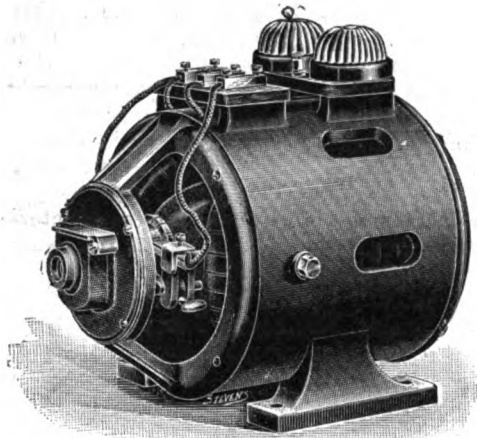
MR. EDWARD SMYTH has opened a new motor depot in Athboy, co. Meath.

WITH the object of familiarising the public with the "Car" vulcaniser, Messrs. Harvey Frost and Co. are offering a free tyre repair to motorists.

MESSRS. A. LEGE AND CO. are engaged on the construction of a 25-30-h.p. five-cylinder engine on the lines of the one described in a recent issue of the *M.C.J.*

MESSRS. BARKER have opened a garage with accommodation for forty cars at Lowesmoor Place, Worcester, where they are able to repair motor-cars, re-charge accumulators, etc.

WE illustrate herewith a new type of alternating to continuous current transformer, for use in connection with the charging of ignition of accumulators, which has been put on the market by the Crypto Electrical Company. This firm has for some time been making a machine for this purpose, but it has been composed of an alternating motor mounted on a cast iron base plate and coupled to a dynamo. As will be seen from the illustration, the base plate, coupling, and one pair of bearings and the rotor of the motor have been done away with. The motor is built on the same shaft as the armature of the dynamo. This renders the machine more efficient, owing to it being shorter in length and to the elimination of one pair of bearings. It also has the advantage of making the machine much more compact, its dimensions being only 15 in. by 13 in. by 11 in. The machine has been designed to enable those situated in districts supplied



by an alternating current to obtain continuous current for charging accumulators. The primary side can be wound for any voltage or periodicity on single two or three phase alternating current mains, and the secondary has an output of 100 watts, being usually wound for 15 volts 6 to 7 amperes. With this output it will charge nine motor-bicycle accumulators at a charging rate of 2 amperes, or three car batteries at a charging rate of 4 amperes and three cycle accumulators.

ACCORDING to a Covent Garden salesman, the West End tradesmen are suffering much loss of trade "owing to the long week end and the motor-car."

MESSRS. J. E. HUTTON, LTD., have established a well-equipped repair factory at 15, Britannia Street, Gray's Inn Road, King's Cross, N. While a specialty will be made of Mercedes, Panhard, and Berliet vehicles, repairs to all types of cars will be carried out.

THE 14-16-h.p. engine manufactured at the Argyll Company's new works at Alexandria is giving excellent practical results. The other day Mr. J. A. Bennett, of Manchester, called at the works to take delivery of a new car, which he drove all the way to Cottonopolis, climbing every hill from Helensburgh onward on the top gear.

A PLEASING incident took place at the Collier Tyre Company's depot a few evenings ago, when the staff presented Mr. W. G. Williams with a handsome tantalus as an expression of their appreciation. As we have already noted, Mr. Williams has now taken up the position of general manager to the Deasy Motor Car Manufacturing Company, Ltd.

MESSRS. S. HICKS AND SON have a well-equipped motor depot at Truro.

A BRANCH garage has been opened by Messrs. Letzer and Jordan in Clarence Street, Kingston.

A MOTOR repairing depot has been opened by Mr. W. Crumpin at 171, Church Street, Fulham Road, S.W.

A BULB-CARRIER for attaching to the steering column of the car has been introduced by Mr. H. Littlewood, of Huddersfield.

MESSRS. W. WEEKS AND SON, LTD., are opening well-equipped and spacious repair premises and garage on the main road, Maidstone, to be known as the Maidstone Motor Garage.

ATHERTON STREET, LIVERPOOL, now possesses a motor garage, the same having been opened by Messrs. John Wilson and Sons, of South Castle Street, Liverpool. Mr. Wilson, jun., will be in charge.

IN a case before the Brighton Bankruptcy Court the debtor alleged that her drapery business fell off when the motor-buses began to run past her shop, taking people away and spoiling the takings.

FROM the A.C.G.B.I. comes a handy summary of the legislation now in operation with regard to motor-cars, compiled for the benefit of those entering for the Club's driving and mechanical proficiency certificates.

A COMBINATION motor police patrol and ambulance is being constructed by the Reo Motor Car Works for the Police Department of Lansing, Mich., U.S.A. The vehicle will be propelled by a 16-h.p. motor, and will have a seating capacity for twelve persons. A stretcher will be carried under one of the seats.

MR. T. M. DREWETT, of Northfield End, Henley, has added to his business as a carriage builder a motor and motor accessories department, under the superintendence of an experienced engineer. The charging of accumulators will be undertaken on the premises, and all descriptions of tyres and motor parts stocked.

THE Continental Tyre Company have now over 250 stocks of tyres distributed over the country, and stockholders can be easily recognised by the blue and white enamel plate hanging outside. Bold signs have also been placed on some of the principal country roads indicating the name and address of the nearest stockholder.

A FIRM of publishers at Clifton have issued the following advertisement:—"Motor-buses within 120 yards of the door, but do not pass our premises, so that carriage customers can pull up without annoyance. Flaneurs in the pleasant Mall, who wish to study our windows, can do so in quietude and yet gain the motor and tram system within half-minute to any part of the City."

THE Rotax Motor and Cycle Company, of 43 and 45, Great Eastern Street, E.C., have issued a new catalogue of motor accessories. Special attention may be drawn to the Rotax magneto, which is of the high tension type, but is worked direct from the magneto to the plug without any coil. By the use of the Rotax combination coil it is possible to switch from an ordinary high tension to the magneto using the same set of sparking plugs and the same set of wires. The anti-vibration buffer, the Rotax coil with self-adjusting trembler, the Sphinx accumulator, and the Rotax non-skid are other specialties of merit.

MR. F. L. ANDERSON, of Furnival Street, London, E.C., has recently introduced a half compression and petrol injection tap for use on petrol motors. The feature of the device, which is known as the "Gnaviter," replaces the ordinary compression tap for which provision is usually made. When open it acts as a valve for releasing compression, but with the advantage that it does not weaken the quality of the incoming charge of gas, since on the inlet stroke a ball is drawn into the corresponding seating in the plug of the tap and forms a practically air-tight valve, the admission of air into the cylinder being prevented. For the injection of petrol the tap is turned so that the ball is removed from the seating and placed upon a grating formed at the end of the hole in the plug.



## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices, 27-33, Charing Cross Road, W.C.]

### SMELL AND SMOKE FROM MOTOR-CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Whilst conducting some experiments on the relation of the viscosity of oil with the lubrication of internal-combustion engines I received indication, so it appears to me, of the cause of smell and smoke which issue from the exhaust. I ran a four-cylinder 20-h.p. engine (with the back wheels of the car jacked up), replacing the ordinary crank-chamber and cylinder oil entirely by "water white" American burning paraffin oil, and, although a large excess of paraffin was used, there was no visible vapour and only a slight smell of paraffin oil, showing, I think, that such proportion as did not undergo complete

### LOCOMOBILE CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Would any of your readers kindly give me their experiences with and opinions of the above cars? I am going in for a small car in a very hilly district and am uncertain what to have. In the first place I am not wealthy, and in the second do not, as a rule, want to carry passengers other than myself. Distance forty to fifty miles per day. I mention the above cars for this reason: While travelling the Cotswold district recently in a 7-h.p. petrol car belonging to a friend, we got stuck on a hill, and, although for no great length of time there, we were overtaken by a 4½-h.p. Locomobile, carrying two, and they gave us some valuable assistance which enabled us to restart in a few minutes. Before starting, noticing our friends were of the mechanic class, we said we were sorry not to be able to offer them anything, having at the moment but little silver on us, and suggested a call at the nearest "public" as some slight recognition. They mentioned one about two miles further on up a long steep hill with a mile or more fairly level run. "All right," we said; "as you were good enough to wait for us, we will wait for you." They saw us start, and, to our amazement and disgust, before we had run 100 yards their gong was going for us to pull



Motor Touring in the Dauphine District of France. A View of Grenoble and the Belladonna Range.

combustion was simply distilled, without decomposition, and came away with the exhaust. As soon as the paraffin was replaced by a pure mineral lubricating oil (also in excess), the vapour became visible and the smell unpleasant, being evidently caused by the decomposition as distinct from the distillation of the mineral oil.

When proportions of fatty oils (such as rape, coconut, lard, &c.), were used in admixture with the same mineral lubricating oil, one could not detect any increase in the density of the smoke, but the smell became far more pungent, as would naturally be expected from the decomposition of the glycerides composing the fatty oil. I therefore believe that the best oil to use to minimise the smell and smoke is one which will distil most completely at the temperature in the combustion space, without decomposition, and such oil will also be the one most free from carbonisation, because carbonisation of the oil is only caused by its decomposition as distinct from its distillation. I find that a small pipe brought from the exhaust through the dashboard gives the driver an indication of smoke due to over lubrication before the effect is noticed beyond the silencer, and I think perhaps if some such device were adopted by the omnibus companies the excessive smell and smoke might be avoided.—Yours truly,

A. DUCKHAM.

on one side. The rest was a surprise. Their car, which was of the shabby order, simply romped away from us up the hill and, with no noise or dust, soon left us a long way behind. On approaching the pub, they had already restarted, leaving us to pay for the drinks as arranged. What I am sorry for is, that there was thus no opportunity of having a chat with these men nor any correspondence since. I should like to know in regard to these cars: How long it takes to get steam up? How many miles per gallon petrol? What speed capabilities they offer and the distance they run with one filling of water? A friend tells me that there is such a lot of hand pumping for air pressure and water for boiler. Can this be remedied? Thanking you in anticipation.—Yours truly,  
E. MARTIN.

### SPRING WHEELS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The letter of Mr. J. Bryant in the *M.C.J.* of May 19th is exceedingly pertinent. It has long been a wonder to me why cars were not made with springs which would allow of ample comfort without pneumatics. And, as he says, somewhat higher wheels would probably mitigate the dust nuisance, and afford additional mechanical power

without sacrificing safety. Will Mr. B. kindly state the maker of his car which is so well sprung? But when he goes on to recommend solid tyres, is not this a case of merely exchanging one trouble for another? Of course solids cannot be punctured like pneumatics; but are they not very liable to stretch and creep and finally come off? Such, at least, has been the experience of a medical acquaintance of mine, who bought last autumn a car fitted with solids, but two months ago discarded them for pneumatics for the reasons stated.—Yours truly,

F. C.

### A DARRACQ CAR QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am very much troubled in starting my new 20-32-h.p. Darracq car. The accumulator and commutator both give four volts when tested and each plug is sparking, yet when running on high tension the engine misses fire though running very well on magneto, so the carburettor must be in order. The high tension wires from the coil to the plugs are in order, having been recently renewed. Can you suggest the cause of the difficulty in starting and of the misfiring when running on high tension? Would it be any advantage for easy starting to fix a trembler coil?—Yours truly,

LANCASHIRE.

[With reference to "Lancashire's" trouble we should rather think the difficulty is at the contact breaker; this might be carefully cleaned and adjusted, or the points of the sparking plugs should be tested to see if they are too far apart. A high-speed trembler would be a great advantage to facilitate easy starting, but with the type of contact breaker it would need to have a very high speed coil, unless the cam be lengthened to give a longer contact.]



The Motor Van which for some time has been travelling round England to demonstrate the agricultural resources of Canada recently broke down about four miles from Bromyard. Messrs. A. and E. Pettifer, motor agents in this town, after trying to tow the van, which weighs 6½ tons, by means of three motor-cars, had to give up and call in the aid of one of their road traction engines, with which they towed it to Hereford for the Fair, a distance of sixteen miles, in three hours. The incident is interesting as showing the resources of a motor firm in a small provincial town.

### THE COURTESY OF THE ROAD.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice a writer has had a hit at what he terms the "Provincial motorist." No doubt, in the eye of the "London scorcher," he is a poor fool, as nine times out of ten he keeps and uses his car in place of horses and carriage, and having driven the latter for years has learnt the etiquette of the road, and how to behave thereon towards the other users of the road, even if they are retrograde enough to still prefer the horse. I notice there is still a considerable percentage of drivers (non-provincial). I generally see who appear to think the roads were made entirely for their benefit, and that they can scorch from one place to another, regardless of the hideous dust they make and the close shaves they give any unfortunate vehicle which does not get into the gutter to let them pass.—Yours truly,

L. F. ARCHDALE.

### FOUR SPEEDS ON THE REVERSE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—One of the most irritating drawbacks to the motor trade at the present time is the lack of competent motor-car repairers. Far too small a percentage of those concerns which advertise on their signboards that they are motor-car engineers have qualifications to the title. Thus a few days ago a medical man, resident not far from Nottingham, left

his Talbot car in one of these alleged repair shops for overhauling. In course of time the job was reported finished and the doctor went to drive his car home. Judge of his astonishment when he put in its first gear and let in the clutch, instead of, as he expected, moving out of the garage the car promptly went backwards. Naturally there was much astonishment, which was increased when it was discovered that putting in the reverse gear caused the car to go forward, and investigation disclosed that the engineer responsible for the repair had been most careful in meshing the bevel gears in the back axle, but had put these in right hand for left, with the natural result that the doctor's car had the peculiar combination of one low speed forward and four on the reverse. This is no fairy tale but an actual fact.—Yours truly,

R. W. S.

### THE TYRE TRIALS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It would be interesting to know how the cost of the tyres in the recent competition organised by the A.C.G.B.I. compares with actual touring experience. These were as follows:—

Tyre.	Weight of cars in tons.	Miles run.	Cost per ton mile in pence.	Cost per car mile in pence.
815 by 105 beaded edge	1.31	4004	1.9	2.48
34 in. ...	1.58	4092½	2.11	3.34
36 in. ...	2.03	4008	3.08	6.15

Evidently these trials have but demonstrated that we have not yet reached the penny a mile stage. When we do perfection in automobile work will be nearer than now.—Yours truly,

A PROSPECTIVE MOTORIST.

### MOTOR TRIP FOR CRIPPLED CHILDREN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We are venturing to call your attention to the claims of the Manchester and Salford Crippled Children's Help Society.

Last year we succeeded in interesting sixteen gentlemen owning motor-cars, who very kindly let them for the purpose of giving the children an afternoon's outing.

The experiment proved so very successful that it is intended to give them the same pleasure again this year. There are, however, several hundreds of these children in the city on the Society's register, and it is with the hope that a greater number may be included that we solicit your interest on their behalf.

Saturday afternoon, June 30th, is the date decided upon, the distance out to be about fifteen miles, to some suitable rural spot where tea can be obtained.

If any of your readers can see their way to assist us in this very worthy object, we should be glad if they would kindly communicate with any of the undersigned as early as possible, stating the seating capacity of the car, and also whether they will drive themselves or send their chauffeur.—Yours truly,

WM. HYDE, J.P.  
SAWLEY BROWN.  
W. COISWORTH.  
C. B. HOLMES.

### WORM GEAR TRANSMISSION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Could you or any of the readers of the *M.C.J.* explain what takes place on a car having a worm drive to back axle, when using the engine as a brake, as I fail to see how a cog-wheel is going to drive a worm?

One would naturally expect the whole thing to smash up, although it certainly does not do so; but why is it?—Yours truly,

W. L. ALMOND.

[The reason that a worm gear back axle does not "smash up," as our correspondent would expect, is that the worm and wheel are both cut at the same angle, viz., 45 degrees. The worm having a number of threads and cut a very coarse pitch, getting as near to the 45 degrees as possible, the wheel of course has to be cut at a corresponding angle, thereby allowing the wheel to drive the worm as well as *vice versa*. If a worm were cut with a single thread, there would certainly be a smash up, for, as soon as the worm stopped rotating, the wheel would lock.]

### REPAIR WORRIES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In your last issue I observe a letter from "E. S. 162," in which he asks if any of your readers can recommend a good firm or company in Scotland or the North of England where one could have any small repairs expeditiously effected at a reasonable cost.

Regarding tyre repairs, I have found one firm who undertake to return tyres properly repaired, and further, to guarantee them for three months, and you may with confidence forward the enclosed name and address to your correspondent.

Manufacturers at present are suffering from swelled head, and once they or their agents effect a sale they simply do not care any—

thing for the long-suffering owner. The charge they make when once they do condescend to execute a repair or renewal order is simply monstrous.—Yours truly,

UTILITY.

### FAILURE TO CLIMB HILLS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a Little Star 7-h.p. four-seated car, and I fail to get on top speed even on level road, and although I have been able to take four persons up a certain hill on third speed, I failed with two up last week. The gearing must be right because down hill the car runs sweetly on top speed, but stops on the level if I do not change to second and to first at the slightest gradient. The water circulation is perfect, never getting hot. The carburettor is the one supplied by the Star Company. Would this be the cause of the trouble, and would you recommend a Longuemare carburettor be substituted?

Do you know any 10-h.p. engine (good make) that could be fitted on a 7-h.p. Star car?—Yours truly,

WELSH SWANSEA.

[The trouble mentioned by "Welsh Swansea" may be due to many things, and in all probability it may have nothing to do with the engine. We would advise him to go carefully through the transmission to see if any parts are tight or any of the bearings are worn, as this would cause the car to drag, although it would run down hill apparently all right. If the transmission is found in order, the various parts of the engine should be inspected and the wiring and carburettors gone over. As the carburettor already fitted has given such good results, we should certainly not dispense with it, as there cannot be a great deal the matter in this direction. With reference to fitting a new engine, we do not know of a suitable one for this type of car, and if more power is desired we would recommend consultation with the Star Company.]

### DRIVING THROUGH CRAWLEY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I enclose you a cutting I have taken from a local paper of Saturday relative to the speeds of motor-cars passing through Crawley. As a result of the discussion by the local authorities the police had a trap working up through the Crawley High Street, on each side of the level crossing, on Sunday.

Personally, I think if motorists will only drive slower through the High Street (which has several very nasty corners abutting on to it) the friction that now exists will gradually wear off. At all times of the week, from Sunday morning till Saturday night, motorists will do well and possibly save themselves several pounds if they keep on the look out from the county boundary of Surrey and Sussex, situated about two miles on the London side to about half-mile out on the Brighton side of Crawley, which is now infested with police traps.

I have been given to understand that on last Sunday week they were out at the game between 6 and 8 a.m., when they caught one motor-cyclist.—Yours truly,

FAIR PLAY.

[The cutting relates to a local discussion which reveals considerable animus against motorists.]

### PROSPECTS IN SHANGHAI.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In last week's issue of the *M.C.J.* I notice a statement by an American lady in Shanghai to the effect that the scarcity of good chauffeurs is the chief drawback to motoring out there. If that is the case, I am quite sure there are plenty of Englishmen who would like to go out there. I myself would not mind it for a year or two.—Yours truly,

G. S.

### RE-MAGNETISING A WEAKENED MAGNETO.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I shall be greatly obliged if you or any reader of the *M.C.J.* can kindly tell me if the permanent horseshoe magnets of an ordinary low tension magneto can be successfully re-magnetized, and if so, how.—Yours truly,

W. H. H.

[A reply to the query raised by our correspondent will be found elsewhere in the present issue under the heading of "Current Topics."]

### THE GEARLESS CAR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I note that Mr. S. F. Edge has had the courage of his convictions and allowed one of his 60-h.p. six-cylinder Napier cars to be tested by the A.C.G.B.I. for possibilities of running without the necessity of a gear-box. In the A.C.G.B.I. official report of the trial I notice that the engine was stopped no less than seven times, and that five of these were in traffic. I think it would be of advantage if it were stated whether it was possible to start the engine from the driver's seat,

or was it necessary for the engine to be turned by hand to get it to start, as, if the latter was the case, I think it would be a very serious objection.—Yours truly,

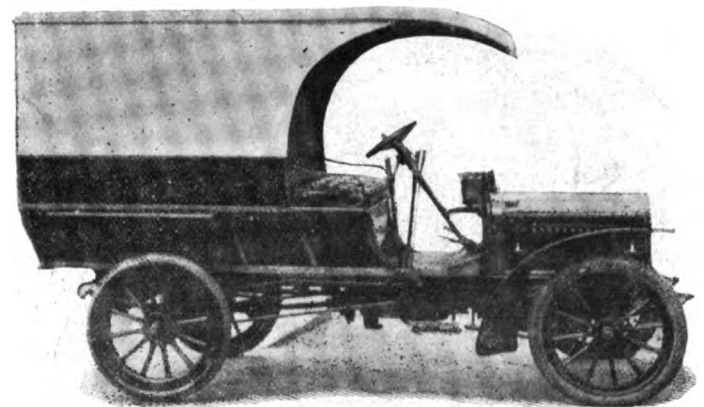
INTERESTED.

### WHY WAIT?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was pleased to see your note under this heading in a recent issue of the *M.C.J.* There are those who still await the coming of the perfect car before investing, and it may be said without hesitation that they are not at all apt to purchase this season any more than they have been in the past three or four years. It is not that the perfect automobile is no nearer to-day than it was then—this phase of the question does not call for comment, although there is a large part of the population that still regards the motor-car as a mystery which may or may not go, as the whim strikes it. During the last few years, the automobile has been perfected beyond the expectations of its most sanguine advocates, and it may safely be said that it has attained a point where reliability and endurance are merely matters of intelligent care and attention on the part of the owner.

In short, the car has practically reached the status of the locomotive. After more than a century of development under conditions that have afforded a powerful incentive to improvement, the railway engine is still considered a long way from perfection by its designers. The sceptical ones usually select the locomotive and the ocean-going steamship as examples of reliability and endurance for the motor-car to approach, without considering for a moment that the former undergoes expert inspection daily and goes to the repair shops without a moment's delay if attention be required, while in the case of the



The 12-14 h.p. 2-cylinder Whitlock-Aster Delivery Van. The carrying capacity is approximately 15 cwt., and the petrol consumption about 25 miles to the gallon. The rear wheels are shod with solid tyres and the front with pneumatic.

latter the engine is thoroughly gone over at the end of every trip. Worn parts are replaced and painstaking care devoted to adjustment, so that every time a steamer leaves port its machinery is in the best of condition.

A motor-car seldom gets a thorough overhauling more than once a year, and in the interim is, in many instances, accorded but perfunctory care. As long as the motor continues to run, little attention is devoted to seeing that its various functions are being performed in a manner that makes for a uniformly high degree of efficiency. Repairs and adjustments are, more often than not, delayed until further procrastination is impossible, and the time comes when the motor refuses to run any longer. The man who is looking forward to the advent of the perfect car is awaiting a mechanical millennium, and if his enthusiasm is worth anything he need have no hesitation in acquiring a modern car which, if given proper and timely attention, will very closely approach to the ideal.—Yours truly,

R. W. BELL.

S. AND M. STEAM CAR.—We have an inquiry for the address of the maker of S. and M. steam motor-car mentioned in the "Complete Motorist."

HUB CAP FOUND.—Dr. Perceval Adamson, Marbury House, Birchfield Road, Birmingham, found a hub cap belonging to a Lanchester car at Sutton Coldfield, Warwickshire, on Saturday last. The owner can have it by applying to Dr. Adamson.

DARRACQ CARS.—"R.C." writes that he would be glad if any owner of a 20-32-h.p. Darracq car would give his experience of the same.

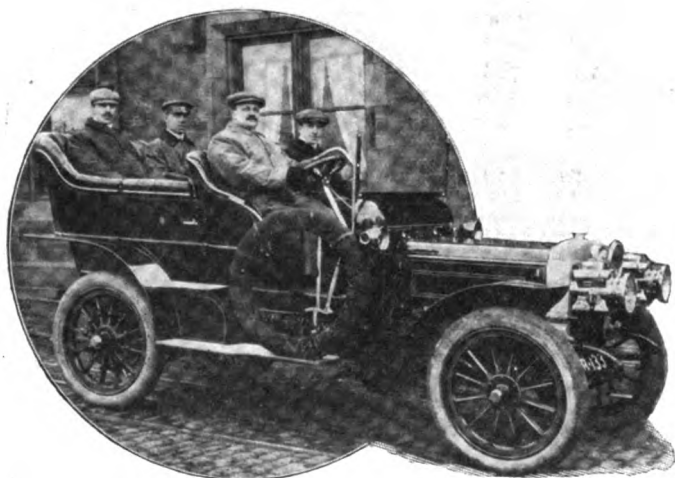
MOTOR-CARS FOR JAVA.—Mr. J. Chr. Lapp, Winconderneming, "Paal Lime," Wanasari-Bandoeng, Java, is anxious to receive catalogues of motor-cars.

## CLUBS AND ASSOCIATIONS.

### NORTH-EAST LANCASHIRE.

ON Friday of last week the North-East Lancashire Automobile Club commenced a non-stop run from Whalley to Edinburgh—a distance of 191 7-8 miles, via Clitheroe, Settle, Kirkby Lonsdale, Kendal, Penrith, Carlisle, Teviothead, Hawick, Selkirk, and Galashiels. A stop of an hour and a half was allowed for luncheon at Carlisle, and the arrangements were carried out by an enthusiastic committee, with Mr. A. Birtwistle as hon. secretary. The twenty-eight entrants with the official observers were as follows:—

1. Dr. Fox (Accrington), 6-h.p. Belsize; observer, F. Rushton.
2. J. S. Cordingley (Haslingden), 10-12-h.p. Humber, F. Davis.
3. Dr. Stephenson (Blackburn), 10-12-h.p. Midland, H. Garstang.
4. Mrs. T. M. Crook, 15-h.p. Rolls-Royce, T. P. Campbell.
5. A. Birtwistle (Wilpshire), 16-20-h.p. Daimler, F. Walmsley.
6. H. V. Blake (Accrington), 15-20-h.p. Belsize, R. P. Gerland.
7. Kendal Chew (Helmshore), 16-20-h.p. Humber, J. Marchant.
8. J. S. Cordingley (Haslingden), 16-20-h.p. Humber, T. Saul.
9. C. E. Kenyon (Wilpshire), 16-20-h.p. Humber, Rd. S. Crossley, junr.
10. A. Thompson (Whalley), 20-h.p. Rolls-Royce, T. Robinson.
11. Burton Hacking (Accrington), 18-24-h.p. Belsize, A. Barnes.



Mr. J. D. Lonsdale, of Accrington, at the wheel of his new 28-36-h.p. Daimler Car.

12. Jos. Birtwistle, 22-h.p. Daimler, F. Hodgkinson.
13. R. Crossley (Accrington), 24-h.p. Belsize, G. D. Walmsley.
14. J. Bibby, 28-36-h.p. Daimler, F. Rowland.
15. G. Burton, 28-36-h.p. Daimler, C. E. Kenyon.
16. C. F. Bury (Accrington), 28-36-h.p. Daimler, J. Davies.
17. J. D. Lonsdale (Accrington), 28-36-h.p. Daimler, H. Redman.
18. W. R. Allan (Accrington), 30-40-h.p. Belsize, Milton Birtwistle.
19. J. Briggs-Bury (Accrington), 30-40-h.p. Daimler, Wm. Cunningham.
20. Ed. Berry, 30-40-h.p. Daimler, H. Barton.
21. A. S. Bury (Accrington), 30-40-h.p. Belsize, Frank Birtwistle.
22. W. D. Coddington (Southport), 30-40-h.p. Daimler, G. W. Hardman.
23. Havelock Lonsdale (Accrington), 30-40-h.p. Daimler, S. Jackson.
24. W. Smith, jun. (Accrington), 30-40-h.p. Belsize, S. Whitehead.
25. Robt. Mangnall, 40-h.p. Napier, J. Hacking.
26. J. E. Baxter, 40-50-h.p. Wolseley, E. Berry.
27. Arthur Birtwistle (Blackburn), 35-h.p. Daimler, Herbert Arthur.
28. F. Birtwistle (Blackburn), 60-h.p. Mercedes, E. Haydock.

### LINCOLNSHIRE.

THE second annual 100 miles non-stop run of the Lincolnshire Automobile Club was held on Saturday, and was marred by the heavy rain which fell. The starts were from the homes of the respective owners, but the finish was at the club headquarters, the Great Northern Hotel, Lincoln, between half-past four and five, cars arriving before or after being disqualified. Two of the eighteen entries decided to scratch, while five others did not run, or at least did not finish. Of the rest, only two failed to do the non-stop. Mr. Cyril Nelson, 8-h.p. De Dion, had to put in a new sparking plug; and Dr. Percy Sharp suffered from a fierce clutch on a hill, thus spoiling his chance also. The following, who made absolute non-stop runs, will receive the club medals,

and the special prize awarded by the committee for the most meritorious performance goes to Mr. C. W. Pennell:—Mr. J. R. Richardson, Lincoln, 14-h.p. Mass; Mr. W. B. Jevons, Market Rasen, 10-12-h.p. Humber; Mr. A. A. Padley, Market Rasen, 16-20-h.p. Humber; Mr. C. W. Pennell, Lincoln, 16-22-h.p. Martini; Mr. G. Garnett, Gainsborough, 8-h.p. M.M.C.; Mr. Mayo, Bourne, 15-h.p. De Dion; Captain H. E. Newsum, Lincoln, 30-40-h.p. Daimler; and Mr. H. Marshall, Gainsborough, 12-16-h.p. Clement.

### MOTOR CYCLE UNION OF IRELAND.

THE Dublin centre of the Irish Motor Cycle Union of Ireland held a hill climbing contest in Co. Wicklow on Saturday last. Twenty-three competitors took part in the event, in which pedalling was allowed and horse-power of machines unrestricted. The weather was fine and bright up to the finish, but a drenching downpour set in just as the return journey to town was commenced and continued long after the majority had reached home. The times were taken by Messrs. T. W. Murphy and Colman O'Connell, the former acting as starter. Appended are details:—

Name.	Weight of Rider. st. lbs.	Machine.	Weight. lbs.	Time. min. sec.
C. G. H. Lewis	9 4	2½-h.p. F.N.	145	3 33
E. Badmaster	10 0	4½-h.p. Minerva	190	3 34
W. Ladley	11 0	2½-h.p. Morehampton	—	3 36 4-5
W. Jacques	11 5	2½-h.p. Alcyon	158	3 38 2-5
J. Armstrong	10 12	3½-h.p. Swallow	203	3 59 2-5
J. G. Drury	10 4	3-h.p. Triumph	160	4 1 1-5
B. Dumphy	8 4	2½-h.p. Minerva	140	4 2 2-5
T. W. Murphy	9 7	3-h.p. Singer	168	4 10
R. E. Price	11 6	4-h.p. Warner	136	4 15 4-5
C. W. Smyth	10 10	3-h.p. Triumph	156	4 20 4-5
D. O. B. Gill	9 2	2½-h.p. Minerva	122	4 24
Dr. R. White	11 0	2½-h.p. Peugeot	110	4 34
H. Quinn	11 6	3-h.p. Triumph	150	4 35
W. Guilfoyle	—	2½-h.p. Minerva	—	4 37 2-5
R. Howison	13 3	2½-h.p. F.N.	165	4 45
J. Mooney	15 11	3-h.p. F.N.	201	4 51 2-5
H. Mooney	11 13	2½-h.p. F.N.	179	4 52
P. S. Sheardown	11 0	3-h.p. N.S.U.	175	4 56 4-5
S. Black	10 0	2½-h.p. Buchet	100	5 41 1-5
V. H. Meredith	13 3	2-h.p. Triumph	136	5 17 1-5

Also competed, A. J. Kettle (13 st.), 3½-h.p. Wellington; E. Cannon (—), 2½-h.p. Minerva (—); C. Kavanagh (9 st. 7 lbs.), 2½-h.p. Morehampton (110 lbs.). The 3-h.p. Singer entered in the name of Mr. T. W. Murphy was, by permission of the committee, driven by P. J. O'Donohoe.

### HERTFORDSHIRE.

THE Hertfordshire Club held its fifty miles consumption trial on Saturday, and the event was an unqualified success. The start was made well to time from the club's headquarters, the Red Lion Hotel, Hatfield, where competitors' cars were filled before being despatched on their journey to Biggleswade and back, via Hitchin. The judges, Messrs. D. Corse Glen and W. Whittall, are to be congratulated on the very satisfactory manner in which they carried out their onerous duties. Below we append the official results:—

#### CAR CLASS.

Place.	Car.	Driver.	Weight. Tons.	Total consumption. Gals.	Consumption per ton mile. Gals.
1.	22-h.p. Sunbeam	Mrs. Woodhouse	1.5	1.525	.0203
2.	40-h.p. Napier	Mr. Cecil Edge	2.1	2.268	.0216
3.	12-h.p. de Dion	Mr. W. H. Colliver	1.35	2.0	.0296
4.	9-h.p. M.M.C.	Mr. H. R. Hickman	0.95	1.456	.0306
5.	12-h.p. Argyll	Mr. T. Hooydonk	1.25	2.025	.0324
6.	14-h.p. Marples	Mr. S. Marples	1.225	2.150	.0350

#### Huber

The Marples-Huber went about four miles out of the way, through the driver mistaking the road.

#### MOTOR CYCLE CLASS.

1. 3½-h.p. Quadrant... Rev. A. J. McKinney ... 0.15 ... 0.531 ... 0.708

Mr. H. L. Gibbs on a 3½-h.p. Quadrant also started, but had to give up owing to the sparking advance lever breaking.

### NORTHAMPTONSHIRE.

THE members of the Northamptonshire Automobile Club met, by the kind invitation of Lord Lilford (president of the club) at Lilford Hall on the 16th inst., and, in spite of the somewhat unsettled state of the weather, there was a goodly muster of about forty. There were present:—Major Hibbert (chairman of committee), Messrs. C. W. Bartholomew, W. Parker Gray, H. R. Greening, Dr. Henshaw, Dr. A. A. Hope, A. F. Mulliner, A. N. Mobbs, Chas. W. Phipps, Alfred Webb, Chas. Wicksteed, S. Yarde, and the hon. sec., Mr. Sidney Harris. The members and their friends were very much interested in viewing the fine collection of birds, etc., for which Lilford Hall is noted. Afternoon tea, very kindly provided by Lord Lilford, terminated a most enjoyable visit.



### BLACKBURN MOTOR CYCLE.

THE Blackburn and District Motor Cycle Club held a hill-climbing competition near Withnell, as announced in last week's issue, the highest award being a challenge cup presented by Mr. Harold Eccles. Several medals were also offered. Twenty-two competitors started. The best times were made by D. Duckworth, 3½-h.p. Fleet Ariel; H. Garstang, 3-h.p. Triumph; R. Holmes (Preston), 2½-h.p. Ariel; G. Ramsbottom, 3½-h.p. Minerva. In the passenger class A. E. Beard was first with his 4½-h.p. two-cylinder Minerva and side car.

### SUNDERLAND MOTOR CYCLE.

THE above club was formally started at a meeting on the 16th inst., a capable body of officers being elected, with Major E. Vaux as president. Thirty-three members were enrolled, and considerable interest was shown. Affiliation with the North-Eastern Automobile Association and the Motor Union is being carried out. Mr. W. E. Russell Jackson, 9, Hillside, Sunderland, is the hon. secretary and treasurer.

### SOMERSET.

THE annual general meeting of the Somerset Automobile Club was held on the 12th, at the invitation of Mr. and Mrs. Alfred Armitage, at their charming residence at Haygrass, Taunton. There was a large attendance of members, and some magnificent cars were lined up in the field adjoining the house. Among those present were:—Mr. Orme, Frome; Dr. Curd, Bath; Col. Barrett, Moreton, North Curry; Mr. Metford, Clifton; Mr. H. Hippisley, Ston Easton; Mr. Vaughan Jenkins, Monkton Combe; Mr. Elwes, Somerton; Mr. Eccles, Honiton; Mr. Hills, Bridgwater; Mr. J. J. Barstowe, Weston-super-Mare; Mr. Boles, Yeovil; Mr. Aspinall, Weston-super-Mare; Mr. Bayldon, Frome; Dr. Benson, Bath; Major Little, Taunton; Mr. Wills, Bridg-

F. Hesse (treasurer), H. W. Cranham, H. Bright, A. O. Jones, J. Arrowsmith, Langenbach, V. O. Neill, F. Smith and J. Whitehead.

The route lay right across the Cheshire plain through Middlewich and Nantwich on to Whitchurch and the historic town of Shrewsbury, with its meandering Severn. Church Stretton is on a line of railway, but it is to the motor-car that some of the party owed their first acquaintance with this ancient town, now inhabited by some 2,000 people, who, desirous of emulating the example of their county town, with its avenues of limes in the famous Quarry Park, have laid out a walk lined with trees, which "in future," in the words of the guide book, "will form one of the finest sheltered walks in the country." The church dates from the twelfth century, and has a splendid peal of eight bells, but the curfew is no longer rung at eight o'clock as in days not long since past, to guide travellers lost on the hills.

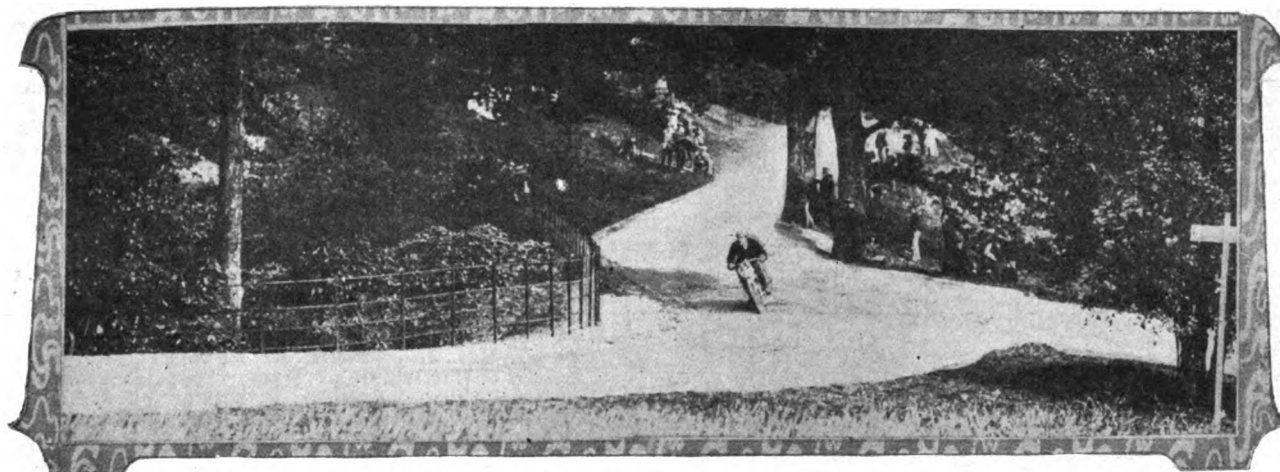
### KENT.

THE third meet of the season took place at Sevenoaks on Saturday. About forty members and friends sat down to tea served in the new luncheon room overlooking the beautiful gardens of the Crown Hotel. Those present were the chairman, Dr. Firth, and Mrs. Firth, Dr. and Mrs. MacFarland, Mr. and Mrs. Gardner, Mr. and Mrs. Austin, Mr. and Mrs. Bailey, Mr. and Mrs. Batchelor, Mr. P. J. Neate, Mr. Edward Latter, Mr. and Mrs. A. Booth Hearn, Mr. and Mrs. Shrubsole, Mr. J. Stace, Mr. and Mrs. Siddeley, Mr. and Mrs. Wyllie, the hon. sec. and Mrs. Kenyon.

The date of the hill climb event has been altered from June 2nd to June 9th, 1906.

### BLACKHEATH.

THE Westerham meet on Saturday last, as usual, attracted a good attendance of members, amongst them being:—Messrs. L. and H.



The Auto-Cycle Club's Hill Climb at Fernhurst. Mr. S. A. Ives taking the awkward corner on his Lurquin-Coudert Machine.

(See page 292).

water; Mr. C. Leslie Fox, Rumwell; Mr. Batten, Yeovil; Dr. Ingall, Somerton; Mr. Morgan, Shepton Mallet; Mr. Austin, Glastonbury Abbey; Dr. Duport, Frome; Mr. Clark, Street; Mr. Gliddon, Weston-super-Mare; and Mr. A. C. Allen, Taunton.

Mr. J. J. Barstowe was elected to the chair.

The balance-sheet, which was presented by Mr. Armitage, showed that the club had a balance in hand of £30 9s. 1d., the receipts having amounted to £159 16s. 1d. The membership is 105.

The Chairman proposed the adoption of the report and balance-sheet, remarking that he was pleased to notice that they had not suffered in regard to police prosecutions. Mr. F. J. Clark seconded the adoption of the report and balance-sheet, and this was agreed to.

The following gentlemen were elected as officials of the club:—President, Sir Wroth Lethbridge; vice-presidents, Sir Cuthbert Slade, Mr. J. J. Barstowe, Mr. J. Hargreaves, and Mr. R. A. Sanders; committee, Mr. J. W. Aspinall, Mr. S. Austin, Colonel Barrett, Mr. H. P. Batten, Dr. Benson, Mr. H. L. T. Blake, Mr. C. H. Dawe, Mr. P. F. C. Elwes, Mr. H. Hippisley, Mr. Vaughan Jenkins, Mr. R. B. Graves Knifton, and Mr. C. Chestermaster; hon. secretary and treasurer, Mr. A. Armitage. The Chairman, in proposing the re-election of Mr. Armitage as hon. secretary and treasurer, referred to the excellent work that gentleman had done, and a hearty vote of thanks was accorded Mr. Armitage.

### MANCHESTER.

THE Manchester Automobile Club held an outing on Saturday last at Church Stretton, some eighty miles from Cottonopolis. The occasion was the fifth run of the season, and a good contingent spent the week-end in this picturesque valley of the Shropshire "highlands." Despite a few minor derelictions from duty of one or two of the cars, all arrived early in the evening at the Longmynd Hotel. Among the members present were Messrs. J. A. Morris (president), J. Hoyle Smith (secretary),

Beadle (Regal); J. H. Bowden (Humber); H. A. Cunis (Krupcar); R. Cunis (Renault); A. Edwards (Humber); Colin Gordon (Humber); A. Jackson (Georges-Richard); Professor Lambert (Argyll); Leslie C. Lambert (Tri-car); Ralph Lucas (Lucas); T. Marshall (De Dion); H. J. Reeves (Tri-car); T. Thorne (Argyll); and W. Whiteway (Regal).

Four members of the club kindly placed their cars at the disposal of Col. E. J. Howard, commanding the 2nd Volunteer Battalion of the Queen's Own (Royal West Kent Regiment) on Sunday last for the purpose of a regimental tour, when the pleasure of motoring was combined with that of serving the country.

### AERO.

MR. FRANK HEDGES BUTLER, accompanied by Mrs. Harold Gould, Lord Royston and Professor Huntingdon, King's College, made a balloon ascent from the Wandsworth Gas Works on Friday, the 18th inst.; and at the same time Mr. C. F. Pollock, the Hon. Mr. Harbord, Count Biron, of the Aero Club of France, and Mr. W. Hall, of the Aero Club of America, ascended in another balloon. Mr. Harold Gould and Countess Castellane followed the balloons in a motor-car driven by the Hon. C. S. Rolls. Mr. Butler's balloon descended at Sunbury, after passing over Richmond Park and Kempton racecourse. The other balloonists came down near Chobham, within three miles of Woking Station.

### SOUTH HERTS.

THE first week-end run held by the club was that to Clacton-on-Sea on Saturday. The Royal Hotel, Clacton, was the meeting-place, and sixteen members sat down to dinner after a most enjoyable evening by the sea. On Sunday morning it was decided to start for home about two o'clock, in the driving rain. The troubles experienced on the home

ward road are still a nightmare to the writer. The run was a series of stops, either to help a friend with some adjustment, pump up a slowly leaking tyre, or express in vivid words a magnificent experience of the latest side-slip. Waltham Cross was reached about 8 o'clock by a bedraggled, worn-out assortment of motorists, who wondered, as they changed their drenched garments, whether the pleasure of a warm bath and dry clothes again balanced up for the seventy miles in the northerly rain.

MR. T. SANDERSON has been elected hon. sec. of the Edinburgh Motor Club.

THE headquarters for the hill climb of the South Herts Automobile Club at Newgate Street, Herts, on the 9th prox., will be at the "Coach and Horses," at the top of the hill, which is five miles from Waltham Cross and eighteen from London.

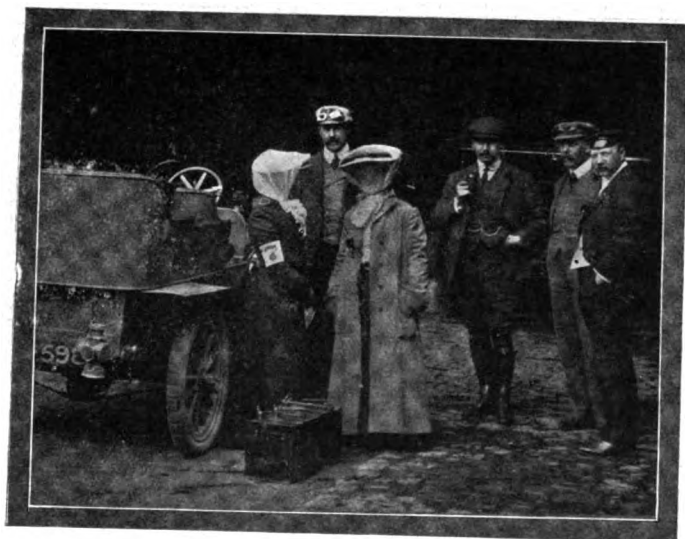
OWING to the inclement weather on Saturday only two members of the Sheffield Automobile Club took part in the projected run to Barnley Moor.

MOTOR-CYCLISTS in the Ipswich district are forming a Suffolk Motor Cycling Club. Mr. Standley Nunn, of 4, Tavern Street, Ipswich, is taking the initial steps.

THE result of the hill climb and brake test competition of the Essex County Automobile Club, recently held at Laindon, has been officially announced as follows:—First, Mr. J. Gurney Fowler, 24-h.p. Panhard; second, Capt. J. R. B. Newman, 18-h.p. Mercedes.

### THE BROWN TROPHY.

ON Saturday last the Motor Cycling Club held the competition for the trophy, valued at seventy guineas, offered by Mr. Albert Brown for competition by British cars. Starting from Slough, the run was over a seventy-seven mile circular course, which had to be covered twice.



Preparing for the Brown Trophy Contest. Mr. Albert Brown, the donor, is seen in the right of the picture.

Originally there were ten entries, but those who started, with the weight of car, passengers, and equipment, were as follows:—

		Cwts.
J. H. Reeves ...	8-h.p. New Orleans ...	19-875
A. Candler ...	8-h.p. Rover ...	15-25
C. W. Brown ...	8-h.p. Rover ...	18-7
E. Perman ...	12-h.p. Belsize ...	18-625
J. P. Betts ...	6-h.p. Rover ...	11-93
Miss Wood ...	60-h.p. Napier ...	41-93
S. J. Sewell ...	16-20-h.p. Rover ...	25-12

Mr. F. J. Jenkins had weighed for the start, but a derangement of the torque rod led to his withdrawal. In the end Miss Wood, Messrs. Betts, Brown and Perman finished, their losses in marks being respectively 50, 10, 25 and 140. The consumption of petrol was as follows:—Miss Wood 7-62 gals., Messrs. Betts 3-87 gals., Brown 5-84 gals., and Perman 7-3 gals. In the end, after taking into account the weight, petrol consumption and marks lost for stoppages, etc., Miss Wood was declared the winner of the trophy, Mr. J. Platt Betts being second, and Mr. C. W. Brown was third.

### IN A SCOTTISH TRAP.

AT Stonehaven recently, before Sheriff Robertson, three Aberdeen motorists were charged with having driven their motor-cars beyond the legal limit near Stonehaven. The names of the defendants were Mr. Peter Bisset, Aberdeen, Mr. J. H. Paterson, and Mr. J. B. Keith. After the evidence had been given Mr. Watt and Mr.

Blacklaw, in addressing the Court, maintained that the evidence given by the constables was unreliable. They held that the constables should have produced the paper on which they had first noted the time, and that the cases had not been made out.

The Sheriff said he considered that the cases were very important and he would postpone judgment.

On Wednesday of last week he said he found the charge proven and imposed a penalty of £2 in each case. In doing this the Sheriff said he did not consider these cases as serious. If he had his own way he should probably take the view that conviction should not follow unless it was clear that the driving was to the danger of the public, but the Act of Parliament stood, and, of course, he must act in accordance with it. He also thought it was perhaps a pity that this trap should have been laid in an unfrequented and safe part of the road. It would have been more satisfactory to catch people going too fast where there might be real danger. This, however, was probably the affair of the police authorities. He might also refer to the fact that in none of these cases had the parties got warning on the spot that they had been timed. No doubt there was no provision in the Act for this being done, but it was only fair that the accused should have this warning, and it should not be beyond the wish of the police authorities to devise means to give it to them. As he accepted the evidence there as conclusive, it did not affect these cases, but it might easily affect one's position in another case.

### THE INTERNATIONAL TOURIST TROPHY RACE.

THE following is a list of entrants for this event, which will take place in the Isle of Man in September next:—

1. Mr. John S. Napier ...	Arrol-Johnston.
2. Mr. A. Rawlinson ...	Darracq.
3. Mr. A. Rawlinson ...	Darracq.
4. Hon. C. S. Rolls ...	Rolls-Royce.
5. Hon. C. S. Rolls ...	Rolls-Royce.
6. Mr. Warwick J. Wright ...	Minerva.
7. Mr. D. Citroen ...	Minerva.
8. Mr. T. B. Browne ...	James and Browne.
9. Mr. C. Harman Wigan ...	Vinot.
10. Mr. John S. Napier ...	Arrol-Johnston
11. Mr. Alec Govan ...	Argyll.
12. Mr. Alec Govan ...	Argyll.
13. Mr. Harry Smith ...	Rover.
14. Mr. Albert Brown ...	Brown.
15. Mr. A. Mosses ...	Clement.
16. Mr. Claude Watney ...	Pipe.
17. Mr. T. C. Pullinger ...	Humber.
18. Mr. Edward Powell ...	Humber.
19. Capt. W. E. D. Owen ...	Aries.
20. Capt. W. E. D. Owen ...	Aries.
21. Mr. R. L. Jefferson ...	Rover.
22. Mr. F. Guy Lewin ...	Peugeot.
23. Mr. J. Ernest Hutton ...	Berliet.
24. Mr. J. D. Siddeley ...	Siddeley.
25. Mr. R. R. Brown ...	Siddeley.
26. Mr. J. Ernest Hutton ...	Berliet.
27. Mr. Tom Thornycroft ...	Thornycroft.
28. Mr. E. Lisle ...	Star.
29. Capt. H. H. P. Deasy ...	Deasy.
30. Mr. E. W. Lewis ...	Deasy.
31. Mr. Gordon Usmar ...	Vinot.
32. Mr. J. Percy Dean ...	Scout.
33. Mr. E. Lisle ...	Star.

### MOTOR CYCLE HILL CLIMB.

ON Saturday the Auto-Cycle Club held an open hill climb contest in the grounds of Blackdown House, near Fernhurst, Sussex, by permission of Mr. F. S. Philipson-Stow, J.P. Situated within the shadow of Blackdown Hill, amid beautifully wooded preserves, the wide, steep drive of the park has been found eminently suitable for testing the climbing powers of cars and cycles. One mile in length, the average gradient is one in eleven. Over some 380 yards, however, the incline is slightly more acute, while there are about 250 yards of one in 4½, which include a sharp corner about half-way up.

Appended are the particulars of the various events:—

CLASS 1.—For machines with engines having a cylinder capacity not exceeding 76 by 76, or the equivalent volume swept out.

E. W. Goslett, 2½-h.p. N.S.U., and Basil Pemberton, 2½-h.p. Minerva. Neither succeeded in covering the course.

CLASS 2.—For machines with engines having a cylinder capacity exceeding 76 by 76, but not exceeding 80 by 80, or the equivalent volume swept out.

Triumph Cycle Company (J. Marshall), Triumph, 3-h.p., 2 min. 17-4-5 sec.

Also competed: H. L. Cooper, Triumph, 3-h.p., and S. E. Pemberton, Singer, 3-h.p.

CLASS 3.—For machines with engines having a cylinder capacity exceeding 80 by 80, but not exceeding 85 by 85, or the equivalent volume swept out.

R. M. Brice, Brown, 3½-h.p. Brown, 1 min. 41 4-5th sec. ... 1  
 W. W. Genn, Eland, 3½-h.p. Minerva, 1 min. 45 sec. ... 2  
 S. E. Raffety (E. Hunt), Swallow, 3½-h.p. Kelecom, 2 min. 0 1-5 sec. ... 3  
 Also competed: Werner Motors, Ltd. (H. E. Blackney), Werner, 4-h.p. Werner; W. Pratt, Durkopp, 3-h.p. Durkopp; Werner Motors, Ltd. (O. C. Godfrey), Werner, 4-h.p. Werner; A. W. Wall, Ltd. (H. P. Rose), Roc, 4-h.p. Kelecom; L. W. Bellenger, Quadrant, 3½-h.p. Quadrant; G. Aldington, Quadrant, 3½-h.p. Quadrant; S. Webb, Quadrant, 3½-h.p. Quadrant; Triumph Cycle Company (F. Hulbert), Triumph, 3-h.p. Triumph; Magneto Motor Manufacturing Company (S. S. Hickson), C.I.E., 4-h.p. C.I.E.

CLASS 4.—For machines with multi-cylinder engines.  
 D. G. Gilmour, J. A. P., 6-h.p. J.A.P., 1 min. 40 3-5 sec. ... 1  
 D. G. Gilmour (C. L. Flood), Peugeot, 8-h.p. Peugeot, 1 min. 42 sec. ... 2  
 South British Trading Company (W. H. Wells), Vindec Special, 5-h.p. Peugeot, 1 min. 48 1-5 sec. ... 3  
 Also competed: Werner Motors, Ltd. (H. E. Blackney), Werner, 4-h.p. Werner; G. H. Tripp, J.A.P., 6-h.p. J.A.P.; H. C. Ebbutt (R. J. Bell), J.A.P., 6-h.p. J.A.P.; A. B. White (E. J. Hancox), Swallow, 6-h.p. J.A.P.; Magneto Motor Manufacturing Company (E. Warner), C.I.E., 5-h.p. C.I.E.; A. G. Reynolds, Vindec Special, 5-h.p. Peugeot; Hugh W. Gray, Rex, 5-h.p. Rex.

CLASS 5.—For machines with any size engine.  
 R. M. Brice, Brown, 3½-h.p. Brown, 1 min. 42 sec. ... 1  
 South British Trading Co. (W. H. Wells), Vindec, 5-h.p. Vindec, 1 min. 47 3-5th sec. ... 2  
 L. C. Motor Agency (S. A. Ives), Lurquin-Coudert, 7-h.p. L.C., 1 min. 56 4-5 sec. ... 3  
 Also competed: W. Getting, N.S.U., 5½-h.p. N.S.U.; G. H. Tripp, J.A.P., 6-h.p. J.A.P.; Triumph Cycle Company (F. Hulbert), Triumph, 3-h.p. Triumph; George Barnes, Barnes, 8-h.p. Barnes; G. H. Tripp, Bat, 4-h.p. Stevens.

CLASS 6.—For quad-cars, fore-cars, side-carriages, or trailers, carrying two passengers. Engine to have a cylinder capacity not exceeding 85 by 85, or the equivalent volume swept out, and to be fitted with a variable gear.

Magneto Motor Manufacturing Company (S. S. Hickson), C.I.E., 4-h.p. C.I.E. This machine did not succeed in covering the course.

CLASS 7.—For quad-cars, fore-cars, or trailers, carrying two passengers. Singer and Company, Ltd. (A. J. Geldsworthy), Singer, 9-h.p. Singer, 3 min. 4 2-5 sec. ... 1  
 Lagonda Motor Company (Wilbur Gunn), Lagonda, 10-h.p. Lagonda, 3 min. 9 sec. ... 2  
 J. Buckingham, Lagonda, 10-h.p. Lagonda, 3 min. 17 1-5 sec. ... 3  
 Also competed: A. Clifford Earp, Singer, 9-h.p. Singer; Riley Cycle Company (J. Browning), Riley, 9-h.p. Riley; Singer and Co., Ltd. (T. Read), Singer, 9-h.p. Singer; Phoenix Motor Company (J. Van Hooydonk), Phoenix quad-car, 7-h.p. Fafnir; A. Wright Riley, 6-h.p. Riley; E. C. Baker, Lagonda, 10-h.p. Lagonda.

### A JOINT CLUB MEET.

ON Saturday last, for the third year in succession, at the invitation of Mr. Francis A. Bolton, J.P., one of the vice-presidents, the members of the Derby Club had a most enjoyable run to Moor Court-Oakamoor, Staffs. In order to add to the attractiveness of the meeting Mr. Bolton had on this occasion kindly extended his invitation to the members of the Nottingham and Leicester Clubs, and offered a handsome silver cup for the winner of an inter-club hill climb, which was contested by four representatives of each of the three clubs. Soon after two o'clock the cars began to arrive in great numbers and were formed up on the cross roads at the top of Star Hill, the site chosen for the competition, from whence an excellent view could be obtained of the finishing point, and shortly afterwards the trials commenced. The teams chosen were as follows:—

#### DERBY.

E. H. Joule	...	...	15-h.p. Darracq.
F. Smith	...	...	16-20-h.p. Rover.
G. F. Reading	...	...	10-h.p. Wolseley.
C. R. Hewitt	...	...	8-10-h.p. Humber.

#### NOTTINGHAM.

M. Ross-Browne	...	...	40-50-h.p. Richard-Brasier.
E. W. Wells	...	...	30-40-h.p. Daimler.
J. Gaskin	...	...	16-20-h.p. Argyll.
H. Belcher	...	...	16-20-h.p. Humber.

#### LEICESTER.

H. Byron	...	...	20-h.p. Rolls-Royce.
J. Harpur	...	...	16-20-h.p. Humber.
H. B. Boreham	...	...	10-12-h.p. Darracq.
Doran	...	...	22-h.p. Minerva.

The timing arrangements were on the lines instituted by the Derby Club, and resulted in some very close and exciting finishes, the heats in which Mr. Wells beat Mr. Harpur and H. Belcher beat F. Smith being particularly well contested. The actual results were as follows:—

#### FIRST ROUND.

E. W. Wells (scratch) beat J. Harpur (with 1 min. 31 sec. start) in 2 min.

E. H. Joule, with 39 sec. start, beat H. Boreham in 4 min. 38 sec.  
 H. Belcher (scratch) beat F. Smith with 9 sec. start in 3 min.  
 Doran, with 15 sec. start, beat Gaskin in 3 min. 8 sec.  
 G. F. Reading, with 2 min. 41 sec. start, beat W. Ross-Browne in 4 min. 37 sec.  
 C. R. Hewitt, with 3 min. 39 sec. start, beat H. Byron in 6 min. 6 sec.  
 F. Smith and J. Harpur, the two best losers, passed into the second round to avoid a bye.

#### SECOND ROUND.

G. F. Reading, with 2 min. 37 sec. start, beat E. W. Wells in 4 min. 36 sec.  
 F. Belcher (scratch), in 2 min. 40 sec., beat E. H. Joule, who took 1 min. 38 sec. start.  
 Doran (scratch), in 2 min. 58 sec., beat Hewitt, taking 2 min. 58 sec.  
 F. Smith (scratch), in 3 min. 7 sec., beat J. Harpur, taking 19 sec.

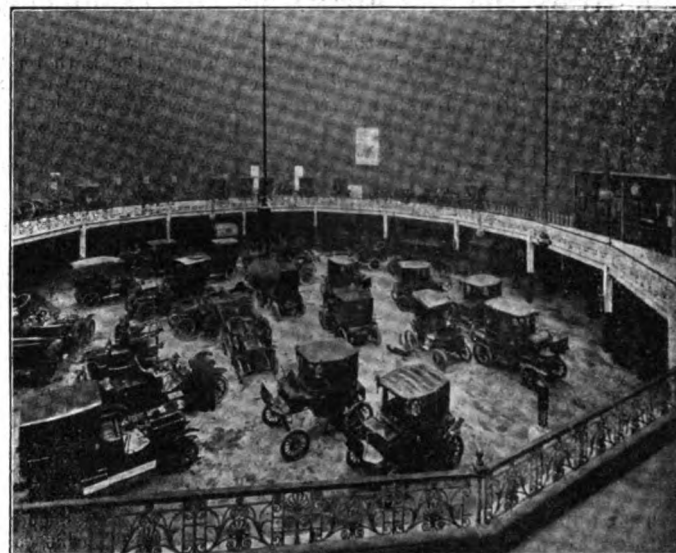
#### THIRD ROUND.

G. F. Reading, with 1 min. 56 sec. start, beat Belcher (scratch) in 4 min. 20 sec.  
 Doran (scratch), in 3 min. 24 sec., beat F. Smith, with 9 sec. start.

#### FINAL.

Doran (scratch), in 2 min. 54 sec., beat Reading, with 1 min. 22 sec. start.

At the conclusion of the trials the members and their friends, to the number of some 200, adjourned to Moor Court, the picturesque residence of Mr. F. A. Bolton, where a most sumptuous repast awaited them.



The above illustration shows a view of the Wolseley Motor Garage, York Street, Westminster, which, from its enormous area, nearly three-quarters of an acre, gives special facilities for the storage of a large number of cars, any one of which may be taken out when required without interference with others.

Mr. Bolton and his staff were unremitting in their attention to the comfort of the visitors. After tea had been served, Mr. Bolton, with a few well-chosen remarks, presented the cup to the winner, who suitably acknowledged the same, many of the members afterwards taking advantage of the opportunity of strolling round the spacious and beautifully laid out grounds surrounding Moor Court, and towards seven o'clock the cars began to disperse, all who attended on this occasion being unanimous in the expressions of their appreciation of Mr. Bolton's kindness. The weather, unfortunately, though fine on the whole, was far from genial, and towards the close of the competition became cold and dull, rain falling slightly.

The course, which is a singularly picturesque one, was admirably kept by a special staff of police, who were aided in their efforts by the officials of the various clubs. The Derby Club had kindly lent their field telephones for the occasion (which had been laid down earlier in the day by Mr. C. T. Leech, hon. treasurer, and Mr. C. J. Allin, hon. sec., assisted by Mr. Bolton's staff) and proved of the greatest service in expeditiously starting and timing the cars. Mr. A. Barlow (Notte) acted as starter, and the times were taken by Mr. C. J. Allin (hon. sec. Derby A.C.), while Mr. F. A. Bolton acted as judge.

### ROAD REPORTS.

GLOUCESTERSHIRE.—We understand it is the intention of the Gloucestershire County Council to apply the fees for traction engine and motor-car licences—amounting last year to £600—for the improvement of the surface of the roads within its area.

NORTHWICH.—The surveyor reported to the Northwich Urban Council last week that experiments with calcium chloride liquor had

been remarkably successful, and that it proved to be an admirable dust preventative. The cost was less than ordinary street watering.

**BRAINTREE.**—The Baintree Urban District Council has asked the Essex County Council to set up danger signals warning motorists at the crossing near the Fox and Hounds, in Coggeshall Road.

**CHESHIRE.**—At the last meeting of the Cheshire County Council, there was a discussion on the dust question. Mr. Barlow, of Marple, and Dr. Hodgson, of Crewe, criticised the inactivity of the Main Roads Committee in the matter. The latter said that no county suffered more than Cheshire, and he knew a nursery gardener whose business was ruined by dust.

**TAUNTON.**—Attention is being called to three dangerous places on the road between Taunton and Bridgwater. There are also several awkward corners on the Minehead road, a particularly noticeable one being on the Taunton side of Crowcombe.

**CUCKFIELD.**—The Cuckfield Rural Council experiments in tarred macadam roads will not be made until the weather becomes settled and the roads thoroughly dry, so that the trial may be made under the best conditions. The Cuckfield Urban Council decided, as a Council, not to experiment with dust preventives, but some of the Councillors have been providing tar at their own expense in order to find out how far a tarred surface on an ordinary road is a palliative of the dust nuisance from motor-cars.

**YORKS (EAST RIDING).**—The whole of the main roads in this district are repaired with whinstone, which is said to throw off less dust than almost any other stone used for a similar purpose.

### COMPETITION FOR THE "GAMAGE" CHALLENGE CUP.

THIS event, between the North London Automobile Club and the Southern Motor Club, took place on Saturday last on the Bath road, proving to be a speed judging contest, each team consisting of six cars. The competitors drew lots for the speed at which they had to travel over the course, ranging from fourteen to nineteen miles per hour.

The following was the route chosen:—Start from the Berkeley Arms Hotel (main Bath road, two miles beyond Hounslow), take first turning to left, then straight to Bedford Church, cross main Staines road and straight to Feltham—passing over railway bridge and past Industrial School—through Feltham High Street, over railway station bridge, taking left-hand turning at four cross roads, then to Hatton (crossing main Staines road again), arriving in same road leading to Berkeley Arms Hotel.

The North London team consisted of the following:—

Mr. Max Graddon	...	...	15-h.p. Panhard.
Mr. Chas. Smith	...	...	12-h.p. Darracq.
Mr. W. Holmes	...	...	12-h.p. Darracq.
Mr. F. Horton	...	...	6½-h.p. Darracq.
Mr. C. Cannon	...	...	6½-h.p. De Dion.
Mr. E. Swingle	...	...	4½-h.p. De Dion.

The contest resulted in a win for the Southern Motor Club, the aggregate in their favour being 1,037 yards.

The following were the officials:—Mr. Durley (timekeeper); observers, Messrs. Brown, Barber, Hampton, Jenrick, Vincent, and Willden.

Amongst the North London members present were Mr. and Mrs. Cutler, Mr. Rodda, Mr. Pattison, Mrs. and Miss Graddon, and Mr. B. Smith, Mr. Bennett and Mr. H. Johnson.

The Southern Club were responsible for all arrangements, which were excellently carried out, a *manubal* being stationed at each turning to indicate the course, so that mistakes were impossible.

### NEW COMPANIES REGISTERED.

**GENERAL MOTOR-CAB COMPANY, LTD.**—£260,000. To adopt an agreement with the United Investment Corporation, Ltd., and to carry on the business of motor-cab, omnibus, car, carriage, van and vehicle proprietors, etc.

**MERCEDES DAIMLER AND DE DION MOTOR COMPANY OF GREAT BRITAIN, LTD.**—Capital, £1,000. To carry on the business of motor-car, omnibus, van and cab proprietors, carriers of passengers and goods, etc. Registered office, 1, Broad Street Place, E.C.

**BURNLEY MOTOR PLEASURE COMPANY, LTD.**—Capital, £2,000. To carry on at Burnley or elsewhere the business of motor-car and motor-boat proprietors, 23, St. James Row, Burnley.

**INDUSTRIAL MOTORS, LTD.**—Capital, £2,000.

### THE ENDORSEMENT OF LICENCES.

**JOHN CRAMP**, chauffeur, of Carlton Vale, London, did not appear to answer an adjourned summons at the Steyning Petty Sessions on Monday, for not producing his licence for the purpose of endorsement. Superintendent Hooker stated that on the 30th April defendant was fined for furiously driving a car. His licence was ordered to be endorsed on that occasion. The fine had since been sent, but the licence had not been produced for the purpose of endorsement. The magistrates ordered a warrant to be issued, the same to be suspended for seven days to enable the defendant to appear.

### PUBLIC MOTOR SERVICES.

THE G.E.R. have commenced a service of motor-omnibuses between Chelmsford and Writtle, Chelmsford and Great Waltham, and Chelmsford and Danbury.

THE motor-omnibus intended for service between Hurst and Hassocks station has arrived at Hassocks from London. Since its arrival it has made trips to Henfield, Brighton, Lewes, Bolney, Cowfold, and other neighbouring places.

THE ALDERSHOT AND FARNBOROUGH MOTOR OMNIBUS COMPANY, LTD., has been formed to carry on a motor service between the stations of the London and South-Western Railway at Farnborough and Aldershot, and between the towns and districts of Fleet, Ewshot, Guildford, Ash, Farnham, Frimley and Camberley, and any camps or other places where troops forming part of the First Army Corps may be stationed.

A MOTOR char-a-banc has been put in service by Messrs. J. I. Thornycroft and Co., Ltd., between Farnham and Haslemere, running in connection with the L. and S.W. Railway service.

### POLICE TRAPS.

THERE is a measured quarter of a mile in the Scotland Road, Carnforth.

TRAPS are being worked frequently on the London and Brighton Road, at Norbury.

IN the Plymouth Road, at Harberton, there is a measured half mile of road where the police are extremely watchful of motorists.

SUPERINTENDENT Marks is now timing motor-cars on Saturdays and Sundays in the Queen's Road, Hershaw.

CHANDLER'S FORD, near Winchester, is the scene of a police trap the length of which is 220 yards.

A POLICE trap, worked by an electrical apparatus is in active operation on the London road at Maresfield (near Uckfield, on the London-Eastbourne road). The police are hidden behind the hedge and the trap extends over a measured furlong, slightly down hill, and seemed to work very effectively last Sunday. News of this device is forwarded to us by a victim.

THE police have a measured half-mile near Bourtreebush, on the Stonehaven road.

THERE is a trap between Reigate and Crawley.

### MOTOR-CAR ACCIDENTS.

CROSSING Upper Brook Street, Mayfair, a girl named Emily Deane became confused at the "toot-toot" of an approaching motor-car. She hesitated, and then, stepping back, was knocked over by the car, sustaining injuries which proved fatal three hours later. At the inquest witnesses described the speed of the car as not more than four miles an hour. The owner, Mr. J. A. Dewar, M.P., who was riding with his wife at the time, said they had previously been stopped by the traffic. Deceased did not seem to realise her danger until too late. The jury returned a verdict of "Accidental death."

### DISMISSED, BUT TO BE "CARRIED FURTHER."

AT Chertsey, Lord Crichton Stuart, an officer stationed at Aldershot, has been summoned for exceeding the limit on his motor-car at Egham on the 7th inst. His Lordship told the police that he could not remember who was driving on the night in question, but he accepted the responsibility. For the defence it was contended that as the defendant was not told on the date of the information that he would be summoned the summons must fail. Further, no notice of the intention to summon him had been sent him. The summons was dismissed, but the magistrate expressed the opinion that the case should be carried further. The police said this would be done.

### A TAIL LAMP EPISODE.

THE state of Union Road, Oswaldtwistle, and Market Street, Church, came in for condemnation at Church (Lancs.) Police Court on Thursday last week, during the hearing of a summons against Absalom Westwell, for not keeping the rear lamp of a motor-car lit for the illumination of the identification number plate. P.C. Tipping stated in evidence that he saw the motor-car driven by defendant proceed along Market Street, Church. The three lamps at the front of the car were lighted, but the rear light for identification purposes was out. Replying to defendant, witness stated that he saw defendant drive up the road half an hour previously and get out and light the rear lamp. The lamp was still burning when he arrived home, where he found the lamp glasses so blackened with smoke that he could hardly see through them.

P.S. Graham agreed that the road was very rough and uneven, and after Supt. McKean had said the road in that particular place was liable to shake good lamps out, the magistrates decided that, as there did not seem to have been any negligence, the case would be dismissed. All the same, lamps ought to be provided that would keep in whatever the state of the roads.



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## THE 1907 EXHIBITION.

In view of the great increase in the output of British and Continental firms, as compared with previous years, as well as the number of new firms entering the industry, every effort has now to be made by those in the trade to bring their productions before the public at the proper season.

Hence the importance of Cordingley's Motor Car Show at the Agricultural Hall, London, which practically opens the buying season for the year. Spaces for the 1907 display are now being booked, and the new features that will be presented point to an even more successful Exhibition than the record event of 1906.

It should be remembered that those who sign Bonds seriously handicap themselves against those who prefer to retain their Commercial Freedom.

## COMMENTS.



**B**IRMINGHAM deserved the distinction of being the first provincial centre to welcome the Motor Union this year, and all must be congratulated on the success which attended the gymkhana and the dinner—two of the three main factors in the event. This year the discussions at the meeting presented no points of special interest likely to arouse keen feeling or evoke lively debate. The point upon which Mr. Rees Jeffreys has been asked to circularise educational authorities and chief constables is one of value to motorists on

tour, who have long experienced the dangers of stone throwing by children, a habit which seems to thrive in many districts. Often have we urged that this should be done by the Club, as the only effective way of checking the nuisance, and we trust that not only will the educational committees be communicated with, but that the resolution will be placed before the National Union of Elementary Teachers and other organisations of teachers, as the most effective means of getting to close quarters on the subject.

### The British Success in Italy.

As is recorded elsewhere in the present issue, the victory in the recent severe touring contest in Italy lies with the Fiat Company, for not only did Lancia carry off the gold cup and the first prize of £1,000 on a Fiat 24-40-h.p. car, but every one of the three vehicles entered finished the eleven daily runs with an evenness of record that is really marvellous. The performance of the two Napiers, which, together with a Daimler, represented the British motor industry in the event, is, however, little less noteworthy, and, in view of the way they were handicapped, their drivers, Macdonald and Glentworth, are deserving of the highest praise. Owing to the unfortunate accident to the Daimler car, it fell to Macdonald's lot to lead the way on all but the first day, the difficulty of which, having regard to his being unacquainted with the country and practically having no knowledge of the language, may well be imagined. Both he and

Glentworth, as indeed all the foreign competitors, had also to rely on their own resources as regards repairs and adjustments, while the Italians were able to call in the assistance of expert workmen from the factories stationed at intervals on the line of route. Although the result to the drivers of the Napier cars in the way of prizes is disappointing, no discrepancy in the timing can rob them of the honour of having achieved for Great Britain the highest position—nation for nation—in the contest, for of the three British cars entered two went through the entire trial, (equal to 66½ per cent.), as against only ten out of the thirty-two Italian vehicles (31½ per cent.). Germany's proportion of machines finishing to those entered was two to five (40 per cent.), Switzerland's one to three (33½ per cent.), and France's only one to five (20 per cent.), a somewhat disappointing result for the premier motor manufacturing country.

### Motor-Cars and Horse Troughs.

THE contamination of water in the horse drinking trough at Ebury Bridge has been receiving the serious consideration of the Works Committee of the Westminster City Council. It has been the practice of some motor-omnibus drivers to draw water from the trough by means of a pipe, which, as a rule, deposits oil in the trough, and so makes the water unfit for drinking purposes. The Town Clerk has been instructed to have affixed notices "warning persons that the water is the property of the council, and any persons found taking it for any purpose other than that for which it is provided, or in any way rendering the water unfit for animals to drink, are liable to be prosecuted."

### Fifty Feet from the Centre of the Roadway.

In view of the many applications for local improvements always before the House of Commons, we would draw attention to the advisability of those M.P.'s who pay regard to the requirements of the automobile industry to secure, where possible, adequate provision for the future needs of traffic. It would be a good notion to try and secure that no new building should be erected within fifty feet of the centre of trunk roads, so that the motor traffic of the future may have good wide thoroughfares whereon to disport itself. The popularisation of such an idea might be carried out through the local clubs if they could unite on a plan of campaign.

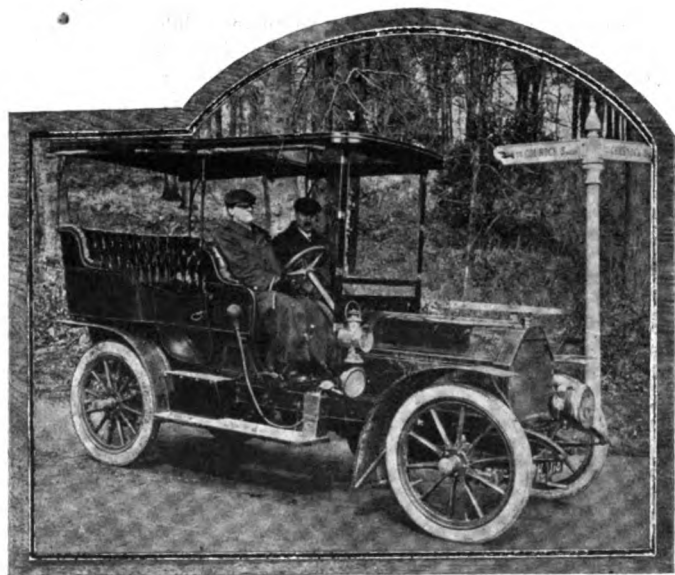
### The Width of Roads.

PRIVATE philanthropy is deserving of encouragement when it is concerned with the provision of light and air for the people; but such delights for the individuals residing in any particular part of the country must not be obtained at the expense of the general community. The tendency should be to increase the width of the roadways—a point quite as important as setting aside an area around the houses abutting thereon. And yet the promoters of the Hampstead Garden Suburb—whose zeal for the public interest all will recognise—have made an arrangement with the Hendon District Council by which they need not be under the obligation of making certain of the roads in the suburb more than 40 ft. wide. This

agreement is now being sought to be ratified in a Bill that has just come before a Select Committee of the House of Commons. There is no precedent for taking roads out of the bye-laws of the local authority, and the Committee, while agreeing that the company had a laudable public object in view, have rightly adjourned the matter before consenting to surrender such an important principle. Now that there seems a general consensus of opinion in favour of more uniformity in road maintenance and control, the present does not seem an opportune time to allow even the most unselfish organisations to contract out of the general tendency of things.

#### The Strike of the "Vanguards."

Not for the first time, has there been trouble among the motor busmen of the Metropolis. The dispute which has occurred this week is, however, the most important bother that has taken place in the new service, and the progress of the strife is being anxiously watched both by masters and men. These are not the columns in which to join issue with either party. Its effects have, however, been clear from the windows of the *M.C.J.*, where the proportion of motor-buses on the road is perhaps greater than on any other route in London. From



Dr. Page Robertson, of Gourock, N.B., on his Whitlock-Aster 18-22-h.p. car. The vehicle has seating accommodation for five persons, and, as will be seen, is fitted with canopy front glass and side curtains.

the absence of the Vanguards it has been evident that the men have become united under the lead of the London 'Bus, Tram, and Motor Workers' Union, which will naturally strain every effort to secure a result likely to hasten all the motor-bus drivers into membership. There seems much discontent with regard to lost journeys, and consequent low earnings, often attributable to mechanical causes over which the drivers have little and the conductors no control. The men demand a regular daily wage and a working day of reasonable length. On Wednesday the men resumed work, some different arrangements being agreed to by the company, and other points of difference being left for future settlement.

#### Motor Boating.

ALREADY there are signs that motor boating bids fair to have a good run of popularity. Several motor-boats are now plying on the Scottish lochs, and there should be profitable waters for development north of the Tweed. According to report received, private enthusiasm is even more pronounced in the south, and nearly 500 motor-boats have been

registered by the Thames Conservancy, while the activity of motor-boat builders is really pronounced. Meanwhile the Enchantress is proving popular with members of the Motor Yacht Club, and several cabins were occupied last week end. Half a dozen boats, ranging in size from Mr. Brickwood's 36-ton steam yacht Chrysophrase down to Mr. Winans' 13 ft. motor dingy, took part in a short cruise up the Hamble River to Bursledon. At present the number of motor-boats afloat in the Solent is somewhat limited, but every week sees additions to the fleet, and it is expected that future cruises will be well attended. Several applications for moorings have been received for the season. The long line of boom defence vessels moored fore and aft forms an excellent shelter for boats lying between the ships and the shore.

#### The Coaching Club Meet.

SAD and dampened was the outing of the Coaching Club in Hyde Park on Saturday, the occasion being the first meet of the season. The attendance of members was scanty, and some of those who were present were late in arriving. Rain, and not the victory of the motor-car, was the cause of the dispiriting character of the assembly. Lord Desborough, the new president, led the procession, and only three or four coaches went on to Hurlingham. As for the general public, there have seldom been so few seen in that pleasant drive by the side of the Serpentine; in fact, it was practically deserted but for half a dozen electromobiles at Hyde Park Corner.

#### The Road Club.

THE glories of the old coaching days are past; whether some of them will be revived by the Road Club now setting to work is a matter upon which we await the verdict of time. We understand that already seventy-six hosteleries have been selected as the roadside quarters of this club in different parts of the country, and that the "Iolanthe" room in the Savoy Hotel, London, is to be placed at the disposal of the Committee. Other recognised hotels of the organisation will be at the North British Station Hotel, Edinburgh; "Ye Olde Bell," on Barnby Moor; the George, Grantham; the Bellevue, Dunbar; the Royal County, Durham; the Red Lion, Hatfield; the Station, York; and Skindle's Hotel, Maidenhead. Arrangements are being made for the appointment of hotels on all the main trunk roads, and evidently the comfort of the motorist is being regarded as a matter of prime concern to the members of the Road Club.

#### The Airship at Sea.

NAVAL as well as military experts are watching with interest the developments that are progressing with regard to aerial navigation, and Rear-Admiral Sir James Campbell believes that the airship has become one of the possible weapons of future naval warfare. Free airships, when perfected and capable of accurate navigation, would be most useful in "spotting," but by that time, if the "conquest of the air" advanced at the present rate, the watership would have assumed the role of the sparrow and the airship that of the hawk. He hopes that it will be possible before long to do away with funnels. At present the two most probable solutions of the problem of dispensing with the funnels seemed to lie between a system of utilising the wasted energies of coal to obtain power, and a system of propulsion without fires, substituting in the latter case explosive force, as already used in motor-cars and boats in internal combustion engines. The Admiral predicted that such motors—oil, gas, petrol, or chemical—will grow in size and number, and will eventually become the motive power for the purposes of commerce and war. In fact, he declares that in the long run air fleets would be a serious menace to water fleets, and might eventually replace them.

### The Length of Traps.

MAGISTRATES are beginning to realise what motorists have long declared, that a measured distance of 220 yards or thereabouts is not a fair distance in which to decide the speed of a car. In such a short stretch the error of a few feet in measurement or a second in timing may mean a great difference in the alleged speed compared with that actually performed, while the justice of the business is further minimised when the trap is marked out on a road that has a descent. Several police authorities have abandoned this idea of the short run in favour of the more equitable plan of judging the pace over a distance of two or three miles. Unfortunately, however, the exponents of the "furlong trap" seem to reign in districts where motorists abound.

### The Motor-Car Commission.

M.P.'s are being frequently reminded that a Royal Commission on Motor Cars is now cogitating with regard to the future legislation affecting automobiles. Fortunately, the patience of motorists is untiring, and persecution has given them experience in suffering and trial, so that they do not arise in numbers at the apparently lethargic state into which the Commission seems to have fallen. Now and again a member in the House asks whether the report is ready, and Mr. Burns is able to reply in the negative. This circumstance happened again last week, when a little more official optimism seemed to run through the right hon. gentleman's answer, for he understood that the preparation of the report is being proceeded with "as rapidly as possible"—a rate of speed much below the legal limit and also the celerity of the present Parliament. In fact, it



The Italian Coppa d'Oro Touring Contest. Cagno on his Itala Car, which secured third place. (See page 301).

### The Cheshire Method.

IN view of the remarks of the magistrate at the South-West London Police Court, some interest attaches to the new plan now adopted by the Cheshire police in timing the speed of motor-cars. The method hitherto has been to station constables an eighth or a quarter of a mile apart, and within sight of one another. Now the police take up positions at milestones, and may be two, four, and even ten miles apart from each other. They are supplied with watches, which are compared, and printed cards. On the card they set down the number of a car which passes them, the exact time, and the direction in which it is travelling. The second man at a milestone beyond also jots down the number of the car and the time it passes him. Afterwards a sergeant, mounted on a bicycle, goes from one constable to another and compares the cards. If it is found by the times that the speed limit has been exceeded, it will be ascertained to whom the car belongs and a summons issued.

would appear that something will be gained by the adoption of Mr. H. J. Tennant's suggestion with regard to the inclusion of the present measure in the Expiring Laws Continuance Bill. In that case the new measure would stand a better chance of adequate discussion than if introduced in the present crush of legislative efforts.

### The Motor Mileage Map.

ONE of the appurtenances of every garage and hotel that caters for the motorist should be a reliable and accessible map of the country likely to be explored by their visitors. Those hitherto published have scarcely been suitable for this purpose, but at length the want has been filled by Mr. E. Touboul, who has issued a motor mileage map for the wall as well as for the wallet. Strongly mounted, it has the essential merit of durability; intelligently prepared, it supplies the motorist with the distances between villages and towns,

these being plainly set forth for easy reference. Altogether this map, which is published at 161A, Piccadilly, London, is one of the best we have seen, and deserves success. Main and subsidiary roads are shown, places where good hotels are to be found are indicated, a table of mileage distances from London is given, and a convenient index adds to the comprehensive character of the map.

#### A Sensible Bench.

THE example set by the chairman (Mr. J. E. Le Feuvre) of the Southampton Borough Police Court should find imitation wherever magistrates are desirous of dealing out justice without partiality and prejudice. After hearing a case in which the policeman charged a motorist with driving at a dangerous speed when there was no evidence as to traffic being in that particular part of the road, the chairman called the inspector and requested him "to instruct constables to give the Bench information in future cases as to whether there were any tramcars, carts, or any number of pedestrians about at the time of such alleged offences. For all the magistrates knew, in this particular case there was not a single person or vehicle in the road at the time." Without venturing into the legal intricacies which may be involved in the interpretation of such an instruction, we would emphasize its value from a common-sense point of view. It would seem that the term "dangerous driving" should involve possibility of hurt to someone on the roadway; but the opinion of the police is generally regarded as sufficient.

#### The Diversion of Trade.

QUITE a wave of consternation has come over the pleasant Sussex town of Hailsham in consequence of the erection of direction plates at the ends of Summerheath Road and North Street, showing that the way to Eastbourne lies through those residential thoroughfares. Shopkeepers are complaining that traffic is thus diverted from the High Street, where passing motorists might be tempted to linger; the residents of the roads through which the cars are directed are indignant at the dust that is raised by the motorists; and the ratepayers generally object to the passage of traffic over roads which they maintain in preference to a thoroughfare that is a county main road, and, therefore, of no direct financial drain to themselves. Probably the result of this triple opposition will be the withdrawal of the directions, and motorists will find their route the best way they can.

#### Interest in Shanghai.

RECENTLY our correspondence columns contained a letter from a driver willing to go to Shanghai to look after a motor-car if he could find employment there. From all accounts the automobile movement is progressing there, but we should not advise anyone to journey thither without knowing more than is, at present, apparent with regard to motor matters. Several letters have lately reached us from English chauffeurs which indicate a great curiosity with regard to automobile prospects in Shanghai. We shall be glad to hear from some of our readers in that part of the world as to the actual state of affairs and the position of motoring there, both from the industrial and social aspects.

#### From Ross to Chepstow.

MOTORISTS in the Bristol or South Wales district are familiar with the Valley of the Wye and that charming run of twenty-six miles from Ross to Chepstow. This is the road distance; by river the journey is another ten miles; in a straight line the journey would be within the hour's legal limit as known to motorists. Ross is the acknowledged centre for the trip, whether by car or cycle. The road is downhill to Kerne Bridge, near which is Goodrich Castle, from whence there is the choice of way to Monmouth through Whitchurch, or direct to Symond's Yat, by way of Huntsam Bridge. The former

road, though easier, has less to commend it in the way of scenery. The Yat is one of the most romantic spots in the county, and will detain those who love the beauties of natural scenery more than Monmouth, which is the next town of importance. Thence the Wye becomes a winding stream with limestone gorges, making the district a place of entrancement indeed. Tintern, with the grey walls and roofless abbey, lies in the midst of delightful meadows, and justifies its world-wide reputation. Between there and Chepstow is very little of interest, and care should be taken by motorists after leaving St. Arvan's.

#### Cars for an International Conference.

FEW movements are so international in character as automobilism, which has established itself on cosmopolitan lines, both with regard to cars and their drivers. The frequent interchange of visits between the motorists of the various countries, and the long tours that have been organised through different lands, have all done something to soften the asperities of social and national differences, and to establish a motor freemasonry throughout the world. Now it is understood that further demonstration of the pacific value of the motor-car will be afforded in July, when the great international conference of legislators favourable to the idea of peace and arbitration will take place in the historic Westminster Hall. Already the use of 500 automobiles has been promised to the British organising committee, and a procession longer than that which greeted Princess Ena in Madrid will testify to the universal favour of the car.

#### Progress in New Zealand.

THE Government of New Zealand is to be asked to bridge some of the creeks on certain routes with the view of enabling private enterprise to launch a motor-car service next summer between Timaru and the Hermitage—a trip that Messrs. Wigley and Chaffey regard as offering opportunities of profit. This is but one evidence of the growing popularity of the motor-car, towards which, trials and competitions held by the local automobile associations have made substantial contributions. The latest of this series was a four days' run from Auckland to the Hot Lakes District and back again, the way being over some hilly and sandy districts. In this a Cadillac 12-h.p. and a 15-h.p. Darracq tied for the Cup that was offered the victor.

THE Birmingham Small Arms Co., Ltd., are about to undertake the manufacture of motors and component parts at Sparkbrook.

A SENIOR in the mechanical engineering department of the University of Pennsylvania is carrying out a series of tests to investigate the efficiencies of the entire mechanism of a motor-car, from the engine shaft to the wheels. The conditions under which the tests are being carried out are, as far as possible, those of road operation. The trials are being made at several different loads for each gear ratio.

AFTER the racing at Frome's Hill, the competitors returned to Hereford, where, at the Green Dragon Hotel, opposite the headquarters at the Mitre, a pleasant evening was spent, Mr. Charles Friswell proposing the toast of "The Herefordshire Club," on behalf of which Mr. J. T. Hereford responded, mentioning that although located in a sparsely populated district, it had 100 members, and had attained a distinction among clubs with which all were in cordial agreement.

IN the A.C.G.B.I. speedometer trials the gold medal has been awarded to the Jones speedometer, the silver medal to the Elliott device, and a special gold medal for excellence of design, workmanship and accuracy to the Kirby appliance. The order of merit of the various devices is declared to be as follows:—1, Kirby; 2, Jones; 3, Elliott; 4, Cowey Indicator; 5, Gratz; 6, Vulcan; 7, Cowey Recorder; 8, Warner, and 9, Staunton. The Club's silver medal has been awarded to the Corelanus tail lamp, and a silver medal to the Ryta tail lamp.



## THE FROME'S HILL CLIMB.

THERE has always been a good understanding between the local authorities and the automobilists of Herefordshire, fostered by tact and common sense. During the Light Car Trials of 1904 the district surveyors were instructed by the county authorities to make clear the way of the voyagers, and those who journeyed to Hereford last week found that some of the spirit then manifested is still in vogue. In the previous trials on Frome's Hill, out of thirty-eight cars that essayed the ascent the times of only twenty-three were published in the official report, the speeds attained ranging from 5.4 miles to 11.8 miles per hour. At the trial held last week cars of a higher power were conspicuous, the arduous nature of the ascent having drawn many new competitors to the county of Churches and Cider.

When the cars arrived in the generally somnolent city of Hereford, on the 23rd ult., the rain was descending in torrents, and the roadways presented a greasy welcome to the contestants as they came from all parts of the country. Everyone was

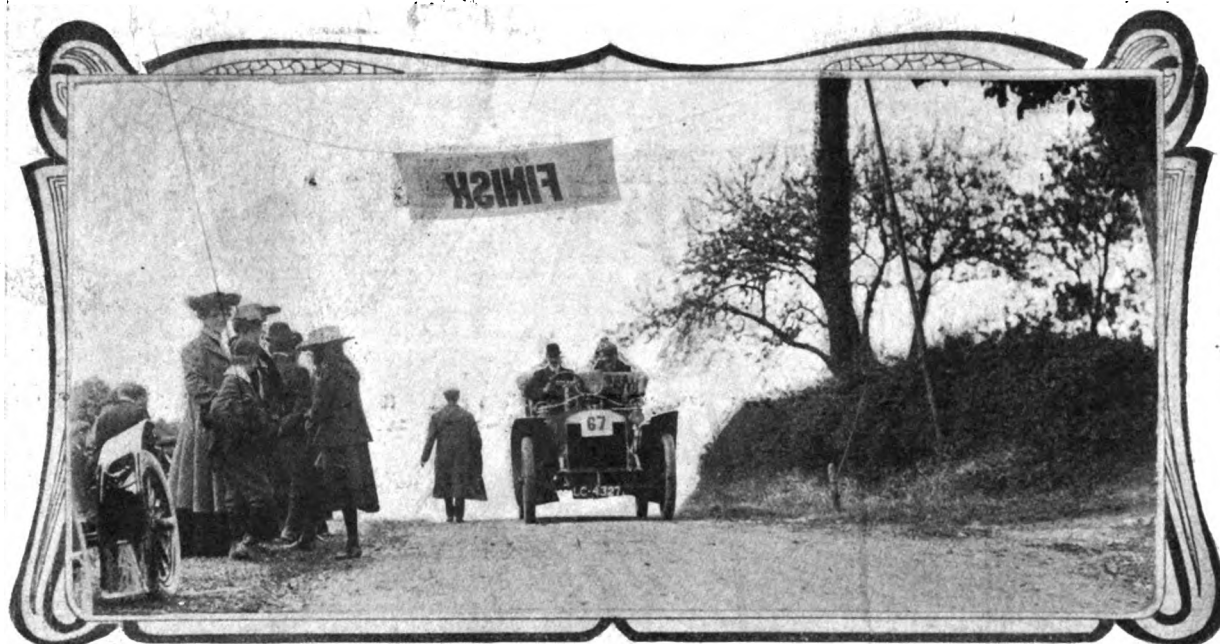
long, and though there is a welcome relief half-way up, the greatest test is very near the top, a strip of fifty yards or so having the stiff gradient mentioned.

Of 67 entries in the open classes 62 cars actually started, a splendid muster that must have impressed the spectators, among whom agriculturists from all the surrounding district were prominent. The behaviour of most of the cars was excellent.

Each car was allowed to make two ascents, and the fastest runs were those of the following:—

1. Mr. Greswolde-Williams's 30-40-h.p. Daimler.
2. Mr. C. Friswell's 30-h.p. Peugeot.
3. Mr. C. Jarrott's 40-h.p. Crossley.
4. Mr. C. Edge's 40-h.p. Napier.

Other good runs were made by Mr. Thornycroft's 24-h.p. Thornycroft, Mr. Douglas Graham's 30-40-h.p. Martini, Mr. C. Friswell's 30-h.p. Westinghouse, the Hon. C. S. Rolls's 20-h.p. Rolls-Royce, Mr. Norman Parish's 15-h.p. De la Buire, Mr. T. H. Woollen's 20-h.p. Clement-Talbot, Mr. Gerald Usmar's 14-h.p. Vinot, Mr. Philip Graham's 16-h.p. Rover, Mr. Robert Burn's 9-h.p. Swift, Mr. R. L. Jefferson's 8-h.p. Rover, and Lord Shrewsbury's 12-h.p. Clement-Talbot.



The Frome's Hill Climb. Mr. E. E. Leverett's 24-30-h.p. Standard Car.

expressing surprise at the interest aroused in the contest; and the Herefordshire Club in general, and its hon. secretary, Mr. Wilfrid Groom, in particular, are to be congratulated on the importance assumed by the meet. The officials were as follows:—Judge, Capt. A. A. H. Inglefield (Breinton); clerks of the course, Mr. T. Butt Ekins, Mr. Q. Miller, and Mr. J. C. M. Vaughan; timekeepers, Mr. T. D. Dutton and Mr. A. V. Ebbelwhite (official timekeepers of the Automobile Club of Great Britain and Ireland, under whose rules the contests took place); starter, Mr. A. Townsend; marshal, Mr. J. W. Orde; secretary of the meeting, Mr. Wilfred Groom; clerk of scales, Mr. J. Russell.

On Thursday the weather was more genial, although the spell of sunshine was broken by heavy storms which laid the dust and inconvenienced many of the competitors. Taken altogether, however, the day was a delightful and interesting one for the hundreds of people who assembled at the trysting place, and the panoramic views of the surrounding pastoral country obtained from the summit of the hill greatly enhanced the pleasure of all.

Frome's Hill, which is situated about half-way between Bromyard and Ledbury, near the Worcestershire border of the county, is a veritable *dele nobis* to the motorist, having a gradient at its steepest part of one in 6.37. Withal the rise is a mile

The award was made on a handicap determined by multiplying the time in seconds by rated horse-power, and dividing by the total weight of car and passengers in pounds. Horse-power was arrived at by multiplying the square of cylinder-diameter in inches by the number of cylinders, and dividing by three. When the results were worked out by Mr. J. Lingham Lees, with the assistance of several pupils from one of the public-schools of the county, it was seen that the placings and awards were as follows:—

- Gold medal, 10-h.p. Alldays, driven by Mr. F. W. Huband.
- Silver medal, 10-h.p. Alldays, driven by Mr. S. Downing.
- Bronze medal, 10-12-h.p. Clement-Talbot, driven by Mr. S. Kennedy.

On Wednesday morning we were informed that a mistake had been discovered, and that Mr. C. R. Garrard's 12-16-h.p. Clement-Talbot had tied for the Gold Medal. The 10-h.p. Clement-Talbot driven by Mr. T. W. Bowen was fourth. This conspicuous success of British cars in such a large competition of international character is certainly notable, especially when read in conjunction with the prize list in the closed competition at the same meeting.

In the club handicap Mr. W. Groom (6½-h.p. Wolseley) took first prize, Mr. F. W. Greswolde-Williams (32-h.p. Daimler) second, and Mr. W. Bradford (8-h.p. Vulcan) third prize.

## SOME CURRENT TOPICS.

### The Gordon Bennett Cup Race.

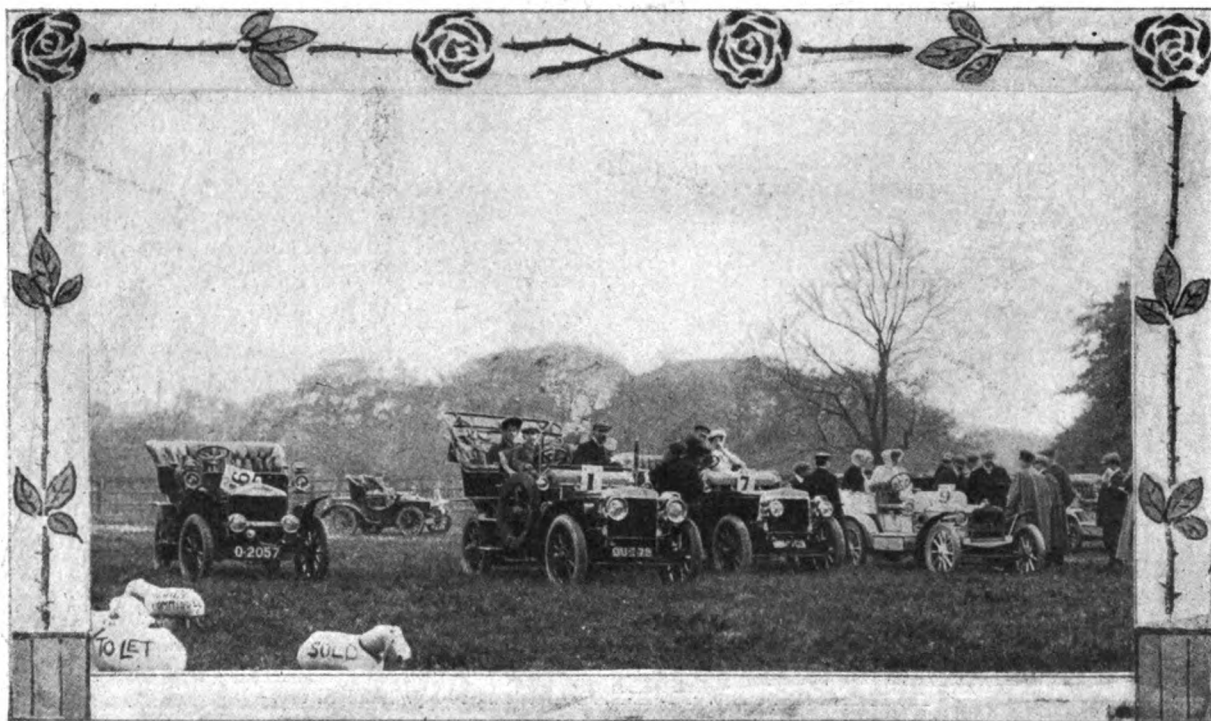
Considerable surprise has been caused in French motoring circles by the news that, at the demand of the Automobile Club of Great Britain and Ireland, a meeting of delegates of all recognised national automobile clubs is to be held at Pont de Genes (Sarthe), on the 25th inst., to consider the question of the future of the Gordon Bennett cup. The proposals of the A.C.G.B.I. to be submitted to the meeting, which is to be held on the day preceding the contest for the Grand Prix de l'A.C.F., are as follows:—(1) That the Gordon Bennett cup shall continue to be a speed contest. (2) Recognised national clubs shall be represented by three cars. (3) The race shall be over an approximate distance of 500 kilometres, and held on a 50-kilometre circuit. (4) The cars not to weigh more than 850 kilogs.,

### Brakes for Motor-Cars.

There has been a very general and marked improvement in the braking devices on motor-cars during the past few years, and if accidents due to ineffectiveness of brakes still occur, it is generally the fault of the drivers in not keeping them properly adjusted. The improvement has been partly a natural development, and partly necessitated by the increase in horsepower and speed which has characterised automobile design in recent years. There seems to be no need of further increase of braking power, as in many cars the brakes are sufficiently energetic to cause the wheels to slide on the ground if applied with full force, which is undesirable; and further improvement should be in the direction of preventing as much as possible their liability to get out of adjustment.

### External or Internal Brakes?

The rivalry between the external contracting and the internal expanding brake has largely turned in favour of the latter in recent years, owing to its theoretical advantages of better facilities for enclosing and protection against wearing



Some of the Competitors at the Midland Automobile Club's Gymkhana. To the left of the picture are seen some of the novel obstacles employed. (See page 312.)

the balance of 150 kilogs. being made up with ballast. It is considered that this distribution of weight would be more calculated to perfect touring vehicles than the old 1,000 kilog. limit. Further proposals are that the cars shall be driven by members of the clubs taking part; entries to close on December 31st, and the race to be run in May or June. As was to be expected, the proposals are meeting with opposition in France, where it was thought that the Gordon Bennett contest was as dead as Queen Anne. The French objection to the race on the old lines was that in view of the relative importance of the motor-car industry in France, as compared with other countries, they were entitled to a proportionately larger number of entries in the contest, and it was with the object of securing this point that the Grand Prix was instituted. The same objection is being raised to the new proposals, and, with the view of strengthening their case, the French Press is magnifying the importance of the industry in Italy, with the idea of winning over the Italian Club to its way of thinking. The result of the deliberations of the international meeting will, therefore, be awaited with interest.

influences. As a result of experience, however, there are many motorists who incline to the opinion that the preference is likely to soon turn the other way. It is urged that the internal expanding brake possesses in a minimum degree the valuable quality of self-adjustment for wear, and that, although its actual wear may be somewhat less, the need of adjustment is much more frequent. An internal brake operated on the toggle principle may be enormously powerful when perfectly adjusted, but comparatively little wear will throw such a brake out of adjustment, when it becomes practically useless. This fault is aggravated by the fact that in an enclosed internal brake the means for adjustment are rather inaccessible, and the chance of neglect are therefore multiplied.

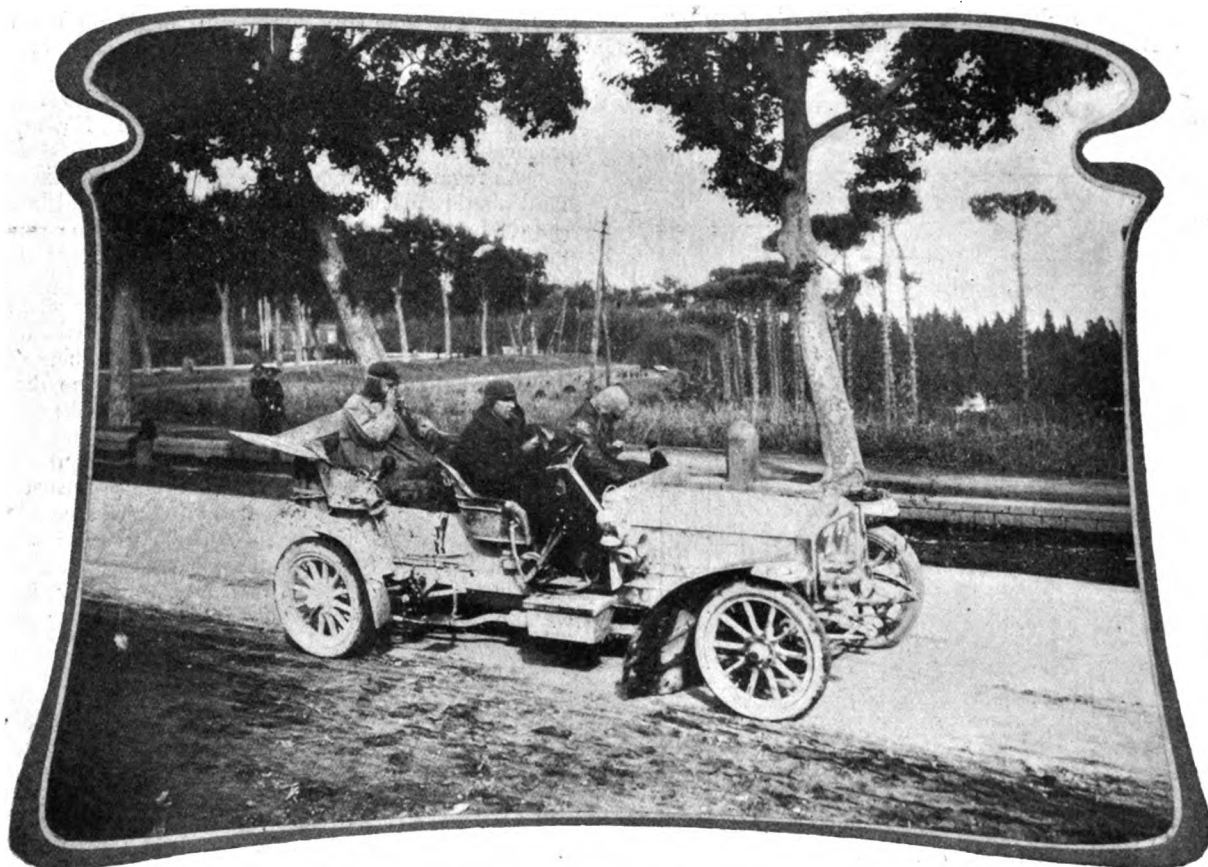
ATTENTION may well be drawn to the merits of the Liquid Metal Polish which Messrs. Brown Bros., are introducing. For the polishing of all bright parts of motor-cars it will be found useful, its special features being that it does not leave anything of a greasy nature on the articles treated, but polishes clean, and does not scratch. It is known as the "Une Minute."

## THE ITALIAN COPPA D'ORA TOURING CONTEST.

IN our last issue we left the competitors in this event at Milan. On the ninth day of the trial the journey was from Milan to Udine, the longest of the series, the distance between the two places being 292 miles. The start took place at 4.30 a.m., the cars which were despatched comprising two Napiers, two Italas, two Fiats, a Zust, two Isotta-Fraschinis, two Benz, three Diatto-Clements, two Martinis, and a De Dion. The weather showed a considerable improvement, and, notwithstanding the long distance that had to be covered, all but one safely arrived well up to time. The absentee was M. Martini, on a Martini car. On the 23rd ult. the competitors set out from Udine to Brescia, 252 miles. An early start was made and an excellent run was made by the cars, no less than fourteen getting through without the loss of any marks. Von Lude,

No.	Driver.	Car.	H.	M.	S.
4.	Nazzaro ...	Fiat ...	0	0	14
5.	Boschis ...	Fiat ...	0	1	27
6.	Macdonald ...	Napier ...	0	2	28
7.	Glentworth ...	Napier ...	0	6	51
8.	Fraschini ...	Isotta-Fraschini ...	0	12	2
9.	Pfanz ...	Benz ...	0	40	51
10.	Bossano ...	Benz ...	1	19	11
11.	Vercellone ...	Diatto-Clement ...	1	23	35
12.	Minoia ...	Isotta-Fraschini ...	1	28	44
13.	Arbitrie ...	Diatto-Clement ...	1	43	20
14.	Fabry ...	Itala ...	3	18	44
15.	Von Lude ...	Martini ...	5	48	26
16.	Nagliate ...	De Dion ...	9	32	53

The awards were made known on Saturday. Lancia is the winner of the Coppa d'Ora, or gold cup, and the prize of £1,000; he also secures the cup offered by the "Corriere della Sera" and the prizes of the cities of Florence, Biella, Turin and Udine, and of the Ministry of Agriculture. Maggioni carries off the King's Gold Medal, the L'Automobile Cup, and £240; Cagno obtains



Glentworth on the Napier Car which secured the seventh position in the Trial.

(Martini) and Nagliati (De Dion) experienced slight delays, while Nasi (Diatto-Clement) did not arrive until after the control was closed, thus putting him out of the competition. The last run of the competition was made on the 24th ult. The trip was only a short one—from Brescia to Milan, 99 miles—so the start of the sixteen remaining cars did not take place till 1 p.m. The arrival at Milan was made the occasion of a brilliant scene. As the vehicles came in their drivers were welcomed by Princess Laetitia. Macdonald on his Napier was as usual the first to appear, and as soon as he came in sight the band struck up "God Save the King."

The appended table shows the finishing order of the sixteen competitors who survived the contest, a number which is just a third of those that started:—

No.	Driver.	Car.	Penalisation.		
			H.	M.	S.
1.	Lancia ...	Fiat ...	...	...	...
2.	Maggione ...	Zust ...	0	0	7
3.	Cagno ...	Itala ...	0	0	10

£120; Nazzaro, £60; Boschis, £40; Macdonald, Glentworth, and Fraschini, £20 each. All the others will receive a gold medal, Vercellone, in addition, securing the Darracq prize for the cheapest chassis and those offered by the town of Perousa.

The penalties in the case of the first twelve competitors were incurred for arriving at the control or "arrivo" 60 sec. short or over the time required to complete the day's journey at the maximum rate of 40 kilometres an hour. They reflect no discredit on the cars, but on the judgment of the driver in estimating the exact time he should arrive. In view of the excellent performance of the majority of the cars which managed to survive the trial, the disparity in the value of the prizes is to be regretted. Macdonald's case seems particularly hard, for to him fell the lot of leading the way on each of the eleven days, and his penalisation is apparently due to a discrepancy between watches. Not only has this affected his position in the list, but it has also robbed him of several of the cups offered by the municipal authorities of the leading towns passed through.

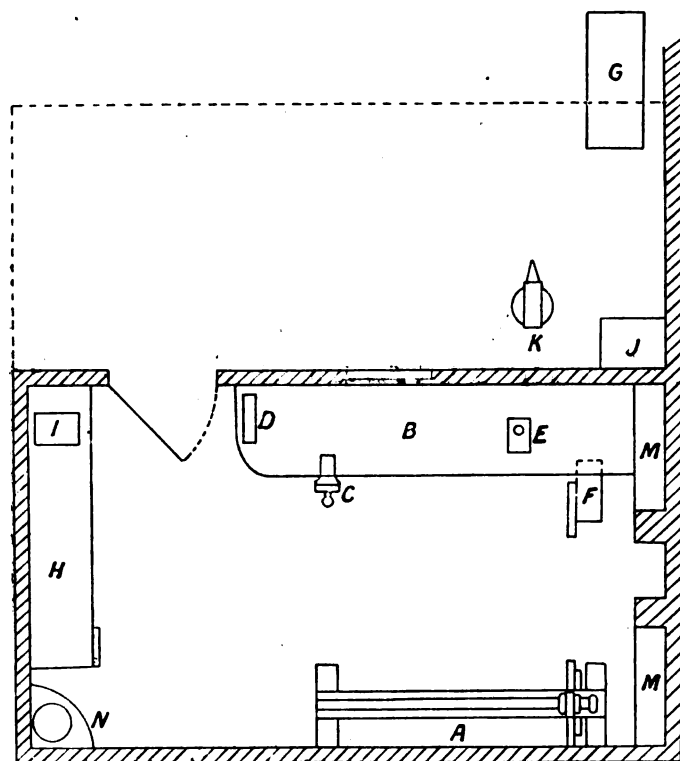
## SOME HINTS ON HOME WORKSHOPS.

BY J. H. KNIGHT.

-♦-

THE following description of a workshop that I put up, many years ago, may be of interest to some readers of the *M.C.J.*, as such a workshop would be invaluable for doing home repairs to motor-cars. It was in this shop that I made my steam carriage in 1868, which was illustrated in these columns some years ago. The workshop was about 18 ft. long by 12 wide, and was lighted by three skylights. I do not, however, recommend skylights, as they are apt to leak. A window also opened to an open shed, both north of the workshop; this shed was covered with galvanised iron.

A plan of the workshop, showing the positions of the tools, is given herewith. The tools consisted of a 6½ in. screw cutting lathe, with 6 ft. bed, worked by a 3 in. cylinder steam engine (the boiler being fired from the open shed); a hand planing machine; all drilling was done by a swing brace and drill post; a forge with anvil, screwing tackle for rod and gas piping, besides sundry smaller tools. There was really space for five



Plan of Author's Workshop.

- |                |                       |                   |
|----------------|-----------------------|-------------------|
| A. Lathe.      | F. Steam Engine.      | K. Anvil.         |
| B. Bench.      | G. Boiler.            | L. Open shed.     |
| C. Vice.       | H. Carpenter's Bench. | M. Cupboard.      |
| D. Grindstone. | I. Planing Machine.   | N. Washing Basin. |
| E. Drill Post. | J. Forge.             |                   |

men to work in this shop, one at the lathe, at the vice, the drill post, the carpenter's bench, and the fifth at the forge. The shop was conveniently arranged, but the stoking of the boiler and the delay in getting up steam in the morning were sources of trouble. In the present day the steam-engine would be replaced by a gas-engine, or if gas were not available, an oil or petrol motor. A motor-bicycle of 1½ or 2-h.p. would do very well for driving the lathe, although one might ask why a 1½ or 2-h.p. engine would be necessary, as two men could work the lathe with a very fair cut on it, but unless the bicycle-engine was kept very cool by an efficient fan the power would soon fall off, as no air-cooled engine is likely to work as well indoors as in the open air. As the treadle shaft of a foot lathe runs at only 70 to 80 revolutions per minute, and the bicycle-engine at from 800 to 1,000 revolutions, some reducing gear must be employed. The simplest plan would be to put in a counter-

shaft and drive this by a chain from the motor; it would be better still to have a small spur-pinion on the motor gearing into a wheel of considerable size on the countershaft, and drive the lathe from this shaft by pulleys and a belt, fast and loose pulleys being placed on the treadle-shaft of the lathe. As the attachments of small bicycle-engines differ in each make, it is almost impossible to give drawings that would be of any use of the method of fixing engine on to its bearers. A water-cooled engine would be far better than an air-cooled one. An empty paraffin oil cask, which can be bought for about three shillings, makes a very good cooling water-tank. The engine would be best placed outside the workshop, as the noise of the working would be a nuisance. The belt would be brought through a hole in the wall, and a light movable cover would protect engine from rain. If a petrol engine be used, the insurance company must be informed of it; although insurance companies do not object to a motor-car being on the premises, it is extremely probable they would require some additional premium if a petrol engine were used to drive a lathe. The company might also insist on the engine being some distance from the workshop, and placed in a small brick house by itself. There are some small gas engines at very low prices in the market, and as these run at a lower speed than the cycle motors, one of them would be better, if a supply of gas is procurable.

As regards tools, a hand shaping machine is preferable to a hand planing machine. These shapers are sold by several of the tool dealers who exhibit at motor-car and other shows. A small emery grinder is useful for grinding away anything that is too hard for a file to touch, such as parts of the gear in motor-cars when the edges have become rounded off or burred with wear. It consists of an emery wheel about 6 in. in diameter, driven by a handle from a small fly-wheel, the latter being mounted on a free wheel clutch, so that it only rotates in one direction; on its spindle is coiled one end of a leather thong, the other end being attached to a treadle on the floor. The up and down motion of the foot rotates the fly-wheel, and consequently the emery wheel, at a high speed. An adjustable rest close to the wheel supports the object to be operated on. The machine is fixed to a table or bench by two or three stout wood screws. The price is about £1 5s. Some people run an emery wheel on a mandril in a lathe, but this is a bad practice; few lathes run fast enough for an emery wheel, and the emery dust must be injurious to the lathe.

The acid method of sharpening files is one of those things not generally known. If an old worn file be examined and compared with a new one, the ridges of the teeth will be seen to be flat and bright owing to wear, and consequently the file will no longer cut. To make the file in good condition it should be carefully cleaned with card cloth, and then washed in hot water in which some soda has been dissolved, to remove any grease. After this it should be washed in water to get rid of the soda, and placed in a tall deep vessel containing dilute acid; the latter immediately attacks the metal, eating it away, and restores the cutting power of the file. I have found a mixture of equal parts of nitric and sulphuric acid, diluted with five or six times its bulk of water, to act well. The time varies from about one to ten minutes, or even more; it depends on the state of the file and the strength of the acid. The operation should be conducted out of doors, as the fumes of the acid are injurious to the throat and lungs, and will attack and rust any metal that may be near; sometimes the acid bubbles up and overflows. When the file seems to be like a new one in appearance it should be well rinsed in clean water and dried before use. This method will not make an old file into a new one, but it is a useful method if a file is so worn that it will not cut, and a new one cannot be procured at once.

ACCORDING to the report of the Comptroller-General of Patents, Designs, and Trade Marks, the number of inventions relating to the framework and general arrangement of motor-cars was about the same in 1905 as in the previous year.



## SCOTTISH NOTES.

BEFORE the successful Reliability Trial of last year Scottish prowess in organisation had been demonstrated by the Glasgow to London runs which were once a feature of the automobile year. The last of these took place in May, 1904, when thirty cars started from Glasgow. Seven obtained non-stop certificates, and another seven secured more than 990 marks out of a possible 1,000.

IN a recent issue we gave the rules governing the forthcoming Reliability Trial. Reference may now be made to some important differences in the routes of last year and this, the first and fourth day's journeys being varied from those of 1905. Instead of Dundee being the objective of the first day's run, a circuitous run through Ayr, Dumfries, and Peebles will be made, and rest taken at Edinburgh. And on the fourth day, instead of the Aberfeldy hill climb, the way out from Pitlochry will be through the Pass of Killiecrankie to Blair Athole and Trinafour, where the ascent will be up a distance of 1,817 yards, with a total rise of 317 ft. Some who have been on the road near Braemar

The clutch is of a new metal-to-metal multiple disc type running in oil, while the change-speed gear provides three speeds forward and a reverse, the top gear being a direct drive. The 16-h.p. two-cylinder car is the one which gained the gold medal in the 1905 Reliability Trials; since then it has been running as a demonstration and general utility vehicle. Its general features are sufficiently well known as not to require further reference at this time. During last year's trials the car ran on solid tyres on all four wheels. This year 4 in. pneumatics have been fitted to the front wheels, in view of the fact that a delay due to puncture will not necessarily deter the car from gaining the medal in its class, as a non-stop run is not necessary for this. The rear wheels are, however, still shod with solids, the object of the Albion Company being to demonstrate the fact that a car properly designed and constructed for solid tyre work is as efficient in every way as one running on pneumatics.

AN interesting district of South-West Scotland has been opened up by the completion of the Maidens and Dunure Railway, over which traffic is now running. Constructed by the Glasgow and South Western Railway, the line extends in a



The Frome's Hill Climb. The Cars lined up at the Starting point. (see page 299).

and at Tomintoul report that recent rough weather has left the roads in a very loose state.

THE following further entries have been made at double fees, viz., Messrs. Benz and Co. (London), 40-h.p. Benz; Major J. W. Fraser (Brechin), 10-h.p. Argyll; Messrs. Sidney Straker and Squire, Ltd. (London), 28-h.p. Straker; and Captain R. B. P. Lybbe (London), 30-h.p. six-cylinder Standard.

THE Albion Motor Car Company, Ltd., have entered two of their Albion cars for the forthcoming Trials, one being a 24-h.p. four-cylinder side-entrance tonneau, and the other a 16-h.p. two-cylinder vehicle. This is the first appearance of the 24-h.p. car in a public trial, and its performance will doubtless be watched with interest. The motor comprises four cylinders, 4½ in. bore by 4½ in. stroke, developing 24-h.p. at 1,200 revolutions per minute. The lubrication is by means of the Albion patent mechanical lubricator, which is positively driven by the engine, and ensures a constant rate of feed of oil to the motor proportionate to the speed at which the latter is running. The control of the engine is by means of the Murray governor, which in turn controls the timing of the ignition gear.

southerly direction from near the town of Ayr to Girvan, and is 19½ miles in length. At Turnberry, about fifteen miles from Ayr, the passenger station is provided with a covered way, which leads directly to the new hotel which the Glasgow and South Western Railway Company have built. This hotel is situated at a height of about one hundred feet above sea level. Motorists have been catered for by the erection in the grounds adjoining the hotel of a motor garage which will accommodate between forty and fifty motor-cars.

RECENTLY we announced that a church in Dundee was likely to be converted into a motor garage—as have several similar buildings on the southern side of the Tweed. Now we are able to inform our readers that Messrs. Thomas Shaw (Dundee), Ltd., have purchased, subject to confirmation by the General Assembly of the U.F. Church and the Church Commission of 1905, St. David's U.F. Church, Dundee, for the purpose of converting it into a motor garage. The ground extends to forty-four poles, and when the necessary alterations have been made the premises will be one of the largest in Scotland devoted to the accommodation of the automobile. It is situated in Ward Road, near by the General Post Office.

## THE A.C.G.B.I. SPEEDOMETER AND TYRE TESTING APPARATUS.

WE are able to illustrate herewith two testing appliances which were specially designed for use in connection with the recent speedometer and tyre trials organised by the A.C.G.B.I. Fig. 2 depicts the machine devised for the purpose of calibrating and testing speed indicators. With a view to the elimination of all possible personal error due the stopping or starting of a stop watch and counter, it was decided that the operations should be governed electrically as follows:—The clock is arranged in connection with two electric magnets, which respectively apply and release the counter gear every minute off the same contact, through the medium of a reversing switch governed by the operator. The counter is of the worm wheel type, and carries on its driving spindle the clutch piece, through which it picks up its motion; a means is also provided for setting it to zero; also a brake to check the inertia of the parts when released. The motor is arranged to give the requisite speeds, and is governed in the first place by an adjustable resistance, and finally the speed is kept constant by braking on the edge of a face plate, to which the various types of driving rings are fixed. On the opposite end of the motor spindle to which this plate is attached is the connection for the counter clutch. The motor may be driven in either direction by operating a reversing switch, the motor and counter circuits being cut out simultaneously by a double pole switch in connection with the main supply.

The attachments for carrying the shaft fittings consist of a series of extension brackets, mounted on a cross slide, the latter

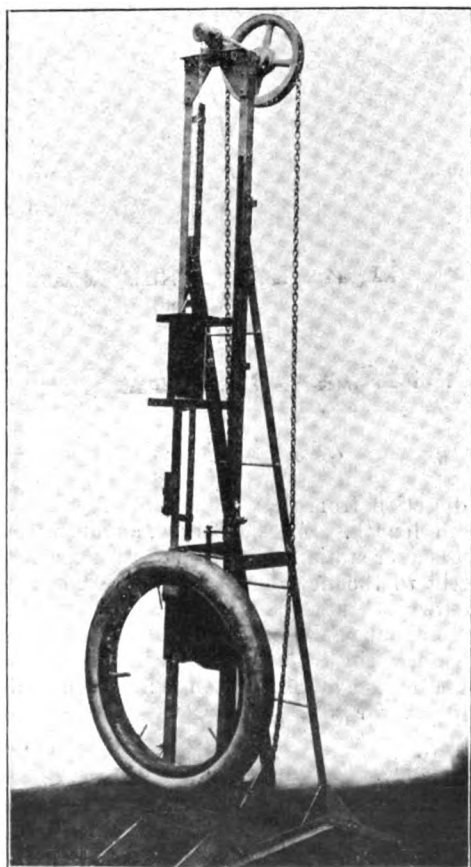


Fig. 1.

moving to and from the face plate on a horizontal bed; it also has an angular movement in relation to this plate, and generally allows for adjustments in all directions, and provides a comprehensive means for fitting the numerous types of driving gears. The general arrangements comprise a stout oak bracket, on which is fixed an iron bed carrying the motor and cross slide, an

extension bracket carrying the electro magnets, counter gear, main switch and clock switch, the clock and motor reversing switch being fitted on the vertical face of the oak bracket. The resistance has three sets of ten studs covering the range of

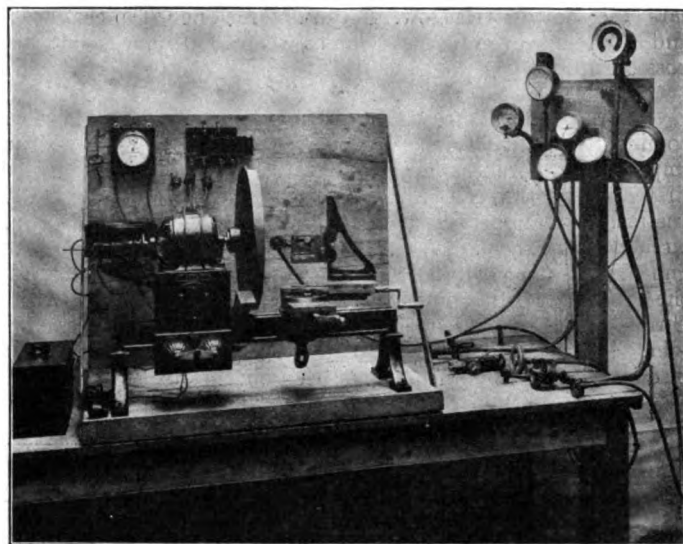


Fig. 2.

resistance required, and is contained in a separate box at the side of the operator.

The method of taking a test is as follows:—Having fixed the driving-ring to the face plate, and mounted the driving gear on the cross slide, the speedometer is fitted to a bracket representing the dashboard. The motor is then started, the counter set to zero, and the clutch taken out. The resistance is gradually taken out till the pointer of the speedometer is on the speed to be tested; then the clock contact is set about a quarter of a minute in advance of the hand, and the operating switch put in. As soon as contact is made the switch is put over and the clutch is taken out automatically at the end of a minute. Care has to be taken to keep the hand of the speedometer steady during this period. The number of revolutions per minute may now be read off the counter, and the accuracy noted in relation to the revolutions of the car wheel, and the speed in miles per hour at which the speedometer is being tested.

The tyre-testing apparatus is illustrated in Fig. 1, and is used for testing the yield or amount of deflection, and return or amount of rebound of pneumatic and other tyres. The tyre, mounted on a rim or wheel, is placed on a bracket, and a weight of 40 lbs. is allowed to drop on it from a given height; the deflection is shown by the pointer attached to the short scale on the left of the machine, and the rebound by the pointer on the long scale on the right side.

MR. A. E. MAJOR has taken Skindle's garage at Maidenhead Bridge, and will conduct it on the lines that have proved so successful at Reading; repairs will be executed promptly and thoroughly and motor-carriages kept for hire.

MESSRS. DUCROS MERCEDES, LTD., have sent us a photo of the new Mercedes Buildings at present in course of construction in Long Acre, London, W.C., on the site of the premises which were burnt down in February, 1905. When completed the new establishment will be one of the largest in London devoted to the motor business. There will be an exceedingly large basement, and this, together with the rear portion of the ground floor, will be devoted exclusively to repair work. The front portion of the ground floor and the first floor will be used as showrooms. The building in all will have five storeys, and the total space at disposal will be 53,000 sq. ft. The Austin and Swift cars will also have their London showrooms in Mercedes Buildings.

## CONTINENTAL NOTES.

### An International Automobile Congress.

An international automobile congress was opened in Milan on the 25th ult. Among the reports presented was one by M. Kellner, of Paris, on motor body building, one by Signor Eurici, of the Fiat Company, on international combustion engines, and one by M. Baillie on public automobile services. On the second day M. L. Ferrus dealt with the subject of spring wheels, Signor Pirelli with pneumatic tyres, M. Jeantaud with electric vehicles, M. Baldini with different forms of motor traction, and Professor Tedeschi with roads. On Sunday the members of the congress went for a motor-car promenade to the shores of Lake Maggiore and Lake Como.

### The Marriage of King Alfonso.

A number of enthusiastic motorists left Barcelona on Saturday on a journey to Madrid to assist in the Spanish Royal wedding celebrations. The run on the first day was to Zaragoza, Guadalajara was reached on Sunday, and the capital on Monday. Nearly thirty cars took part in the trip. The contingent was added to by motorists from other parts of Spain, fully two hundred vehicles lining up in the procession to the Pardo Palace on Monday. Every car carried two large flags, the Union Jack and the Spanish ensign, and in addition many of them had flags draped about the vehicles. Watched by large crowds the cars passed through the city in nine groups. King Alfonso awaited the motorists outside the royal palace in a large grey car flying the purple flag of Castile. He took his place in the procession, and led the way to El Pardo, where he joined Princess Ena; and afterwards a deputation of twenty-two motorists, representing the grandees of Spain, entered the Palace, and offered their congratulations to his Majesty and his bride.

### A Belgian Touring Contest.

An international competition for touring cars, known as the Criterium de Regularité, is being organised by the Automobile Clubs of Belgium, Namur, and Spa, to take place from the 20th to the 25th July next. The competing cars will be divided into four categories as follows:—

- Class 1. Two-seated cars with single-cylinder engines up to 110 mm. bore.
- Class 2. Four-seated cars with four-cylinder engines up to 100 mm. bore.
- Class 3. Four-seated cars with four-cylinder engines up to 100 mm. bore by 120 mm. stroke.
- Class 4. Four-seated cars with four-cylinder engines up to 120 mm. bore by 140 mm. stroke.

The daily runs are:—1st, Spa-Nimegen; 2nd, Nimegen-Cologne; 3rd, Cologne-Diekirch; 4th, Diekirch-Rheims; 5th, Rheims-Dinant, the competitors thus passing through parts of Belgium, Holland, Germany, Luxembourg, and France. The cars in Class 1 will be required to maintain a minimum average speed of 25 kilometres per hour; Class 2, 35 kilometres; Class 3, 40 kilometres; and Class 4, 45 kilometres. Those vehicles which succeed in doing this will be eligible for a 250 mile speed contest which it is proposed to hold on the sixth and last day of the event, full particulars of which can be obtained from the Automobile Club de Belgique, 5, Place Royale, Brussels.

### Cautioning Motor Drivers.

In view of the complaints received and of possible police action, the French Automobile Club has issued a notice to motorists urging them to seriously warn their drivers of the necessity for careful driving, especially when passing through villages. Attention is also drawn to the excessive smoke emitted by many cars, due to careless lubrication of the motor, a nuisance which, if not abated, will probably lead to severe measures being taken by the authorities.

### The A.C.F. Grand Prix Race.

The preparations for the race for the Grand Prix on the 26th and 27th inst. are now well in hand. The grand stands of the A.C.F. are being erected at Pont-de-Gennes, whence the spectators will have an excellent view of the competitors descending a hill known as La Belle Inutile. Owing to the great increase in motor traffic in the Sarthe district consequent

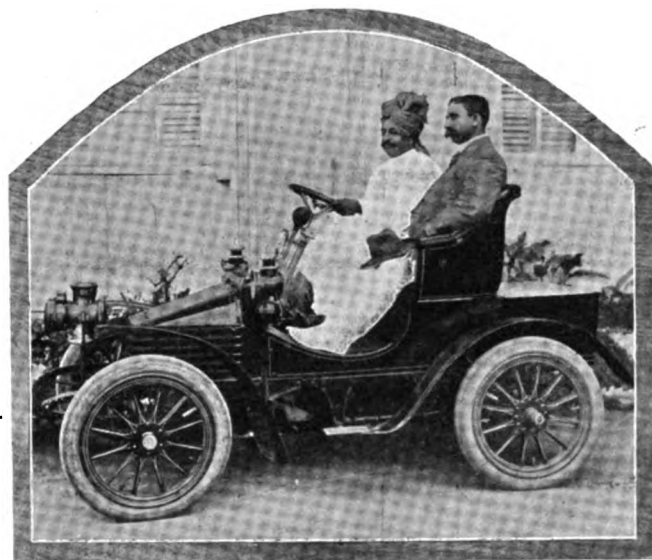
on the race, the Touring Club de France is erecting warning signs near all the level crossings. It is reported that the new Mercedes six-cylinder racers will not be ready in time for the race, and that last year's 120-h.p. vehicles will be used to represent the German team.

### The Tour of France.

The tour of France organised by the Autocycle Club de France commenced on the 22nd ult., when thirteen motor-bicycles, thirteen tri-cars and four voiturettes set out from Paris to Orleans, 79 miles. On the 23rd ult. the run was to Poitiers, 133 miles; on the 24th to Bordeaux, 146 miles; on the 25th to Toulouse, 159 miles; on the 26th to Montpellier, 159 miles; and on the 27th to Marseilles, 127 miles. Up to this point only one competitor had dropped out of the competition, which will finish on Sunday next.

### The Herkomer Touring Trophy Contest.

Preparations for the Herkomer touring trophy contest, which will run from the 5th to the 13th inst., are now well advanced. The cars are to assemble in Frankfort-am-Main on Tuesday next, when they will be inspected by the judges and



The Maharajah of Nandos on his 6-h.p. Wolsley Car.

receive their number plates and frontier pass cards. No less than 160 entries have been received for the event, including Prince Henry of Prussia, who will, it is expected, drive his own Benz car. The Frankfort Automobile Club is giving a luncheon in its new building, after the cars have been examined, and in the evening the competitors will meet at a dinner. The programme of the contest is as follows:—

- June 6th.—Run from Frankfort-am-Maine to Munich.
- " 7th.—Munich to Linz.
- " 8th.—Linz to Vienna.
- " 9th.—Exhibition.
- " 10th.—Vienna, over the Semmering, to Klagenfurt.
- " 11th.—Klagenfurt to Innsbruck.
- " 12th.—Innsbruck to Munich.
- " 13th.—Distribution of Prizes.

The total distance to be covered is approximately 1,000 miles.

### Miscellaneous Items.

The Automobile Club of Spain has just issued an "Annuaire," which contains much useful information regarding motoring in Spain. It includes a list of recommended hotels and repairers in the different towns, and also two useful maps showing the most important roads.—The municipal authorities of Saint Claude (Jura) have issued a regulation restricting the speed of motor-cars passing through the town to 10 kilometres (6½ miles) per hour.—The popular name for the motor-omnibus in Paris is the "autobus."—Altogether twenty-nine entries have been received for the Paris-Tourcoing industrial vehicle trials, which are to be held from the 6th to the 17th inst.

## THE CHAMPION METAL-TO-METAL CONE CLUTCH.

CONSIDERABLE interest was shown at the recent Exhibition at the Agricultural Hall, in the Champion clutch shown by Messrs. Durham, Churchill and Co., of Sheffield. It is of the metal-to-metal cone type, and its peculiarity lies in the operating mechanism, which is designed to give a diminishing back pressure against the pedal as the clutch is thrust further and further out of engagement. Referring to Fig. 1 of the accompanying illustrations, the views given above and below the shaft are sections at different angles showing the operating gear and the driving pins. The construction is as follows:—The sleeve B is connected to the shaft A, and mounted on the latter is the inner cone C in such a way as to be free to slide thereon. At angles of 120 deg. to each other, driving pins D are fixed in the inner cone, and are free to slide in holes made to receive them in bosses B1 on the sleeve B. F presents the flange on the engine crank-shaft, to which is bolted the drum G, which forms the flywheel of the engine and which also carries the outer cone H. The shaft A has a hole J

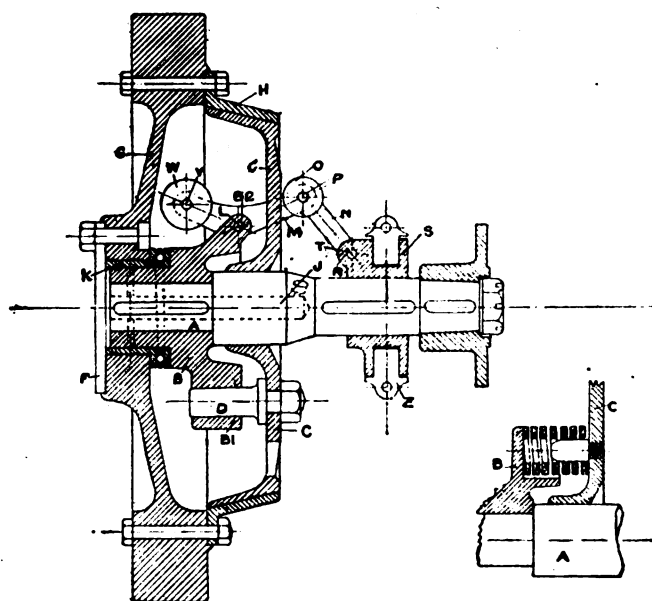


FIG. 1

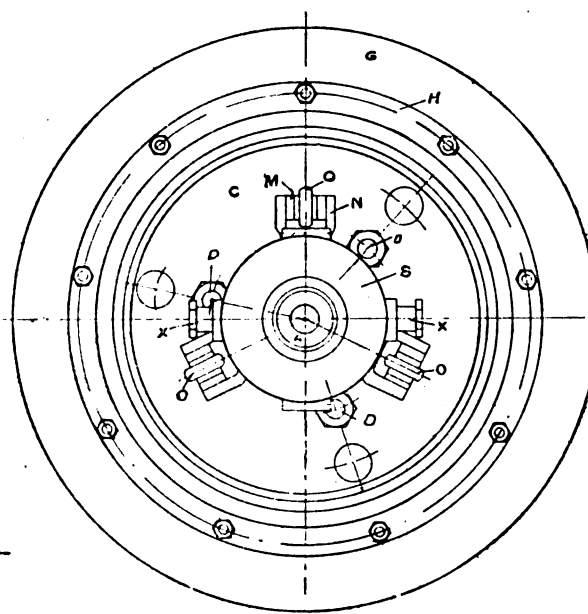


FIG. 2

Figs. 1, 2, 3.—Sectional Views of Champion Metal-to-Metal Cone Clutch.

drilled from the inner end, and the lubricator is connected thereto so that the hole can be filled with oil for the lubrication of the bush K in the drum G. Formed on the sleeve B are three bosses or lugs B<sup>2</sup> placed at angles of 120 degrees to each other. To each of these are connected, by means of pins L, two links M which pass through two slots in the inner cone C. The outer ends of these links are coupled to two other links N by means of the pins P. The latter carry rollers O. The other ends of the links N are connected to lugs R on the muff S by means of pins T. Figure 3 shows a section through the springs, which are located between the links and the driving pins. These springs are under compression, their thrust, when the clutch is in gear, forcing the inner cone C along the shaft A until it comes into contact with the frictional surface of the outer cone H. The links M are extended beyond the pins L, and fixed between these links by the pins V are balance weights W, the object of the latter being to neutralise the effect of centrifugal force on the links N and rollers attached thereto.

The operation of the clutch can now be described as follows:—In the position shown the clutch is driving, the power being transmitted from the flange of the crank shaft through the drum and outer cone, and so through the frictional surface of the

inner cone to the driving pins D, which convey the power to the sleeve B secured to the shaft A. To put the clutch out of gear the muff S is moved towards the inner cone by means of suitable operating gear attached to studs fixed in the strap Z. As the muff S approaches the inner cone C the outer ends of the links N are forced outwards; the links M being anchored to the sleeve B by means of the pins L, their outer ends move radially and bring the rollers O against the flange of the inner cone C, and carry the same inwards, putting the frictional surfaces out of contact. It should be noted that when the links are in this position the whole of the thrust of the springs is held by the links M, which are in tension. As will be readily seen, the arrangement of this toggle gear gives a very great mechanical advantage, and, moreover, the nearer the centres of the pins in the link N approach to the same plane as the flange of the inner cone, the less the thrust on the strap, and if the muff were moved so far towards the inner cone as to bring the two centres of the links N into the same plane as the flange of the inner cone there would cease to be any thrust against the strap in the muff. The parts are so made that it is impossible for the muff to quite reach this position, as it is, of course, desirable that the springs should thrust the foot-pedal back into normal position.

When the clutch is held out of gear, however, there is very little thrust on the muff, and consequently very little braking effect on the car.

THE Standard Motor Company, Ltd., have sent us a neat list illustrating and describing the Standard 15-h.p. landaulet specially designed for town use. The engine is located under the driver's seat, enabling the wheel base to be kept within reasonable limits, while at the same time permitting of a wide side entrance.

A COMBINATION 24-h.p. motor chemical fire engine, escape, and hose tender has just been completed by Messrs. Merryweather and Sons for the Fire Department of Shanghai, China. Eight men can be carried, and the machine, fully loaded, will travel at a speed of twenty miles per hour on the level and climb gradients of 1 in 6.

IN company with Mr. Donne, of Messrs. Donne and Willans, we had a short trial run on one of the latest Rochet-Schneider 18-22-h.p. chain-driven cars a few days ago. The efficiency of the metal-to-metal clutch is such that not only were we able to crawl through the thick traffic at Victoria, S.W., without changing gear, but the car started away on top gear.



CONTINENTAL tyres played a conspicuous part during the relief of San Francisco by the automobile corps which was organized by the authorities.

MR. A. LEE GUINNESS has just brought to England the eight-cylinder 200-h.p. Darracq which holds the world's record of two miles in 58 4-5 sec.

MR. JOHN WILSON is the managing director of the Liverpool Motor House, Ltd., which has a well-arranged garage at 6, Atherton Street, Liverpool.

A FIRE occurred on Saturday morning at the Lancashire Steam Motor Company's new works at Leyland, near Preston, when damage estimated at several thousand pounds was done.

THE Middlesex County Council, by placing a notice limiting the axle load of motor vehicles passing over Regent's Park culvert, have practically closed the main road leading out of London on the north to heavy motor vehicles.

DURING the last few days there have been despatched from Messrs. J. W. Brooke and Co.'s works, Lowestoft, a 4-h.p. motor-boat to Belgium, an 8-h.p. boat to India, one 12-h.p. to Canada, and a 30 ft. tender for the "Midnight Sun" for Norway, fitted with a 45-h.p. engine, in addition to several others for home customers.

MR. S. J. PO-COCK, a Parliamentary candidate for the Uxbridge Division of Middlesex at the last election, captured an alleged burglar at a farm near his residence at Sunbury, and lent his motor-car to the police to convey the prisoner to the police-station.

Two motorists were proceeding along the main London road at Kingston on Sunday, and, when endeavouring to avoid the wet tram-lines, the car skidded on the wood pavement and dashed into one of the iron standards at the side of the road. Fortunately the car was only proceeding at a moderate pace, and the occupants escaped injury, but one side of the tonneau was smashed.

THE municipal authorities of Buenos Ayres, Argentine Republic, have lately passed a very stringent ordinance concerning motor-car drivers. It is not deemed sufficient to require them to pass an examination in the operation of all kinds of vehicles and furnish a certificate of character, but they must also submit to body measurements by the police, finger impressions, etc. These regulations, as may naturally be expected, are being severely criticised.

WITH reference to last week's note on the Taunton Motor and Cycle Company, we learn that Mr. J. K. Heard has disposed of the business to Mr. B. E. Denning, who has had considerable experience of the motor trade. He intends to make a feature of a system of free garage for motor-cars, and is erecting additional accommodation to hold twenty or thirty cars beyond the number that can now be located on the premises. Mr. Denning has a large stock of motor accessories, tyres, etc., and will give attention to the repair of cars as well as letting vehicles out on hire.

## HERE AND THERE.

THE Marine Motor Company have issued a neat catalogue of Pasley's marine motors, which are designed for petrol, paraffin, or alcohol.

DURING his trip in Ceylon Mr. C. J. Glidden, the well-known motorist, was, one day, attacked by 175 dogs—surely a record even for the land of pariah canines.

THE Empire Hotels at Buxton and Lowestoft re-opened on Wednesday for the summer season.

THE Automobile Club of Adelaide, South Australia, recently held a reliability trial for motor-cars.

SOME very effective advertisements have lately been brought out in connection with the motor chain department of the Coventry Chain Co., Ltd.

THE new motor garage and repairing works opened by Messrs. Bartlett Bros., at 125, Sheen Road, Richmond, should prove of great service to motorists in that district.

LAST week we referred to the adoption of the motor barge by Messrs. Pickfords, Ltd. The vessel arrived in the Thames from Amsterdam last week, having been imported by Messrs. Perman and Co., Ltd. The new barge has a length of 55 ft. 6 in.

by 12 ft. 4 in. beam, a 3 ft. 6 in. draught, a deadweight carrying capacity of about 20 tons, and a cubic capacity of 53 tons. It is fitted with a 24-h.p. Kromhout motor, and the speed of the boat is approximately 7½ knots. The fuel used is ordinary Russian petroleum.

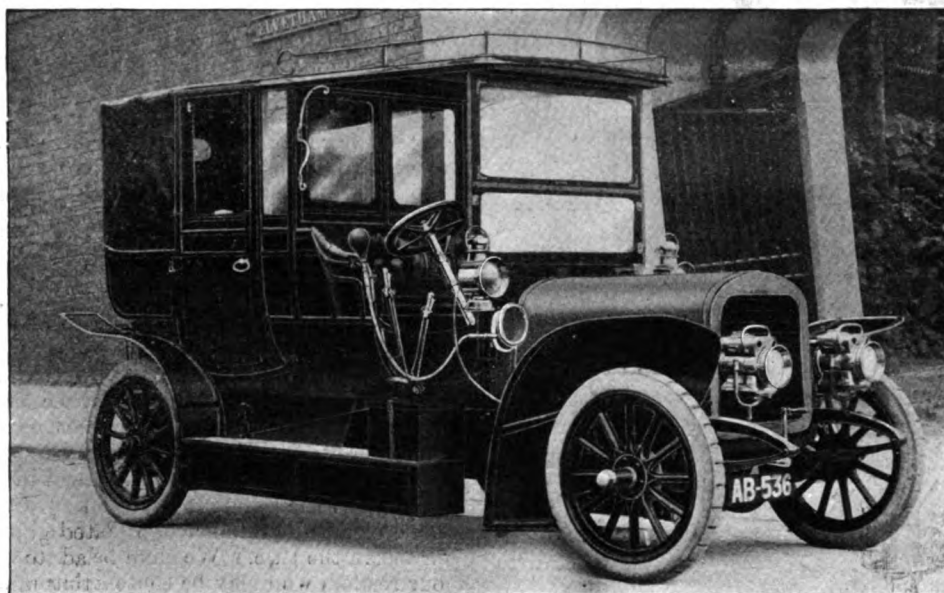
THE motor-cab fitted with a taximeter was inspected by the Select Committee of the House of Commons which is considering the regulations affecting cabs and omnibuses, in Palace Yard, London, on Tuesday.

WE learn from Messrs. Du Cros Mercedes, Ltd., that

His Majesty the King has taken delivery of a 45-h.p. 1906 model Mercedes, fitted with limousine body by Keilner, of Paris.

MR. PAUL MULLER, of Blackpool, who recently acquired a 28-36-h.p. Daimler car, made an interesting run a few days ago. Starting from South Shore, he drove to Grange-over-Sands, and thence to Bowness on Windermere, and returned home *via* Kendal without a single hitch. The 133 miles were done on a consumption of eight gallons of petrol, which works out at 16.62 miles to the gallon.

AN electric tell-tale for notifying the extinction of the tail lamp on a motor-car by means of an electric bell fixed to the dashboard is being introduced by the Portable Accumulators, Ltd. As the electric bell, actuated by a separate dry battery contained in the device itself, does not depend on the current supplied by the accumulator, the ringing of the alarm is absolutely assured, irrespective of the nature of the interruption of the circuit. Many tell-tales are dependable for their current on the accumulator which supplies the tail light, and providing this is in good order all goes well. The tell-tale brought out by the Portable Accumulators, Ltd., however, being independent of this accumulator, has a greater likelihood of being available when required.



The Mobile 20-22-h.p. Landulet supplied by the Mobile Motor and Engineering Company, Ltd., to Mr. F. G. Demuth, of Edgbaston.

A MOTOR garage is attached to the Bridge House Hotel at Staines.

MR. A. JESSON has a motor garage at Abbey Gate, Leicester.

THE Automobile Association of Bengal is having an exhibition of motor-cars in January of next year.

MR. J. G. LOOKER has established a motor garage at Portland Grove, Heaton Chapel, near Stockport.

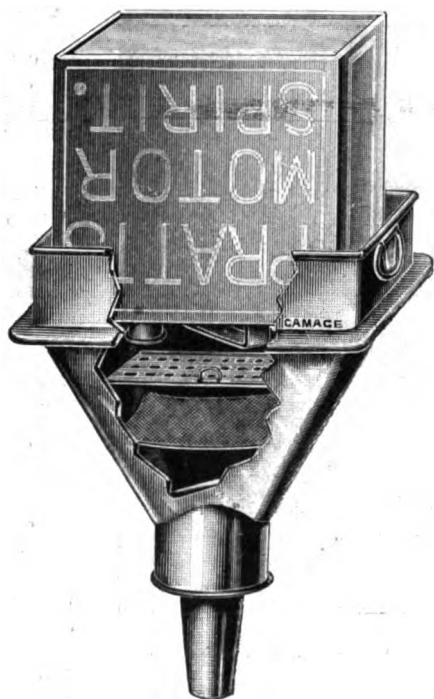
MR. JUSTICE JOYCE has declared from the Bench that "we do not want any more motor-omnibuses on the streets."

LORD KENMARE has just placed an order for a 25-36-h.p. Richard-Brasier car with Messrs. Mann and Overton's, Ltd.

FROM the Wolseley Tool and Motor Car Co., Ltd., comes a tariff in connection with their garage in York Street, Westminster.

THE Euston Motor Company, of 124, Euston Road, London, N.W., have been appointed by the Societe Nouvelle des Accumulateurs B.G.S., of Paris, sole agents for Great Britain and Colonies for the B.G.S. electric ignition accumulators.

WE illustrate herewith a special funnel for use in motor garages which has lately been put on the market by Messrs. A. W. Gamage, Ltd. As will be seen, the device is of such a size and so arranged that the usual two-gallon petrol tin may



be fixed in it upside down, and left unattended till empty. In this way not only is time saved but there is no waste of spirit. A filtering gauze is, of course, provided in the funnel.

MR. WALTER BEWLEY has been travelling in the New Zealand mountains on a 9-h.p. Jackson dogcart, arousing much interest among the Maoris. Curiously enough, the horses generally did not exhibit excessive timidity at the presence of the car.

MESSRS. W. WINGATE AND JOHNSTON, LTD., have special arrangements with their agents in Boston, U.S.A., for the shipping from this country and landing in Boston of motor-cars. Considerable numbers of motorists come forward from the United States for touring this country and the Continent, a large number of whom utilise the firm's services.

THE new depot which has been established at Lincoln Place, Dublin, by Messrs. Mann and Overton's (Ireland), Ltd., is now in working order, under the management of Mr. E. M. Stirling. In the showroom are examples of the latest Richard-Brasier and Unic cars, while plant has been installed to enable all classes of repair work to be undertaken. A stock of accessories, oils, and grease are kept on hand, and a feature is being made of garage and hiring work.

SIR ALFRED WATKIN has just acquired a 10-h.p. Star car, with special victoria body.

MOTOR-CARS and cycles are to be experimentally used in the next military manoeuvres in Brazil.

MESSRS. LINLEY AND Co. have ample facilities for the repair of motor-cars at 16, Hills Place, Oxford Street, W.

A SHEFFIELD coach proprietor now owns a motor hearse for the purpose of conveying bodies long distances when railway travelling is impracticable.

NEW members of the A.C.G.B.I. include the Earl of Aberdeen, Baron Elphinstone, Major-Gen. Lord Cheylesmore, and Sir Robert Finlay, K.C.

MESSRS. HALL AND CAPRIS have opened a depot for the sale of the Isotta-Fraschini cars at 14 and 15, Riding House Street, Langham Place, London, W.

A COMPANY is being formed at St. Michaels, Azores, to inaugurate a public motor-car service on the island. It is intended to commence operations with four vehicles.

MESSRS. JOHN FOWLER AND SONS, of York Place, Harrogate, are building motor bodies, and also stocking petrol for the convenience of motorists journeying through the town.

THE Globe Automobile Exporters inform us that they have removed from 56, Boulevard Haussmann, to larger premises at 18, Rue Godot-de-Mauroi, Boulevard de la Madeleine, Paris.

THE Central Insurance Company have prepared a printed card for hanging up in garages, etc., calling attention to the various measures of precaution which should be observed by all having the care of automobiles.

AT a quarterly meeting of the St. Albans City Council a letter was read from the Local Government Board stating that the Board proposes to issue an order under Section 9 of the Motor Car Act of 1903 imposing a ten-mile speed limit in certain streets of the city.

THE chairman of the Westbury (Wilts) District Council told the members that the dust raised by motors did one good thing for the farmers—it killed the flies on the turnips. "It might be an advantage to the turnips," retorted a member, "but it spoils the grass and hay crops."

MESSRS. DRAKE AND GORHAM, LTD., have issued a catalogue of motor-cars which will be of service to prospective owners of cars who are somewhat puzzled with regard to the selection of a vehicle suitable for their particular need. Petrol, steam, and electric cars are included in the list.

FROM the Syndicat d'Initiative du Centre de la France we have received a number of illustrated guides to the district comprised in the title. We shall be glad to send copies to any of our readers who may be contemplating a tour to this interesting part of France, of which the old town of Bourges, the headquarters of the syndicate, is the centre.

THE Deasy Motor Manufacturing Company, who have purchased about seven acres of land at Parkside, Coventry, have already begun to add to their present factory. The very latest type of machinery is being installed, and the new Deasy car, from the design of Mr. E. W. Lewis, is expected to be ready in about six weeks.

FROM Messrs. Singer and Co., Ltd., Coventry, we have received a copy of the 1906 catalogue of Singer cars, which gives particulars of the 8-10-h.p. and 12-14-h.p. vehicles with horizontal engines. Full particulars of the Singer Company's latest production, a 12-14-h.p. car with vertical four-cylinder motor and the standard type of chainless transmission, are given on a separate circular.

ONE of the motor-wagons of Messrs. Jesse Ellis and Co., Ltd., carried a curious cargo the other day. A breeder of trout asked the firm to carry some live fish for him from Harrietsham, Kent, to Lurgashall, Sussex. A five-ton motor-wagon and trailer was dispatched from the breeding ponds at 8 p.m. with forty cans (thirty on the wagon and ten on the trailer), each containing twenty-five live trout 8 in. long. A keeper was sent with them to look after their welfare, and they arrived at Lurgashall, having lost only fourteen fish altogether during the entire distance of about eighty miles. On a similar journey by rail fifty fish were lost.

## CORRESPONDENCE

Letters to the Editor should be addressed to the offices,  
27-33, Charing Cross Road, W.C.]

### SPRING WHEELS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to "F. C.," my car is a two-cylinder Benz dog-cart. All the Benz cars were well sprung, but mine is exceptionally so. With regard to the point he raises as to solid tyres, although india-rubber is certainly not an ideal substance for the tyres of wheels, yet at present, unfortunately, there is nothing to take its place. I do not fancy anyone could stand iron-tyred wheels for anything over a crawl. Spring wheels are not going to do anything for us in this respect, as they are, I believe, all to be shod with solid rubber.

My experience is the following:—The first pair of tyres on the driving wheels wore down to the rims, and I then, through a local agent, had new ones put on at a cost of £3 12s., and these are still in very fair condition. The front wheels, which, in these cars, carry very little weight, have still their original tyres, which, though cut about considerably, are still good for a lot of running. I have had no trouble at all with any creeping or loosening of the tyres. Compare this record with that of any car fitted with pneumatics. My car weighs 14 cwt., the driving wheels are 40 in. diameter, and the tyres are 1½ in.—Yours truly,

J. BRYANT.

### A WARNING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We shall be glad if you will, through the medium of your columns, warn members of the motor trade that there is a man going about amongst the trade at present obtaining motor-cars and accessories by false pretences.

A fortnight ago a firm in Pentonville Road were victimised, and last week a man obtained a car from us by means of a worthless cheque, and on comparing notes we find it is the same man in both instances, and we would therefore like to warn the trade and public that this car of ours, a 10-h.p. Darracq car, 1906 pattern, with long chassis and side entrances, painted red and upholstered in red leather, and fitted with Dunlop N-S. tyres, and with a No. 8910 stamped on the cylinder heads, may be offered for sale either to the trade or to the public indirect. We would be very much obliged if, in the event of this being offered for sale, the party to whom it is offered would kindly communicate direct to us or to the inspector in charge at Vine Street Police Station, London.—Yours truly,

J. KEELE AND COMPANY.

### THE COST OF UPKEEP.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if any reader of the *M.C.J.* would favour me with information on the following points, i.e.: Is the upkeep of a four-cylinder 14-h.p. car much in excess of a 10-h.p. two-cylinder or 8-h.p. single-cylinder? What is the cost, roughly, of running 1,000 miles on a 14, 10, and 8-h.p. respectively? Is a four-cylinder car much more complicated than a two or one, and is tank and radiator with fan a satisfactory cooling arrangement?

I may say that I intend buying a car and looking after it myself. I do not like noise or vibration, and want one capable of taking four persons up any hill on main roads.—Yours truly,

E. J. LONGMAN.

### REPAIR WORRIES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Your correspondent "E S 162," in your issue of May 19th, has opened up a matter which badly requires ventilation. It should command the same serious attention of car makers as it will do of car purchasers. I live within ten miles of the workshop of the makers of my car, but that does not help me to get any better attention than "E S 162," whose geographical facilities are not so great as mine.

When my machine requires the makers' attention I send it to them. In a few days I get a note saying "their expert shall examine it and send me a report." This has happened three times in six months, so I know what to expect. After a week or two the expert reports that the damage has been caused by my man's neglect. The fact that I have had three cars, have a good knowledge of engineering, and my man was educated as an engineer in a technical college, makes no difference. The fault has got to be mine anyhow. The fact that I quietly submit to the blame does not bring the machinery along, and no amount of persuasion will induce them to let me have it under some weeks. I sum the matter up as follows:—The car makers are so full up of new orders

that they want to wash their hands of you as soon as they have sold you a car and pocketed your money. Even the exorbitant charges they make for spare parts is not sufficient inducement to cause them to take any interest in cars once sold, and now, considering that the demand for new cars is so enormous, makers cannot be blamed too much for attending to new orders rather than fiddling with spare parts and renewals. But when I buy my next car, or recommend one to a friend, my first consideration will be, how will the makers look after my requirements after I have bought the car? and my order and recommendations will go to the firm which has the reputation of studying clients already obtained.

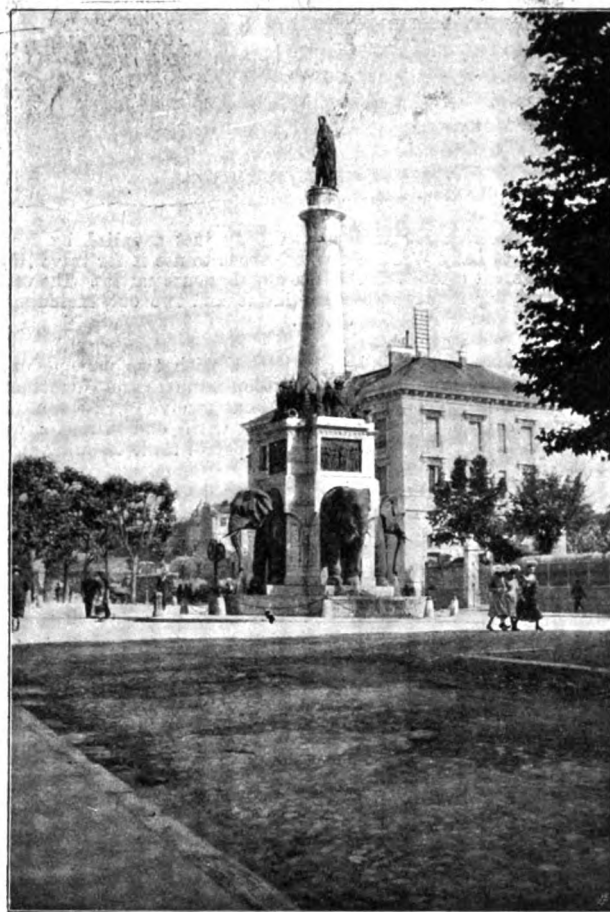
The maker of my car took a large amount of trouble before I purchased, but since the treatment I have received has been a disgrace.—Yours truly,

A 1680.

### STEAM CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—If Mr. E. Martin wants a small car to get about in a very hilly district, and he does not mind a little delay in getting ready for the



Touring in France. The De Boigne Column at Chambéry, Savoy.

road, by far the best investment he can make is to get the car of which the Locomobile is the prototype, viz., a Stanley. I was in much the same state of mind as Mr. Martin. I am not a wealthy man, but I wanted a light car that would climb hills, and something that was less capricious than the average petrol car, with its change-speed gears and electrical worries, and, after some runs in a Stanley steamer owned by a friend, I became enamoured at once with its silent running, its freedom from vibration, its easy control, its magnificent hill-climbing, and lastly, and certainly not least, its freedom from smell. I know nothing of the Locomobile, but a friend who owns one and has seen my car says there can be no comparison, that the Stanley is vastly superior in every possible respect, having all the advantages and none of the disadvantages of the former car. I have had no reason to regret the choice I made. I am a country doctor and I use the car for work and for pleasure, but it was for getting round my practice that I got it, having given up horses. I can carry three people on the car plus myself, and have never failed on a hill yet. I had my troubles and worries common to the average beginner, but they are gone, I trust, and now I consider I get a maximum of results out of my bargain. It takes me twenty-five minutes lighting pilot and raising steam to 400 lbs. pressure. As I live at the foot of a steep hill I must always have a full head of steam for the start. In my hilly country, and as I so often have passengers, my mileage is about thirteen

to a gallon of benzine. I can get sometimes twenty-four miles on a tank of water, sometimes not so much—it depends on the road and the load. I have no hand-pumping for air pressure nor water. There is some hand-pumping at the start when lighting up—this ought to be all.  
—Yours truly,

ROBERT A. WELSH, M.B.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Replying to Mr. E. Martin's letter in the last issue of the *M.C.J.*, I have been running for the last nine months a 5-h.p. Locomobile. I am not in the habit of using the car every day, but have covered upwards of 1,000 miles without a single involuntary stop and



The 40-h.p. De Dietrich car with saloon body just supplied by Messrs. Jarrott and Letts to Lady Warwick, who intends to use it for travelling to and from her different estates, and for use during house parties. The vehicle is capable of carrying seven passengers inside and two out, including the driver.

have climbed the steepest hills in my district with two persons up. I can get up steam and be on the road in fifteen minutes and sometimes in less time. I estimate that my car runs about twelve or thirteen miles per gallon of petrol, and twenty-five miles with one filling of water (twenty-five gallons). The capacity of the petrol tank is sufficient for about thirty-five miles.

The cars are not built suitable for very fast running, as the wheel base is too short, but they are capital hill-climbers, and I have frequently passed petrol cars of much greater horse-power. My car is quite capable of averaging fourteen or fifteen miles per hour. The hand-pumping for air pressure can be got over by having a steam air pump fitted; as to hand-pumping water for the boiler, this need not give much trouble if the pump attached to the engine is kept in good order.  
—Yours truly,

INTERESTED.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to your correspondent, E. Martin, if he invests in a Stanley steam car he will then be in the position of the "friends in his need" who assisted him and then left him. I have driven a "Stanley" now for fifteen months in a very hilly district, and it is a fact that there is no car for which the owners of more powerful petrol cars in my district have now such a respect as for the little steamer. A year ago I was scoffed at, but it is not so now. The management of the car is child's play, and no one of ordinary intelligence need have any hesitation in investing in one. The great features about it are absolute reliability, enormous reserve power and small cost of working, such being my experience.—Yours truly,

X 433.

SOME SUNDRY EXPENSES IN MOTORING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—If there was ever a fallacy in this world it is the penny-a-mile motoring! A very great fallacy indeed. As a matter of fact there are few cars which will run on petrol and oil and electricity alone, leaving out everything else, for a penny a mile, but the penny-a-mile theorists lose sight of the real expenses. Let us take tyres—pneumatic tyres, as most people have them. Well, in the case of a reasonably light car, say about 40 cwt., after about 3,000 miles of give and take running retreading will be necessary, which may be reckoned at fifty shillings per cover, without carriage to and from repairers—in fact, it is a very moderate estimate. Added to this must be the few incidental tyre troubles—3,000 miles is a good way to go with no tyre trouble—these and their repairs may be mildly computed at five pounds. So here we have £15 in 3,000 miles for tyres alone, so that we can surely reckon one penny per mile as a very mild estimate for tyres only. In passing on we must not forget lubricating oil; people generally pass this over, reckoning roughly a few shillings on oil for an almost indefinite distance. The general price paid for lubricating oil is four shillings and sixpence a gallon, and most cars now need it pretty freely, and a gallon does not

go very far. Another expense the penny theorists leave out, i.e., the occasional trouble; e.g., your accumulator runs out, and you have to send for another one, or assistance in some form or other. Help usually arrives in the form of several people, and generally a large number of tips are necessary. It should be noted, also, that if this last-mentioned trouble occurs at all late, going home is usually put off, and quarters found for the night. Another expense—never counted!!! This by no means completes the list; but, after all is said and done, motoring is cheaper than horses, and to most people more suitable, so if you can do your running at 3d. per mile, why be downhearted?—Yours truly,

C. B.S.

SMELL AND SMOKE FROM MOTOR-CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With regard to Mr. A. Duckham's letter on "Smell and Smoke from Motor-cars," which appeared in the last issue of the *M.C.J.*, I should like to know if it is possible to use paraffin for lubricating the cylinders and crank chamber of cars used for touring purposes, or more especially for work in London? If paraffin can be used with as good results as ordinary lubricating oil, why has it never been used before? Surely there must be some reason why paraffin is not more used?—Yours truly,

STUPEFACTUS.

CRACKED CYLINDERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a 5-h.p. single-cylinder motor the water-jacket of which is cracked. I believe steel filings mixed with some kind of acid will rust it up. Can you tell me the name of the acid, or where to procure the mixture, and how to apply it?—Yours truly,

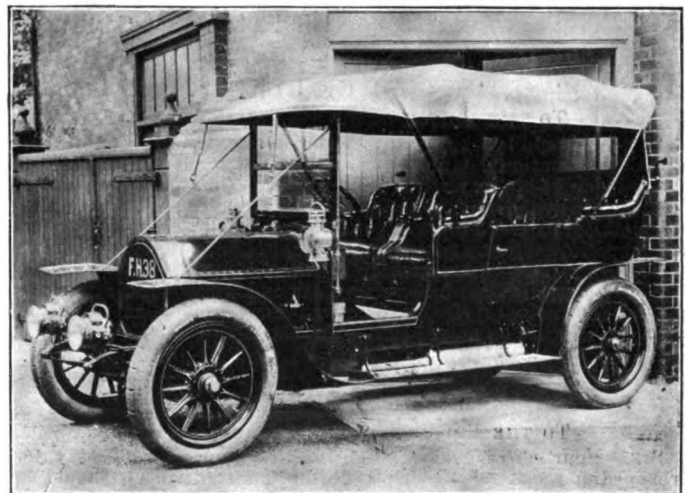
R. H.

[The liquid used in conjunction with steel filings for rusting cracked water jacket is sal ammoniac dissolved in water. The crack should be filled with filings and the sal ammoniac either placed in the jacket or poured over the filings. If the crack is only small, a little gold size mixed with lamp black will sometimes stop the leakage, but this should be allowed to get properly hard before the motor is used.]

A DARRACQ CAR EXPERIENCE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to "W. R.'s" query re the 20-32-h.p. Darracq car in the last issue of the *M.C.J.*, I send you a photo of my 1906 model as supplied to me by Mr. T. Garner, Manchester. The ignition is by coil and accumulator and also low tension magneto. The wheels are fitted with Moseley's "Perfect" tyres, 34 by 5 in., which makes the removal (when necessary), a very simple matter. The car is exceedingly comfortable and has given entire satisfaction, no trouble has been experi-



enced with the car, and the new improvements are to the advantage of the motorist and make driving a pleasure.

I registered in Gloucester, so that the identification mark should correspond with my initials.—Yours truly,

FRANK HULME.

A DARRACQ CAR QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to "Lancashire's" query in the last issue of the *M.C.J.*, I have a twin-cylinder Darracq which had a plain coil and contact breaker, and which was always difficult to start. I fitted a trembler-coil, and retained the contact breaker, but when I tried to start the



engine it always backfired. Then I took the cam off and had the raised portion set back five-eighths of an inch and lengthened, so that it gave a longer contact. Result is very satisfactory. It now starts without any difficulty.—Yours truly,

OPENSHAW.

### ENGINE TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have an 8-h.p. single-cylinder engine which gives me a lot of trouble. When the current is switched off the motor continues to run for some time. The cylinder has been taken down and scraped clean, but there is only a little improvement. Is the fault with the water circulation? A stream of water the size of the finger runs into the tank when the pump is at work. I have cleaned the gauze filter. I may mention that the car has only run 2,000 miles. Any information you can give me will be greatly esteemed.—Yours truly,

R. LITTLEWOOD.

[The running of an engine after the current is switched off is sometimes caused by small particles of metal attached to the cylinder head, which become heated whilst the engine is running, and so fire the charge after the current is switched off. Another cause is due to the fact of the cylinder head becoming heated, this being sufficient to fire the charges if the compression of the engine is high. The best remedy we find is to first open the compression tap, and then switch off; this prevents the engine continuing to run.]

### MOTOR-CARS AND DUST.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Motor-cars are being accused all over the country as the cause of the dust nuisance. The fact appears to be overlooked that the dust is made by the heavy, slow-going, iron-tired vehicles, which simply crush to powder the flints or anything else, of which the country roads are made, and which pneumatic tyres are incapable of doing. Naturally a fast moving car with pneumatic or even solid rubber tyres stirs up the dust, which was already there.—Yours truly,

A. GROVES.

### A LEAKY WATER TANK.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The water tank of my car has developed a number of small leaks, and I write to ask whether you or any of your readers can suggest a means of stopping up the same. The leaks, which are only small, are in the bottom of the tank, which is fixed at the rear of the car, and appears to be made of sheet iron. As far as I can see, the only way to remove the tank is by taking the body off, and this is rather a long job for me to undertake.—Yours truly,

R. L. KING.

[The leaks in the water tank may be stopped by giving a good coat of colour mixed with gold size; this would not, however, be satisfactory if the leaks were bad. It would be necessary to first draw off the water, otherwise the water would not allow the filling to set over the leak. Failing this, there is no other remedy but to remove the tank and solder the holes. The removal of the body is not usually a great matter, being held on by about six or eight bolts.]

### AN ENGINE QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have come into possession of a beautifully built single-cylinder air-cooled internal combustion engine for a tri-car. The late owner said it was a  $3\frac{1}{2}$ -h.p., but on comparison with most engines of that power I am inclined to think it must be much higher in power. The bore of cylinder is 3.732 in., stroke  $3\frac{1}{2}$  in.; the crank case is of aluminium. Yet the engine without the carburettor and exhaust union weighs 58 lbs. and the internal balance wheels are 9 in. diameter. I therefore suppose this engine to be more like 4½-h.p. than 3½-h.p., as suggested; am I right?—Yours truly,

J. COPLAND.

[The horse-power of our correspondent's engine, according to formula, works out approximately at 3.486-h.p., but no doubt this would be a little exceeded on the brake. In any case it would not be so high as 4½-h.p.]

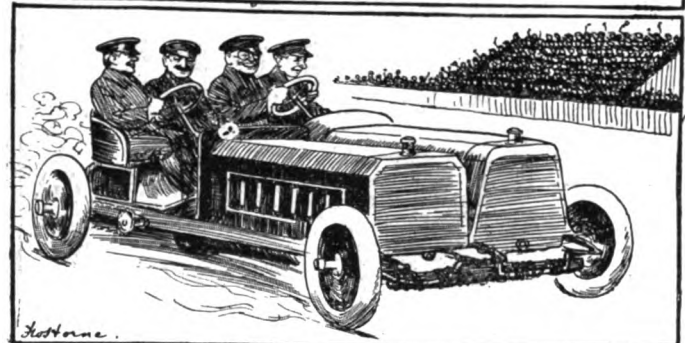
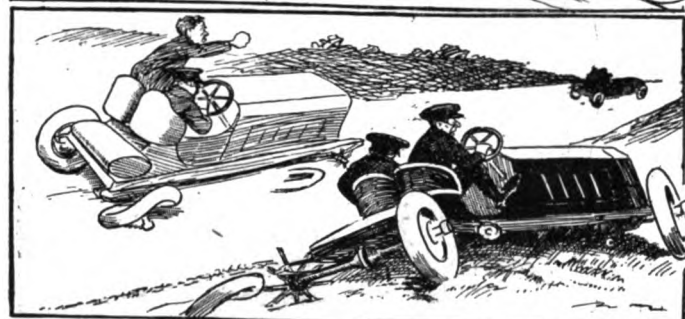
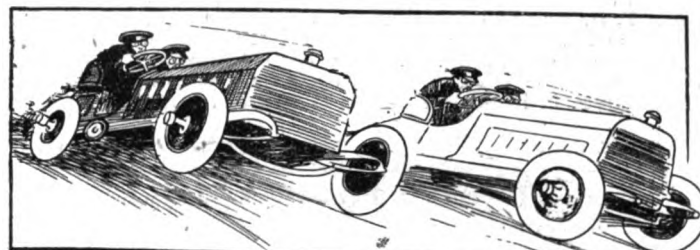
### THE HORSE-POWER OF PETROL MOTORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The question of a uniform basis for the rating of the power developed by petrol motors continues to be one of the pressing needs of the automobile industry, but one which, judging from the chaotic ratings one sees in the different makers' catalogues, is still far from a solution. In fact, there appears to be a very prevalent tendency to overrate the power of petrol engines, although there is no reason for believing that this pernicious practice is peculiar to the motor industry; on the contrary, as an industry develops and competition in it becomes keen, there is always a temptation to exaggerate the relative value of its products, or their

capacity for doing work. There are generally a number of possible methods of testing the capacity of the machines, and the natural tendency is to adopt that method which gives the highest results, irrespective of whether it corresponds to the conditions of practical use or not.

Now that some of the large engineering colleges are taking up the subject of petrol motor tests, it would be of great advantage were the leading builders to agree on some definite method of engine testing, so that the results obtained from different motors might be compared. It is well known that so-called instantaneous brake tests are very misleading, and a minimum time should be fixed during which the load should be kept constant. Any testing device which does not admit of maintaining a constant load on the motor for that length of time should be considered unsuitable for the purpose. Another point to be considered is whether motors should be tested with or without a silencer. It has, of course, been shown that even a good exhaust-box may increase the power of the motor, instead of reducing it, but this is not the rule, and as in practice engines can only be used with silencers connected, it therefore seems only reasonable to test them with these devices fitted. When the much-desired time comes when a standard method of making engine tests is decided on, the results will convey a



A Tie for Second Place!

definite meaning and the death knell of the present stupid practice of rating engines as of 14-22-h.p. or even 40-60-h.p. will have been sounded.—Yours truly,

R. R. BARRACLOUGH.

### A HINT RE FITTING A NEW TYRE COVER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—When it is necessary to mount a new cover, there is no necessity for three or four grown-up men to struggle with it. The best way is to leave the security bolts in, put the cover and tube in position by the valve hole, and then lever the cover on. When in position it will be found that it is resting on the clips, and all that is then necessary is to lift up the inner edge of the cover with a couple of levers and push the clip up, and then let cover back. Simplicity itself. If this method be adopted, the most refractory cover will not require more than two people to struggle with it.—Yours truly,

C. A. R.

MR. L. C. PARKER, of the Mill House, Barton Mill, Mildenhall, has found between Thetford and Mildenhall a motor wheel grease cap. The owner can have same upon sending description to Mr. Parker.

## THE MOTOR MEET AT BIRMINGHAM.

—●—

UNFORTUNATELY the rain that fell so freely in the early part of Saturday last marred the record-making character of the first provincial meet of the Motor Union for this year. Happily no rain fell during the gymkhana, which formed a feature of the gathering, and altogether the assembly at Birmingham must be regarded as entirely successful.

The proceedings commenced on Friday, the 25th, with a meeting of the General Purposes Committee, and Mr. G. T. Langridge in the chair, supported by most of the members of the Committee. It was agreed to allot the club's gymkhana medals to the Blackheath, Bury and West Suffolk, Derby, Essex County, Herefordshire, Kent, Lincolnshire, and Midland clubs. Discussion also took place on the fitting of exhaust box cut-outs, and motor-car makers may expect a communication from the Union on the subject.

On Saturday morning the Hon. A. Stanley presided over the meeting of the General Committee, those present including Earl Russell (A.C.G.B.I.), Dr. J. Hopkins Walters (Berkshire A.C.), Messrs. Granville M. Kenyon (Kent), Alan McAlpin (Leicestershire), A. R. Atkey (Nottinghamshire), E. Shrapnell Smith, A. A. Dale, C. H. Dodd; T. H. Ryland (Midland A.C.), Frederick Coleman, Percy W. Northey, and F. J. Sharpe; J. R. Bedford (Birmingham), C. J. Allin and C. Turner Leach (Derby), F. Lindus Forge (Essex), N. B. Kenealy and C. McWhirter (Herts.), R. Sutton Clifford, jun. (Leicestershire), A. E. Jones, F. R. Hesse, D. Adamson Parkyn, and J. A. Morris (Man-

past obstacles, crossed a line, and returned backwards over the same course; (3) musical chairs; and (4) ladies' passenger race. In the last-named the competitors were required to drive 75 yards, alight, assist a lady from a chair on to the front seat of the carriage, retake seat, drive a further 75 yards, alight, and assist a second lady from a chair to the back seat of the carriage. The same performance was gone through in regard to a third lady, and then the competitor drove to the finishing point. This race, for which fourteen motorists had entered, was admirably contested. Great care had to be exercised owing to the wet turf, and all sorts of non-skidding appliances were requisitioned. In stopping the cars a few of the competitors, in their excitement, also stopped their engines, thus robbing themselves of all chances of success.

The results were as follows:—Starting and stopping race, 1, Mr. E. W. Lewis (16-h.p. Rover); 2, Mr. G. H. Lanchester (12-h.p. Lanchester). The pair were a dead heat in the preliminary trial. The other heat winners were the Hon. C. S. Rolls, whose car was driven by Mr. Graham; and Mr. F. W. Keen. Messrs. E. M. C. Instone, G. H. Lanchester, E. W. Lewis, and F. A. Coleman qualified for the Ladies' Passenger Race; and premier honours fell respectively to Mr. Lanchester and Mr. Instone (35-h.p. Daimler). Prizes were also awarded to the following lady passengers: Mr. Lanchester's car, Miss Thomas, Miss Barnsley, and Mrs. Lanchester; Mr. Instone's car, the Misses Greaves, Barnard, and Davis. Mr. S. Downing (10-h.p. Alldays) won the obstacle race; and Mr. G. S. Moore (6-h.p. Jackson dogcart) was second; Mr. W. Guilding (10-h.p. Star) was the winner of the musical



The Midland Automobile Club's Gymkhana. The Lady Passenger Race.

chester), T. Clayton, W. Ballin Hinde, A. G. Johnson, Frank Lanchester, and C. P. Type (Midland), S. F. Harris (Northampton), A. Barlow and Booth Granger (Nottinghamshire), A. E. Newton (Reading), A. Armitage (Somersetshire), J. Thompson Willows (South Wales), A. Scrase Dickens (Sussex), E. H. Atchley, R. S. J. Hannen, J. Sutcliffe Pyman, and J. H. Reeves.

It was resolved that a letter should be sent out on the subject of stone throwing by children, and some conversation took place on the dissolution of the Reading and Burnley automobile clubs, it being generally agreed that their absorption into the county organisations was rather an indication of the strength of the movement than otherwise.

### THE GYMKHANA.

For the entertainment of the visitors and the benefit of the Moseley Convalescent Home, the Midland Automobile Club had organised a gymkhana, and although the grounds of the hospital—where the event took place—were saturated with wet, the rain fortunately withheld and a very enjoyable afternoon was spent. Some of the events were productive of much humour, while others called for a good deal of skill and resource from the drivers. The competitions furnished a test of the cars and of the efficiency of their equipment. There were four events: (1) A starting and stopping race, in which the competitors were required to start from a line, race over a straight course, and terminate over a line without touching a brick wall; (2) an obstacle race, in which the contestants started from a line, drove over the course

chair competition; Mr. Downing being second. The silver medal offered by the Motor Union for the most meritorious performance was secured by Mr. Lanchester. The prizes were presented by the Hon. A. Stanley, M.P., who, with Messrs. W. Ballin Hinde and T. Clayton, officiated as judge. The starter was Mr. W. Rees Jeffreys, the secretary of the Motor Union. The arrangements were well carried out by a strong local committee, with Mr. T. H. Ryland as hon. sec.

### THE DINNER.

The annual dinner of the Midland Automobile Club, held at the Grand Hotel, Birmingham, on Saturday, proved an important event, owing to the attendance of many members of the Motor Union. Mr. J. Broughton Dugdale presided, and after the loyal toasts had been honoured proposed "The Motor Union," expressing warm appreciation, on behalf of Midland automobilists, of the work of that body. They had done a self-sacrificing work on behalf of the motoring interests of the country generally. They heartily welcomed among them so many ladies, to whom the improved means of locomotion must strongly appeal. They would be able to exercise a very beneficent influence, by repressing inconsiderate drivers.

The toast was responded to by the Hon. A. Stanley, M.P., who expressed his great satisfaction with the agreement which had been entered into between the Motor Union and the Automobile Club. Last year much was done in the direction of smoothing down differences and in removing causes of friction between the two bodies. The

work of each had been clearly defined, and the results had been all that could be desired. Not a single cause of difference had arisen. In regard to legislation, as affecting the motor movement, the hon. member stated that so far as he could ascertain the tendency was not to initiate any new laws this year. There were many reasons why motorists wished for legislation, because under the existing Act there were many anomalies, absurdities, and in some cases considerable hardship. The present Act, however, was only a temporary one, and expired this year. When legislation came it would be of a permanent character. Motorists were largely increasing, and it seemed that the deferring of legislation would prove of advantage in ultimately securing a satisfactory bill.

"The Midland Automobile Club" was proposed by Mr. A. R. Atkey (Nottingham), who related an interesting anecdote showing how the motor-car strikes the child mind. A scholar was asked to explain the meaning of the scriptural term the "quick and the dead." The reply was that those who got out of the way of the motor were the quick and those who did not were the dead.

The toast was acknowledged by Mr. T. H. Ryland, who, as showing the work of the Midland Club, mentioned that this year over 800 letters had already been sent out, as well as 3,500 circular letters. The police all round this district, and especially those of Birmingham, had always treated the motor question in a perfectly level-headed manner, which he was able to point out to the Royal Commission on motor-cars when giving evidence before them. He did not think there had been a single prosecution in the city of Birmingham for exceeding the speed limit since the Act had been in force. Captain Anson, the Chief Constable of Staffordshire, who was unable to be present, had written that if motorists would turn every corner in the belief they were going to meet an old lady seated in a bath-chair, the duties of policemen would be reduced to a minimum. Mr. Ryland thought this remark was absolutely sound, for half the trouble arose from taking cross roads and corners at anything beyond the speed one knew to be safe. Captain Anson also mentioned that complaints as to the conduct of motorists were decreasing.

Mr. T. Hamilton Barnsley, late chairman of the Midland Automobile Club, proposed "Our Guests."

Earl Russell, in responding, pointed out that motorists were much concerned with local authorities; therefore he was pleased to notice the presence of the Mayor of Aston. As automobilists they were especially anxious to maintain good relations with local authorities and to persuade them that their object was not to kill their children, depopulate their schools, or tear up their roads; all they wanted them to do was to make the roads fit the traffic and erect signs showing where care should be exercised. The local authorities were meeting the demands of automobilists at present to a large extent. What local clubs had to do was to bring together automobilists who would not otherwise meet and form an association where they would be in immediate touch with the local authorities, and where they knew their requirements better than anyone else. The particular function of the Motor Union was to form a proper public opinion in regard to the motor movement, and in this the union had been wonderfully assisted by local associations.

Mr. A. G. Johnson's toast of "The Chairman" concluded the list of speeches, thus bringing the pleasant gathering to a termination.

## MOTOR OMNIBUS PATENTS.

At an extraordinary general meeting of the Motor Traction Company, Ltd., held on Tuesday to consider the scheme for the sale of the undertaking to a new company, Mr. F. H. Bromwich, the chairman, stated that the licence they had acquired conferred upon the company the right to manufacture, or to run, or to licence to run, in Great Britain any motor vehicle under the Daimler system or the De Dion-Bouton system. The Daimler omnibus, popularly known as the Vanguard, was, he thought, generally recognised as one of the best motor-omnibuses in existence. The Mercedes car, too, was acknowledged as one of the best cars on the market. The company had the right to manufacture these vehicles without going to the expense of experimenting. The Daimler and De Dion-Bouton companies abroad were full up with orders. There was no question whatever about the company's title to the rights he had mentioned. The licence gave them in addition the sole and exclusive right to run omnibuses under the Daimler system within London and an area of twenty miles. That right was most important. Every single omnibus constructed under the Daimler system, including all, or, at any rate, most of the Vanguards, was running in infringement of their rights, and they were entitled to stop them running and claim damages. He explained at the last meeting that counsel had been consulted. Since then they had laid the papers before Mr. Rufus Isaacs, K.C., and at a conference on the preceding day he had given it as his opinion that the company is entitled in effect to an exclusive licence under the Daimler system, and that in the action they were bringing the company would get a verdict in their favour. In reply to a shareholder who asked who had taken up the new shares when the capital of the company was increased from £60,000 to £120,000, the Chairman explained that the capital was increased for the express purpose of paying for the new rights they had acquired. The new capital went principally to the Mercedes-Daimler Company and Mr. S. F. Edge.

## SOME SHORT WHITSUNTIDE TRIPS.

BELOW we give some suggested runs of about fifty miles out and home from several of the leading centres of motoring interest. These can be varied according to circumstances; they are only intended to suggest short runs of interest; and we shall be glad to hear from readers able to give alternative routes or propose suitable trips.

### FROM NORTH-WEST LONDON.

Marble Arch to Kilburn (2½), Cricklewood (1½), Edgware (4½), Stanmore (2), Bushey (2½), Watford (1½), Rickmansworth (3½), Chorley Wood (2), Amersham (6), Beaconsfield (5), Gerrard's Cross (4½), Uxbridge (4), Hayes (3½), Hanwell (3½), Ealing (1½), Acton (1½), Shepherd's Bush (2½), Marble Arch (2½); total distance, 54½ miles.

### FROM NORTH-EAST LONDON.

Hackney Station to Clapton (1), Leyton (1½), Walthamstow (1½), Chingford (2½), Sewardstone (2½), Waltham Abbey (2½), "Wake Arms" (3½), Epping (2½), Ongar (6), Stanford Rivers (2), Abridge (5½), Chigwell (2½), Woodford Bridge (1½), Wanstead (2½), Leytonstone (½), Leyton (1½), Hackney Station (2½); total distance, 42½ miles.

### FROM NORTH LONDON.

Highgate Archway to "Tally Ho" (3½), Barnet (3½), South Mimms (3½), London Colney (3), St. Albans (3½), Hatfield (5½), Colegreen (3½), Hertford (3½), Hoddesdon (4½), Broxbourne (1½), Cheshunt (3½), Waltham Cross (1), Enfield (3½), Winchmore Hill (1½), Palmer's Green (1½), Wood Green (1½), Hornsey (2½), Highgate Archway, (1½); distance, 50½ miles.

### FROM SOUTH-WEST LONDON.

From Clapham Junction Station to Wandsworth (1), Putney (1), Richmond (5½), Twickenham (1½), Sunbury Common (4½), Staines (4½), Chertsey (3), Byfleet (4½), Cobham Street (2½), Esher (3½), Ditton (2½), Kingston (1½), Wandsworth (6½), Clapham Junction (2); distance, 41½ miles.

### FROM SOUTH-EAST LONDON.

From New Cross to Lewisham (2), Eltham (2½), Sidcup (3½), Swanley (3½), Farningham (2½), Kingsdown (3½), Wrotham (2½), Ightham (2½), Seal (3½), Riverhead (2½), Westerham (4½), Cudham (4½), Keston (3½), Bromley (3½), Lewisham (4½), New Cross (2); total distance, 52 miles.

### FROM SOUTH LONDON.

From Elephant and Castle to Brixton (2½), Streatham (2½), Croydon (4), Coulsdon (4½), Merstham (3½), Reigate (3½), Betchworth (3), Dorking (3), Leatherhead (4½), Epsom (4), Ewell (1½), Morden (3½), Merton (2), Balham (2½), Clapham (1½), Elephant and Castle (2½); distance, 49½ miles.

### FROM NOTTINGHAM.

To Woodthorpe (2½), Newstead Abbey (5), Mansfield (7½), Church Warsop (5½), Cuckney (1½), Welbeck Abbey (3), Worksop (3), Budby (5½), Ollerton (3), Wellow (1½), Eakring (3), Kirklington (3), Southwell (3½), Thurgarton (3½), Lowdham (3), Burton Joyce (2½), Colwick (3½), Nottingham (3); total distance, 62½ miles.

### FROM MANCHESTER.

To Withington (4), Cheadle (3), Handforth (3), Wilmslow (2½), Alderley (1½), Jodrell (7½), Holmes Chapel (3½), Cranage (1), Knutsford (7), Mere Corner (2½), Altrincham (5), Sale (3), Stretford (1½), Manchester (3½); total distance, 48½ miles.

### FROM LEEDS.

To Moortown (2), Harewood (5½), Pannal (5), Harrogate (2½), "Little Wonder" (1), Blubberhouses (8), Bolton Bridge (7), Addingham (3), Ilkley (3), Otley (6), Bramhope (3), Leeds (7½); total distance, 53½ miles.

### FROM LIVERPOOL.

Birkenhead to Newferry (2), Eastham (3½), Backford (5½), Chester (3½), Saltney (1½), Hawarden (4½), Queensferry (1½), Hinderton (7½), Parkgate (2), Heawall (3), Thurston (2), West Kirby (3), Hoylake (1½), Moreton (3½), Bidston (1½), Birkenhead (3½); distance, 51½ miles.

### FROM NEWCASTLE.

To East Denton (3½), Walbottle (1½), Heddon (2½), Harlow Hill (3½), Matfen Piers (2½), Matfen (2), Stamfordham (3½), Black Heddon (3½), Belsay Castle (2), Bolam (3), Meldon (2½), Milford (5), Morpeth (2), Stannington (4½), Seaton Burn (3½), Gosforth (4), Newcastle (2½); total distance, 57½ miles.

### FROM BIRMINGHAM.

G.P.O. to Smallheath (2½), Yardley (1½), Edmdon (3½), Stonebridge (2½), Kenilworth (3½), Leamington (4½), Warwick (2½), Hatton (2½), Wroxall (3½), Knowle (5), Solihull (2½), Olton (2½), Greet (2½), G.P.O. (2½); total distance, 46½ miles.

### FROM IPSWICH.

To Copdock (4), East Bergholt (5½), Manningtree (3), Tendring (6½), Weeley (2), Little Clacton (3), Clacton-on-Sea (3½), Great Holland (5), Kirby (2), Beaumont (4), Great Oakley (3), Ramsey (3½), Harwich (3½), Felixstowe Pier (1½), Walton (2½), Trimley (1½), Ipswich (8½); total distance, 62½ miles.

### FROM BRISTOL.

To Keynsham (5), Saltford (2½), Bath (4½), Batheaston (2½), Box (3½), Pickwick (3), Chippenham (4), Yatton Keynell (4), Burnell (4½), Acton Turville (1½), Tormarton (3), Codrington (3), Downend (5½), Eastville (3), Bristol (1½); total distance, 50½ miles.

### FROM SHEFFIELD.

To Lidgate (2½), Ashopton (8½), Bamford (2½), Hatherage (2½), Grindleford Bridge (2½), Calver (2½), Baslow (2), Chatsworth (2½), Baslow (2½), "Peacock Inn" (5), Totley (1½), Beauchief Abbey (1½), Sheffield (4½); total distance, 40½ miles.

## CLUBS AND ASSOCIATIONS.

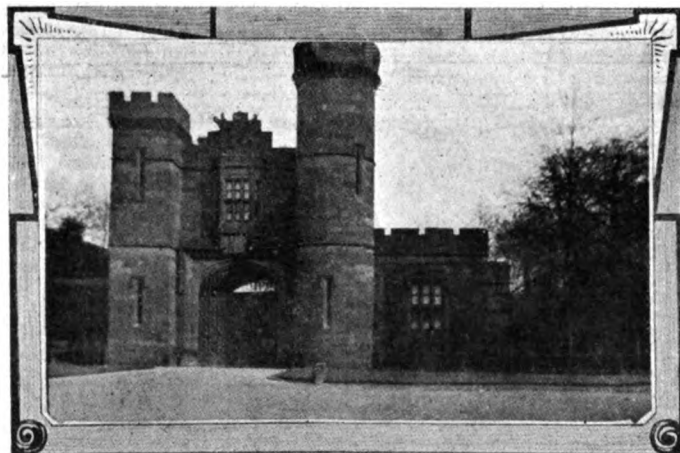
### NORTH EASTERN.

THE North Eastern Automobile Association will hold a hill-climbing competition on the road from Broadwood to Durham on the 16th inst. The hill rises 233 feet in a total distance of 880 yards, giving an average gradient of 1 in 11.3, and a maximum of 1 in 5.3 for about forty yards near the top of the hill. There is a stretch of 170 yards of nearly level road at the bottom of the hill to allow competitors to attain a fair speed before the real ascent is reached. There will be eleven classes, as follows:—

Class.	Description.	Total capacity of cylinders.
1. ...	Motor-bicycles ...	Not exceeding 5 litres
2. ...	" " " " ...	Exceeding 5 "
3. ...	Tri-cars " " ...	No limit.
4. ...	Motor-cars " " ...	Not exceeding 1.3 litres
5. ...	" " " " ...	" 2 "
6. ...	" " " " ...	" 2.5 "
7. ...	" " " " ...	" 3 "
8. ...	" " " " ...	" 4 "
9. ...	" " " " ...	" 5 "
10. ...	" " " " ...	" 6 "
11. ...	" " " " ...	Exceeding 6 "

Steam cars will be allowed to compete in the same classes with petrol vehicles, each double-acting cylinder being reckoned equal to four cylinders of an internal combustion engine.

Entries should be made to Dr. J. McHaffie, Talbot House, Tyne Dock.



The entrance to Knowsley Park, near Liverpool, the seat of the Earl of Derby, where the Eliminating Trials for the British Team for the International Motor-cycle Race are to be held.

### NORTH LONDON.

ON Saturday last the North London Automobile Club were the guests of their president at his mansion at Forty Hall, Enfield. There were over a hundred members and friends present, who, after being received by Col. Bowles, were conducted through the delightful old world garden, an interesting feature of which was the salt-water aquarium and a very fine collection of sea anemones. After tea, taken in a marquee, a coach-house race was held in a part of the grounds near the lake, when the hon. sec., Mr. Charles Smith, was again successful in winning the first prize.

The following is the order in which the competitors finished:—

Mr. Charles Smith...	12-h.p. Darracq ...	23.2 sec.
Mr. Max Graddon ...	15-h.p. Panhard ...	29.2 "
Mr. W. Cornwall ...	16-h.p. Albion ...	39.4 "
Mr. Lendrum ...	10-12-h.p. Darracq ...	41.2 "
Mr. W. Holmes ...	12-h.p. Darracq ...	44.4 "
Mr. F. Horton ...	6½-h.p. Darracq ...	46. "

The undermentioned gentlemen were disqualified in consequence of their cars touching the hurdles:—Messrs. Alexander, G. Smith, Bransom, Griffiths and E. Swingle.

Messrs. J. T. Barber and G. Cannon acted as timekeepers.

After witnessing this amusing competition, the guests assembled in the dining-room, where, in a few well-chosen words, one of the vice-

presidents, Mr. A. W. Gamage, thanked Colonel and Mrs. Bowles on behalf of the club for their kind hospitality. The Colonel, in reply, said it gave him much pleasure in welcoming them to his house and hoped they would again visit him next year. This terminated that which, in spite of the uncertainty of the weather, proved to be a most enjoyable afternoon.

### CEYLON.

A MEETING of the committee of the Automobile Club of Ceylon was held on the 1st ult. at the Queen's Hotel, Colombo, where there were present Messrs. Biddulph, Hall Brown, Clarke, Goodman, and North. Mr. J. R. Hardy, Mr. A. Greig, and Capt. Hon. T. Napier were elected members.

It was decided not to have the trials owing to insufficient entries.

A circular from the Planters' Association of Sabaragamuwa re stray cattle and dogs was read, and it was resolved:—"That this Club are in entire sympathy with the resolution passed by Sabaragamuwa, and will be pleased to co-operate with them in any steps that are taken."

### HUDDERSFIELD BRANCH OF Y.A.C.

THE second annual hill-climbing contest in connection with the Huddersfield branch of the Yorkshire Automobile Club took place on Saturday on a length of road leading from Meltham towards Isle of Skye. The length of the course was a mile and 47 yards, and there were twenty-five entries in all—three in class A for small cars, six in class B, and sixteen in class C, which included cars ranging from 8-h.p. to 40-h.p.

The winners of medals were as follows:—Class A: W. B. Lawton, Huddersfield, 8-9-h.p. Corre; time, 7 min. 10 1-5 sec.; points, 124. Class B: W. Singleton, 10-h.p. De Dion; 5 min. 9 2-5 sec.; 136 points. Class C: D. Stoner, Crowther, 40-h.p. Napier; 2 min. 11 1-5 sec.; 124 points. Mr. Singleton took the cup with the highest points, 136. Mr. A. Farnell, Bradford, made the fastest time, 2 min. 3 2-5 sec., with a 30-h.p. Daimler; and Mr. Herbert Walker the next best, 2 min. 9 sec., with a 30-h.p. Daimler.

THE Hertfordshire County Automobile Club will have a run to Cambridge on Whit-Monday.

THE week-end meet of northern clubs at Buxton will take place at the Empire Hotel on the 23rd inst.

### NEW COMPANIES REGISTERED.

PATIN TYRE SYNDICATE, LTD.—Capital £1,200. To acquire the British and colonial rights in a patent tyre invented by O. Patin, of Paris, and to carry on the business of manufacturers of and dealers in tyres for motor vehicles, etc. Registered office, 13, Clifford's Inn, E.C.

DARRACQ-SERPOLLET OMNIBUS COMPANY, LTD.—Capital £500,000. To acquire from L. Serpollet and A. Darracq and Co. (1905), Ltd., the goodwill, patents and patent rights (except for Italy) in connection with the manufacture of steam motor-omnibuses, motor-wagons, motor-boats, and other means of transport belonging to the said L. Serpollet, and to carry on the business of motor-omnibus, van, lorry, car, cab, and vehicle manufacturers, with steam, petrol, electric, or other power, garage proprietors, engineers, etc. Registered office, 2, Coleman Street, E.C.

BEAUFORT MOTOR COMPANY, LTD.—Capital £150,000. To carry on the business of motor-car, omnibus, van and cab manufacturers, etc. The first directors are Messrs. J. E. Lound, R. V. Jellicoe, A. V. Cowell, Sir Frederick Frankland and W. A. Turquand. Registered office, 14, Baker Street, W.

HEDGE LAND AND CO., LTD.—Capital £15,000. To acquire from Messrs. T. K. Webster and F. W. Hedgeland the benefit of certain existing inventions relating to axles and clutches, and to carry on the business of axle manufacturers, engineers, builders of motor-cars and other vehicles, etc. Registered office, 76, Cheapside, E.C.

GEARLESS MOTOR OMNIBUS COMPANY, LTD.—Capital £220,000. To adopt an agreement with the Cerol Syndicate, Ltd., for the acquisition of certain property, and to carry on the business indicated by the title. The first directors are Messrs. E. Manville and P. Dawson, both of 29, Great George Street, S.W.; F. Rawson, 7, Penywern Road, S.W.; G. H. Hopkinson, 4, Bloomsbury Street, W.C.; and J. J. Newbould, Tatenhill, Burton-on-Trent.

### ROAD REPORTS.

WESTMINSTER.—Savoy Hill is to be repaved between the 18th inst. and 2nd prox. King's Road and Marsham Street will be dealt with in the previous week. Charing Cross Road and St. Martin's Lane will be repaved by the Westminster City Council in September.

EASTBOURNE.—Several more important roads in the borough are to be laid with tarmac.

WEST SUSSEX.—Warning boards are being erected to mark the presence of some of the severe hills in West Sussex, but more are wanted, and we would suggest to the authorities the advisability of thus distinguishing Crocker's Hill, between Rogate and Midhurst—a very perilous and sinuous hill.



## CASES AGAINST MOTORISTS.

AT the Lancaster police court on Saturday, Harry Alger, chauffeur to Mr. Pickersgill, of Sunderland, was alleged to have driven a car over the measured quarter of a mile at the rate of thirty miles an hour. The defendant insisted that he was not driving at anything like that speed. On his behalf it was urged that it was not safe to convict on the evidence of one timing police officer, because he had to start and stop his watch in very little time after receiving a signal, and then he had also to signal to another officer to stop the car. If two watches were used for each case the Bench would see that they varied in most instances. A fine of £7 10s. and costs was imposed.

MR. BRUCE INGRAM, editor of the "Sketch" and "Illustrated London News," has been, at Brompton County Court, ordered to pay £25 damages for running over with his motor a pedigree fox-terrier belonging to Mr. J. R. Thonger. The unsuccessful defence was that the dog was not under proper control.

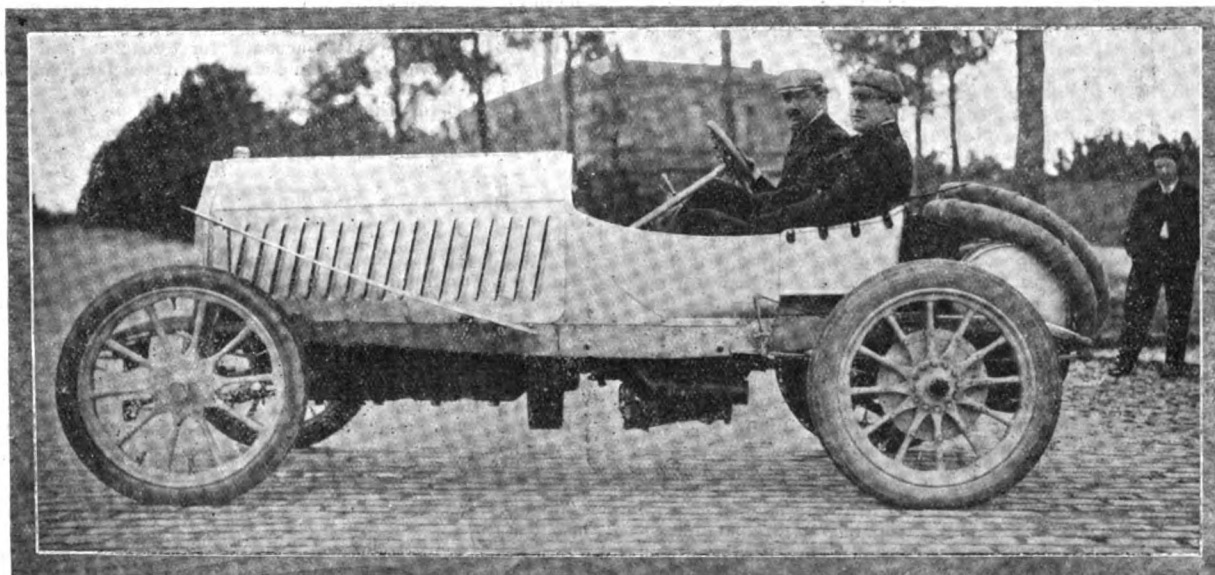
AT Worcester, Harry Joyce, Sydenham Road, Small Heath, tube manufacturer, was summoned for driving a motor-car in the Tything at a speed dangerous to the public. Mr. Blewitt, Birmingham, defended, and pleaded not guilty. The Chief Constable said P.C. Guy saw defendant travelling towards Harbourne at a speed estimated at from twenty to twenty-five miles an hour. He could not catch the whole number, but saw the letter "O" and the first figure "8." A cabman saw the number, "O-816," and defendant, the owner of the car admitted that he drove through the Tything on the evening of the date named. Two shopkeepers, a policeman and seven cabmen gave evidence

twenty miles an hour on the Burton road at Mickelover, on May 1st, and also for driving a motor-car in a manner dangerous to the public. Albert Roberts told the Bench that on the morning of May 1st he was cycling on the Burton road at Mickelover, in the direction of Burton-on-Trent. He was riding in the middle of the road, or rather to the left, and from that time he remembered nothing more until he recovered consciousness at the Derbyshire Royal Infirmary. Cross-examined by Mr. Blewitt for the defence, he said he never heard the motor-car approaching, and did not know what happened to him. The magistrates imposed a fine of £10 and costs.

HENRY BURGISS sued A. G. Smith, managing director of a motor-car company, of Drawstead Road, Streatham, for £10 17s. 6d., damages for injuries received in consequence of the alleged negligent driving, by defendant, of his motor-car, at Streatham Hill. It seemed that on Good Friday plaintiff, with his wife, was cycling through Streatham towards London, plaintiff being in front. As he neared the Dewstead Road turning, defendant, who was in a motor tri-car, came from behind, and turned in front of plaintiff into Dewstead Road. Plaintiff had no time to pull up, and the front wheel of his cycle struck the motor-car. The Judge found for plaintiff, and awarded him £8 damages.

AT the Horsham Petty Sessions on Saturday, four cases against motorists for furious driving were heard, the fines ranging from £2 to £10. In the case of one defendant, who, in his absence, was fined £5, the fine was reduced to £3 when, later in the day, he appeared.

THE Sultan of Zanzibar, who is travelling incognito in England, has been held up by the police on the Victoria Embankment, London, owing to the excessive speed at which his motor-car driver was travelling. The



M. Teste on the Panhard Racer which he will drive in the contest for the Grand Prix de l'A.C.F. The Panhard cars for the forthcoming race are provided with a new design of four-cylinder engine. The transmission is direct on top speed through a cardan shaft to a live back axle.

for the prosecution, their estimates of speed ranging from thirty miles an hour to eighty yards in the second, this latter exaggerated notion being advanced by a cabman. The defendant was fined £5, including costs.

AT Romford, John Woodham, chauffeur, Havering-atte-Bower, was summoned for driving a motor-car at a speed exceeding 20 miles an hour at Romford. Evidence was given by P.s. Addison, P.s. Edwards, P.s. Robinson, and P.c. Mann, to the effect that on his way to Romford Station defendant covered a mile in 2½ minutes. When spoken to at the station by P.s. Addison defendant said:—"I was driving to catch a train. What time did I do the mile in?" Defendant, who had been fined before for a similar offence, was now fined £7 10s. and costs 4s. The chairman (Mr. Joslin) said the employers were often more to blame than the drivers.

W. T. ASHFIELD, of Wellington Street, Strand, was summoned at Farnham for driving a motor-car to the danger of the public. A constable stated that defendant drove through Yorktown at a terrific pace. He could not stop defendant, but by telephoning to the Hampshire police he had him pulled up twenty-five minutes later at Basingstoke, sixteen miles away. Defendant was fined £10 and costs.

AT the Dartford Petty Sessions, James McKnaught, of West Ham, was summoned for driving, at the Broadway, Bexley Heath, a heavy motor-car and trailer, without having a person competent to apply the brake, as required by the law in the case of a car of that weight. Fined 10s. and costs.

EDGAR LINES, sanitary engineer to the Chesterfield Rural District Council, of Vernon Lodge, Chesterfield, was summoned before the Derby county magistrates for driving a motor-car at a speed exceeding

driver, William Smith, of St. John's Wood, was summoned at Bow Street, on Monday, for driving at over twenty miles an hour. The police evidence showed that the car covered a measured furlong at the rate of twenty-six miles an hour. Mr. Y. Drumkey, private secretary to the Sultan, said they went at a very moderate speed except when they were passing two cabs. The Sultan also considered that the speed was not excessive. Smith was fined 40s. and 2s. costs.

FOR using "light locomotives" in the West End of London which did not, as far as practicable, consume their own smoke, several owners of motor-cars and motor-omnibuses were fined in the Marlborough Street Police Court on Tuesday. The general defence was "over-oiling."

AT Beaconsfield, on Tuesday, five motorists were fined £5 each for exceeding the legal limit. Joseph Barberi was fined £3 and 8s. 6d. costs for motoring at thirty miles an hour on the Bath road at Taplow, the chairman (Captain Farwell) remarking that defendant was not so much to be blamed as his employers, who told him to drive home fast because it was raining. The Bench ordered a warrant to issue in the case of Ernest Howard Hargreaves, of Albert Court, Kensington Gore, who was summoned for driving a motor-car at Farnham Royal, near Slough, at a speed of over thirty miles an hour.

## MOTOR-CAR ACCIDENTS.

A MOTOR-CAR accident is reported from Brock, near Preston. Mr. Joseph Eccles, J.P., cotton manufacturer, was cycling along the Lancaster-Preston main road on Saturday night with a motor-car, belonging to Mr. George Burton, cotton manufacturer, following in the rear. A

wagonette was coming in the opposite direction, and after passing this Mr. Eccles cycled along in the centre of the road. The wagonette appears to have obscured the view of Mrs. Taylor, who was driving, and Mr. Eccles was run down. The bicycle was smashed to atoms, and Mr. Eccles was picked up from underneath the motor-car. He sustained serious internal injuries, and, after being removed to the waiting-room at Myerscough Station, was attended by Drs. Roberts, Garstang, and Brown, Preston. The police and others later placed the injured man upon a door, and he was conveyed to his home, Myerscough Hall, where he was found to be in a critical condition.

A MOTOR-CAR accident occurred on Tuesday afternoon at Friston Hill, about four miles from Eastbourne. The car, which is one used by a local company for making short country drives, contained Mr. and Mrs. Metters, of Stratford-on-Avon, and their daughter. While descending the hill the automobile got beyond the control of the chauffeur, and at the foot of the declivity it dashed into a wall, all the occupants being pitched into the roadway. Miss Metters was terribly injured, and died shortly afterwards. The parents were very badly cut and bruised. They were removed to the hospital at Eastbourne. The driver escaped with a shaking, and the car was smashed to pieces.

THE first accident with motor-buses since their introduction into Nottingham was attended with fatal results on Monday. A labourer named William Epison, age about sixty, of Windmill Street, stepped off the pavement in Southwell Road, in the direct track of the vehicle. He was knocked down, the wheels passing over his head and killing him instantly.

### WATERING ROADS WITH CALCIUM CHLORIDE SOLUTION

IN connection with the use of calcium chloride for the prevention of dust on the highways, the following notes by Messrs. Brunner, Mond and Co. will be of general interest:—

The solution used for watering is made by dissolving 1 cwt. of calcium chloride in 100 gallons of water. A road to which calcium chloride has not previously been applied should be watered thoroughly twice over with this solution, an interval of one day being allowed to elapse between the first and the second watering. For 100 yards of road eight yards wide, i.e., for 800 square yards, about 600 gallons of the solution will be required, about 300 gallons for the first watering, and another 300 for the second. For this distance 6 cwt. of calcium chloride will be required, costing about 9s. This will probably last for a minimum period of three weeks or more, according to traffic, quality of road, etc. For subsequent treatments one thorough watering should suffice each time.

To extract the solid calcium chloride from the drum, the latter should be hammered all over with a heavy sledge-hammer, whereby the contents are broken up as well as the drum and can be removed in lumps; or the metal of the drum can be cut open along the seams and the calcium chloride broken up after the metal is removed from it. The solid calcium chloride after the drum is opened will gradually liquefy and should therefore be put into a water-tight tank to prevent it running to waste if it has to be left unused for some time. To make the solution in the watering cart, take the required weight of calcium chloride broken into pieces about the size of a fist, and put it into the cart before adding the water. Then fill up with water and wait until it is all completely dissolved. Stirring greatly facilitates the solution. The solution in the cart should always be stirred up before watering.

### MOTORIST v. MOTORIST.

A CLAIM for £25 3s. 10d., being damages to a motor-car sustained in a collision with another car on the road between Ripley and Guildford, was brought by Mr. Cowley Lambert, J.P., of Womersley, against Mr. Edward Hudson, at the Guildford County Court, before his Honour the Hon. Arthur Russell. There was a counter-claim for £50, which was subsequently amended to £50 7s. Plaintiff's counsel explained that the action arose from a collision between two motor-cars between Guildford and Ripley, on February 9th, about 8.45 p.m. The actual spot of the occurrence was 2½ miles from Guildford. Plaintiff's chauffeur was driving his car from London. At the point where the accident occurred the road curved slightly, and as plaintiff's chauffeur rounded the curve he kept well to the inside—his proper side—of the road. Defendant's car was approaching from the opposite direction, and was coming on at a very fast rate and on the wrong side of the road, viz., the inside of the curve. After hearing the evidence his Honour said he could only find for plaintiff, and say that defendant was responsible for the accident. The people who saw the collision were unanimous that it was defendant's fault, and judgment would be for plaintiff on the claim and counter-claim.

### A SECOND ACQUITTAL.

LORD VIVIAN CRICHTON-STUART, of the Scots Guards, has been summoned at Chertsey for driving a motor-car at an illegal speed on May 7th. A previous summons had failed because the police could not prove identity as to the defendant being the driver of the car. Inspector Jarratt, of the Surrey Constabulary, said the pace was thirty-five miles

an hour at the bottom of Egham Hill. Sir Charles Walpole, chairman of the Bench, said defendant had not been identified as the person who drove the car, and the case would be dismissed.

### PUBLIC MOTOR SERVICES.

A MOTOR-BUS service is about to be established between Caistor and Grimsby by Messrs. J. W. Eason and Company, of the latter town.

At Chester Town Hall Council, two memorials, one signed by 396 residents of Liverpool Road, Garden Lane, and district, and the other signed by members of the Bache Golf Club, have been presented in favour of establishing a service of motor-buses. The matter has been referred to the Tramways Committee for consideration.

It is being generally conceded that the rivalry of motor-bus drivers in London approaches the maximum of keenness in the Walworth Road, where, the Rev. A. W. Jephson declares, motor-bus racing appears to be the normal condition of things.

A MOTOR Pleasure Company for Blackburn and Accrington is being projected, the idea being to own and hire out motor-buses and other vehicles to picnic parties, &c. The first meeting was held in the former town, and the second took place in Accrington on Wednesday.

SUBSCRIPTIONS are invited for 5,680 five per cent. cumulative preference shares of £10 each in the London Road-car Company, Ltd. which has a capital of £700,004, of which £444,000 has been issued and paid, and a 4 per cent. debenture issue of £150,000. Contracts have been entered into for delivery of a large number of motor vehicles and the company considers that it should by the end of the present year be in possession of about 260 motor-buses. The company's assets total £715,655, of which horses, horse cars, vans and harness (decreased since the 31st December last) account for £264,283, and motor-cars and equipments, including cars in course of construction (since increased) for £58,193.

THE first of the motor-buses provided by the Manchester Corporation has made a trial trip through the southern suburbs with a party of the members of the Tramways Committee.

### POLICE TRAPS.

RUMOURS of a police trap at Church End, Finchley, are current among metropolitan motorists.

BETWEEN Little Berkhamsted and Aston Clinton, on the Aylesbury road, is a measured distance with policemen at each end.

THE removal of Inspector Jarratt from Egham to the Reigate division is among the probable early changes in the Surrey Constabulary.

ONE trap alone has just resulted in the capture of eighteen motorists, who have been fined to the extent of £50 at the Guildford County Bench.

MOTORISTS have need of care in driving on the Ayr and Maybole road.

A MEASURED distance in the Bayswater Road, W., is still being used by the police for the capture of motorists.

FOUR motor-car drivers were summoned at Willesden for exceeding the speed limit in the Edgware Road, near Hendon. Lord Hampden wrote to the court suggesting that the police-trap on which his driver was caught was not at a fair spot. With this view the magistrate agreed, suggesting to the police that a long stretch of straight road should not be selected, but a spot where speed would be dangerous.

IN the East Parade, Harrogate, the police have been watching motorists at the point where four or five cross-roads meet.

### TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case; otherwise no liability will be accepted.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

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## COMMENTS.



OUR illustrations this week further emphasise the part that the motor-car is playing on the racecourse. Danny Maher, the jockey who won the Derby, recognises that however speedy the horse may be on the racecourse the motor-car is quite fast enough for progression on ordinary roads. Both on Derby day and at the Oaks automobiles of every kind predominated, from the small motor-bicycle to the modern 'bus. It is now five years ago since the King set the fashion of going to the races by motor-car; now at Epsom, Newmarket and other racecourses the provision of special automobile enclosures for the accommodation of the cars of their patrons is becoming recognised as an essential feature. Our picture on another page faithfully depicts how completely the motor-car has taken possession of the public fancy.

### The Ubiquitous Motor-Car.

WHEN the motor-car becomes the fashionable vehicle on Epsom Downs, and motor-buses carry silk-hatted passengers to the Derby, no more need be said to prove the position that the automobile has won as a means of public convenience and conveyance. Now comes information from the authorities of the Royal Horse Show at Richmond that the enclosure for motor-cars has been much enlarged, and that not only will opportunity be afforded for accommodating a large number of vehicles, but a specially good position has been allotted to automobilists attending the horse show in the Old Deer Park.

### The Irish Trials.

It cannot but be regarded as unfortunate that the Irish automobile trials about to be held will be overwhelmed by the fact that the Scottish trial will be in progress at the same time. Moreover, some misunderstanding has arisen with regard to the details of the contest in the Emerald Isle which were calculated to prevent the smooth organisation of the event. This has been dispelled by the letter which Mr. G. White, hon. secretary of the Irish Club, has issued. The use of the word "amateur" was the cause of all the discussion, and Mr. White is able to point to the number of motorists who are entering in both sections to refute the suggestion that attempts have been made to institute distinctions of social standing. Now that this has been cleared up it is to be hoped that the Irish trials will be as successful as the Scotch contest is likely to be.

### The Census of Industry.

ALL who have discussed the relative proportions of the British and the foreign motor-car industry will be interested in Mr. Lloyd-George's Bill for taking an industrial census in 1908 and in future years as may be arranged. The persons required to make returns include the occupiers of factories or workshops, and every person who, by way of trade,

gives out work to be done elsewhere than on his own premises. Elaborate precautions are promised to secure that the information thus obtained shall be kept closely under Government seal; but the general results will be of importance to those engaged in controversy or discussion. We know, from the Board of Trade returns, the value of the motor-cars imported into this country, and also the aggregate of the exports, but no returns are available as to the actual home production. Many estimates have been published, and some of the "guesses at truth" have been amusing; but this new inquisition will be the first really official contribution to the actual value of the industry of the country. The statistics of the 1908 and the succeeding inquiries should provide useful data on which to base a comparison of the state of business on the home account.

### Motor-cars in the London Parks.

SOME surprise has lately been expressed with regard to the notices posted in certain of the London parks and open spaces limiting the speed of motor-cars travelling therein to eight miles per hour. The particular case of Finsbury Park is mentioned by a correspondent, who has just seen the injunction for the first time. We are able to say that this is quite within the power of the London County Council, that body having decided that motor-cars can be legally brought within the bye-laws which were made in 1902. Under these bye-laws several offences were specified, one being the "drawing, driving, or propelling at a rate exceeding eight miles per hour, or so as to endanger the public . . . any gun or gun-carriage, carriage, van, velocipede, bicycle, truck, wheelbarrow, or vehicle." Under that clause the legal limit for motor-cars allowed by law, but not always permitted by the police, can be reduced, and motorists will not concern themselves with the restriction to any great extent.

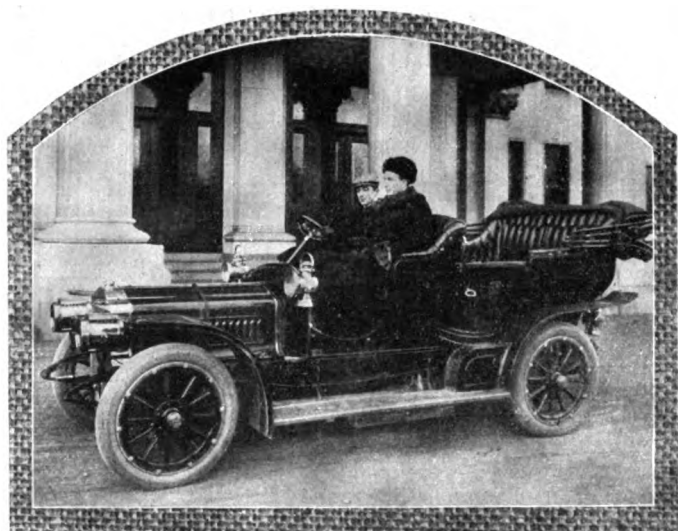
### In Rhodesia.

DR. APPELYARD recently lectured on motorism before the Guild of Culture at Salisbury, Rhodesia, more particularly with regard to its application to that colony. He frankly admitted that if an individual or syndicate imported a few steam wagons and a motor-car for transport, passenger and mail service, say, to the centre of the Mazoe district, even with five times the traffic available, it could not be a success. In the first place, it was just as necessary to have a road to run mechanical vehicles over as it was to have an iron road for railway transport. A road should have a bed and a surface, and should be protected from rains by adequate drainage, while bridges should be thrown over rivers and spruities. As far as he could make out, many South Africans had no conception of the word "road," and asked of what use a road would be in the rainy season, whereas in the rainy season it should be better, being free from dust. As culverts obviated irregularities on the railway line, even to a greater degree would irregularities be avoided between Salisbury and Mazoe. Another reason why this mode of transport was impracticable was the absurd cost of fuel, petrol costing from 5s. 6d. to 6s. 6d. a gallon. Two difficulties which should be removed were the heavy railage and the 10 per cent. duty. To take full advantage of the vehicles a scheme should be

devised by which the principal districts could be connected with the towns and centres on the railway.

#### Motor Transport in South Africa.

THERE is something like consternation among owners of horse wagons which have hitherto been engaged in transport work in South Africa. The success of the motor haulage engine has been so satisfactory for this service that we hear in one particular instance forty or fifty wagons of the old type have been displaced by the motor-lorry. Unfortunately the same prejudice which was evidenced in this country at the beginning of the last century seems to be prevalent in some of the country districts, and when halts are called for the night constant watch has to be kept lest the attentions of the farmers should be too antagonistic. The fact that some of the local authorities are contemplating the maintenance of some sort of systematic management of the great trunk roads is significant of the position motor haulage has gained in that country, and the recognition of its importance to the future development.



Danny Maher, the American jockey, who rode the winning horse in the Derby last week, is also an enthusiastic motorist. Our illustration depicts him at the wheel of his Thomas car, an American vehicle built by the E. W. Thomas Motor Company, of Buffalo.

#### Technical Instruction.

VERY satisfactory is the progress that the automobile education movement is making among the technical and engineering institutes throughout the country, and since we began to chronicle the organisation of classes for such instruction many really useful developments have taken place. The Manchester School of Technology is purchasing motor-car engines and frames for experimental purposes; the Regent Street (London) Polytechnic is extending its equipment with a view to greater completeness, and other institutes, like that of the Great Eastern Railway Company at Stratford, are showing considerable acumen in the methods and means of instruction—all of which is to the national advantage.

#### Practical Work.

WHILE referring to the courses of instruction in public institutions we may usefully draw attention to another enterprise now being developed by Mr. Eustace H. Watson, whose advent to the London motor trade has been distinguished by some innovatory methods based on sound judgment and good performance. He has now, in connection with the London depot for the Argyll cars, opened a special department for the purpose of instructing owners and drivers in the mechanism, construction,

and driving of cars, Mr. C. W. Higgs—who has already won distinction at one of the London polytechnics—having been appointed lecturer and demonstrator. Elsewhere we give further details of the scheme, and would here remark that this combination of business and knowledge has much to commend it to the public.

#### Books and the Car.

BOOKSELLERS are complaining that their lot is becoming less happy and decreasingly profitable. On the one hand they have the vigorous competition of old-fashioned journals which have suddenly become modernised beyond recognition and find vent for their energies in a book-shop; on the other is the apathy to study and reading which they place to the account of the motor-car. The automobile, they declare, draws its votaries from those who previously studied guide books and purchased a stock of fiction and other literary provender with which to beguile themselves when on holiday. Now the route map has supplanted the learned local historian; and holidays are such whirligigs that no time is found for the reading of books. Haste, scurry and bustle have destroyed the old taste for reading—and the bookseller, departing from the dignity of Victorian days, places a stall outside his shop and bewails the passing of his customers, by motor-car.

#### An Open-Air Pleasure.

THIS is one of the effects of increased facilities for rapid transit. It is probably true of those who motor "for motoring's sake," and they are not the majority of owners of cars. When the number of motorists could have been counted in scores and dozens, it may have been true that a large proportion simply revelled in the joy and exhilaration of the new locomotion. But we have advanced a stage further, and the majority of those on cars use them for the legitimate purpose of travel, whether for recreation or business matters not for the purpose of the argument. And although possibly the motor-car is responsible for a great deal more time being spent in the open air than was formerly the case, we are not willing to accept the view which some booksellers have assigned for lessened revenue.

#### Books for Motorists.

IN fact, the motor-car is becoming productive of books—some of which successfully aim at becoming literature, others of which fail in that aspiration. "The Happy Motorist," by Mr. Filson Young, belongs to the former class, and furnishes an instance of technology made popular. Now "The Black Motor-car" comes to thrill our nerves as we glance at pictures of axes whizzing past cars, pistols pointed at the heads of persons, dead bodies floating in the water, and wrestling matches in fearsome earnest. Around these illustrations Mr. Harris Burland has woven a very striking story, published by Mr. E. Grant Richards. Of a more serious character is the Badminton volume on Motoring, which has attained the dignity of a fourth edition, in itself a reproof to those who believe in the motorist's apathy with regard to reading. This has become recognised as a standard work, likely to attract the wealthy sporting man to a realisation of the delights of motoring, and to interest the motorist who takes a delight in the history and progress of the automobile.

#### A Technical Book.

So much for the general literature of the automobile. Of a more technical character is such a work as Mr. E. W. Walford's "Practical Motor-Car Repairing," which has been included in Messrs. Percival Marshall and Co.'s series of Practical Manuals. This is likely to be of service to motor-car drivers or agents, a very useful chapter being that in which Causes and Effects are tabulated in a very comprehensive fashion.



We do not necessarily advise the driver to carry such a book with him for roadside reference, but it is, nevertheless, one of the little volumes that should be on the bookshelf which every fully-equipped garage possesses.

### The "Infernal Machine."

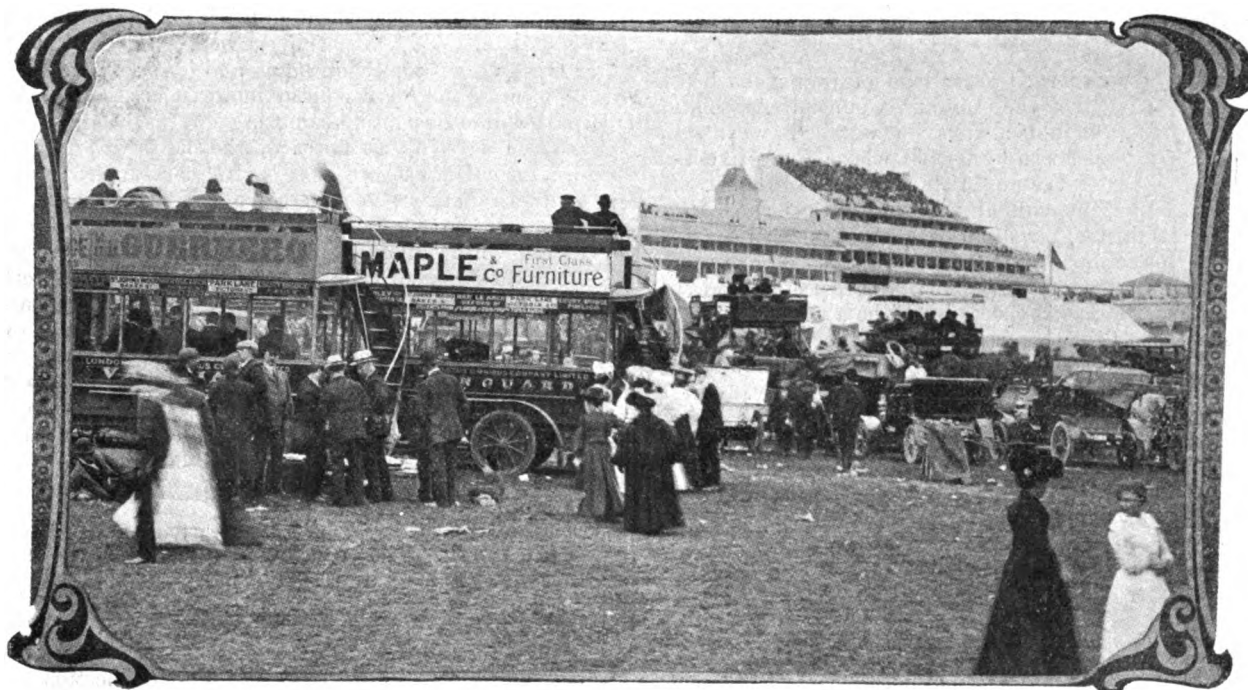
REALLY the motorists in the House of Commons must look after Mr. Galloway Weir, whose language with respect to automobiles is hardly decorous and certainly not correct. When the Home Secretary, before the House rose for the holidays, told this redoubtable questioner that there was no power to suspend the registration of motor-buses whose drivers worked long hours a day, the Scottish M.P. wanted to know whether "some action cannot be taken with regard to these 'infernal machines'?" Why he should thus describe the harmless, necessary motor-car we know not, but that he has always shown a desire to denounce these vehicles is plain to all familiar with the proceedings of Parliament, and the Parliamentary motorist should see to his automobile education without further delay.

### A New Suggestion.

A SUGGESTION of the General Purposes Committee of the Levenshulme District Council has the merit of novelty. The minor body adopted a resolution which has now been approved by the parent authority to the effect that the revenue derivable from any further taxation of motor-cars—as though such a proposition was equitable and passable in the Houses of Parliament—should be devoted to "the reduction of the damage suffered by the residents on roads, particularly shopkeepers." This is a strange way of stating the case, and it is just a bit doubtful if it implies exactly what was meant. Probably that is true of the resolutions of many of the local authorities throughout the country.

### The Loss of a Dog.

THERE is mourning in Uxbridge over the loss of a "beautiful Manchester terrier which was accidentally killed" in the High Street of that Middlesex town a few days ago. He was an intelligent little creature; "for nine years he was a devoted companion and protector, and was an incomparable



Motor Cars and Buses at the Derby.

### Leaving the Car.

WHEN the Bench disagrees motorists sometimes obtain justice—a rather unique experience which has just happened at Hove. A Kensington doctor motored to Brighton visiting a friend or a patient—the details are not sufficiently explicit to warrant an assumption on that point—and leaving his motor-car in front of the house. According to the police this was not the proper thing to do, although they would have been equally offended had he created a commotion by trying to get it into the house. He was summoned before a full Bench of magistrates, and, although the police could not say that there was any actual obstruction, they pressed for a conviction. Mr. J. C. Buckwell, whose interest in motorism was evidenced during the Brighton motor week, contended that the section of the Act under which the defendant was haled before the court did not apply to private carriages, and that the point was as to obstruction of the traffic. The Bench retired and at the end of half an hour discovered that it was a tangled skein beyond their capacity to unravel. They could not agree, and so the victim escaped.

rather. His amusing tricks, year by year, brought him, in the way of 'tips,' an accumulation of pennies which more than covered the cost of his licence." Such is the declaration of his owner, who, seeing that the car which ended his career was branded I O, has written to the County Council of Kildare, asking them to send him a cheque for such an amount as they may deem adequate to compensate him for his loss. Meanwhile his "grief-stricken wife" is having "the dog stuffed at a cost of £1 10s.

### The Local Water Cart.

"THERE is nothing new under the sun," and now in these early years of the Twentieth Era we find up-to-date villages returning to the ways of the ancients of the last century. The residents of Pulborough have purchased a water-cart—not a modern motor machine, capable of doing work efficiently and economically, but a new cart with an old form of locomotion, viz., a horse. Private enterprise has been responsible for this means of watering the roads on dry days, thus preventing, according to a local enthusiast, "the stealthy atoms of dust from

polluting the gentle, invigorating breezes that come floating up from the sea over the swelling downs." So far the local rates have not borne any of the expense of this venture; it is purely the offering of local people, who wish to abate an undoubted nuisance, and a rebuke to the authorities for evident neglect. Few districts possess so many unselfish protectors of the public weal as the delightful village of Pulborough.

#### Tasmania.

SCARCELY a week passes without news of the advance of motoring in the colonies reaches us from readers interested in its development. Mr. A. J. Steele, of Melbourne, and Mr. Bowes Kelly, of Melbourne, have just had a tour through Tasmania extending over three months. They found the roads of very fair construction, although the gradients on some of the main highways are in places rather severe. One of the dangers of travel in the country are the gullies that in some cases are even worse than those of Victoria, as they cannot be seen until the driver is right upon them. Near Hobart the road was full of holes, loose metal lying about like sand on the seashore. Horseshoe nails were almost equally frequent, and the travellers improvised a nail catcher consisting of a light steel dog chain dragging on the driving tyres, an idea which they found very effective.

#### On the Alert.

THE proceedings of important bodies like the County Councils Association should always be watched with some concern by people whose fate—like that of the motorists—is in the balance. At the annual meeting of that association, just held at Westminster, Sir John Hibbert has been drawing the attention of his fellow councillors to the fact that the report of the Motor Car Commission may shortly be expected, and that as soon as its report is issued there should be a thorough examination of its proposals with a view to united action. Granted that this is good advice to the councillors, we would also emphasise its necessity to the motoring community. Surely there should not be much difficulty in bringing about a good feeling between this representative County Councils Association and motorists. The former declares its sympathy for the considerate motorist, and the latter disowns association with the inconsiderate drivers of cars.

#### Belated Delivery.

NOVICES in motoring are slow to comprehend the reason for late deliveries of their cars, and the placing of orders for execution months ahead is a novelty little appreciated by those who have been accustomed to order carriages and cycles for prompt supply. The youth of the automobile industry must be considered; the lack of standardisation of parts that still obtains, and the rush of orders that seems to overwhelm enterprising makers at the beginning of each touring season have all to be considered by the new motorist. Manufacturers, in turn, are often hampered by the short supplies of material, and this has been greatly felt of late with respect to aluminium, the great rise in the price of which has seriously interfered with the calculations of some firms. And this is but one of the factors entering into the work of the motor-car industry.

#### What to do when Arrested.

THE Omaha Automobile Club has adopted a plan which will, it is proudly claimed, obviate the necessity of members being taken to a police station when arrested for violation of the speed ordinances. Each member is to be furnished with a card bearing his name and the number of his machine. On the reverse side is an order signed by the chief of police directing the policeman arresting the bearer to release the automobilist, and to take the card as an assurance for his

appearance in court. Fortunately we have not reached such an advanced stage of anti-automobilism in this country—as yet.

#### The Supply of Horses.

JUDGING from the lugubrious reports which are issued from the great horse repositories, it would appear necessary for motorists to impress upon farmers and horse breeders the commercial wisdom of keeping up the supply of animals. Despite the advent of the motor-car, the value of horses is said by leading authorities to be higher than has been the case for generations, and some firms utilising considerable numbers of horses may be driven to adopt the automobile because of the dearth of horseflesh. It is said that breeding in England is very much on the decrease, and this is one of the causes that has stiffened the prices of horses. Surely farmers must recognise that there are some phases of national life and sport from which the equine will not be ousted for generations to come.

#### Around London.

IN their "Short Spins around London" Messrs. Gall and Inglis introduce us to enough routes to keep the idle motorist busy for a year. Their little guide to North London also comprehends the eastern suburbs, and gives nearly 200 roads, with enticing notes and observations, well calculated to interest the Metropolitan motorist in the unknown delights of the environs of his amazing city. Briefly characterised, it may be agreed that north of the River Thames fine views or breezy commons are not so frequently met with as in the southern district; yet there are delightful views and beautiful scenes to be enjoyed. In the west there is a charming cluster of old-world villages; in the north the low ridges extending from St. Albans to the Lea Valley provide the prettiest section of the routes described in this guide; in the east is Epping Forest and the park-like landscape beyond. The distinctive features of the roadways are well set forth. Towards the western confines of Middlesex the lanes have a tendency to become lumpy; in some of the Essex districts loose shingle is found freely on the road surfaces; in Hertfordshire the highways are almost universally excellent.

MR. E. J. LEE, the representative of the Panhard cars in India, is touring Ceylon with a 35-h.p. car.

THE Coventry Education Committee have sanctioned the establishment of classes in motor-car instruction in that city.

Two years ago Mr. Trackson came from Australia to study the possibilities of motor traction in connection with Colonial development. Evidence of automobile interest then acquired comes with the news of the opening of the City Garage, in Elizabeth Street, Brisbane, by Messrs. Trackson Bros., Ltd.

THERE are 700 shareholders in the Edinburgh and District Motor Omnibus Company, Ltd., which has just held its statutory meeting in London. Chassis to the number of thirty have been ordered, and a contract placed for the erection of a garage giving accommodation for forty motor-buses. Mr. James Morris, who has been identified with the Barcelona tramways, will be running superintendent.

A FEW days ago Mr. H. H. Dixon, the manager of Messrs. Lowe, Bevan and Co., Scotland Street, Birmingham, escorted us through their newly-acquired factory, which is claimed to be the largest works of the kind in the world. The firm's specialities are Cape cart hoods, hood fittings, wind screens, door handles, hinges, general body fittings, locks, catches, bonnet fasteners, handles, etc. Owing to the production of an infinite variety of small articles, a number of separate stores and stockrooms are necessary. The workshops are also very numerous, as the company manufactures each class of goods in separate and distinct departments. The company do a large business in their wind screens, over 1,000 sets having been sold so far this year.

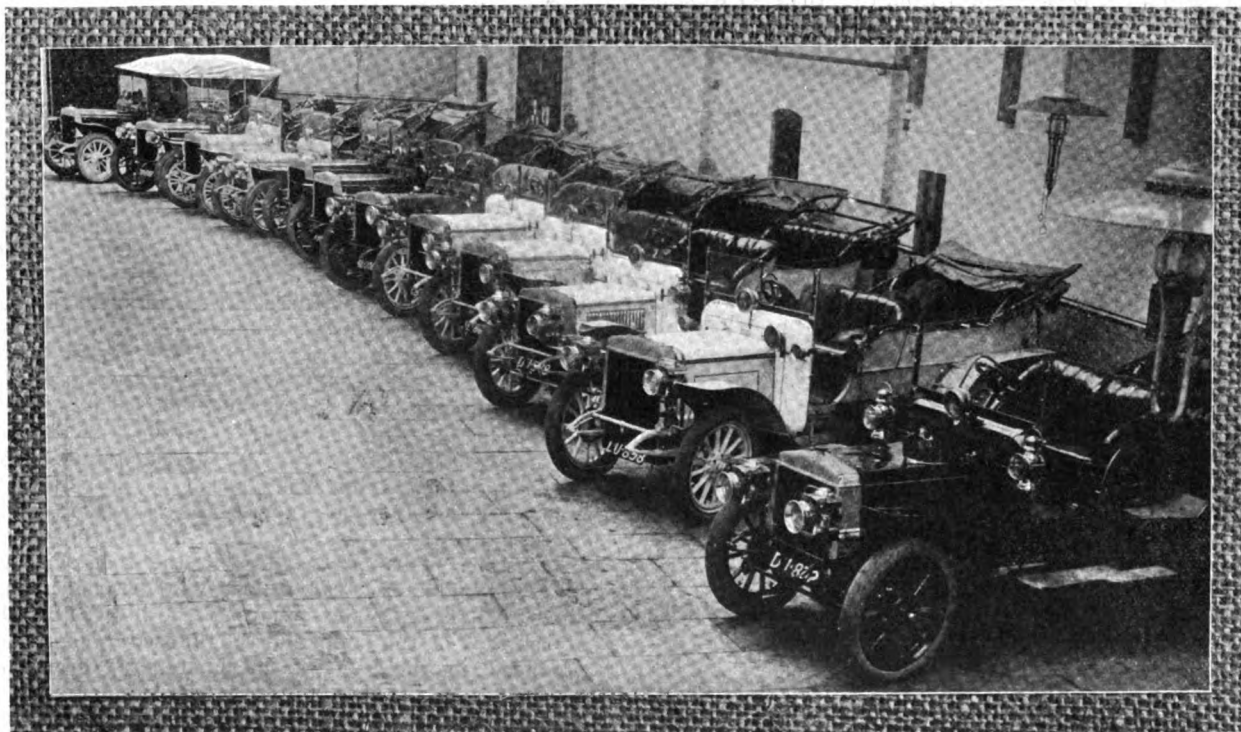
# The Herkomer Trophy Touring Contest.

FRANKFORT-AM-MAIN, Monday.

**A**LTHOUGH the official reception and marking of the cars taking part in the second annual contest for the Herkomer Touring Trophy does not take place until to-morrow, the majority of the competitors have already arrived. No less than 160 entries have been altogether received for the event, as against 102 last year, and although the number of actual starters will be somewhat less than this, the contest promises to be by far the most important of the kind so far held. Its international character may be judged from the fact that the competing cars emanate from no less than eight countries, Germany being represented by no less than eighteen different makers, France by thirteen, Italy by four, Great Britain and Belgium by three each, and Austria, Switzerland, and the United States one each. As regards individual manufacturers, the Mercedes heads the list with 25 entries; followed by the Benz Co. with 16; the Daimler Co., of Coventry, twelve; the Fiat Co., 11; the Opel Darracq

this may unhesitatingly be pronounced a record in the matter of production.

The new 45-h.p. cars comprise a number of novel and interesting departures. The four cylinders, for example, which are each 150 mm. bore by 150 mm. stroke, are, together with their water jackets, cast in one piece, and the crank shaft runs on ball bearings. Two systems of ignition are employed—high tension magneto and ordinary high tension by coil and accumulators. The clutch is of the leather-faced cone type, and of very large diameter. Roller chains transmit the power from the differential shaft, which is below the clutch shaft, to the rear wheels. The frame is of pressed steel, the side members being straight from one end to the other, except at a point towards the rear, where they take an upward and downward sweep to give clearance for the back axle. Other features embodied in the new Daimler 45-h.p. model are the sharp dishing of the front wheels, the placing of the steering bar behind the front axle, the gear



The Fleet of Daimler Cars which are taking part in the Herkomer Touring Contest.

and the Metallurgique ten each; the Adler Co., seven; De Dietrich, six; N.A.G., five; and Martini, four.

Mr. C. Jarrott, who had entered a 40-h.p. Crossley car for the event, is unfortunately prevented from starting, owing to pressure of business, so that Great Britain will be represented by only two builders—Argyll and Daimler. The Argyll Co. have only entered one vehicle; it is of 16-20-h.p., and will be driven by Mr. E. J. Robertson-Grant, who is seen at the wheel of the vehicle in one of the accompanying illustrations. On the other hand, the Daimler Motor Co. have sent over no less than twelve cars, nine of them being of an entirely new model, rated at 45-h.p. The construction of these vehicles was commenced in April last, the last of the cylinders being received from the foundry on the 15th of that month, so that the nine cars have been built, tested, and equipped with bodies in precisely six weeks, the machines leaving Coventry for Germany at the end of that short period of time. Considering that the ordinary output of the company was not in any way interfered with,

driving of the pump from the same shaft as that which operates the magneto, the use of three speeds, whereby a separate lever for the reverse is dispensed with, the sharp rake of the steering column, and the increased size of the gilled tubular radiator.

It says much for these machines that, despite the roads over which they were driven from Rotterdam to Frankfort and the speeds which the cars occasionally attained, not one showed the slightest signs of weakness in the axles. The road from Rotterdam was the same as that along the members of the Automobile Club toured from that city to Frankfort on the occasion of the 1904 Gordon Bennett race. Lord Montagu of Beaulieu was the only owner of a 45-h.p. car who did not make the stage by road, the vehicle being driven by his mechanic. The eight "besitzers" who drove their cars of this type were Captain D. Hughes Morgan, Signor Gigno de Martino, Mr. Charles Hardy, President of the Nottingham Automobile Club, Mr. Arthur Birtwistle, Mr. Robert Stotesbury, Mr. W. Herdman Ash, Mr. Philip Dawson, and Mr. Frank Rendle.

It will be recalled that the three last-named owners figured in the 1905 competition, as did Mrs. Edward Manville, who this year, as last, will be the only lady competitor, and who has such faith in the 35-h.p. Daimler machine with which she beat all rivals in the speed trials, that she is probably the only entrant who will be driving the identical vehicle handled in the former competition. The remaining two Daimler entrants are Mr. A. Griggs and Mr. G. F. Heublein, both of whom are driving 35-h.p. machines. The incidents of the run from Rotterdam were few, but nevertheless interesting. They may be said to have begun when Mr. Hardy discovered that the people landing his car were hauling it ashore by means of a rope attached to the steering column, while a moment later Mr. Rendle's son discovered a petrol vendor pouring white lead into his tank.

The total distance to be covered in the trial is approximately 1,000 miles, the programme of the daily runs being as follows:—

- June 6th.—Frankfurt-am-Main to Munich. 252 miles.
- 7th.—Munich to Linz. 168½ miles.
- 8th.—Linz to Vienna. 115½ miles.
- 9th.—Exhibition.
- 10th.—Vienna, over the Semmering, to Klagenfurt. 192½ miles.
- 11th.—Klagenfurt to Innsbruck. 207½ miles.
- 12th.—Innsbruck to Munich. 94 miles.

During the course of the journey from Vienna to Klagenfurt on Sunday the times of the competing cars will be taken in ascending the Semmering, about fifty miles from the Austrian capital.



Mr. E. J. Robertson Grant, on the 16-20-h.p. Argyll car he is driving in the Harkomer Trophy Touring contest.

The road up this well-known hill comprises a number of sharp turns; it is about 6½ miles long, and has a maximum gradient of 7 per cent. On the last day of the trial the competitors will be required to take part in a flying start speed contest in the Forstenrieder Park, near Munich. The measured distance is over a fairly level stretch about 3½ miles long, a downhill gradient behind the starting point allowing the cars to get up a good speed. It may here be pointed out that by reason of the good performances of the Daimlers in the speed test last year the German Automobile Club has devised a new system of handling the entries, and one that is generally admitted to be the fairest of any so far forthcoming. By this system the cars are started off according to their engine power, the largest going first. For the flat race the officials of the club have plotted a curve on the basis of the speed of a car being in proportion to its horse-power. Thus, if the line at the base of a diagram represents the cylinder capacity in cubic litres and fractions of litres and the vertical line on the left miles per hour, and the results obtained by three cars of varying engine powers over the given course entered at three points on the diagram, it is possible to construct a curve that will give the arbitrary speed to be achieved by a machine of any type over that course. The word arbitrary is used because weight has evidently been taken as a

constant, but, despite this, wind resistance has plainly been considered, for there are two curves, one for open cars and one for closed ones. In this connection it may be pointed out that the Daimler machines with their broad wind shields will be at some disadvantage, for no allowance will be made for the extra displacement due to the fitting of such conveniences. The system of handicapping is nevertheless perfectly fair, and it is not likely that England will be put to any disadvantage, since the system of marking is as follows:—Suppose the engine capacity is such that the speed should be seventy miles per hour and a competitor only does sixty-eight miles, he will have marks deducted for the two miles below what he should have done. If he just does seventy miles he receives no marks whatever for or against, while if he does anything over seventy miles, he receives marks in his favour for whatever he has done over the fixed speed. The same applies to the hill climb, and it is evident that the German officials in marking out their curves have tried courses with cars of different power and fitted with various types of bodies.

Yesterday the Daimler party went for an excursion on the Taunus course to try the cars up the hills and to make sure that they were in perfect running order, despite the fact that they had all come from Coventry without developing the least trouble. The final tuning up trip was a run to and from the famous Saalburg, and developed into nothing more than a picnic. Indeed, everything here is going smoothly, the preparations being in a good state of forwardness.

## SUPPRESSING SEARCHLIGHT GLARES.

REAR lamps are not the only source of irritation in connection with motor-car illumination; the brilliant searchlights which distinguish many cars after dark, to the dazing of other users of the road, are a problem that cannot be said to have been satisfactorily solved until the "Autoclipse" was introduced. This is a device to give a light of ample power, but so arranged that it shall only appear when absolutely needed. Thus on the highroad the space ahead can be effectively illuminated a long way; but when the automobile approaches the town the strong rays can be suppressed, and the journey continued in comfort to the driver and without annoyance to others. This combination of good points has been secured in the Autoclipse, for the introduction of which to this country Messrs. Green and Houk, Ltd., 7, Snow Hill, E.C., are responsible. This lamp lights up the road with two distinct kinds of luminous rays, viz., the long-distance rays, emanating from the back of the flame and thrown into the metallic reflector at the back of the lamp, and the diffused or short-distance rays, produced in the front of the flame and thrown directly on to the lens. In actual practice the former cover the entire road in front of the motorist, searching out distant objects; the latter light up the sides of the road immediately in front of the motorist. It is the long-distance rays which are suppressed by the self-eclipsing mechanism with which the device is fitted. Between the burners and reflectors two black discs have been interposed which prevent the long-distance rays from being thrown into the reflector. The discs are brought into action by a lever at the back of each of the lamps on the front of the car. Both are operated at one operation from the seat by means of a Bowden flexible wire and control lever fixed in any convenient place selected by the driver. The connections are easily detachable when it is desired to clean the lamps, and the system of the Autoclipse seems to present ease of operation and certainty of action, with that instantaneous response to the levers which is necessary to success.

THE other day we had an opportunity of inspecting a new lock-nut which has been devised by Mr. E. Summerfield, of Netley, Hampshire. The device is one of the best of the kind we have seen, and has the advantage that it does not depend on friction for its efficiency.



## CONTINENTAL NOTES.

### The A.C.F. Grand Prix Race.

The ballot for the order of starting took place last week, and gave the following result:—

- |                 |                     |
|-----------------|---------------------|
| 1. De Dietrich. | 8. Itala.           |
| 2. Fiat.        | 9. Gregoire.        |
| 3. Renault.     | 10. Panhard.        |
| 4. Darracq.     | 11. Vulpes.         |
| 5. Brasier.     | 12. Hotchkiss.      |
| 6. Mercedes.    | 13. Clement-Bayard. |
| 7. Gobron.      |                     |

A new departure has been made by deciding that, in place of consecutive numbers, the cars of makers having more than one vehicle entered will bear the same numbers plus letters, as follows:—1a, 1b, 1c, 1a starting 14th, and so on.

### Viewing the Race.

The Sarthe course is much more convenient for spectators than was the Circuit d'Auvergne last year. Those who wish to see the race from the interior of the Circuit will have no difficulty in getting about. Besides the railway from Connerre to Courtalain, and from Mamers to St. Calais, which may be

recent labour troubles, and partly to remove any complaint on the part of the Austrian Club that the races were intended to minimise the importance of the international race in Bohemia in July.

### The Rochet-Schneider Cup Contest for Touring Cars.

The annual competition for the Rochet-Schneider touring-car trophy was held on Monday last over the 1905 Gordon Bennett course in the Auvergne, the distance covered being 300 kilometres. The event is open to four-cylinder touring cars, and the awards are made on a point basis, marks being awarded for regularity of running, consumption of fuel and water, speed on hills, average speed, and price of chassis. Nineteen cars started, they comprising two Peugeots (the holder of the cup), four Rochet-Schneders, a Brouhot, two Clement-Bayards, three Heralds, two Mieussets, three La Buirens, and two Pilains. Seventeen of the competitors succeeded in completing the journey, the victory lying with M. Perret (Peugeot), who has now won the contest two years in succession.

### The Mont Cenis Hill Climb.

The annual Mont Cenis hill-climbing competition, organised by the Turin Automobile Club, is to be held on July 16th next.



Erecting the Grand Stands on the Sarthe Circuit in Preparation for the A.C.F. Grand Prix Race.

utilised, there are broad roads in excellent order in the vicinity of the course, which will enable spectators to get to and from the most interesting points. In the triangle formed by the circuit there are several small towns where supplies of all kinds can be obtained. On the outside of the Circuit a frequent service of trains will be available between Le Mans, the principal town in the district, and La Ferté-Bernard.

### The Labour Troubles in France.

Following on the settlement of the labour troubles in the Paris district, the men employed by Messrs. De Dietrich and Co. at Luneville have now resumed work. Messrs. De Dietrich feared they would not have their racing cars ready for the Grand Prix, but by employing a double shift of special men it is hoped that they will be finished in time.

### The Motor-Cycle Championship Races.

The Motor-Cycle Club of France has decided to postpone the motor-cycle championship race from June 17th to September 2nd or 9th next. The decision is partly due to the inability of manufacturers to get their machines ready in time owing to the

The contest will be divided into a number of classes as follows:—1, cars from 650 to 1,000 kilogs; 2, cars from 400 to 650 kilogs; 3, motor-bicycles under 50 kilogs; and 4, public service vehicles having accommodation for twelve persons. The trial is over a 23 kilometre course extending from Susa to Mont Cenis. A large number of prizes are being offered in connection with the event, entries for which should reach the A.C.T., Via Bogino, Turin, before June 25th.

### A German Motor-Cycle Reliability Trial.

Owing to several provincial authorities refusing their permission, the idea of a motor-cycle reliability trial over the Herkomer Touring Trophy circuit has had to be abandoned. In its place it is proposed to hold a three days' event in July over a circuit in South Germany, which, starting and finishing at Munich, takes in Stuttgart, Karlsruhe, Frankfurt and Nuremberg.

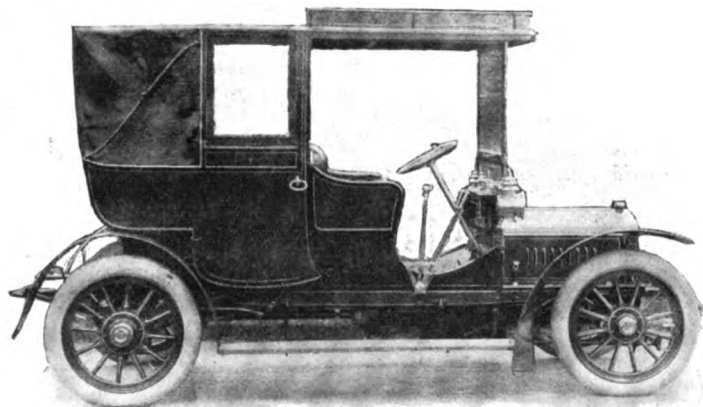
### An Austrian Light Car Competition.

An interesting light touring car competition was held on the 12th and 13th ult. by the Austrian Automobile Club. The

trial consisted of a run from Vienna to Graz on the first day and back to the capital on the second, a total distance of 256 miles. The competitors were divided into two classes: 1, single-cylinder cars, which were required to maintain an average speed of fourteen miles per hour; and 2, double-cylinder vehicles of which an average of seventeen miles was expected. Altogether there were twenty-five starters, comprising four each De Dion, Opel-Darracq, and Laurin-Klement, two each Clement Bayard, Peugeot, Ultramobile, Piccolo, and Scholley, and one each Maurer-Union, Thein-Goldberger and Bolide. Of these twenty-one succeeded in making the round journey, the first place in Class 1 being taken by a 9-h.p. four-seated De Dion, driven by Herr R. Siercke, the winner of Class 2 being Herr Bleiweiss on a 10-h.p. Peugeot.

#### The Tour de France.

The tour of France organised by the Auto-Cycle Club de France, which commenced on the 22nd ult., ended on Sunday last. In our last issue we left the competitors at Marseilles. On the 28th ult. the run was to Avignon (100 miles), on the 29th to Lyons (140 miles), on the 30th to Besancon (134 miles), on the 31st to Nancy (121 miles), on the 1st inst. to Rheims (122 miles), on the 2nd to Amiens (115 miles), and on the 3rd to Paris (90 miles). The journey from Marseilles to Avignon comprised the climb up Mount Ventoux, the best time being made by Barriaux on a Vulpes car. Of the thirteen



The 20-h.p. Vulcan Landulet recently supplied to Lord Lytton by the London and Parisian Motor Company, Ltd.

motor-bicycles which started, eleven finished; of thirteen tri-cars, eight survived the contest; while all the four voituresses successfully completed the long trial. The tri-car section was a victory for the Austral concern, the trio of vehicles entered by them carrying off the first three places. Contant, on an Aleyon, took the first place in the light motor-bicycle class. Cissac, on a Peugeot, headed the list of the third of a litre motor-bicycle category. As for the four voituresses, the Vulpes, driven by Barriaux, and the De Dions of M. Pellisson and M. Pellegrin tie for first place, none of them having lost a single mark. M. Grillet's Fouillaron was close behind, having lost only two points.

#### Miscellaneous Items.

The Belgian Automobile Club is about to make some trials in the Bois de la Cambre, Brussels, with a new dust-preventing preparation, known as Barnite.—Some further trials with motor-cycles and motor-cars are to be made in the forthcoming military manoeuvres in Belgium.—An 18-h.p. Panhard, fitted with ambulance body, has just been added to the fire brigade equipment in Paris.—Prince Eugene of Sweden has just placed an order for a 40-h.p. Benz car.—The Italian Automobile Club has selected two Itala and three Fiat cars to represent Italy in the Vanderbilt Cup race.—Three Puck machines will constitute the Austrian team in the forthcoming international motor-cycle race.

### SCOTLAND AND THE TRIAL.

THE programme of the Scottish Reliability Trials of next week provides for the cars starting each morning at seven o'clock, except on the last day, when Pitlochry will be left at 6 a.m. The following time table will be of interest to Scottish readers.

Wednesday, leave Glasgow from	7 a.m.
" pass through Ayr after	8.45 a.m.
" " Dumfries after noon.	
" " Moffart after	2.5 a.m.
" " Peebles after	4 p.m.
Cars arrive in Edinburgh after 5.10 p.m.	
Thursday, leave Edinburgh from	7 a.m.
" pass through Stirling after	8.50 a.m.
" " Perth after	10.35 a.m.
" " Blairgowrie	11.25 a.m.
" " Braemar	2.15 p.m.
and may arrive in Aberdeen after 5.10 p.m.	
Friday, cars leave Aberdeen from	7 a.m.
" pass through Huntly after	9 a.m.
" " Tomintoul after	11 a.m.
" " Grantown-on-Spey after	11.5 a.m.
" " Kingussie after	2.10 p.m.
and may arrive in Pitlochry after 4.30 p.m.	
Saturday, cars leave Pitlochry from	6 a.m.
" pass through Killin after	8.40 a.m.
" " Inverary after	11.10 a.m.
" " Arrochar after	1.25 p.m.
and may arrive in Glasgow after 3.30 p.m.	

PITLOCHRY will have a busy experience during the week of the Scottish Trials, which start on the 13th inst. Two days before the Auto-cycle Club's run to John o' Groat's will commence, and on the day that the cars will start from Glasgow the motor-cycles will arrive at Lockerbie; on the 14th the latter will reach Pitlochry, starting the next morning for Tain. On that day the cars will arrive at Pitlochry from Aberdeen, so that the beautiful little town will be awakened early and late with the toot of the motor horn.

FOR the benefit of those southerners who will be in Scotland during the forthcoming Trials we give below the letters of identification for the various Scotch counties and boroughs. We shall be pleased to send a copy of the M.C.J. complete identification card to any reader making application during the next few days:—

A S Nairn.	S K Caithness.
B S Orkney.	S L Clackmannan.
D S Peebles.	S M Dumfries.
E S Perth.	S N Dumbarton.
G Glasgow.	S O Elgin.
H S Renfrew.	S P Fife.
J S Ross and Cromarty.	S R Forfar.
K S Roxburgh.	S S Haddington.
L S Selkirk.	S T Inverness.
M S Stirling.	S U Kincairdine.
N S Sutherland.	S V Kinross.
O S Wigtown.	S W Kirkcudbright.
P S Zetland.	S X Linlithgow.
R S Aberdeen (T.C.).	S Y Midlothian.
S Edinburgh.	T S Dundee.
S A Aberdeen (C.C.).	U S Govan.
S B Argyll.	V Lanark.
S D Ayr.	V S Greenock.
S E Banff.	WS Leith.
S H Berwick.	X S Paisley.
S J Bute.	Y S Partick.

It should be remembered that "S" occurs only in Scotland, and that the only Scotch places in the identification mark of which the S is not used are Glasgow (G) and Lanark (V).

THE War Office Mechanical Transport Committee have appointed Majors Lindsay Lloyd and Donohue to represent them at the forthcoming trials.

APPLICATIONS for the licensing of three motor-cars and drivers to conduct a regular service of cars between Stirling and Bridge of Allan have been made at the Burgh Police Court. It was agreed to continue the applications in order that the magistrates might have an opportunity of considering as to necessary regulations.

# The Adams-Hewitt 10-h.p. Car.



WE lately had an opportunity of making a trial run on one of the Adams-Hewitt cars built by the Adams Manufacturing Co., Ltd., in the new works they have lately established at Bedford. A few brief particulars of the vehicle have already been given in the *M.C.J.*, but the design is so different from the usual practice in Europe that the more complete description we are now able to publish may not be without interest. Generally speaking, the car very closely resembles the type made familiar by the Cadillac and Ford vehicles, the idea of the builders being to combine the good points of the American design with British workmanship. The engine, which is of the horizontal single-cylinder type,  $4\frac{1}{2}$  in. bore by 6 in. stroke, is assembled on a pressed steel frame mounted on the longitudinal springs. The inlet and exhaust valves are of large diameter, and are mechanically actuated off a single cam shaft. The water circulation is maintained by a chain-driven pump and ribbed-tube radiator.

The mixture is furnished by an automatic carburettor, so that the usual air lever is dispensed with. There are two air inlets—one is fixed by a screw, but can be varied; the other contains an automatic shutter, so as to vary the air according to the speed of the motor. The entire volume of air entering the fixed aperture rushes past the jet, while that admitted by the automatic inlet mixes with the petrol vapour above the jet. The latter is so arranged that it can be quickly removed for cleaning purposes. The normal speed of the engine is 1,000 revolutions per minute. It can, however, be regulated by a throttle valve, controlled by both hand and foot levers. The hand lever can be set at any desired point for normal running, the pedal being used to give any temporary acceleration of speed. The consumption of petrol is stated to be equal to from twenty-five to twenty-eight miles per gallon. The standard cars are provided with high-tension ignition by coil and accumulators. Provision is, however, also made for fitting a low tension magneto, driven by a chain off the engine shaft. The make and break mechanism is so arranged that it can be readily adjusted. An interesting and ingenious feature of the ignition is that no switch is provided, the current being cut off by the advance and retard lever both when in its extreme lowest and highest positions, the wiper spring then ceasing to act on the sector of the contact maker.

The engine is lubricated by means of a multiple force feed pump, which consists of four separate pumps, one for each place to be lubricated, the amount of oil pumped through being automatically regulated to suit the speed of the motor. The oil is contained in a tank ingeniously formed in one with the top cover of the crank case; it is thus maintained at a high temperature,

and therefore flows freely through the pipes. The tank, which has a capacity sufficient for from 400 to 500 miles, is provided with a gauge to show the level of the oil. The motor is set about the centre of the car and right under the body; it is, however, easily accessible, as by slackening two finger nuts the entire body can be lifted up. The valves can be reached without interfering with the body, if necessary, by opening the back, while there are doors at each side which also give access to the motor.

The change-speed gear is of a special epicyclic type mounted on an extension of the crank shaft. Two forward speeds and a reverse are provided by the mechanism; the gear wheels, which are five in number, are externally cut and are always in mesh. The two speeds forward and the reverse are brought into operation by bands acting on drums. There are three pedals arranged on the footboard side by side. When the central pedal is operated the band next the fly-wheel tightens on its drum, and the drive is then taken through the sun and planet system, thus giving the low speed. When the left pedal is operated it at once releases the central one and presses a cone, placed on the outside of the gear, to the left. This forces a system of scissor levers apart, and locks the central band on its drum, causing the epicyclic system to run solid and giving the high speed. The control of the car is thus greatly facilitated, as the driver has only to press down the desired pedal, when any of the others which may be in operation are instantaneously released. An excellent feature of the change-speed gear is the possibility of rapidly reversing the direction of motion by the simple movement of the right hand pedal. When this is pushed forward the brake on the change-speed gear shaft is first

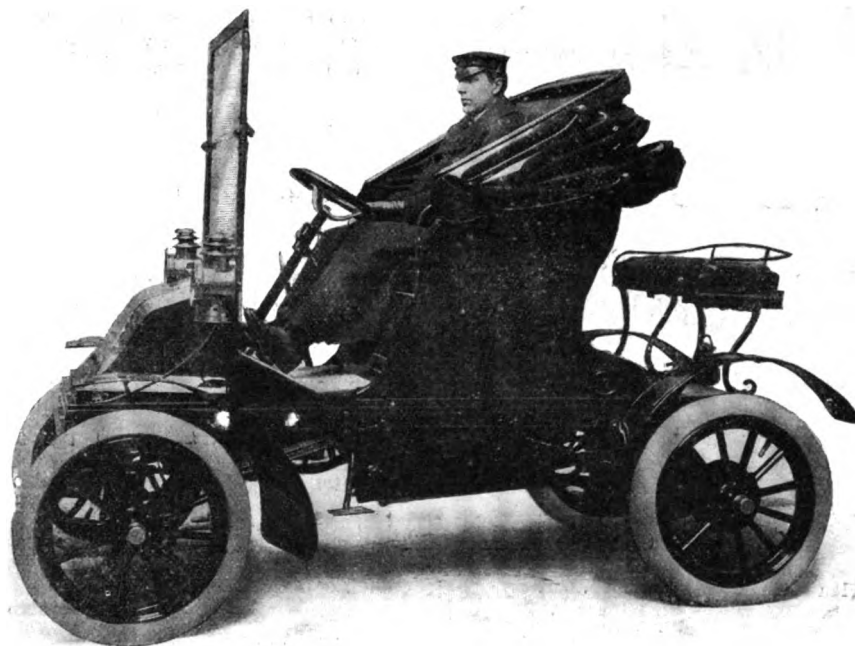


Fig. 1.—General View of Adams-Hewitt Car.

applied, and when pressed further, it brings the reverse into operation. Should the car begin to run backwards the low speed pedal acts as a brake, and if the driver keeps one foot on the central pedal and the other on the right pedal, and operates each alternately, the car will at once respond, moving backwards and forwards alternately. This is of great advantage when in thick traffic, where one has always to be prepared for the vehicle in front suddenly backing. Ample brake power is provided, as, apart from the pedal-operated one referred to above, a hand lever is provided, which controls expanding brakes working inside drums connected with the hubs of the rear wheels. From the change-speed gear shaft the power is transmitted by a single centrally-located chain to the rear live axle.

The chassis is being provided with several different patterns of bodies. The two-seater can be equipped with an emergency seat at the rear, and, fitted with hood and front glass, is well adapted for doctors' use; a small brougham, landaulet or cab body is also being made, while the latest production is a double

phaeton. The latter forms an excellent light touring car, with ample accommodation for four passengers. The chassis is of the standard type, except that the wheel base has been slightly increased. A useful light delivery van designed to carry loads of 10 cwt. at speeds up to ten miles per hour is also being turned out, to meet the growing demand for industrial vehicles. The bodies of the cars are suspended on a special framework having a three-point suspension and entirely separate from the main springs which carry the engine and transmission, no vibration due to the pulsations of the latter or from the inequalities of the road surface being transmitted to the passengers. The longitudinal springs, which run parallel along the length of the car, are free to slide at the rear ends, while strong radius rods, which extend from the back wheel brake drums to brackets attached to the springs, enable the rear axle to be moved backwards, and the tension of the chain adjusted. The axles are of tubular construction, and the bearings on the same are of the conical roller type. The standard car has a wheel base of 6 ft. 8 in. and a track of 4 ft.

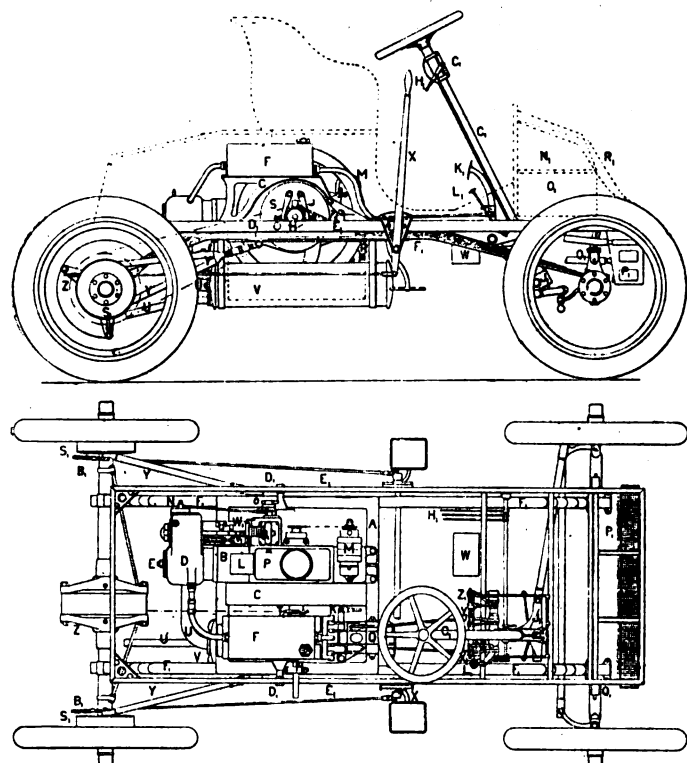


Fig. 2.—Elevation and Plan of Adams-Hewitt 10-h.p. Car.

- |                              |                            |                               |
|------------------------------|----------------------------|-------------------------------|
| A. Engine frame.             | S. Gear box.               | N1. Petrol tank.              |
| B. Crank case.               | T. Carburettor.            | P1. Radiator.                 |
| C. Flywheel.                 | U. Exhaust pipe.           | Q1. Front cross spring.       |
| D. Cylinder.                 | V. Silencer.               | R1. Bonnet.                   |
| E. Test plug.                | X. Hand brake lever.       | S1. Brake drums.              |
| F. Water tank.               | B1. Expanding brake lever. | T1. Chain pinion.             |
| H. Main shaft ball bearing.  | D1. Body rock centre.      | U1. Oil pump.                 |
| J. High speed clutch levers. | E1. Body frame.            | V1. Valve lifter.             |
| L. Coll.                     | F1. Main springs.          | W1. Dust cover on valve stem. |
| M. Magneto.                  | G1. Steering column.       | X1. Brake and reverse pedal.  |
| O. H. T. contact breaker.    | H1. Control levers.        | Y1. Low speed pedal.          |
| P. Oil tank.                 | J1. Steering gear.         | Z1. High speed pedal.         |
| R. Water pump.               | L1. Foot accelerator.      |                               |

2 in. All parts are made on the interchangeable system, so that replacements can be readily obtained and fitted in position.

In the course of the trial run already referred to we had ample evidence of the quiet and easy riding qualities of the vehicle, the engine being exceedingly silent and steady in its operation, a feature which is largely achieved by the heavy fly-wheel fitted, the latter weighing 180 lbs. The makers' claim that the car can maintain an average speed of 20 miles over give and take roads, and that any ordinary hill can be taken on the top gear, is one that, judging from our experience, may be safely accepted. In the course of the run the car was called upon to make the inevitable climb up Netherall Gardens, N.W. Not only did it do this with ease on the low gear, but the driver succeeded in doing what he had not attempted before, i.e., stop-

ping and starting on the stiffest portion of the rise. The simplicity of control is undoubtedly one of the strong points of the car, proof of which may be seen in the fact that, without any previous experience, we were able to take charge of the wheel and get on to top speed in less than 50 yards. The foot brake somewhat puzzled us at first, for, being accustomed to keep the brake on by maintaining the pressure on the pedal, we found the car beginning to move backwards. We, however, quickly discovered the secret of working the brake and low speed pedals one against the other, after which no difficulty was experienced. Although, as we have said, the general appearance of the car differs somewhat from what may be termed the present fashion, those motorists whose ideas are not bound down in this respect will find the Adams-Hewitt a reliable and steady running vehicle.

## THE IRISH TRIALS.

ON the same day that the Scottish Reliability Trials will commence from Glasgow the Reliability Trials of the Irish Automobile Club will begin, Dublin being the central point of the event. On Wednesday the run will be to Carlow, a distance of 49½ miles and back, reviving memories of the famous Gordon Bennett race. From the capital the way will be taken to Naas, where the weighing in for the great event of 1903 took place, with M.M. Jenatzy, Gabriel, and others of international renown, attracting universal attention. Thence to Kilcullen, which provided the first dangerous corner of the famous course, and from where the Archbishop of Dublin set forth on his first motor-car trip—a journey on Mr. C. Cordingley's 40-h.p. Mercedes, which occasioned as much comment in Ireland as any other incident of the Motor Fortnight.

On the second day the run will be northward to Dundalk, 51 miles and back; part of the journey, to Drogheda, being along the road taken by the contestants who participated in the hill-climb at Castlewellan, co. Down, and then on the third day will be a run to Gorey, 61 miles away from Dublin, and through a very charming country. This includes the pretty town with the long name of Newtownmountkennedy, goes over the bridge at Ashford—one of the most famous resorts near Dublin—through Arklow to Gorey, a place of rather poor appearance in many parts, though of ancient lineage, possessing some ruins of pleasant attractiveness.

On the 16th the competition will conclude with a hill-climbing competition. The award will be based upon reliability, hill-climbing, and petrol consumption, and it is provided that the general conditions follow the tried and approved lines of such contests.

MESSRS. TOPAN AND Co., of Bombay, have been appointed agents for the Star cars in India.

THE Standard Motor Agency, Ltd., inform us they have just concluded arrangements for their representation in Australia, New Zealand, and Tasmania. Contracts have been placed for a term of years for their six-cylinder cars, and also for the Standard landaulet, which is likely to become very popular in the Antipodes.

MUCH motor-car business is being done by the Automobile Contract Company, Ltd., of 33, Old Bond Street, London, W. The principle of their system is that they supply motor-cars of any make at list price, retaining the trade discount. Therefore a purchaser pays no more when buying his car through this company on easy terms, than if he went direct to the manufacturer. At the same time an increased trade may be done by manufacturers who grasp the fact that not everybody is in a position to pay the whole of the money down for a car. The directors of the Automobile Contract Company, Ltd., are Sir Samuel Scott, Bart., M.P., Mr. C. H. Burnand, and Mr. Sydney Lee. Evidently the company is meeting a want, and many professional men, civil servants and others, are availing themselves of this plan of becoming motorists on terms of easy payment.



A CONFIDENTIAL information bureau referring to the main roads is being established in connection with the Automobile Association.

WE learn that Sir Duncan Hay has just placed an order with Messrs. Mann and Overton's, Ltd., for a 24-30-h.p. Richard-Brasier car.

THE residents in the Revidge district of Blackburn are urging the establishment of a motor-bus service over the hills, and the Corporation has appointed a committee to inquire into the matter.

A CHANGE has been made in the date of the reproduction at the Crystal Palace of the carnival of Nice, in which a procession of decorated motor-cars will figure. This will now take place on July 20th and 21st.

MR. SEYMOUR HICKS, the well-known actor, and Mr. Herbert Sullivan, nephew of the late Sir Arthur Sullivan, have both placed orders with Mr. Graham Notley, of the Waterloo Motor Works, Chicheley Street, S.E., for 20-32-h.p. Darracq cars.

WE illustrate herewith the latest production of Messrs. R. Reynold Jackson and Co.—a 9-h.p. side-entrance car. The vehicle is being equipped with either a 9-h.p. De Dion single-

## HERE AND THERE.

SEVERAL Daimler cars took part in the review of motor-cars, in Madrid, held by the King of Spain on the occasion of his marriage.

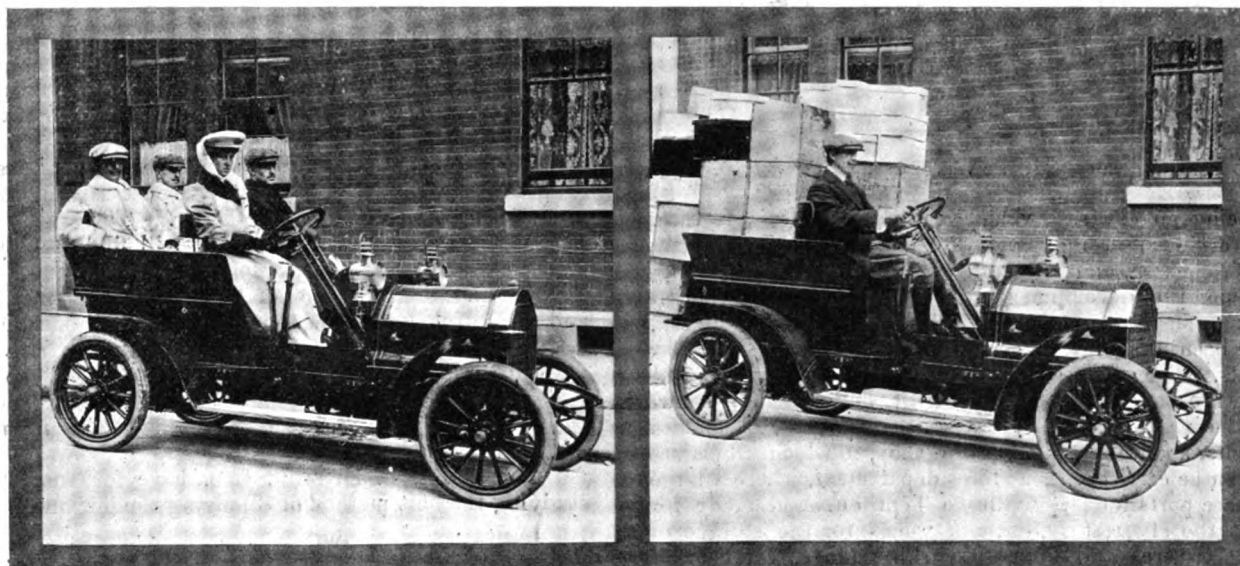
MME. Melba motors from Coombe to Covent Garden every evening. On Tuesday a puncture brought the car to a standstill, and the famous singer rode on a pantechnicon to the nearest station.

THE 3½-h.p. Brown motor-cycle driven by R. M. Brice at the Fernhurst hill-climb of the Auto Cycle Club has been awarded the gold medal for the most meritorious performance.

THE inhabitants of Southwold were surprised one recent evening by the arrival of several military men in motor-cars. To one a searchlight was attached, and this was used continuously for several hours.

A LIGHTED match thrown under a motor-car by a chauffeur outside Eton College, on Tuesday, ignited some petrol on the roadway, and caused the car itself to burst into flames, damage to the extent of about £80 being done.

WITH the view of assisting the competitors in the Herkomer touring contest whose cars are fitted with their tyres, the Continental Tyre Company have established twenty depots



Figs. 1 and 2. Two views of the Jackson 9-h.p. Convertible Car.

cylinder engine or a Gnome double-cylinder of equal power. The water circulation is maintained by a pump and combined honeycomb radiator and water tank. The power is transmitted through a leather-faced cone clutch to a gear-box, giving three speeds forward and a reverse, and thence by a cardan shaft and bevel gear to a strong live axle. The details are on model lines, and comprise engine control levers on the top of the steering wheel, push pedals, pressed steel frame, etc. The design of the body is interesting; the entrance to the rear seats is obtained by tilting up half of the front seat, while all are so arranged that they can quickly be removed and the floor boards taken out the whole way from the dashboard to the rear of the car, so rendering access to the gear-box and other parts of the mechanism particularly easy. As illustrated in Fig. 2, by detaching the rear seats and letting down the tailboard the vehicle can be quickly converted for commercial or station work. We may also draw attention to the rounded back seats and spring steel supports, which greatly add to the comfort of the passengers. The car is turned out complete with all accessories, such as lamps, horn, number plates, ready for the road, and in view of its relatively low price is well worth the attention of motorists of moderate means.

along the line of route. Not only will a stock of tyres be kept at these places, but a staff of expert fitters will also be in attendance.

FOR not having the lamps of a motor-omnibus alight, the Police Commissioner summoned the driver of the vehicle at the North London Court, but evidence was given by the company and others that the conductor, not the driver, is in charge and responsible, and Mr. Fordham eventually dismissed the summons on that ground.

THE inauguration of the Argyll Company's new works at Alexandria has been fixed for the 26th inst., when the opening ceremony will be performed by Lord Montagu of Beaulieu. The function will, of course, be an "opening" in name only, as the works have been in operation for several months, the number of men employed now exceeding 1,200.

THERE are now close upon 500 motor-buses in service in the London district, and a sign of the times is seen in the announcement of the Victoria Omnibus Association that, having decided to adopt motor-vehicles, 310 horses and thirty omnibuses are to be put up for sale by auction this week. For a similar reason the New London and Suburban Omnibus Company will dispose of 105 horses and ten buses on Tuesday next.

By the collapse of a motor garage at Frinton, where four teen men were working, several have been injured.

ON Thursday last week Messrs. H. M. Hobson, Ltd., gave a luncheon to a number of members of the Press and friends, the occasion being the inauguration of the large new depot they have established at 29, Vauxhall Bridge Road, Victoria, S.W. Starting some years ago in the cycle business in the City, the firm were among the first to import motor-bicycles into this country, and at a later period entered the motor-car trade, their



The Inauguration of Messrs. H. M. Hobson's New Depot.

first sale being an electrical vehicle to the Sultan of Morocco. Premises were secured in King's Road, Chelsea, with branch works at Wimbledon, and although additions were made from time to time, the development of the business necessitated further extensions, the outcome of which is the new building, which has been specially designed and built to meet their requirements. The premises, which comprise three storeys and a basement, are provided with a large lift, and include a show-room for the Decauville cars, for which Messrs. Hobson are British agents, a suite of offices, a workshop, in which all classes of repairs can be carried out, a stores department, where a large stock of spare parts for Decauvilles is kept on hand ready for despatch at the shortest notice, and rooms for the storage of Jenatzy motor-tyres and Pognon sparking plugs, for both of which the firm hold the agency in this country. Part of the premises is also designed for use as a garage, accommodation for close upon forty cars being available. Altogether the new depot is well equipped and conveniently arranged, and, in view of the careful attention to details for which Messrs. Hobson are noted, bids fair to become a centre of great activity.

AWAY in the little town of Kington, in Herefordshire, Mr. James Fryer has developed a connection among motorists extending far beyond the charming county in which he dwells. He sold his first car in July, 1899, and has consistently and conscientiously acquired a knowledge of new vehicles that now stands him in good stead as an adviser to novices, as well as a help to motorists of experience. Recently he opened a new garage at Leominster, whither the Herefordshire Club paid a visit of inauguration.

THE "Signal" tell-tale for motor-car lamps is an excellent device introduced by the "Signal" Motor Company, of 37, Essex Street, Strand, W.C. It is a simple invention for warning drivers when their tail lamps are extinguished. It operates by thermostatic action, and consists of an electrical contact which is opened by the heat of the lamp flame. Immediately the lamp becomes extinguished this contact closes and illuminates a small electric lamp fixed on the dashboard, thus warning the driver that his rear light has gone out. The device can be easily fixed to any car, and should prove as popular as it is undoubtedly useful.

THE Metallurgique cars have received the highest distinction at the Milan International Exhibition, having been awarded a Grand Prix.

BOTH the Derbyshire and Warwickshire County Councils have lately sanctioned the purchase of automobiles for the use of officers in the surveyors' departments.

A NEW price-list has been issued of the Stepney spare motor wheel, a device favourably known to motorists. It can be fitted to all artillery or wire wheels.

THE Anglo-American Oil Company have made arrangements for the supply of Pratt's motor spirit to competitors and the general public during the Scottish Trials.

ACCORDING to a recently issued consular report 408 motor-cars, valued at £97,800, were last year imported into Canada, as against 362 and £63,400 respectively in 1904.

LORD BRASSEY has just placed an order with the London and Parisian Motor Company, Ltd., for a Hotchkiss limousine similar to the one built for the Duke of Westminster.

MESSRS. KUETTNER, MACDONELL, AND COOKSON, LTD., are garaging electric cars at 37, Endell Street, London, W.C., where they have every facility for the repairing and re-charging of batteries.

No fewer than fifty electric victorias and landaulets have lately been put in service in Buenos Ayres, Argentina. The vehicles, which are intended for public hire, are on the Krieger system, and are fitted with taximeters.

THE Metropolitan Asylums Board have accepted the tender of Messrs. Dennis Bros., Ltd., for the supply of a chassis capable of taking an omnibus body to accommodate eight persons. Mr. L. H. Hounsfield was the engineer consulted by the Board in arriving at their decision.

THE Hitchon Gear and Automobile Co., Ltd., are erecting extensive new works in Charter Street, Accrington, for the manufacture of the Globe motor-car. The works will cover several acres, and when completed will find employment, it is stated, for about 2,000 workmen.

WITH its reproduction of the Ordnance map of the locality and delightful sketches of the country round about Dorking and Leatherhead, the Homeland handbook thereto is a volume of pleasant interest, upon the publication of which the Homeland Association, Ltd., is to be congratulated. It will be of value to the motorist and of service to the antiquarian and lover of architecture.

MESSRS. J. E. HUTTON, LTD., have for some years been studying the best method of supplying the demand for a reliable



light delivery van at a reasonable price, and have recently introduced the 10 cwt. vehicle illustrated herewith. The chassis is of the Panhard three-cylinder 8-11-h.p. standard type. The van bodies are strongly made of best seasoned timber, an extension being fitted over the front seat to protect the driver from the weather. The vehicle is capable of carrying its full load at a speed of twenty miles an hour on level roads, and will ascend any ordinary hill at a good speed.

## SOME CURRENT TOPICS.

## Buying a Second-hand Car.

The uninstructed novice, to whom a car is a car, is liable to be tempted by an apparent bargain, and, though such is to be had, the probabilities are that in the absence of expert advice the result will be disappointing. A few hints as to the points which should be watched in purchasing a second-hand car may,



The notice board recently erected on a piece of land rented by the Automobile Association at the entrance to the village of Buckden, Huntingdonshire, on the Great North Road. The committee of the A.A. applied for permission to place the sign board at the road side, undertaking to defray all attendant expenses, but the Hunts County Council refused same.

therefore, be of interest and utility. The prudence of considering only the vehicles of the few old-established firms will be especially obvious, as, except as a speculation for a man of mechanical tastes, the purchase of more or less experimental and discarded patterns of newer makers will be likely to prove unsatisfactory; while the probable facility of obtaining replacement of worn parts at a reasonable cost should be taken into consideration.

## External Details to be Noted.

The first thing to attract the untechnical critic's eye, namely, the exterior appearance of a vehicle, is, it is needless to say, of little importance; paint and varnish deteriorate rapidly under automobile conditions, and the cost of restoring them is sufficiently well known, as is also that of tyre renewal; but, in the case of solid-tyred cars more particularly, the state of the rims is some indication of the wear they have suffered. The wheels should be examined for truth and correct tracking, while—especially where light vehicles are concerned—a back and front view of the car will show whether any "splaying" or convergence of the tops of the wheels betrays weakness or excessive loading of the axles.

## The Differential Gear.

A trial trip will presumably be forthcoming, and though a single bad performance need not condemn a car—or few indeed would be saved—the owner may be expected to show it, if possible, at its best, and an opportunity will be afforded of noting excessive rattle, jar, or looseness of parts, state of brakes, and hill-climbing powers, which should, if practicable, be tested on gradients familiar to the purchaser. Where ball bearings exist they should, or one of the main ones at least, be inspected for wear, loose cups, etc., and in default of this by spinning, shaking, and so on, when the axle is raised by a jack. The raising of the back axle, so that both wheels are off the ground, will enable some idea of the condition of the differential gear to be gained; when one wheel is revolved the other should rotate in the opposite direction freely and without too much backlash, where

a live axle is in question; where it is on the countershaft there is more difficulty in seeing this, except in cars where its pinions are open to inspection.

## The Change-speed Gear.

The pinions of the change-speed gear should on no account be left unexamined, as their condition is an excellent index to the state of health of the car and the amount of care it has received; the amount of wear on the faces of the teeth is, of course, more significant than the battering of their ends due to careless changing, while looseness of the gear-shaft bearings may be looked for at the same time.

## The Condition of the Motor.

Last, but not least, the engine itself will claim attention. Its compression and tightness in main and piston-rod bearings can usually be tested with the starting handle, though any serious looseness in these will be manifested by a knock when the engine is running; but perhaps the best test of the age and experience of an engine lies—as with a horse—in its teeth, namely, in the state of the pinions of the half-speed or valve-shaft, which should have a fairly long life, and hence are not likely to have been replaced—accidents apart—unless it has arrived at the stage of having a thorough and extensive repair. If these are badly worn, one may safely consider that its mileage has run well into the tens of thousands. In conclusion, it may be remarked that the inexperienced would-be motorist will do well to solicit the advice of some experienced friend in considering the purchase of a second-hand car.

## A Lady's Record.

There are few things more aggravating to the motorist than to be hindered on the road by unforeseen and unpreventable occurrences when the car itself is running well. A combination of untoward circumstances was encountered the other day by Mrs. C. Mitchell, of Huddersfield, when she was engaged in an attempt to beat her husband's record run from Glasgow to Huddersfield, accomplished in seven and a-half hours on a 16-20-h.p. Argyll. One day last week Mrs. Mitchell started from Glasgow at 7.45 a.m. on a car of identical make, and as the



Mrs. C. Mitchell at the wheel of her 16-20-h.p. Argyll Car.

engine was running sweetly and the weather was favourable she entertained high hopes of reducing Mr. Mitchell's time by a substantial margin. However, she had not gone many miles when she discovered that she had taken the wrong road, whereby fifteen minutes were lost. Nearing Carlisle heavy rain was encountered, and at Keighley she ran into a dense bank of fog, which lasted all the way to Brighouse. In spite of these misfortunes Mrs. Mitchell arrived at Huddersfield at 5.10 p.m., her net running time having been 8½ hours—a creditable performance for a lady.

## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
27-33, Charing Cross Road, W.C.]

### OVERHEATING TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I shall be glad if you or any reader of the *M.C.J.* can help me out of the following difficulty. I have a car which would not climb the hills to my satisfaction, so I took the old engine out and put one in of rather more than double the power. To my dismay I cannot subdue the great heat the motor produces. I have bought a new radiator three times larger than the original, and also added a fan to the same with water tank. After running a few miles the whole of the water both in

carburettor. On again trying the car it ran well, but on taking the slightest incline what appears to be popping in the carburettor takes place. The engine runs perfectly when standing or on the flat, but it invariably starts popping directly the motor is slowed by a hill, unless I retard the ignition. If you or any reader of the *M.C.J.* can assist me I should be obliged.—Yours truly,

R. L. MADDOCKS.

[We would advise our correspondent to turn his attention to the ignition for his trouble. A bad "earth" will be found to almost always cause firing back in the carburettor. This can easily be ascertained by connecting a wire from the commutator spindle to the frame and see if better results are obtained. The shaft becoming worn will also cause a bad earth to the commutator. Having had the same trouble with a car we effected a remedy by fixing a connection on the end of the shaft direct to the negative of the accumulator.]

### STEAM CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In answer to Mr. E. Martin, respecting the Locomobile, I may say I have had about as much experience of above cars as any



Touring in Bohemia. On the Mur Bridge at Gratz.

[Allgemeine Automobil Zeitung.]

the tank and radiator begins to boil. The old engine was of 10-h.p.; the new is a 24-h.p. What must I do to overcome the heat troubles?—Yours truly,

F. R. DEAN.

[There is evidently something seriously wrong with the water circulation of our correspondent's car. The fact of increasing the radiator ought to have overcome the difficulty. If a pump is not already fitted we would advise fitting one, also making a thorough inspection of all pipes, etc., in connection with the circulation, to see that all is clear. It would also be advisable, if the engine is new, to thoroughly examine the water jackets, as sometimes the sand is not properly cleaned out after the cylinders are cast. If this were the case it would cause a great deal of over-heating.]

### POPPING IN THE CARBURETTOR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a 12-h.p. two-cylinder car which ran perfectly till last week, when I noticed it commenced to run jerkily. On my return home I cleaned the sparking plugs, adjusted and cleaned contact breaker, took out and ground the valves, and cleaned out the float chamber of the

private owners. First of all there is the same trouble with the Locomobile as other cars. It takes fifteen minutes to get steam up. I use a cheap brand of Bowley's petrol, twelve miles to the gallon. My tank has a capacity sufficient for twenty miles. I can attain a speed of twenty miles per hour. As regards hand pumping for air pressure and water to boiler, I do none whatever. I have fitted a combination steam air and feed water pump. Without the above or the air and water pump separate I would not run a car: you can always keep the air pressure up to 60 lbs. without hand power, and of course this makes the generator steam well. When the car stands still any length of time the water in the boiler begins to fall; the usual method is to use the auxiliary hand pump, but when fitted with a steam water pump, all hand power is saved. The above steam combination pump I purchased from Messrs. Morris, of St.roud Green Road, N. The Stanley is, I should say, far in preference to the Locomobile, but no petrol car of same power or more will live with them in a hilly district. I notice the terrible accidents happening daily with petrol cars through failure of brakes; with the Locomobile you can reverse the engine at a moment's notice and pull the car up on any hill.—Yours truly,

Oxon.



## SMELL AND SMOKE FROM MOTOR-CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Replying to "Stupefactus" in the last issue of the *M.C.J.*, doubtless the reason why paraffin is not more used for the lubrication of the cylinders and crank chambers of motors is identical with the reason which prevents so many car owners from inflating their tyres with a shot gun, viz., that it is "somewhat unsuitable." One wonders that some people do not make a few inquiries before flying into print.—Yours truly,

BORED.

## CULPABLE DRIVERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—While I fully realise that there are many good drivers of motor-cars and horses, I am sorry to say that there are some bad ones. In a city crowded with traffic of all sorts a bad driver is a menace, whether he is piloting an automobile or a horse, and brings discredit on all his class. The common rule of the road that in overtaking a vehicle it shall be passed on the right side is frequently deliberately, carelessly and even recklessly disregarded, a driver cutting in between a slow-moving vehicle and the kerb, risking bad accidents and possible death to somebody. Far too many chauffeurs resort to this dangerous practice. If a driver is ignorant of road rules, he is a dangerous person to be permitted on the streets; if he violates these rules deliberately, he has no business on the road. In either case he has no defence. Motor-car agents themselves might do good work by observing the rules of the road and insisting that their employees do likewise; they might also be of benefit to the motoring community by endeavoring to show people what are and what are not correct methods in driving. What the expert does the layman will do, and the public will judge accordingly.—Yours truly,

SALOPIAN.

## REGULATIONS IN THE PARKS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have just noticed that a regulation board put up in Finsbury Park limits the speed of motor-cars travelling through the park to eight miles an hour.

Can you tell me whether the London County Council has power to impose such a restriction on the speed of cars?—Yours truly,

G. S.

## A DANGEROUS PRACTICE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Cannot you do something to call attention to the dangerous way in which some fast motor vehicles overtake and pass cars going slower than themselves? This is, I am sure, a great danger which is increasing every day. Only last Sunday I was myself passed by large cars three times, not one of the drivers of which sounded his horn, nor did I know until they were actually passing that they were behind me. Later, on the same afternoon, the driver of another car evidently intended doing the same thing, but unfortunately ran into the back of my car, causing damage to both vehicles, which will amount probably to hundreds of pounds, as his car, more especially, was practically wrecked. As I have usually found in cases of this sort, the chauffeur was driving.

Personally, although my car is pretty fast, so that I constantly overtake others, I make it a rule never to overtake another vehicle unless I know by some sign from the driver, either by his moving to the left or signing me to pass, that he has heard my horn and knows I want to pass, and I feel sure there will be some terrible accidents this year unless this growing evil is checked; I trust, therefore, you will use your powerful influence to put an end to it.

May I also endorse the good things which have been said of the Automobile Association; it is undoubtedly carrying on a most useful work, and should be supported by all motorists?—Yours truly,

M. A. L.

## AIR-COOLED ENGINES FOR MOTOR-CARS.

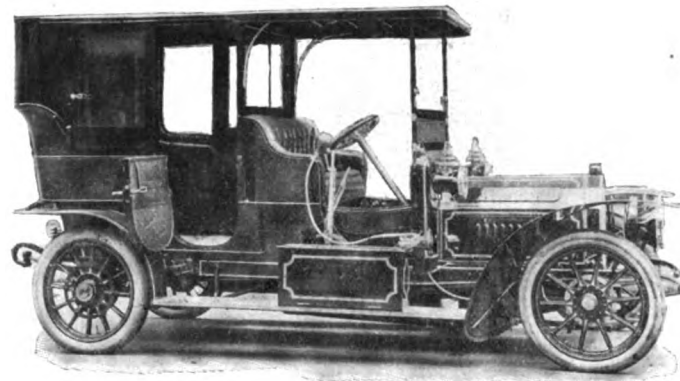
TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—For some time past reports have been coming to hand from the United States anent the successful adoption of air-cooled engines on powerful motor-cars, and I have been anxiously looking forward to the appearance of similar motors in this country. It would appear, however, that British automobile engineers do not look with favour on the idea, as so far nothing seems to have been done in England in the direction named. If the reports be true, there can be no question that during the past year or so the air-cooled motor has gained in popularity in America with great rapidity. Those who are in a position to speak authoritatively consider that the tardy advance of air-cooling, as viewed from an engineering standpoint, is owing to the fact that hitherto efforts have been made to solve the problem with experience gained in producing water-cooled motors. The chief trouble lies in the necessity for proper radiation. All the early experiments were directed toward cooling by air with cylinders designed for water-cooling. Therefore many radiating devices correct in principle and capable of giving excellent results have failed to be satisfactory. In short, air-cooling involves principles entirely separate

and distinct from those applying to water-cooling and must be considered with a clear understanding of that fact. The primitive idea in regard to air-cooling involved the reduction of the temperature of the cylinder walls by means of a blast of cold air blown directly upon them. This principle survived for quite an extended period, all the motors having either a single cylinder of considerable bore, with a fan blowing directly on its head, or multiple cylinders of very small capacity, which did not require other than the natural circulation of air. The change from those types to one employing four vertical cylinders placed longitudinally in the car, as now adopted, presented an entirely new problem in air-cooling, as it is evidently impracticable to blow air directly on the heads of all four cylinders.

It soon became apparent that it was unnecessary to direct currents of air on particular portions of the cylinders, or to make any special disposition of the air currents, other than to insure their free passage around the radiating device used for taking the heat from the cylinder walls. The true principle of air cooling now became clear—that not merely is radiation required but that a proper system be employed to carry away the heat particles from the radiating surfaces. It is important, of course, that the compression chamber be so designed that the surfaces exposed to the hot gases have a uniformly free exit to the exterior radiating device; but the great difficulty is in getting the heat from the radiating device into the surrounding air. Many failures in air-cooling can be traced to the fact that the imperative necessity of conveying the heat from the metallic surfaces has been overlooked, and although the cylinder wall has been surrounded with the most elaborate arrangements for distributing the heat, the matter of conveying it away and providing for a constant supply of air at atmospheric temperature has been entirely neglected. The basis of the remarkable success of certain motors during the past year has been the care with which these details have been worked out.

A common impression prevails that makers of air-cooled cylinders advocate them because they can be cheaply manufactured. However



The 20-25-h.p. Crossley Chainless Car just supplied by Messrs. Jarrott and Letts to Col. J. S. Nicholson, of Basing Park, Alton, Hants. The body, which was built by Messrs. W. and F. Thorn, is arranged to carry seven passengers comfortably. The brougham top is removable, so that the vehicle may be used as an open carriage when desired.

true this might have been at one time, it is not true at the present day. On the other hand, the cost of manufacturing an air-cooled cylinder, employing all the special processes acquired by experience in this branch of the art, is said to be considerably greater than for a jacketed cylinder of corresponding size.

The problem of successful air-cooling multiple-cylinder motors placed lengthwise in the car is considered in America to have been solved, and the public are beginning to look upon cars with air-cooled engines much less sceptically than a few years ago. The simplicity resulting from the elimination of a water radiator, water pump, and cylinder jackets is the object aimed at, and to this can be added the freedom from the trouble in cold weather occasioned by frost.—Yours truly,

ANGLO-AMERICAN.

## MOTOR SPIRIT FROM GAS TAR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In the early part of November last there were rumours of the formation of a company the object of which was to introduce a new motor fuel to take the place of petrol. So far as I could ascertain, the new spirit was a product of gas tar, and was stated to contain certain hydrocarbons which had never before been isolated. While being claimed, as the result of experiment, to be equally suitable as petrol as the fuel in internal-combustion engines, its high flash point was stated to enable it to be handled and stored with a greatly reduced danger of accident. Not having so far seen or heard anything more of the new fuel, I write to ask whether you or any reader of the *M.C.J.* are able to give any further information on the subject.—Yours truly,

W. LAWRENCE.

AKONIA.—We have an inquiry for the address of the makers of Akonia.

## CLUBS AND ASSOCIATIONS.

### THE AUTOMOBILE ASSOCIATION.

THE Automobile Association will hold its annual general meeting at the Trocadero Restaurant, London, on Tuesday, June 19th, when Colonel W. J. Bosworth, taking the chair at 4 p.m., will have the pleasure of reporting most gratifying progress made since the inception of the cyclist patrol movement only nine months ago. New members are being elected at the average rate of about one hundred every fortnight, while the patrols are being increased and extended practically every week. Quite a pleasing form of freemasonry exists between all the members, who send reliable information on the subject of police traps from all quarters of the kingdom to the central office at 18, Fleet Street, E.C., where it is tabulated and distributed to subscribers by telegram, telephone, or letter, at any hour in the day.

### LEICESTER.

IN consequence of the difficulty of making the arrangements for the Inter-Club Hill Climb for the Du Pre Challenge Cup, arranged

Fifteen members and friends carried out the fixture, and, despite the inclemency of the weather, thoroughly enjoyed the outing.

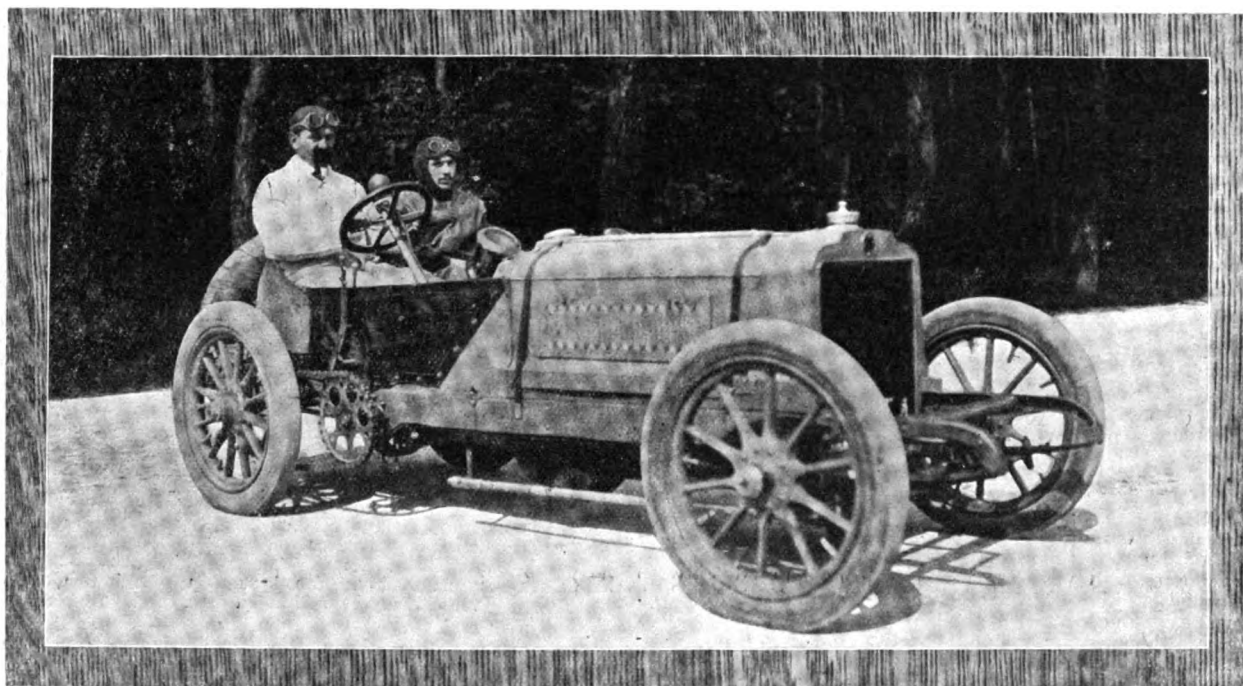
The sparking plug competition fixed for this occasion was postponed owing to insufficient entries.

Already the date of the annual dinner has been fixed. It will take place at the Midland Grand Hotel, London, on December 8th next.

### HUDDERSFIELD BRANCH OF Y.A.C.

LAST week we gave the results of the hill climbing-contest of this active club at Meltham. We are now able to give the full record of the contests as follows:—

CLASS A.			
Name.	Car.		Points.
W. B. Lawton	8-9-h.p. Corre	...	124
F. A. Dawson	6-h.p. De Dion	...	122
J. W. Hobson	8-h.p. De Dion	...	96
CLASS B.			
W. Singleton	10-h.p. De Dion	...	136
A. Herman Sykes	10-12-h.p. Argyll	...	133
F. Sutcliffe	10-h.p. De Dion	...	131
Dr. Prior	12-h.p. Corre	...	127
E. G. Learoyd	12-h.p. De Dion	...	125
G. A. B. Lockley	12-h.p. Wolseley	...	108



One of the New Brasier 105-h.p. Racers built for the A.C.F. Grand Prix Race.

to take place on the first Saturday in June, this has been postponed to Saturday, June 23rd. The reliability trials, which were to be held on June 16th, will be run off on August 18th.

A very attractive programme has been issued by this club, much handy information being incorporated in waistcoat-book form.

### NORTH-EAST LANCASHIRE.

AIN the 400 miles reliability run from Whalley to Edinburgh organised by this club the following ten cars completed the run without a stop, and will each receive a gold medal:—

Burton Hacking (18-24-h.p. Bel-size).	W. D. Coddington (30-40-h.p. Daimler).
J. Bibby (28-36-h.p. Daimler).	Havelock Lonsdale (30-40-h.p. Daimler).
C. F. Bury (28-36-h.p. Daimler).	Robert Mangnall (40-h.p. Napier).
G. Burton (28-36-h.p. Daimler).	Arthur Birtwistle (35-h.p. Daimler).
J. Briggs-Bury (30-40-h.p. Daimler).	F. Birtwistle (60-h.p. Mercedes).

### NORTH LONDON.

THE fifth outing of the season took place to Buntingford. The weather was bad, the roads were bad, and the attendance was poor.

### CLASS C.

D. Stoner Crowther	40-h.p. Napier	...	124
A. Farnell	30-h.p. Daimler	...	117
H. Walker	30-h.p. Daimler	...	114
Eli Sutcliffe	14-h.p. Clement-Talbot	...	98
Dr. Rogerson	8-10-h.p. Coventry Humber	...	93
H. Dickinson	30-h.p. Ariel	...	83
E. Hoyle	14-h.p. Gladiator	...	82
C. F. Crowther	18-h.p. Clement	...	81
W. Moorhouse	15-h.p. Darracq	...	79
H. Broadbent	15-h.p. Darracq	...	77
R. V. Middlemost	24-h.p. Dennis	...	75

The officials who ably carried out the event were as follows:—President and referee, Alderman W. H. Jessop; clerks of the course, Messrs. W. Blamires, J. D. Crowther, A. Dawson, H. Dickinson, E. Lawton, E. G. Learoyd, R. V. Middlemost, W. Priest, F. Sutcliffe, and F. H. Wilson; starter, Mr. F. A. Reed; timekeepers, Messrs. A. Fattorini, Bradford, and J. A. Walker, Leeds; handicappers, Messrs. W. Blamires and H. Broadbent; clerk of the scales, Mr. J. D. Simpson; hon. secretary, Mr. E. Gordon Learoyd.

### MOTOR YACHT CLUB.

FIVE boats were entered for the first of the fortnightly handicaps of the Motor Yacht Club, Southampton, on Saturday last, but only three appeared at the start—Captain Dixon's Hebe, Mr. J. D. Siddeley's

Kathleen, and the rear-commodore's Commander. The course was from inside the Enchantress, round Calshot Lightship, back to the buoy at the entrance to the Itchen River, and finishing at the Enchantress, a distance of twelve nautical miles. Hebe had to allow Kathleen 10 min., and Commander 20 min. 48 sec., while Kathleen allowed Commander 10 min. 48 sec. Hebe retired when off Hythe pier, leaving Kathleen to finish first. Commander lost by only 80 sec.

### SOUTHERN.

THE successful team representing this club in the Gamage inter-club competition consisted of Messrs. H. Gutteridge (5-h.p. Peugeot), R. Jackson (4½-h.p. De Dion), M. Brooke (24-h.p. Malcolm), W. H. Nixon (6-h.p. Regal), C. Brodie (24-32-h.p. Darracq), and H. Jones (6-h.p. Wolseley).

THE Derby Club will hold a gymkhana at Burton-on-Trent on the 14th prox.

THE Reading A.C. is being dissolved on the 24th inst.

### ROAD REPORTS.

**NORTHAMPTONSHIRE.**—With regard to main roads under the direct maintenance of the Northamptonshire County Council, it is the practice when repairing them to disturb, as far as considerations of width allow, only one side of the road at a time; with regard to main roads not under direct maintenance, the County Surveyor has recently been directed to draw the attention of District Surveyors to the matter. Instructions have also been given that before leaving off work at the end of a day loose stones are to be dry-rolled and tapered with chippings at each end.

**ESSEX.**—The tarring experiments on the main road from Chelmsford to Colchester, in the parish of Springfield, have served as a useful object lesson. The Grays Urban Council have tried tar with such success that they have decided to spend a further sum of £300 on similar work. The financial result is excellent, the saving in watering, scavenging, and repairing being considerable. But of course the great advantage is the minimising of the dust nuisance. The tarring of the streets is much appreciated by householders.

**FARNBOROUGH.**—The road from Green Street Green to Farnborough has been newly tarred and is proving a satisfactory solution of the dust problem.

**ROADS IMPROVEMENT.**—In continuance of its campaign for securing wider and better roads, the Roads Improvement Association have during the past month distributed over five thousand pamphlets. These pamphlets examine the existing system of highway administration and show the legislative and administrative changes which are necessary if the roads of this country are to be made safe and dustless and generally adapted to modern conditions of traffic without any large additional expense to the ratepayer or the taxpayer. As a result of the many complaints received as to the condition of the roads in some of the Welsh counties, over one thousand copies of the Association's "Hints to Country Roadmen," printed in the Welsh language, have been distributed.

### MOTOR-CAR ACCIDENTS.

AN inquest was held at East Dean, near Eastbourne, on the body of Miss Mary Elizabeth May Metters, age 21, daughter of Mr. and Mrs. John Metters, of Cross of the Hill, near Stratford-on-Avon, who was fatally injured in the motor-car accident reported in last week's *M.C.J.*, on the previous Tuesday, when her parents, who were also in the car, were injured. John Reed, the driver, stated that when he saw the "danger" notice at the top of the hill near East Dean he shut off the engine and did not put it on again. As he went down the hill he had his foot on the right-hand brake. He noticed a horse apparently in the middle of the road, and as it did not move he went to the right and tried to avoid it. The car skidded, and he tried to right it by turning sharp to the left. The car seemed to have got fixed, and the back part of it struck a low flint wall. The witness was thrown on to the wall, and the other three persons in the car were thrown into the road. He attributed the accident to the skidding, and denied that his brakes failed to act. The jury returned a verdict of "Accidental death," and exonerated the driver from blame.

EARLY on Tuesday morning an attempt was made to wreck the motor mail van which runs between Sunderland and Newcastle. A quantity of stones had been placed in the middle of the roadway, and the driver had a narrow escape.

ON Saturday a serious motor-car accident occurred at Wellington, Salop, by which several people were injured. Mr. J. K. Starley, of Coventry, Mrs. Starley, and Mr. Starley's two sisters left Coventry in a car, intending to proceed to Llangollen for the Whitsuntide holidays, and when near Wellington the car came into collision with the foremost of two horses attached to a furniture van belonging to Shrewsbury. The motor car ran into a hedge, with the horse on top, and the occupants had narrow escapes, one of the ladies jumping out. The car was almost a wreck, the front being smashed in and the sides broken. After their injuries had been attended to the party returned by train to Coventry.

### THE MOTOR CYCLING CLUB'S RUN TO EDINBURGH.

FROM the top of Highgate Hill eighty-two entrants in the annual run of the Motor Cycling Club started on Friday of last week. Forty-eight of them survived the journey, reaching Edinburgh on Saturday evening. The start of the motor-bicycles began at 10 p.m., and forty-nine machines were despatched at half-minute intervals. Sixteen tri-cars followed, and at 10.40 p.m. the seventeen cars were sent on their way.

For a good many miles strong winds and muddy roads made the journey anything but enjoyable, but things improved as the north was invaded. The Scottish borders were reached by the foremost riders shortly after 4 p.m., and Levenhall (the last control) about 7 p.m. There the competitors were "controlled" until eight, when the first of the arrivals, who were three motor-cyclists, set out again, reaching the North British Hotel at Edinburgh at 8.30. At 8.37 twenty-one others arrived in a cluster, and twenty-four more had reported themselves before 10.40, when time was up.

Thus there were forty-eight out of the starters who covered the distance within schedule time, and these were made up of ten cars, four tri-cars, and thirty-four cycles. Mr. F. T. Bidlake, who checked the times as the competitors arrived, had early on Sunday morning the duty of restarting fifteen of the successful forty-eight on their return journey in competition for the Schulte Cup. About 12.15 the competitors were in readiness outside the N.B. Hotel, and a quarter of an hour later they were dispatched.

During the run special interest attached to the 12-15-h.p. Talbot car driven by Miss Agnes Wood, who rode in her first trial without any difficulties of any kind.



The First Three Arrivals at the Levenhall Control.

The riders who accomplished the journey within the twenty-four hours were:

**Motor-bicycles.**—Messrs. E. W. Ashworth, D. S. Baddeley, L. A. Baddeley, G. A. Baddenoch, J. A. Bailey, L. W. Bellenger, H. E. Blackney, F. M. Bond, H. M. Bond, R. G. Booth, R. M. Brice, M. Campbell, A. B. Drummond, D. K. Edwards, H. S. Freeman, S. E. Frost, O. C. Godfrey, E. W. Goslett, C. J. Hart, F. Hulbert, H. F. Hild, W. Jacobs, G. G. Koop, F. Mussell, A. G. Reynolds, W. A. Sale, H. B. S. Shutes, A. J. Sproston, N. J. Tuchmann, S. Webb, W. H. Wells, A. Williams, T. Woodman, and A. Wright.

**Tri-cars.**—A. C. Earp, W. Gunn, Miss Muriel Hind, J. Van Hooydonk.

**Cars.**—J. Platt Betts, A. J. Brown, C. W. Brown, F. J. Jenkins, F. W. Peckham, W. E. Price, S. J. Sewell, J. W. Stocks, H. Taylor, Miss Agnes Wood.

### POLICE TRAPS.

CONFETTI as a note of warning of the presence of police-traps is calculated to help motorists considerably. Messrs. Gamage are supplying a specially-coloured confetti, which motorists sprinkle when running through such a device. Drivers who follow at once read the sign and act accordingly. There should be fewer fines after this.

MOTORISTS should drive with caution between Kensington Church and Addison Road Railway Bridge, W.

### PUBLIC MOTOR SERVICES.

A PROPOSAL is being made for a motor vehicle service between Malvern and Gloucester.

THE Tadmorden Town Council has decided to purchase four double-deck omnibuses.

THE motor-car service between Bettws-y-coed and Corwen has been re-commenced for the season.

## NEW COMPANIES REGISTERED.

RAGLAN MOTOR COMPANY, LTD.—Capital £2,000. Objects and all other particulars as in Anti-Friction Motor and Engineering Company, Ltd. (q.v.).

ITALA AUTOMOBILES, LTD.—Capital £20,000. To carry on the business of dealers in motor-cars and carriages, garage keepers, etc. Registered Office, 89, Wigmore Street, W.

EUSTON MOTOR COMPANY, LTD.—Capital £10,000. To adopt an agreement with Messrs. A. C. Gibbons and B. S. Rice, and to carry on the business of vendors of, agents for, and dealers in motor-cars.

ANTI-FRICTION MOTOR AND ENGINEERING COMPANY, LTD.—Capital £2,000. To carry on the business of manufacturers, importers and exporters of, and dealers in motors, motor-cars, cabs, broughams, omnibuses, wagons, and other light or heavy vehicles, etc.

EARL'S COURT MOTOR GARAGE COMPANY, LTD.—Capital £2,000. To carry on the business of motor-car and garage proprietors, &c.

CARLTON GARAGE, LTD.—Capital £2,000. To take over the business carried on by Mr. E. D. Billing at 5, New Burlington Place, W., as the Carlton Garage. Registered office, 5, New Burlington Place, Regent Street, W.

MACINTOSH TYRE COMPANY, LTD.—Registered 18th May. Capital £7,500, in £1 shares (2,500 "A" and 5,000 "B"). Objects: to adopt an agreement with Charles Macintosh and Company, Ltd., and M. Adler, and to carry on the business of factors and repairers of and dealers in tyres for cycles, motors and other vehicles, &c. No initial public issue. Registered office, Lower Cambridge Street, Manchester.

## CASES AGAINST MOTORISTS.

A LADY motorist, Miss Eleanor Morgan, of Willesden Green, has been fined £10 and costs at St. Albans, for negligent driving of a motor-car. The charge was the result of an accident, the car being driven on to the pavement and knocking down a girl, whose leg was broken.

AT Chertsey, Mr. B. T. Frost, a London gentleman, was fined for having no legal number on his motor-car at Weybridge. The police alleged that the defendant drove his car through the village with the number chalked on in large letters. A constable who stopped the car put his fingers across the figures and rubbed them out.

A LARGE batch of motorists have just been fined by the Ryde Bench for exceeding the legal limit in the Isle of Wight.

FOR failing to produce his licence when desired by the police an Abergavenny doctor has been fined 1s. by the magistrates at Ross. The costs will be 10s.

THE driver of an "Arrow" motor-omnibus has been fined 20s. at the West London Police Court for careless and negligent driving.

A MOTORIST has been summoned at Belfast for not keeping on his right side of the road. A fine of 5s. and costs was imposed.

VICTOR SPECK was charged at Lambeth Police Court with the manslaughter of Amelia Biggs by driving a motor-car over her at Peckham Road on Sunday afternoon. When charged, prisoner replied, "I thought they would cross right over the road." Mr. Hopkins remanded the accused for a week, but accepted bail in £20 for his appearance.

## TUITION IN AUTOMOBILISM.

IN our Comments we draw attention to the new departure of Argylls London, Ltd. In these classes the theory and principles of the petrol engine and other parts of a motor-car will be explained by means of diagrams or lantern slides, and also by an examination of the actual parts under discussion. A portion of the Argyll depot at 17, Newman Street, will be set apart for the purpose, and among the features of advantage to those attending these classes will be the opportunities afforded them of examining different types of cars actually undergoing repairs on the premises.

Two courses of lectures will be given, one for owners and the other for drivers, and each month a syllabus of lectures and demonstrations will be drawn up for each. A complete chassis will be placed in the lecture room for the benefit of students, to enable them more fully to grasp the function and operation of the various component parts of the car. Instruction combined with practical demonstration will be given in the starting or stopping of the engine, and the controlling of engine speed by either throttle or ignition, also in gear changing, operation of brakes, removal and repair of tyres, and all necessary adjustments to any part of the mechanism, as well as hints given as to various temporary repairs which may be effected in case of an emergency. Actual lessons will be given in motor-car driving, the student passing through the various stages until he is finally entrusted with the care of the car in the densest traffic.

## SPEED TRIALS ON THE SANDS.

THE Yorkshire A.C. is organising a series of speed trials on the sands between Saltburn and Redcar, to take place on Saturday, the 14th prox., the exact hour of starting being dependent on the tides. Mr. G. H. Hepper will be the marshal in chief, Mr. J. H. Teague will act as starter, and Mr. C. P. Wilson will act as secretary of the meeting. Prizes are being presented by Sir Hugh Bell, Bart., Messrs. H. R. Kirk, F. W. Wood and Rowland Winn, and by the directors of the "Sheffield Telegraph," and the contests will include an attempt to establish a new Yorkshire record.

## THE FROME'S HILL CLIMB.

WITH reference to the Frome's Hill climb reported last week the following record of the cars which were placed in the first twelve positions on the handicap formula is of general interest. In addition to the four fastest cars already chronicled, congratulations may be extended to Mr. O. Cupper, whose 30-35-h.p. Metallurgique car was fifth and actually was placed ahead of the others on the handicap formula, as is shown in the following table:—

1st.—10-h.p. Alldays.	6th.—30-35-h.p. Metallurgique.
12-16-h.p. Clement Talbot.	7th.—30-40-h.p. Daimler.
2nd.—10-h.p. Alldays.	8th.—8-h.p. Darracq.
3rd.—12-16-h.p. Clement-Talbot.	9th.—12-h.p. De Dion.
4th.—10-12-h.p. Clement-Talbot.	10th.—16-20-h.p. Humber.
5th.—8-h.p. Rover.	11th.—6½-h.p. Wolseley.

## THE MOTOR CYCLE RECORD.

ON the Canning Town track, on Monday, some interesting motor-cycling contests between G. A. Barnes and C. R. Collier resulted in some new records. In the three mile race Collier rode the second mile in 58 sec., the time for the two miles being 2 min. 5 4-5 sec., the first being a record for the flying mile, and the second beating previous best efforts for the two miles. His time for the three miles was 2 4-5 sec. in front of the record, being 3 min. 5 sec.

## THE AUTO CYCLE CLUB.

THE club intend promoting an Open Hill-climb up the famous Birdlip Hill. Full particulars will appear in the *M.C.J.* in due course, but the date of the event will probably be the end of August or early in September.

The entries for the Land's End to John o' Groat's Trial for motor-cycles total sixty-nine in the bicycle class, of which fifty are those of private owners. There are twenty-three in the passenger class, twelve of which are private and the others are trade entrants. The horse-power of the bicycles ranges from two to six, while the tri-cars are from four to ten h.p.

## OBSTRUCTING MOTOR CARS.

BEFORE the Reading Borough Bench, Ernest Adams and George Eggleton have been summoned by Major Portal for obstructing a motor-car with a truck in the Bath road. Adams was fined 10s. including costs and Eggleton 5s. including costs.

AT Uttoxeter, Herbert Smith has been fined £1 for obstructing a motor-car and ordered to pay £5 for causing an accident. It was given in evidence that he deliberately turned his horse and cart across the road as the car approached. The driver, to avoid a collision, ran into the hedge.

## THE SOUTH HARTING HILL CLIMB.

THIS event—a closed competition for members of the A.C.G.B.I. and the Sussex County Automobile Club—will take place on the 23rd inst., over a course of a mile in length. Vehicles will be timed from a standing start with a flying finish; the classes being (A) for cars listed between £150 and £300, (B) for those the chassis price of which is between £300 and £500; (C) for those ranging from £500 to £850, and D for cars the chassis price of which is over £850.

Entries will be received up to the 16th inst., at 119, Piccadilly, W.

## MOTORIST v. MOTORIST.

AT the Brompton County Court, last week, Mrs. Mary Illingworth, of Lady Royde Hall, Bradford, Yorkshire, sought to recover from Mr. A. J. Buck, of Addison Gardens, S.W., damages for injury to her motor-car, caused by the defendant's car running into it as it was being taken through London to Nice. For the defence, it was suggested that the plaintiff's "huge vehicle" shot from behind an omnibus into the defendant's car. Judgment for £29 odd was given for the plaintiff.

## TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.



# THE Motor-Car Journal.

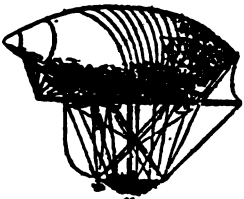
VOL. VIII.]

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[No. 380.]

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## COMMENTS.



A PARTY of aeronauts made a novel moon-light trip from London one night last week. The balloon "Dolce far Niente," of 45,000 ft. capacity, belonged to Mr. F. H. Butler, who was accompanied by Professor Huntingdon, Mr. Charles Maude, and Mr. C. F. Pollock. The party ascended from Wandsworth Gas Works at nine p.m., and had a splendid view of London and its millions of lights. The river was first crossed at Richmond, and at a quarter to ten, when passing over Eton, the balloonists had a splendid view of the "Fourth of June" firework display. The river was recrossed at Shiplake Lock, and again at Goring and Streatley. Thence the aeronauts went over Churn Camp, on the Berkshire Downs. A magnificent sunrise soon afterwards made the shadow of the balloon, thrown by the moon, disappear. At five a.m. Cheltenham was reached, and as the balloon was travelling at a height of only 500 ft. a fine view of the town was obtained. The descent was made at six o'clock on the estate of Mr. J. W. Dowson at Pershore, on the River Avon. Mr. Dowson entertained the aeronauts most hospitably, and the party subsequently returned to town.

### Automobile Gymkhanas.

A NEW item, "the Horsey Motorists," appeared on the programme of the gymkhana at the Suffolk Agricultural Show last week. The motorist was required to drive a horse and trap round the ring, unharness the horse, and finish up by circling the course with his motor-car. From the viewpoint of an audience mostly composed of agriculturists, this was certainly the best event on the programme. The ludicrous efforts of one or two competitors to master the unharnessing operation evoked roars of laughter, besides such humorous injunctions as "Take the shoes off" and "Put it on the tail." The difficulties of arranging programmes sufficiently varied to attract the public at motor-car and agricultural meets have been sufficiently great to tax the ingenuity of the organisers of such events. Anything novel, therefore, becomes a matter of general interest.

### Motor-Car Imports and Exports.

THE returns relating to the imports of foreign motor-cars and automobile parts into this country during May last are of more than usual interest, as, in place of the continuous expansion hitherto recorded, they show for the first time a decrease. The imports last month comprised 508 complete vehicles valued at £217,050, and parts to the total of £176,753, the combined sum being only £393,803, as contrasted with £403,229 in April last, and £404,809 in May, 1905. The reason for the shrinkage is not far to seek, it being due to the recent labour troubles in France and Italy, which brought about a suspension of deliveries from those countries. So far this year, that is to the end of last month, the aggregate imports have amounted to £1,921,094, as against only £1,452,203 in the same period a year ago. Although small in proportion to the imports, the exports of British motor-cars continue

to steadily advance. Last month 71 cars valued at £29,356 were shipped, to which have to be added parts to the extent of £26,630, giving a combined total of £55,986, which compares with £40,392 in the preceding month, and only £25,684 in May last year.

### A Motor Union Prosecution.

THE Motor Union were the prosecutors in the case reported elsewhere in the present issue and heard at Bromley on Monday, when Mr. R. L. Powell appeared to answer a charge of assault upon Viscount Royston while the latter was seated in his motor-car. After hearing witnesses the Bench unanimously decided to convict the defendant and fined him £2 and the court fees. On the application of counsel defendant was also ordered to pay two guineas towards the costs of the prosecution. It is highly satisfactory to note that a signal victory has thus been gained by the Motor Union in defence of the rights of motorists. We may add that the Union are always prepared to undertake a prosecution when any of its members are the victims of unprovoked assault. Particulars should be forwarded to the secretary, Albemarle Street, London, W., the day the offence is committed.

### 'Bus Steps.

AGILITY in dismounting from the steps of the ordinary 'bus is one of the attributes of the modern man of business, whose insistence on the vehicle being stopped while he retires is met with scowls from his whilom fellow passengers anxious to hasten the journey. Now that the motor-'bus has come so strongly to the fore his difficulties have increased, and only the very venturesome persons are now willing to risk their necks by dismounting while the motor-'bus is in motion. Possibly some day we shall jump from the motor-'bus as naturally as we alight from the lift; but that time is not yet. Meanwhile it may reasonably be urged that those responsible for the safety and control of public service vehicles should make a determined effort to secure that the steps should be at a uniform height from the ground, and so help to avoid the miscalculations which may become a serious source of danger to the public.

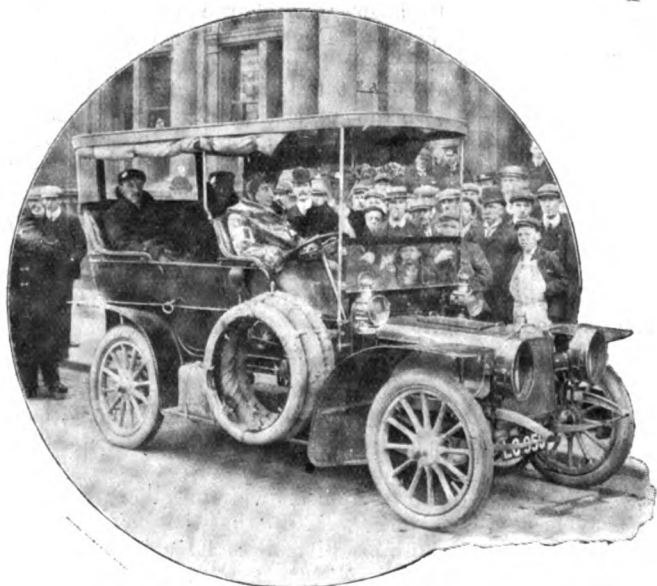
### Route Maps.

THE enormous amount of ground which a motor-car can cover in a day enables the motorist to run over the edge of most large-scale maps in a very short time; therefore the only chance a map-maker now has is to make a map long enough to outdo the day's work of a car. In the "Strip" maps something of this kind is attempted, and a route of some 200 miles in length—a strip of map eight feet long—is folded up into pocket size. No doubt if the "strip" gets loose there will be a long streamer of map trailing out of the car, but when we can get almost any main route of the country on a large scale, with a "contour" plan thrown in, it is worth while taking a little care not to try the experiment. Messrs. Gall and Inglis' maps are designed to connect up with each other, so that motorists can have maps of, say, from London to Edinburgh, either by York or by Preston. The "Highland Road" map, which is now issued in lengthened form, is part of the route

from London or Land's End to John o' Groat's, the length of map in this latter being 32 ft., in five sections. The "Oxford Road" goes much further than its designation implies, the route given being the road through Oxford to Gloucester and Cheltenham, and the branch from Oxford to Worcester. By this means the map actually shows two routes from London to Malvern, and by the use of this one strip a motorist can go there by Worcester and return by the easier road by Cheltenham. These "Strip" maps are certainly a great convenience, as their clearness and distinctness enables motorists to do without stopping by the way to make inquiries.

#### The British Motor Cycle Team.

THANKS to the kindly interest of the Earl of Derby, the selection contest to determine the team to represent this country in the International Motor-cycle Race was held on Thursday of last week in Knowsley Park, near Liverpool. On another page we give a report of the trials, from which Messrs. C. R. Collier, H. A. Collier, and C. B. Franklin emerged with distinction as the selected trio. We trust they will do as well in Austria.



Miss Agnes Wood at the wheel of the 12-16-h.p. Clement Talbot which she successfully piloted in the London to Edinburgh run of the Motor Cycling Club on the 1st and 2nd inst. Miss Wood arrived at the General Post Office, Edinburgh, exactly on schedule time, having made an absolutely non-stop run in 22 hours 40 minutes, including 1½ hours stoppages in the various controls on the road. The car made the trip without a single adjustment being necessary. We believe Miss Wood is the first lady to successfully drive a car in an officially recognised run from London to Edinburgh.

#### Lady Drivers.

MISS MURIEL HIND has come rapidly to the fore as a motorist. She obtained a special certificate for her performance in the Albert Brown trophy contest last year, and was one of two lady drivers in the London to Edinburgh run of the Motor Cycling Club, handling a 9-h.p. Singer tri-car, the behaviour of which was admirable in every way. On Monday she started in the Auto Cycle Club's end to end trip, being the only lady driver, and taking with her a lady passenger. Miss Hind pins her faith to the Singer productions, and believes that her sex will become an important factor in motor competitions in the future. In the ordinary way they can learn to do most of the repairs that may be necessary, and, adds Miss Hind, "there are always passing motorists ready to help if required." Another lady who has won renown this year is Miss Agnes Wood, whose performance on the 12-16-h.p. Clement-Talbot in the London to Edinburgh run has given her distinction. In Scotland, Mrs.

Loder has been repeating her exploits of last year, and, although she has changed her "mount," her enthusiasm for motoring is, if anything, keener than ever.

#### Ambulance Work.

DR. HENRI NACHTEL is again in London endeavouring to persuade the authorities to hasten the extension of the ambulance system on lines similar to those he has been able to recommend for Paris as well as for the important cities of Italy, Austria, Germany, and other European countries. He is somewhat disappointed at the intention of the London County Council to ask for Parliamentary powers to establish a motor ambulance system, because, he says, this will delay the adoption of the idea, and also add to the expense of its initiation. The London County Council propose to have two stations of ten motor ambulances each, and the cost of each motor ambulance is reckoned at £560; this makes £5,600 as the cost of one station, exclusive of medical and working expenses. We do not agree with Dr. Nachtel's view that no gain would be possible in regard to time, for it is wrong to suggest that the horse traffic will be a permanent deterrent to rapid transit, when this is decreasing, so far as the metropolis is concerned, every week.

#### A Good Haul in Surrey.

SIR A. CONAN DOYLE, speaking at a banquet given by the High Sheriff of Surrey to the county magistrates, has been giving some very homely and useful advice. He made the suggestion that constables released from watching motorists, who did little harm except to themselves, might shadow some of those men who were terrors to the countryside by causing fires on Surrey commons. This is so extremely simple and so desirable that it can hardly be expected to appeal very strongly to benches of magistrates who find police traps a most profitable form of investment for the county—an instance of which was afforded in the Reigate Court on Saturday, when the police proceeded against eighteen motorists, securing over £60 for the county exchequer.

#### Motorists and the Law.

At the monthly meeting of the General Committee of the Motor Union the Legal Cases Committee reported that they had dealt with thirty-six applications. Advice and information had been given in all cases, and financial assistance in several. Two of the grants were towards the cost of appeals to Quarter Sessions against convictions for reckless driving, as these convictions appeared to the Union to be against the weight of evidence. In one of these cases the appeal was upheld by the Quarter Sessions and the conviction quashed. Another case in which financial assistance was also given was to the owner of a heavy motor vehicle for being wrongly summoned by the police under the Locomotives Act, although it was pointed out to the police before the summons was issued that the Locomotives Act did not apply to a motor-wagon. The magistrates marked their disapproval of this police blundering by awarding costs to the defendant.

#### A Trio of Dismissals.

THAT one motorist should escape conviction in an English court of justice is remarkable; that three cases against those who drive automobiles should be dismissed is almost marvellous. Yet such an incident has actually happened—not, of course, in Surrey, Sussex, or the regions about, but at St. Austell, in Cornwall. One of the alarming pieces of evidence vouchsafed by the policeman who saw the speedy car from his garden was that there were about twenty children at the side of the road when it passed; if they had been in the centre of the highway they would not have had time to get out of the way. Two of the cases were dismissed without comment;

in the third the magistrates gave the defendant the benefit of the doubt, and "the decision of the Bench was received with applause, which was instantly suppressed."

#### Dealing with the Dust Nuisance.

◆ QUITE a reasonable attitude is being adopted by some of the local authorities with regard to the dust nuisance, and we notice that the City Council of Worcester has declined to sanction a suggestion made by its Streets Committee that the attention of the Local Government Board should be drawn to the dust nuisance as a result of the motor-car traffic. In place of that the Council has resolved to ask the authorities in Whitehall what steps they are taking to discover the most effective and the most economical method of rendering the roads dustless, when used either by motor-cars or horse-drawn vehicles. This reference of the matter to the central authorities is a wise course to pursue, and is being adopted by the Cuckfield

#### In South Wales.

MR. C. H. PALETHORPE has just enjoyed an 800 miles tour. The roads, on the whole, he describes as fair, but south of Aberystwyth fearful hills were encountered and, at times narrow, winding roads. In one South Wales county, from some motive antagonistic to motoring, the County Council had left the metal on the roads to be rolled in by the traffic and had kept the steam rollers in the yard. He came on one of these roads south of Cardigan, and passed over some hundreds of loose metal patches. Some of the hills were terrific in gradient, such as Kittle Hill in the Gower. The finest road, which might be termed absolutely perfect, was from Swansea to Cardiff—that is, after leaving Neath (eight miles from Cardiff), a 38 miles stretch, absolutely free of stones, and perfectly even surface. The road continued good through Newport, Chepstow, and up the Wye Valley to Tenby and Monmouth—in fact, the remainder of the journey. He found the horses between Aberystwyth and



The Herkomer Trophy Touring Competition. The cars arriving at the Austro-German Frontier. (See page 339.)

District Council under somewhat unusual circumstances. Some time ago the Cuckfield Council resolved to make some experiments, and then altered their minds and the whole thing fell through. With the advent of the dust season the Surveyor wondered how a simple dressing of tar would result. A member of the Council thought it a pity not to experiment for want of tar, and offered to supply a barrel. Four other members were similarly disposed, and offered other barrels. The Surveyor used some of the tar and found it answer well, but another member suggested that the tarring of the roads was illegal, not having been sanctioned by the Council. The outcome of the whole business was curious, but interesting. The action of the Surveyor was not approved, but he was authorised to go on tarring until the barrels were empty. The experiment is said to answer well, it mitigates the dust trouble, saves much watering, and preserves the surface of the road. On these grounds it has been decided to ask the County Council to contribute an extra percentage to the maintenance of roads treated with tar.

Cardigan fearfully frightened, just as they were in the early days of the movement. Evidently there is very little motor traffic in that district. All hotels (and many of them very old-fashioned) gave the motorists a hearty welcome and every attention, and always found good room for the car, a marked improvement on the early days of motoring.

#### The Value of Exhibitions.

◆ Few industries have derived so much benefit from exhibitions as that associated with the motor-car. The displays at the Agricultural Hall many years ago prepared the way for the coming of the car, and familiarised the public with the mechanically-propelled vehicle. It would be difficult to adequately estimate the importance of such object lessons in the development of the industry. The influence is by no means limited to any insular area—proof of which has just come in a batch of reports of the March exhibition at the Agricultural Hall appearing in the newspapers of Singapore and Ceylon.

evidence of the wide sphere of publicity claimed by this show, thus extending its value far beyond these islands.

#### The Location of Police Traps.

ACTION is being taken by the Highways Protection Committee of the Motor Union to secure a return of the measured stretches of road over which the speed of automobiles is taken by the police authorities, with a view to prosecution when such trapping devices are on wide thoroughfares or on straight and open country roads where there is no suggestion of danger. Particulars are not required when the speed is taken through narrow villages or round dangerous corners or across the openings of converging roads when these characteristics have been properly indicated—as all such places should be—by the red triangle.

#### In the Thames Valley.

FAMOUS among the well-known hostleries which give comfort to those who revel in the beauties of the Thames Valley, Skindle's Hotel at Maidenhead now has added interest in the provision of a garage which has recently been made. The scene on any of the fine Sundays that we have lately enjoyed has been unique, the number of cars calling there representing a value of many thousands of pounds, and testifying to the way motorists will support those who endeavour to cater for them on reasonable and proper lines. The garage is not merely a house of storage; it is under the control of Mr. A. E. Major, of Reading, whose experience has enabled him to undertake everything, from the supply of lubricants to the repair of important pieces of mechanism. The fact that Mr. Major is now in charge of affairs should attract many more motorists that way and should prove a factor in the prosperity of Maidenhead.

#### Courtesy.

THE REV. A. J. C. CURWEN, of Appleby, is in favour of further taxing motors, which, he says, have a demoralising tendency in causing their owners to disregard the comfort and convenience of others. When he sees ladies clad in delicate blouses smothered in dust, he wishes he had the pen of a Ruskin. He discovered one gentleman in North Westmorland who had the courtesy to slow down when meeting anyone, but Mr. Curwen subsequently found out that he was a candidate for Parliamentary honours. Such are the views which this gentleman recently expressed at a public gathering, and, while we do not wholly endorse his opinion as to the general discourtesy of motorists, we would emphasise the need for drivers to show courtesy to all.

#### Crawley.

CRAWLEY is one of the most familiar little towns to the southern motorists, for it is on the main London road to Brighton. Rather more than a mile to the north of the busy little place there stands by the roadside a post with "County of Surrey" on one sign and "County of Sussex" on the other. Old people who dwell near talk of the times before the railway was made, when forty four-horsed coaches ran either way in the twenty-four hours, besides carriers' wagons, post-chaises, and private vehicles. In passing through the county all traffic was stopped on six occasions by toll gates, at Crawley, Warninglid, Hickstead, Muddleswood, Dale Hill, and Patcham, although at some of them a ticket was given which carried travellers through the next on the list without another payment. Most of the old toll houses are still standing, although a quarter of a century has passed since the last gate was removed. After the railway was opened the traffic on the road became scanty. The great coaching inns had little custom, and the stables, formerly needed for so many teams of good horses, were utilised as farm buildings. In the sixties a pleasure coach

from London to Brighton was started. Then came the day of the bicycle—first the "bone-shaker," then the high front wheel, and lastly the safety, this being succeeded by the motor-car. Cycles and automobiles have changed the character of the town of Crawley completely. Its main street is still disfigured by that relic of barbarism—a level railway crossing, and, as the "Sussex Daily News" remarks, it is no uncommon sight to see the gates shut and a group of vehicles, from the high-grade motor-car to the donkey cart, waiting on either side.

#### Who Reads the Journal.

NOT often do we refer to the advertising columns of the *M.C.J.*, but the way in which drivers and others have lately been reaching owners of cars through our pages is sufficiently notable to call forth comment. Every week hundreds of men interested in various capacities in the automobile industry make known their requirements by means of the small advertisements; these, they know, are read by motorists looking for their services, and the replies they obtain are a tribute to the attention which owners of cars and those on the look-out for men devote to the *M.C.J.* The same tendency may be noted with regard to cars, the number of which advertised for sale and exchange every week testify to the influence exerted by the *M.C.J.* among owners of vehicles in all ranks of society.

#### A Hint to Drivers.

CASUAL perusal of the advertisements which are inserted from time to time by drivers has led us to suggest that much time might be saved and convenience afforded if those seeking situations would give a few definite particulars when stating their qualifications. To say that a man has had ten years of experience does not convey much really helpful information to the likely employer. Better is it to give information as to the makes of car with which the applicant is familiar, thus affording some clue as to likely ability in the particular situation that is offered. Nor need drivers be too captious in detailing their requirements. To qualify the desire for a situation by objections to cleaning cars reminds us of a servant who wanted a place where the work was put out.

CONSIDERABLE damage was caused on Wednesday morning by a fire at the motor body building works of Messrs. W. and F. Thorn, Little Portland Street, London, W. A number of valuable cars and chassis were destroyed.

MR. W. M. McTAGGART, of Dublin, has completed the Irish "end-to-end" course in 20 h. 55 min., beating the previous record by 7 h. 28 min. Driving a two-cylinder 10-12-h.p. Argyll car, his average speed during the day worked out at over twenty miles per hour, and during the night at nineteen miles per hour. The distance is 395 miles.

As mentioned in a recent issue, Messrs. Hall, Capris and Co., Ltd., the sole concessionaires for the Isotta-Fraschini cars for Great Britain and Ireland, have taken Messrs. Reading's premises at 14 and 15, Riding House Street, Langham Place, London, W., opposite Queen's Hall, where they have four large floors on which they intend catering for all branches of the automobile business, including repairs, which will be carried out by Mr. A. Capris, who was for six years foreman to Messrs. Panhard and Levassor. Mr. H. C. Hall, who is a partner of the well-known firm of H. E. Hall and Co., of Tonbridge, is the managing director, and will superintend the orders for Isotta-Fraschini chassis, while the late staff of Messrs. Reading, an old-established high-class firm of carriage builders, will take charge of the body-building department. A special feature is to be made of this branch, with the view of turning out high-class bodies in reasonable time. The Isotta-Fraschini is a high-class car in Italy, and came through the late trials with great success. Although the vehicle only made its first appearance at the recent show at the Agricultural Hall, quite a number of them have already been sold, among the purchasers being Lord Carnarvon, Mr. Charles Temperley, Mr. Montague Jones, Mr. A. C. Cooke, Mr. P. Fawcett, and Mr. H. Reynolds.



# The Herkomer Trophy Touring Contest.

FRANKFORT-AM-MAIN, Tuesday, June 5th.

ON the eve of commencing the second annual international motor-car competition for the Herkomer Trophy, it is plain that we are going to have very different weather from the bright sunshine and awful dust experienced last year. We have seen nothing but bulky rain clouds overhead ever since leaving England, and the air is chilly and damp. Despite this, however, our spirits are excellent, for the members of the committee appointed by the German, Austrian, and Bavarian Automobile Clubs deem themselves so highly complimented by the large number of British competitors who have come over to represent the Automobile Club of Great Britain and Ireland in a try for the trophy that we have experienced nothing but courtesy from the moment of our arrival. Moreover, of the 156 cars which put in an appearance to-day, we are told that the fight will be between a third of that number only, and will resolve itself (in the opinion of the Germans) into a tussle between the team of forty-three cars from the Mercedes, Benz, and Adler factories against the twelve Daimlers from Coventry. We have spent this morning in a more or less ill-lighted building with a name nearly as large as itself—to wit, the Landwirtschaftlichen Halle; have been introduced to our observers; have received insurance tickets against the creation of widows and orphans, as provided for by the beautiful new law to encourage motoring in Germany; have learnt that we start at 5 o'clock in the morning from the third kilometre stone on the Hanau Landstrasse; have scrimmaged, under the captaincy of Mr. Julian W. Orde, in real Rugby fashion to obtain our guide maps, contour books, name plates, and so forth;

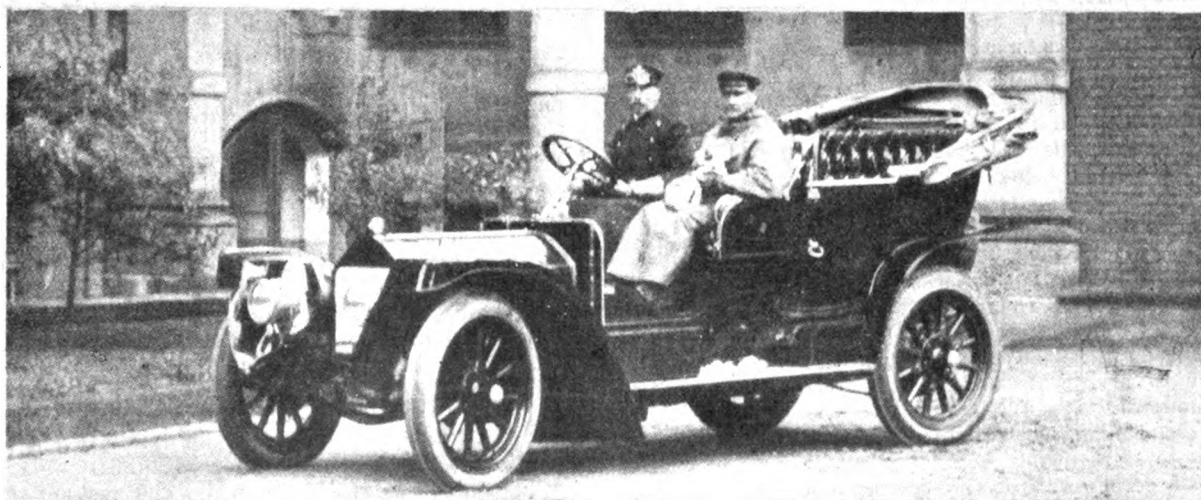


The Herkomer Trophy.

FIRST DAY.—Frankfort to Munich, 252 Miles.

MUNICH, Wednesday, June 6th.

No fewer than 133 of the 156 entrants left this morning at 4 o'clock. The weather, which had been overcast here for weeks past, was very fine, nor, as the day unfolded, was the promise of morn spoiled. There are several features which distinguish this competition from last year's, notable among them being that no compulsory halts are arranged between setting forth in the morning and finishing at night. The cars were started according to their engine capacity, a rule which will be observed throughout, no matter in what order the vehicles may arrive at the official garage overnight. A point about the competition is the advantage that has been taken by one or two firms of the fact that no special marks are given for body work. Several machines were brought to the starting lines having canvas flaps in place of side doors to the tonneau, others lacking any other than grey paint, a third variety having coachwork of one colour on a chassis of another. A number of these machines were disqualified on inspection but by a blunder the 90-h.p. Mercedes, handled by the professional Hieronymous, was inadvertently chalked when brought up for inspection, and as the Committee did not like to appear not to back up one of their members, it was decided that it should run, though under the distinct understanding with Mr. Julian W. Orde, as representing the A.C.G.B.I., that should it win any prize whatever a strong protest would be entered. The Imperial German, Bavarian, and Austrian Clubs Committee will have to take drastic measures next year if this competition is to attract a large entry list, a goodly proportion of



Prince Henry of Prussia on the Benz Car he has driven in the Trials.

have seen Prince Henry of Prussia, in the pink of condition, drive up on his Benz car and go through similar formalities to ourselves; have had the honour of our machines being inspected and admired by him; and are ready to start!

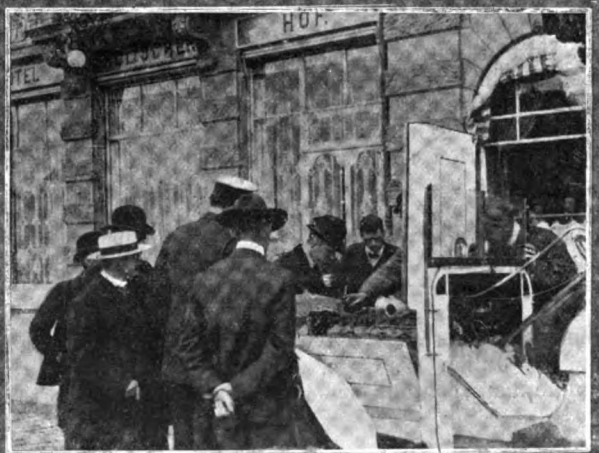
which is composed of genuine amateurs. Prince Henry of Prussia is, of course, the head of all these in the present event, and, as showing his keenness and dexterity, it may be set on record that though he started

seventy-fifth, he was among the first dozen to arrive in Munich this afternoon, as were nearly all the members of the Daimler team, though it was a matter for general condolence that such a magnificent sportsman as Mr. Charles Hardy, the President of the Nottinghamshire Automobile Club, should be the one for ill-fortune to single out thus early for her own, owing to a leak arising in connection with the water circulation, and of such a nature that it was decided to withdraw the car from the competition. As for the newcomers to the British team—Lord Montagu of Beaulieu, Captain David Hughes Morgan, and Messrs. Arthur Birtwistle, Robert Stotesbury, George Frederick Heublein, A. D. Grigg, and the Cavalier Gino de Martino—each drove magnificently, while the veterans, Mrs. Edward Manville and Messrs. Frank Rendle, W. Herdman Ash and Philip Dawson, handled their respective cars in a manner that showed they perfectly understood the game they were playing. While the white vapours of early morning still hung along the Valley of the Maine, people lined the way for mile after mile of the somewhat bumpy road. As we spun along the roads, often travelling at 60 miles an hour in order to keep our allotted distance from the car ahead, and so as to give no excuse whatever for the adoption of racing tactics on the part of the competitors behind us, it was difficult not only to realise the rate at which we were travelling so smoothly,

mountain ranges to the right of us and realised that we were now really in Bavaria. The only incidents to mar our complete enjoyment of the run were those occasioned by the scorching tactics adopted by the continental cars, whose drivers proceeded from the very starting line with open exhausts. It is the more surprising that they were allowed to do this in that the rules of the competition distinctly set forth that as the cars have to be legitimate touring machines they must be fitted with efficient silencers, while, as these daily stages are not races, it does not speak over well for the qualities of modern motor-cars, when it is presumably essential that they cannot be run efficiently except in such annoying fashion. Furthermore, the clouds of blue, black, and yellow exhaust emitted by three-fourths of the cars on setting out have become so objectionable that the officials have come to the conclusion that next year the regulations must include penalisation for all machines emitting obnoxious odours, smoke, or noises. We had some fine hills to climb to-day, but they offered no hard task to the Daimler cars. Towards Saalburg some of the mountains rose up almost sheer from the roadside and loomed right over us. Here, too, having entered Austria at Saalbruck, we had to be careful to bear in mind that we had now to observe the English rules of the road. The road surfaces improved towards the end of the day's stage,



Some of the Cars Awaiting Registration at Frankfort-am-Main.



The Organising Committee Inspecting one of the Daimler Cars.

but also that we were doing a considerable amount of up-hill work. We ran nearly all day with the sun in our faces, having alternate prospects of hills and levels, pine woods and pastures, school children shouting themselves hoarse, and competitors scorching along on cars innocent of silencers, despite the distinct regulations for enforcing the equipment of such. Unfortunately, scorching became almost as bad as last year, and has resulted in a serious accident, whereby Herr Schloer, the honorary observer on the N.A.G. car entered by Herr A. Kienle, was badly injured, owing to the vehicle smashing up in taking a corner too fast about twenty-five miles from Nuremberg. The first car to arrive at Munich was Herr Poege (60-h.p. Mercedes), followed by five other Mercedes cars. Herr Ladenburg, the winner of the trophy last year, was unfortunately unable to start, owing to an accident to his car. It is stated that altogether 128 of the competitors safely reached Munich.

#### SECOND DAY.—Munich to Linz, 168½ miles.

LINZ, Thursday, June 7th.

Happily there are no mishaps to record in connection with the run from Munich here to-day. As we left the prosperous capital of Bavaria in fine weather there was a cool wind that added to the pleasures of motoring, while the rain overnight had laid the dust splendidly. Presently we had prospects of

and in due course the British team all arrived at this centre of the silk industry. Prince Henry of Prussia was among those who dined in the plain little room where the British contingent attended to the inner man, and won yet greater admiration by his absolutely charming and unassuming manners. In this connection a little incident, among a score that might be cited, may be recalled. Finding Mr. Arthur Birtwistle waiting, seemingly puzzled, in the hall of the hotel, Prince Henry went up to him and said in English, "Are you all fixed up comfortably as regards your rooms, or can I be of any service to you in the way of interpreting?"

#### THIRD DAY.—Linz to Vienna, 115½ miles.

VIENNA, Friday, June 8th.

There was the usual scene of animation before the start from Linz this morning; while the fact of the overnight announcement that the Danube is so swollen that the route just outside the Austrian capital might have to be altered, because of some of the bridges being under water, lent an element of curiosity concerning the day's work ahead that made one forget that this was the third night in succession on which we had risen from our beds after enjoying anything from three to four hours' sleep. In the garage it was plain to see that matters were conducted in a somewhat lax fashion, for immediately on the doors being opened the competitors and their motor-

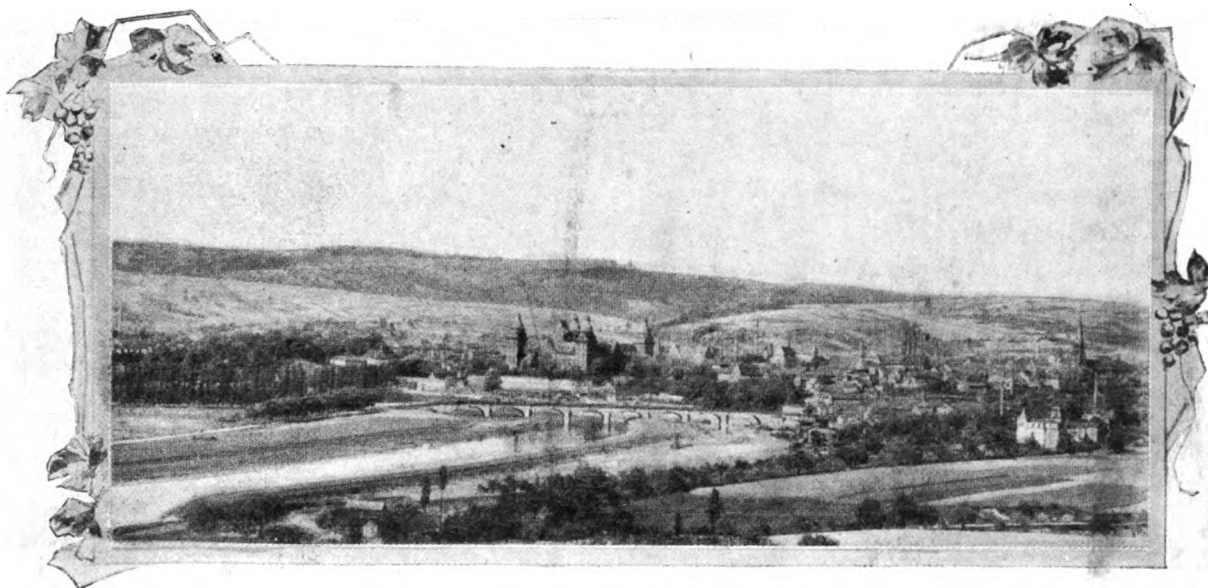
men seized their bags and trappings and made each for their cars, where they commenced operations, leaving their observers to single them out as soon as it should suit them. The replenishing of petrol and lubricants was arranged for in a large open space just outside the motor house. Here the Daimler contingent had a huge section boarded off for themselves, and one beheld Lord Montagu of Beaulieu in his shirt-sleeves and engaged as actively as any mechanic with an oil-can, with which he was making darts at all the various parts of the motor that had to be oiled, what time the observers stood regarding their books and their cars by turns, for it was plain here as well as in the general replenishing ground that by far the majority of those gentlemen had never set eyes on the regulations before seating themselves on the cars that had been allotted to them. At the starting line one beheld many sights of interest in the brief intervals which occurred between being enveloped in the clouds of murky exhaust that issued from the bulk of the cars. As usual, Prince Henry was in readiness as early as any of the competitors, and occupied the wait previous to his turn for being started off by chatting with one and another, as on the two opening days. He spent ten minutes in conversation with Mrs. Edward Manville, whom he complimented highly on her skilful driving, then observed, "I have been struck by the considera-

of the passengers on the car remained in the town and the rest proceeded. Ten minutes after their departure the injured man suddenly expired. Lunch was taken at Melk, and on resuming the road for the final sixty miles to Vienna we had to negotiate several hairpin corners, in one of which a great number of competitors had evidently come near colliding with the bank. This was scarcely surprising when it is borne in mind that the road surface resembled a shallow lake of greasy mud. A series of pretty woods and stretches of grey road brought us to the *pave* and the tram lines, which are so characteristic of this city, even as are the fine houses, the ornate harness of the horses, and the inhabitants, whose features are as fine as are their figures. The first to reach Vienna was Herr Dreher (Mercedes). Mr. Robertson Grant on the Argyll, and nine of the Daimler team safely arrived in good time, eight having accomplished non-stop runs on all three days.

#### THE HALT AT VIENNA.

VIENNA, Saturday.

This is an "off-day" from the competition. The competing machines have been washed, and are on exhibition in the buildings of the K.K. (everything is K.K. in Austria)—*Landwirtschafts Gesellschaft* in the Prater, near the Rotunda, so that, though all the foreign competitors would fain be able to take their machines



A General View of the Town of Aschaffenburg, passed through by the competitors on the First Day.

[Allgemeine Automobile Zeitung, Berlin.]

tion with which all the English competitors have been handling their machines throughout, and my only regret is that I am unable to say the same concerning the majority of the others who are figuring in these runs. I exceedingly regret the scorching that has been taking place, and have heard many complaints about it." There was nothing remarkable about the journey until we had passed out of Kleine Erla, when we suddenly found ourselves fronted with the steepest gradient that has been encountered since leaving England, but which afforded us an agreeable opportunity of proving the unusually fine picking-up qualities of the new 45-h.p. Daimler. We proceeded without incident until entering Melk, which is half-way between Linz and Vienna. Here we learnt of the second serious disaster that has occurred since the start of the competition. It appeared that while passing the post-office at the crest of the roadway in the main street a townsman of fifty years of age, who was blind and deaf, came out from behind a cart immediately in front of Mr. Max Krone's 20-24-h.p. Solidor car (No. 148), and though that machine was proceeding slowly and the brakes were jammed on so that it pulled up within 10 ft., the man was knocked down and the near side front wheel passed over his body. He was able to get up, however, but it was found that some of his ribs were broken. One

out to the Semmering to study the road for to-morrow's hill climb, it is impossible for them to do so. Of course, the Austrian and German competitors have no anxiety in this matter, since by far the majority of them know the scene of many a famous hill-climbing competition as well as they know the particular towns in which they live. As the gradient is such that it can scarcely be called a hill, the whole aim to be kept in view in driving is the negotiation of the hairpin bends, of which there are six. Knowing the handicap they have by reason of their ignorance concerning this course, the British competitors have made an excursion to it to-day on such old creaks of cars as they could hire for trifles ranging from £8 to £10 apiece for the day. It was a comical sight to see the company mounted in such sorry fashion after the superb and handsome vehicles they had been travelling in hitherto. We do not propose to describe the scene of to-morrow's hill climb, because it will be necessary to do so in connection with the event itself. Save Mr. Charles Hardy, whose ill-luck has already been reported, the cars of the British contingent are all running well. Thus there are twelve Coventry-built Daimlers and Mr. E. J. Robertson Grant's little Argyll to put up what performance they can on behalf of the home industry against the foreign. As to the drivers, it is now possible to

form some opinion of their relative methods. For instance, Mrs. Edward Manville has every chance of success in the fact that so far the competition has not fatigued her in the least, and that her car is running perfectly. Lord Montagu of Beaulieu is driving with the knowledge and knack of a pioneer motorist. He is pursuing tactics of his own by refusing to run all day in the cloud of dust occasioned by the scorching tactics already alluded to. After being sent from the starting line he drives each morning to his hotel for breakfast, picks up his luggage, then pursues the road in peace and quietness.

#### FOURTH DAY.—Vienna to Klagenfurt, 192½ miles.

KLAGENFURT, Sunday.

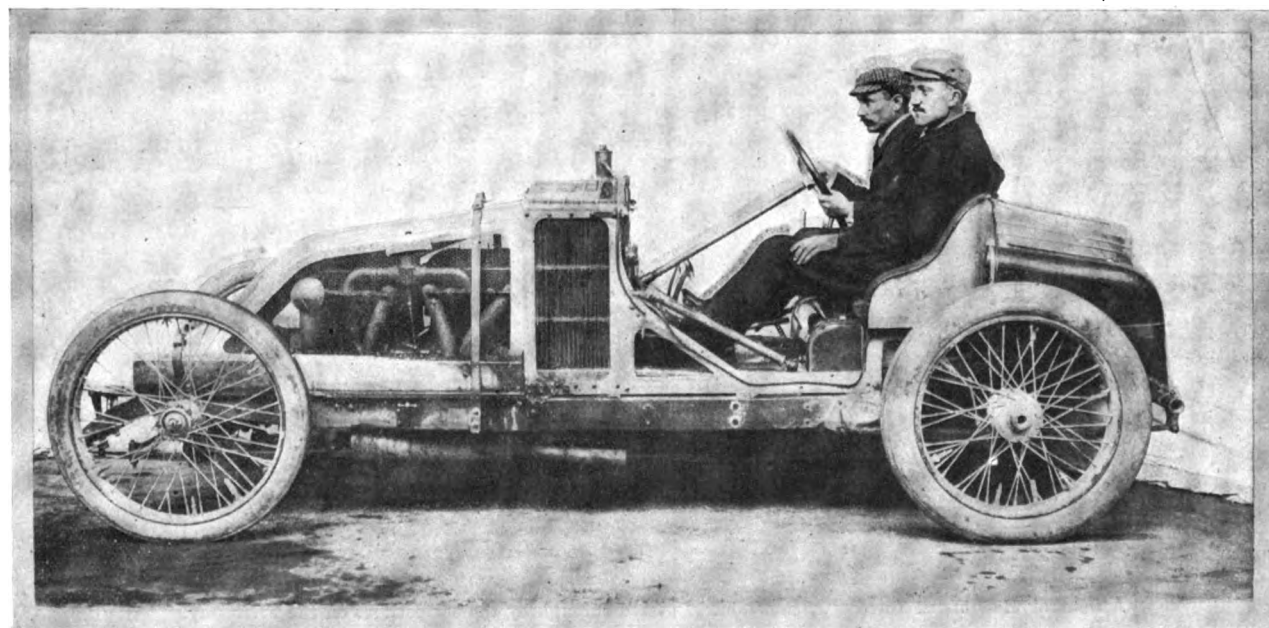
To-day's journey included the timed hill-climb up the Semmering, a long pull-up with a number of sharp turns. The timing was over a distance of about 6 miles, and took in gradients varying from 1 in 14 to 1 in 6. Lack of flags on the "hairpin" corners on the course proved a great handicap to the foreign competitors, and was the cause of several accidents, Mr. Arthur Birtwistle's and the Chevalier Gino de Martino's Daimlers being placed *hors de combat*. Herr Vogel, on a 45-h.p. Adler, in trying to avoid the others, ran into the bank and smashed the front of his car. Fortunately, no one was hurt.

between Brennerbad and Brenner itself. The mountainous road was extremely beautiful and interesting, these being points which have been specially considered when determining the selection of route. Altogether 102 cars left Klagenfurt this morning, the first to reach Innsbruck being Herr Wiegand on a 60-h.p. Mercedes. All the British vehicles have come through to-day without any loss of marks. One or two accidents are reported, a Benz car having fallen into a ditch and a Metalurgique collided with a tree.

#### LAST DAY.—Innsbruck to Munich, 94 miles.

MUNICH, Tuesday.

With less than a hundred miles to run it might be thought that the concluding day's run was the lightest of the series. As the event proved, however, it was the most difficult of any, for we had only gone about eight miles from Innsbruck when the steepest gradient included in a competition of this sort was encountered, the three mile rise by the Hohe Fluide to Seefeld having a mean ascent of one in four with stretches of one in three. To-day's journey also included a flying start speed contest in the Forstenrieder Park, near Munich. The measured distance was over a fairly level stretch, about 3½ miles long, a downhill gradient behind the starting point allowing



Sixs at the wheel of the new Renault 105-h.p. Racer he will drive in the forthcoming contest for the A.C.F. Grand Prix.

Mr. Herdman Ash also met with a bad accident at another of the nasty bends, three Daimler cars being thus put out of competition. The other British competitors did better performances in the hill climb than was expected, Mr. E. J. Robertson Grant, on his 16-20-h.p. Argyll, doing a splendid performance, whilst Mrs. Manville and Mr. Grigg, on the two smaller-powered Daimlers, improved on the speeds set out by formula. The first arrival at Klagenfurt was Captain Spitzner on a 60-h.p. De Dietrich, Herr Wiegand, 60-h.p. Mercedes, being second, and Herr Dahmen, on a 60-h.p. Benz, being third. Up to 9 p.m. 106 vehicles had arrived here. Rain has been falling in torrents.

#### FIFTH DAY.—Klagenfurt to Innsbruck, 207½ miles.

INNSBRUCK, Monday.

With the completion of the fifth day's stage the competition is within appreciable distance of finishing, for to-morrow's short but difficult stage will see it end at Munich. To-day's journey was not only long but difficult, although the road surfaces were, on the whole, considerably better than yesterday. The way rose from a height of 370 metres, at which we were when we set out, to 1,100 metres at Innichen, then dropped to about 700 metres at Ober-Vintl, rising again to 1,200 odd metres

the cars to get up a good speed. The first to pass the station, where the arrival of the cars was recorded, was the 60-h.p. Mercedes, driven by Herr Weingand, which covered the measured distance in 3 min. 31 sec., followed by Mrs. Maud Manville, whose 35-h.p. Daimler took 3 min. 37 sec. Of the first twenty cars which had passed over the course by 1.5 p.m., the best time was made by the Mercedes driven by Herr Poege, which covered the distance in 3 min. 8 sec.

Prince Henry of Prussia, who arrived at 1.45 p.m., covered the course in 3 min. 54 sec.

The following are the times of some of the other British competitors in the event:—Lord Montagu of Beaulieu, 3 min. 22 sec.; Mr. W. Rendle, 3 min. 40 sec.; Mr. A. D. Grigg, 3 min. 40 sec.; Mr. W. H. Ash, 3 min. 43 sec.; Mr. R. Stotesbury, 3 min. 55 sec.; and Mr. G. F. Heublein, 4 min. 27 sec.

A GOLD medal has just been awarded by the jury of the Milan International 1906 Exhibition for Hopkinson's patent solid tyre, for motor-buses, commercial vehicles and pleasure cars. This is, we are informed, the highest and only award given for solid tyres.



## CONTINENTAL NOTES.

## The Paris-Tourcoing Industrial Vehicle Trials.

An interesting trial of industrial motor vehicles, organised by the Automobile Club du Nord de la France, has been in progress during the past week. Altogether twenty-nine entries had been received, and of these the following twenty-five actually started:—Class 1.—12-24-seated public service cars: Clement-Bayard I. and Delahaye. Class 2.—Double-deck 'buses': Clement-Bayard II. and Brillie I. Industrial vehicles: Class 1.—Tri-cars carrying up to fifty kilog.: Three Contals and three Australs. Class 2.—Commercial vehicles for loads from one to two tons: A Peugeot, a Clement-Bayard, and a Latil *avant-train*. Class 3.—Ditto from 2 to 3½ tons: An Aries, a Brillie, an Auto-Camion, a Latil, a Louet-Badin, and a D'Espine-Achard; and Class 4 ditto, 3½ tons and over, a Janvier six-wheel lorry, a Latil, a Prunel, a Peugeot, a Brillie, and a Mors. The trial started on the 6th inst., with a run from Paris to Pontoise, a distance 30½ miles; Beauvais, 31½ miles, was the destination on the 7th inst.; Amiens, 36½ miles, on the 8th inst.; Arras, 42½ miles, on the 9th inst. Up to this point only two vehicles—the Auto-Camion and the D'Espine-Achard—had fallen out. On Sunday Tourcoing, 45 miles, was reached, and on Monday a round trip of 42½ miles from Tourcoing to Tournai and back was made, a different circuit slightly shorter in length being covered on Tuesday. The

social functions of the Paris season, and is attended by the fashionable and wealthy residents, both French and foreign. Five prizes were given on this occasion, one of which was for electric cars. Of the other four, the first and only prize given for silent motors was awarded to a Hotchkiss car, the property of Mr. Herbert Ward, the well-known sculptor. The medal known as the Prize of Constructors, given for general excellence, was presented to the Hotchkiss Company, as represented by the car belonging to Mr. Charles Fallow. Of the other two prizes, one for elegance was divided between a Gobron-Brillie and a Renault.

## Motor-Bicycle v. Express Train.

A Danish motor-cyclist named Stuhr recently succeeded in beating the express train between Frederikshaven, the most northerly town in Denmark, and Copenhagen, the capital. The distance between the two places is 362½ miles; the express train leaves at 6.24 a.m., and is due at 8.49 p.m. Mounted on an Adler machine Herr Stuhr left Frederikshaven at the same time as the train, and, experiencing no trouble of any kind on the way, arrived in Copenhagen 24 min. in advance of the express. His time was just a minute over fourteen hours, the average speed working out at nearly twenty-six miles per hour.

## Motor-cars in the Police Service.

Motor-cars are to be used for police purposes in Prague, Bohemia. The Chief Constable has arranged for the purchase of a powerful vehicle capable of carrying twelve or fifteen men,



The Start of the Paris-Tourcoing Industrial Vehicle Trials.

results of the trial are not available at the time of going to press, and will be given in our next issue.

## The Scheveningen Automobile Meeting.

The programme of the automobile fetes to be held at Scheveningen, the popular Dutch seaside resort, under the auspices of the Dutch Automobile Club, from July 9th to 12th, has now been issued. The meeting will open on the 9th with a reception and banquet. On the 10th there will be a motor-carriage body competition, prizes being offered for the best design of (1) two or four-seated touring car without hood or canopy; (2) double phaetons and demi-limousines; (3) limousines, coupes, landaulets, and (4) town cars. In the afternoon of the same day a series of kilometre speed tests will be held on the promenade from a standing start and a flying finish, categories being provided for motor-bicycles, cars from 400 to 650 kilogs, vehicles from 650 to 1,000 kilog, and touring machines. The proceedings on the 11th will consist of a driving competition, a gymkhana, and a procession of illuminated cars, while on the 12th there will be an automobile battle of flowers.

## Polo and Motor-Cars.

The annual automobile reunion at the grounds of the Polo Club, in Paris, was held a few days ago. This is one of

which it is expected will prove useful in transporting them in the speediest manner to points where they may be required in the case of any disturbance.

## A Motor-cycle Race for Schoolboys.

A motor-cycle race for schoolboys is being organised by the "Auto." It is to be held on the Parc des Princes track, in Paris, on the 21st inst., and the competing machines must be fitted with engines of not more than 3-h.p.

## Miscellaneous Items.

In a series of flying kilometre speed trials at Rouen a few days ago the best time—39 4-5 sec.—was made by M. Coquard on a 35-h.p. Aries.—Owing to the cars being sold, and the manufacturers being consequently unwilling to keep them on view any longer, the automobile section of the Milan International Exhibition was closed last week-end.—Owing to many complaints of furious and careless driving in the Versailles district the Prefect of the Seine-et-Oise district has issued a regulation limiting the speed of motor-cars in the town to 15 kilometres (9½ miles) per hour.—Steps are being taken at Varel, Oldenburg, to form the North-West Germany Automobile Club.—The first permanent service of motor-omnibuses in Paris began running on the Montmartre-St. Germain-des-Près route on Monday morning.

## THE SCOTTISH TRIALS.

GLASGOW, Tuesday.

ERE these lines appear in print more than half of the Scottish Reliability Trials will have been undergone, and the long pilgrimage will be coming southward from Aberdeen and the delightful regions round about. As a test of cars and drivers last year's route was regarded as unique; the journey of this year is officially declared to provide a "yet severer test of the competing vehicles."

The principle guiding those responsible for the rules of the Trial is that the venture is a competition of reliability, the object being to demonstrate the capability of the modern motor vehicle for touring purposes. Hence the importance, both from the public and the manufacturers' point of view, of the important variation of this with the 1905 trial, in the fact that an absolute non-stop performance is not now essential to eligibility for a medal award. This is a sensible innovation, when we recall the failure of competitors last year to gain awards merely because of the loss of a mark or two, such as did not arise from any mechanical flaw, but merely the "hard luck" that seems inevitable to some deserving competitors in such a trial as that upon which we are engaged. There are

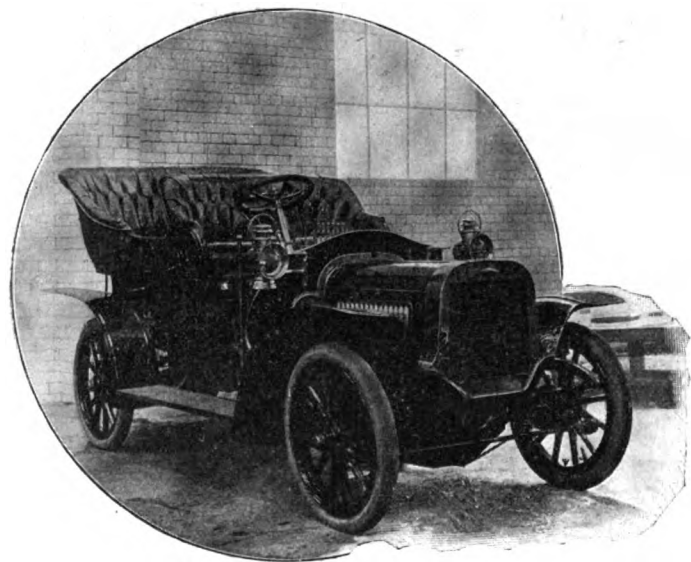


Fig. 1.—The Argyll 14-16-h.p. Car, No. 16 in the trial. The vehicle is fitted with one of the new Argyll motors constructed at the works at Alexandria.

eighty-four entries, divided as follows:—Cars of which the chassis price does not exceed £200, eight; between £200 and £350, fifteen; between £350 and £500, twenty-two; between £500 and £550, twenty-seven; and over £650, twelve.

The seating capacity of all in the first category, with the exception of the 14-h.p. Pope Tribune, is two. The latter seats four passengers, as do all the other cars in the Trial save the 10-h.p. Alldays (three), the 20-h.p. Calthorpe (five), the 30-36-h.p. Drummond (five), and the 24-30-h.p. St. Vincent (six).

Of the eighty-four cars there are seven six-cylindered vehicles, viz., the Calthorpe, Brooke, Standard, Rolls-Royce, Beeston-Humber, Belsize, and Ariel-Simplex cars. In b.h.p. the range is between the 6-h.p. Rover and the 45-h.p. Belsize. The diameter of cylinders and stroke of pistons given by the makers afford opportunity for some interesting comparisons, of which one occurs at the moment, the Scottish Aster, with 12-14-h.p., being 95 mm. by 130 mm., and the Victoria, of similar horsepower, being 80 mm. by 90 mm.

Interesting observations will be possible with regard to tyres, the 16-h.p. Kelvin being fitted with Gaulois, the new Arrol-Johnson dog-cart with Shrewsbury and Challiner, the 16-20-h.p. Argyll with Le Persan, the 18-24-h.p. with Moseley, as is also the 24-34-h.p. Belsize. Other competitors favour the Continental and other well-known makes. Desclee non-skids,

Wallwork bands, and Samson non-skids are being employed by some of the competitors.

The climatic conditions have resembled those of southern climes rather than of northern latitude, and everyone is remarking upon the heat and dust that has arisen outside Glasgow. The cars as they arrive are being driven to the fine

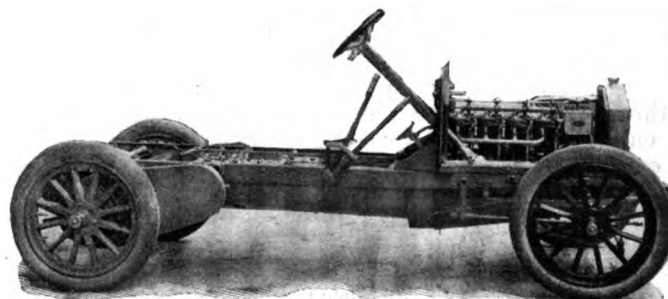


Fig. 2.—The chassis of the 24-h.p. Albion car which started first in the trials.

garage of the Western Motor Company, in Berkeley Street. Most were in good time, but Mr. Ross Browne, of Nottingham, who will handle the Brasier car, was late, owing to the difficulty of getting his car from Paris. By driving all through Monday night, however, he has been able to get to his stall in the garage. The most notable absentee is the Italian car. American activity is indicated in the presence of the Reo—quite a new car to this country—Cadillac, Maxwell, and Pope-Tribune. Our columns have lately pointed out the special features of practically all the cars that will go upon the road to-morrow morning, and it now only remains to be weighed on the official scales and advised, with the Observers, as to what can be, and what ought not to be, done during the trial.

Very complete arrangements have been made for the efficient carrying through of the programme, the total mileage of which is 671½, the longest journey being that of Thursday, which includes the hill climb by the Spittal of Glenshee. For the benefit of our Scottish readers who may go out to greet the cars on their return to Glasgow on Saturday, an approximate time table may be helpful:—The cars will commence leaving Pitlochry at 6 a.m., and quite an hour will elapse before the last arrival on the evening before gets away. The leading vehicle may get to Killin (50 miles) by 8.40 a.m., and be at Inverary (69½ miles beyond Killin), by 11.10 a.m., arriving at Arrochar, 118 miles from Pitlochry, by 1.25. Under no circumstances can

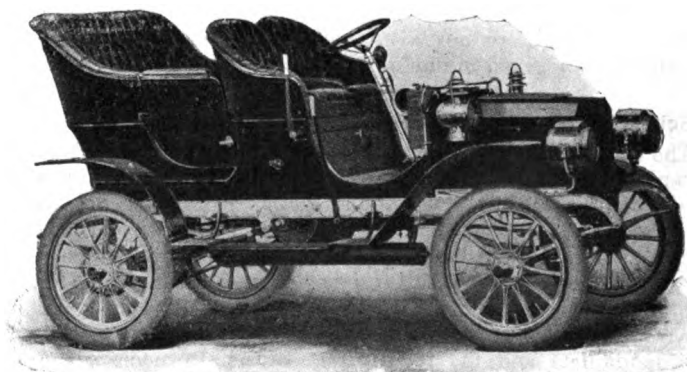


Fig. 3.—The 16-h.p. Reo Car entered by the British Reo Motor-Car Company.

This is the first public appearance of this American-built car in this country. It is fitted with a horizontal opposed double-cylinder engine, 4½ in. bore by 6 in. stroke. The change-speed gear is of the planetary type, giving two speeds forward and a reverse, the final drive being by a single chain on to a live axle.

the cars get back into Glasgow before 3.30 p.m., proceeding at once to the Storage Department in Berkeley Street.

During the long journey the supply of motor spirit, lubricants, etc., will be a most important matter. At Glasgow and Edinburgh this is being undertaken by the Western Motor

Company, Ltd., and Messrs. J. Croall and Sons, Ltd.; at Aberdeen by Messrs. Claud Hamilton, Ltd., and the Caledonian Motor Car Company, Ltd.; at Dumfries by Mr. W. Irving; at Blairgowrie by Mr. W. Crockett, jun., and Mr. R. Raitt; at Grantown on Spey by Mr. G. Anderson and Messrs. M'Dougall and Co.; while Fisher's Hotel and Messrs. Blues and Shillinglaw will provide supplies at Pitlochry, and the Argyll Arms Hotel at Inverary.

[BY TELEGRAPH.]

DUMFRIES, Wednesday.

It transpired this morning that the Marchand car had been withdrawn owing to inability to obtain the vehicle in time. The Calthorpe is also a non-starter, it having run into a wall near Penrith on the way from Birmingham. The remainder of the cars duly started from Glasgow this morning, the Albion leading, being despatched by Mr. John Adam at seven o'clock, the others following at minute intervals. The morning was cold and grey, and it was a cheerless procession that threaded its course over the tramlines of Glasgow out into a somewhat dreary country. Evidence of dusty roads quickly rose, and within an hour from the start bearded drivers and passengers had become prematurely aged in appearance owing to the pale dust which covered them. In the first ten miles we, on Mr. Ross-Browne's Brasier, passed two victims of tyre troubles—the St. Vincent, No. 48, and the Ariel-Simplex, No. 50. A few red triangles were also seen, and at Fenwick the residents had watered their winding street, through which all went slowly, the Scottish authorities having sanctioned a ten miles an hour limitation. Kilmarnock was reached shortly after nine, and then we were soon out into the country again, with a keen wind helping the dust disturbance. The only sun observable, so far, was when entering the Burns country. Never has such a dusty crowd entered Dumfries as the motorists, about sixty of whom arrived by 1 p.m.

OWING to its conveniently located position, Willesden Junction is rapidly becoming a motor manufacturing centre, several works being now located there. About 15 acres of land are, we learn, still available for the establishment of a large factory,

## THE BROOKE 25-H.P. SIX-CYLINDER CAR.

It has been known for some that Messrs. J. W. Brooke and Co., Ltd., of Lowestoft, were engaged on the construction of a six-cylinder car, and this week we are able to give some particulars and illustrations of the new models, one of which is taking part in the Scottish Reliability Trials at present in progress. The introduction of the new vehicle, apart from

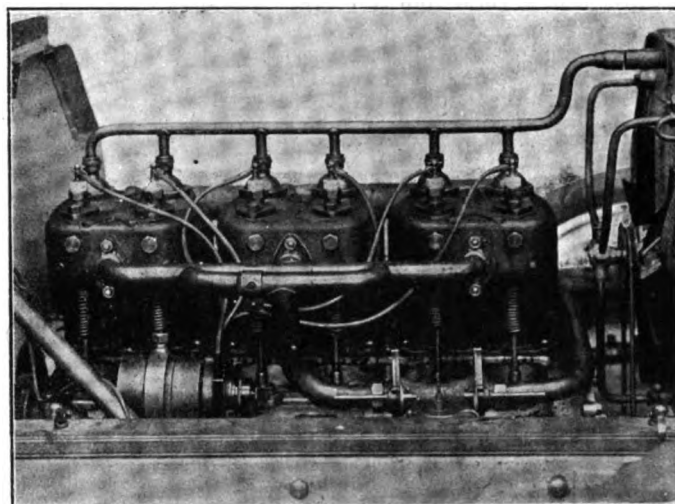


Fig. 1.—General View of Inlet Valve side of Brooke Six-cylinder Engine.

the engine, marks a departure from the usual Brooke practice, chain transmission having been abandoned in favour of a cardan shaft and live axle, while in the several details a number of interesting points are embodied. The frame, which is of pressed steel construction, is of equal width throughout, the forward ends being extended to form the dumb-irons. At the rear the side members of the frame are raised in order to give ample clearance for the differential case of the rear live axle. The

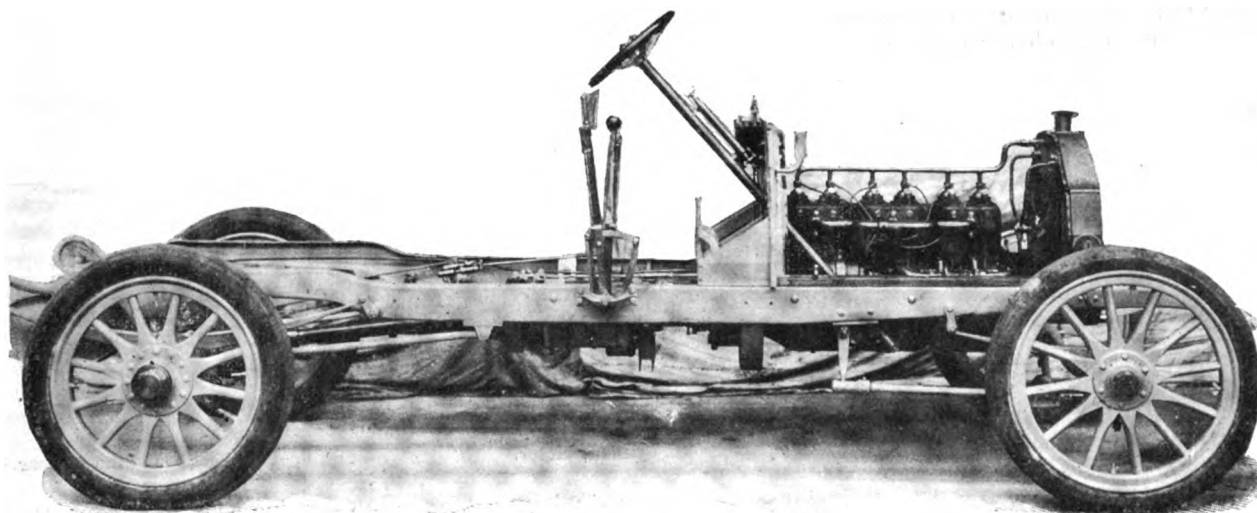


Fig. 2.—Chassis of Brooke 25-h.p. Six-cylinder Car.

particulars of which can be obtained from the solicitors, Messrs. Collins and Cook, 238, Edgware Road, London, W.

WE have received two interesting little pamphlets from the Electrician Printing and Publishing Company, of Salisbury Court, London, E.C., entitled respectively "Electric Automobiles" and "Electric Ignition." The former is by Mr. Mervyn O'Gorman, and the latter by Mr. W. R. Cooper, both publications being but selections from a long series of "The Electrician" primers devoted to various technical subjects.

rear dumb-irons are long, and curved outwardly to accommodate springs of good length, and bringing the driving axle well to the end of the frame, so as to give a good distribution of weight. The front wheels are carried on a forged axle having forked steering centres running in ball races.

Several views of the engine are shown in Figs. 1 and 4, from which it will be seen that the six cylinders are cast in three pairs; they have each a bore of  $3\frac{1}{8}$  in. by  $4\frac{1}{2}$  in. stroke, 28-h.p. being developed at a speed of 1,000 revolutions per

minute. The valves are interchangeable and symmetrically arranged on opposite sides, and are mechanically operated from their respective cam shafts. The aluminium crank chamber is divided into three compartments, so that the oil supply for all the cylinders is kept practically at the same level. The crank shaft is of nickel steel, and is supported by bearings between each throw. The cam shafts, together with their cams, are all milled from the solid, and the half-time gear wheels are enclosed within the crank chamber. A governor of the centrifugal type acting on the admission is mounted on the inlet valve cam shaft. The mixture for the six cylinders is furnished by a single carburettor; the latter is of novel design (Fig. 3). The petrol enters from a

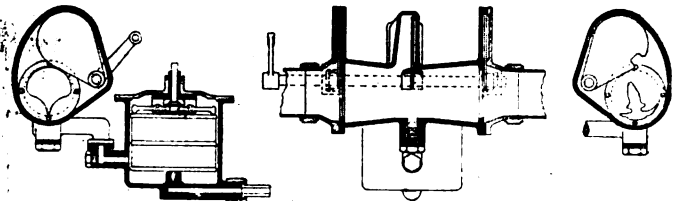


Fig. 3.—Transverse and Longitudinal Sections of Brooke Carburettor.]

float-feed chamber into a horizontal cylindrical casing fitted with three shutters. The central shutter serves to concentrate the air about the jet below it, while that on the right adjusts the air supply, and the one on the left the gas passing to the engine. These shutters are coupled up and operated together by means of a spindle and lever, and their shape, as can be seen from the two transverse sections, has been so designed as to give the correct proportion of air and vapour under all conditions. A jacket surrounding the exhaust pipes from the forward cylinders provides for the warming of the air previous to its entering the carburettor. In place of the low-tension magneto previously used on Brooke cars ignition by high-tension magneto has been substituted, the plugs being situated immediately over the inlet valves. The water circulation is maintained by a combined honeycomb radiator with air-inducing fan, and a pump formed in the crank chamber, and positively driven by an enclosed gear wheel from one of the half-time shafts. A lubricator is fitted to the dashboard, having three drip-feeds, one for each crank chamber division, the oil being forced to the drips by the pressure employed to maintain the petrol supply to the carburettor. A hand pump for lubrication purposes is also mounted on the dashboard. The petrol is

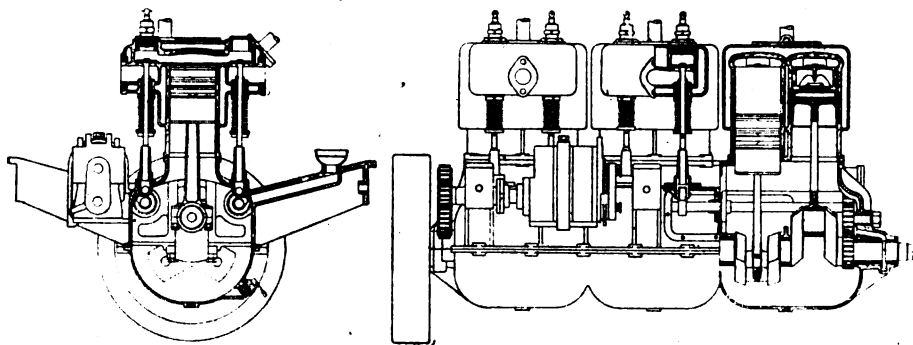


Fig. 4.—Transverse and Longitudinal Part Sectional Views of Brooke Six-cylinder Motor.

pressure-fed to the carburettor, and is carried in a copper tank of fifteen gallons capacity at the rear of the chassis.

Passing now to the transmission, the power of the engine is transmitted through a clutch of the Bradley multiple-plate type with separating pins. The gear-box, a sectional view of which is given in Fig. 6, is supported at three points from cross members of the frame, and provides four forward speeds and a reverse. The gear changing is controlled by a lever working in a gate quadrant. A slight movement only of the change-speed lever results in the gears being completely engaged by means of a spring device located in the gear-box; it is claimed that by this construction absolutely silent gear changes are provided. In Fig. 6

three striking-rods will be observed—one operates the reverse motion and the other two the first, and second forward speeds, and third and fourth respectively. A feature of the gear is that a direct drive is obtained on the third speed, this being designed to give a speed of forty-three miles per hour with full load on the level, the indirect fourth giving still higher speeds when required. A universally-jointed shaft conveys the drive from the gear-box through bevel gearing to the rear live axle, which is

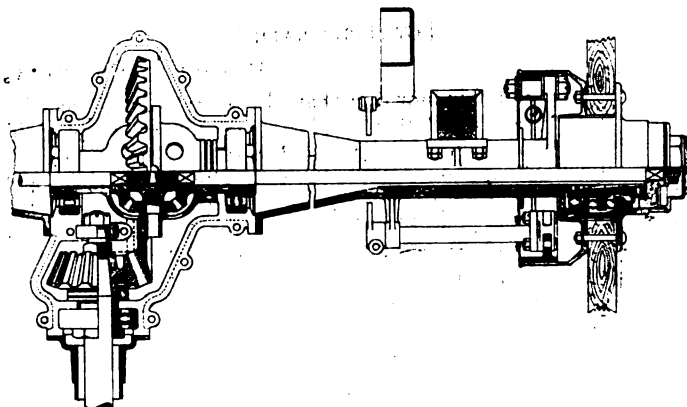


Fig. 5.—Sectional View of Live Axle. The left-hand portion of the drawing is in plan, and the right in elevation.

hung from springs shackled at either end, and tied to the frame by radius rods located directly below the side members. The rear wheels are mounted on ball bearings on the axle sleeves, the drive being transmitted through the ends of the live axle. The latter has thus only the driving effort to transmit, the weight of the car being carried by the sleeves, which have been pressed to the shape shown in Fig. 5 from Mannesman steel tubing by specially-made dies. The thrust of the bevel drive is taken by the sleeve enclosing the cardan shaft.

As regards the brakes, a foot-operated brake acts on a drum located immediately to the rear of the gear-box, while a hand lever actuates compensated internal expanding brakes on the hubs of the rear road wheels. The speed of the engine is con

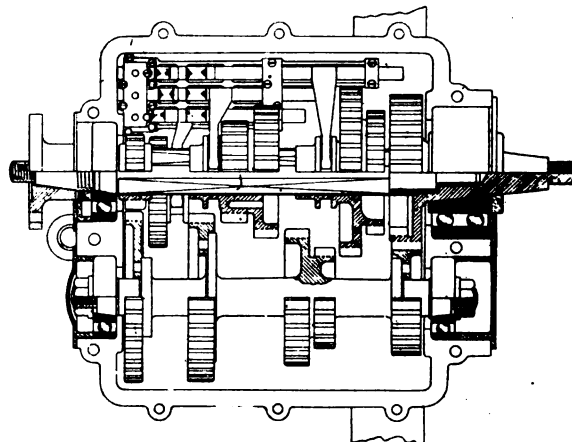


Fig. 6.—Part Sectional Plan of Gear Box.

trolled by a lever on the steering wheel acting on the throttle; an accelerator pedal is also provided to cut the governor out of action when desired. The steering is of the usual irreversible type, and it will be noted that the steering bar is located at the rear of the front axle. The car has a wheel base of 10 ft., which, in view of the relatively short length of the bonnet for a six-cylinder engine, enables a roomy side-entrance body to be fitted. We may add that, as shown by the drawings, ball bearings are fitted to all the shafts and axles, except those of the engine. As already mentioned, one of the new Brooke six-cylinder cars is taking part in the trials in Scotland, where it is attracting considerable attention.

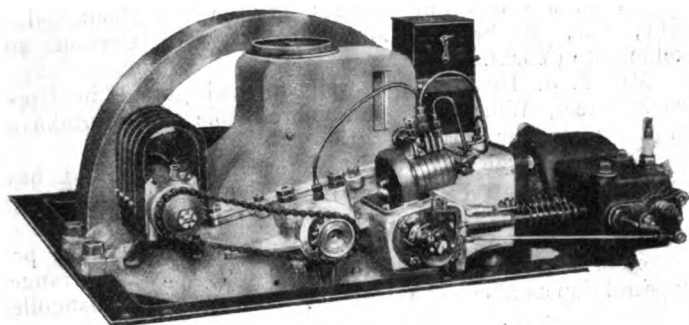


A MOTOR charabanc is now running regularly between Girvan and Ballantrae.

ON Thursday next Messrs. Sydney Lee and Co., Ltd., are selling by auction, at their depot at Augustus Street, London, N.W., the stock of a motor and accessory dealer, comprising all kinds of parts and fittings and a 12-16-h.p. car.

THE Hutchinson Tyre Company have opened West End showrooms and offices at 13, Maddox Street, London, W.

A PROCESSION of motor-cars will escort Mr. J. Chamberlain round the principal parks in Birmingham on the 7th proximo.



Engine of the Adams-Hewitt 10-h.p. Car described in last issue.

A FURTHER wonderful discovery by Edison, which is expected to "bring the price of automobiles within the reach of many more persons," is reported from New York.

At the statutory general meeting of the All-British Car Company held in Glasgow Mr. A. L. Drysdale referred to a contract for 250 motor-buses which has been obtained.

THE Dumfries Iron Foundry Company, of Dumfries, have a plant of gear-cutting, milling, and grinding machinery for motor repair work, of which they make a special feature.

At Beaconsfield, on Tuesday, penalties to the extent of £57 were imposed upon motorists, mainly for exceeding the legal limit. It transpired in one case that the constable who gave the signal was pretending to mend a puncture, and that he stood upright as the car entered the trap.

THE American Daimler Company is bringing an action against the Corbin Motor Vehicle Corporation, of New Britain, Conn., to restrain them from using a method of interlocking change-speed gear controlling mechanism, which is alleged to be an infringement of one of the Maybach-Daimler patents.

ON Wednesday last week the Burnley Motor Pleasure Company, Ltd., inaugurated a pleasure service between Accrington and York, which is to be repeated every Wednesday throughout the summer. The vehicle employed was built by the Critchley-Norris Motor Company, of Bamber Bridge.

AN interesting comparative trial between a 30-40-h.p. four-cylinder Martini car and a 30-h.p. six-cylinder Rolls-Royce is at present in progress, under the observation of the A.C.G.B.I. At the end of the third day's run the Martini had secured most points as regards hill climbing, speed on level, and fuel consumption, while the Rolls-Royce leads with respect to changing gears during hill climbs and involuntary stops.

THE Lacre Motor Car Company, Ltd., whose capacious premises in Poland Street, Oxford Street, W., are well-known among London motorists for their up-to-date equipment with regard to accessories, both for the man and the motor, are devoting special attention to hoods and canopies for motor-cars of every degree. These are designed and constructed on the premises, and the firm are well able not only to make special hoods for particular purposes or requirements, but to supply from stock hoods for any type of body. We have lately seen in their showroom some excellent canopies with special fittings, rendering them easily detachable, and yet strongly held in position when fixed. Motorists communicating with the Lacre Company will find them well able to cater for all requirements.

## HERE AND THERE.

At the agricultural motor trials, promoted by the Suffolk Agricultural Association, held last week at Ipswich, the first prize of £15 and the diploma of merit was won by the Ivel agricultural motor for the

best combination of machinery for ploughing by power other than horse.

MR. A. MORTON has a motor repairing shop at 23, Alloway Street, Ayr.

A NEW motor garage has been completed at the Prince of Wales Hotel, Southport.

A WELL-EQUIPPED motor garage at Wexford is that of Messrs. Thompson Bros.

MR. J. MUNRO is erecting a motor garage at Breadalbane Street, Oban, with accommodation for a score of cars.

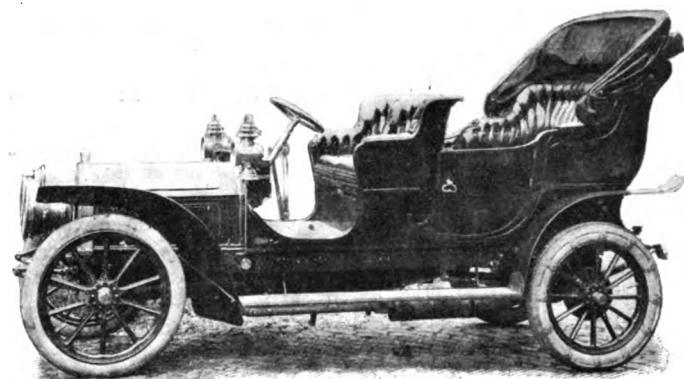
THE Cruden Bay Hotel, Port Erroll (thirty miles from Aberdeen), has a motor garage in charge of a skilled engineer.

ACCOMMODATION for motorists visiting Bolton can be obtained on the premises of the Bolton Mutual Garage, Ltd., in Byng Street.

ACCORDING to "Truth" it is now understood among motorists that when they are summoned before some magistrates in the South of England a conviction is practically inevitable, no matter how strong the defence may be, so that it saves trouble and expense to plead guilty.

MR. T. E. BAKER, of High Cross, Tottenham, who purchased an Albion car in October, 1904, informs us that he has run it over 12,000 miles, and not had a stop of any sort. He has used the vehicle, which is fitted with solid tyres to all four wheels, in three elections, one general and two local, which means hard work, has travelled over all parts of England, and has only just ordered his first pair of chains. Mr. Baker is his own driver and attends to the car himself in every way.

THE 1906 edition of the "The Automobile Handbook," issued by the Automobile Club and the Motor Union of Great Britain and Ireland, has just made its appearance. We hope to refer to it more fully in a subsequent issue, but may mention that in addition to giving particulars of the automobile organisations of the United Kingdom, and much information of interest to automobilists, it forms a complete guide to touring on motor vehicles in the United Kingdom and places abroad.



The 30-35-h.p. Metallurgique which did so well in the recent Frome's Hill Climb. The car, which is fitted with a heavy touring body and hood, accomplished the fifth fastest time, and was sixth in the open handicap. It is being driven in the Scottish Trials by Mr. O. Copper.

THE committee of the Greenwich Life-boat Saturday Fund are organising a procession of decorated motor-cars, etc., to be held on Saturday, the 23rd inst., starting from South Street, Greenwich, at 2.30 p.m., and making a circular tour of the borough of about four miles. A prize of £5 5s. will be awarded to the sender of the best decorated car, and the names of all the competitors will be duly published in the Press. Motorists willing to join in the procession are invited to communicate with the hon. sec., Mr. A. W. C. Schelff, at the Town Hall, Greenwich, before the 21st inst.

MESSRS. WILLIAMS BROS. have a motor garage near the pier at Lytham.

THE 45-h.p. Mercedes car just delivered to his Majesty the King is fitted with Continental tyres, which have been awarded a Grand Prix at the Milan Exhibition.

MR. R. D. ALDER, 36, Rectory Grove, Clapham, S.W., has been appointed sole selling agent for Wright's patent foot rest for motor-cyclists.

CONSIDERABLE automobile business on the easy payment system is being done by the Automobile Contract Company, Ltd., of 33, Old Bond Street, W.

THE Autocar Repairers have opened an establishment at 128, Fortune Green Road, Hampstead, where they are making a special feature of repairs to cars.

MESSRS. POWELL AND HANMER, LTD., have introduced a motor-bicycle head lamp or tri-car side lamp, designed to withstand the excessive vibration on a motor-bicycle head.

THE accompanying illustration depicts the 14-h.p. Germain chainless car recently supplied to Mr. J. Greenhalgh, of Heaton Chapel, by Mr. J. Garlick Looker, of the Heaton Moor Motor and Cycle Works, Stockport. The other Saturday, wishing to test the hill-climbing powers of the vehicle, Mr. Greenhalgh and Mr. Looker proceeded to Hatton Street, Stockport, one of the



steepest gradients in the district. Arriving there, they found the straight road at the bottom up for repairs, which compelled them to make a sharp turn to the left and to practically start on the worst part of the hill, only a few yards lower down than where the photograph reproduced herewith was taken. With four passengers the car took the hill easily; on the next run six were carried, and on the third trip eight. On the last trial the vehicle was stopped for the purpose of taking the photograph, after which it started again easily. Coming down the party had the chance of trying the brakes, and found they were quite capable of holding the car with its load.

WE have received a copy of the new price list of Messrs. Peto and Radford, Ltd., of Ashted, and Hatton Garden, E.C., containing many pages descriptive of goods which are entirely electrical. Particulars are given of accumulators made under five different patents, in types which are suitable for any purpose in automobilism. The list also contains interesting particulars of accessories, such as the electrical direction indicator, primary batteries for automobiles, and a considerable number of fittings suitable for the electric lighting of all forms of road vehicles. Illustrations and a full description of the Peto Cadett accumulators, showing methods of construction, add to the practical value of the work, and Messrs. Peto and Radford have evidently endeavoured to include in their list everything electrical which they consider good, and have eliminated anything which the past ten years' experience may have rendered obsolete.

MR. R. CREIGHTON has erected a motor garage in the Manchester Road, Nelson.

A MOTOR garage has been opened by Mr. S. Lomas in Gladstone Terrace, Woodford, on the border of Epping Forest.

MESSRS. FERGUSON, SHAW AND SON, of Glasgow, are introducing Aucarine motor oils and greases to motorists.

AN order for solid tyres has been received by the Sirdar Rubber Company, Limited, from the Royal Arsenal, Woolwich.

M. ALBERT MUFFAT, 35, Rue du Stand, Geneva, has been appointed agent for the sale of H.F. vulcanisers in Switzerland.

MESSRS. MERRYWEATHER, of Greenwich, have lately completed a 24-h.p. motor fire-engine for the fire brigade of Durban, Natal.

THERE are five toll bridges in the neighbourhood of Selby, viz., at Selby, Loftsome, Babwith, Carlton and Skeldergate (York).

MR. F. J. DEAN has a well-equipped garage in Upper Brook Street, Winchester, and is well able to undertake all kinds of motor-car repairs.

THE Edinburgh and District Motor Omnibus Co., Ltd., have been granted a warrant from the Edinburgh Dean of Guild Court to erect a garage at East London Street, Edinburgh.

A NEW motor garage has been opened at Bala, the proprietors of which, the Bala Motor Company, Ltd., have arranged for petrol depots along the Holyhead road between Llangollen and Bettws-y-coed.

A USEFUL paper on pneumatic tyres, based upon some observations made before the Eastern Section of the Scottish Automobile Club by Mr. C. R. Crombie, has been issued by the Victoria Rubber Co., Ltd., of the Victoria Indiarubber Mills, Edinburgh. The company is devoting much attention to motor-tyre repairs, and in their "Victoria Jointless" inner tubes have dispensed with the overlapping joint and valve patch, so that the tube presents an entirely uniform surface. The ends of the tubes are joined and vulcanised during the process of manufacture. There is, therefore, no possibility of their coming apart.

MESSRS. SMITH, PARFREY AND CO., LTD., have issued a neat list setting forth their ample facilities for repairing motor-cars at the Pimlico Wheel Works, Rannoch Street, Fulham Palace Road, Hammersmith, W. The site occupies four acres in extent, and the productions include artillery wheels, axles, springs, bent wood wings, mudguards, panels, &c. Their process of electric welding enables the firm to deal with a class of repair that would be impossible with the ordinary process of fire-welding, such as broken ends to crank-shafts, new stems to valves, &c. Altogether Messrs. Smith, Parfrey and Co. are rendering useful service to motorists.

MR. GROSE, whose name was early associated with the non-skid band, has maintained a position in the forefront of that branch of the industry by steadily aiming at perfection. His "Grose" band is notable for the formation of the leather into the exact curve of the tyre for which it is intended, thus securing neatness of appearance as well as effective operation. Now he has introduced a new ventilated non-skidding and puncture proof band, the innovation in which has been suggested by his own practical experience as a motorist. This is designed to obviate the difficulties caused by the overheating of the tyre, and also to prevent the band from chafing the latter. It can be fitted to any make of pneumatic tyre, and first there is the chrome leather cover, which is vulcanised on the ordinary tyre, and which is taken down over the beaded edge. Intermediate leathers are provided which prevent the rivets from injuring the rubber cover, and also absorb friction. The new feature is the provision of an air-space with ventilating eyelets between the leather tread and the tyre, thus considerably reducing the heat which must be engendered when the car is travelling. The idea is a good one, and its practical execution by Mr. Grose, whose first band was protected as long ago as 1897, has been well secured in the specimens we have seen. Messrs. Grose, Ltd., of Northampton, will be pleased to send further particulars to those interested in a very difficult problem.

## SOME CURRENT TOPICS.

### A Record Run from Monte Carlo to London.

The record for the journey by road from Monte Carlo to London has again been lowered. Mr. H. R. Pope, driving the Itala 24-h.p. touring car on which he took part in the recent Targa Florio contest in Sicily, and accompanied by three passengers, left Monte Carlo on Saturday last at 2 p.m., and reached St. James's Street, London, at 2.5 a.m. on Monday, thus occupying 36 h. 5 min. on the full journey, and beating the previous record by 1 h. 23½ min. As may be gathered from the fact that the last stage of the journey in France was done at an average speed of 47 miles per hour, the pace was pretty fast, but in the course of conversation with Mr. Pope on Tuesday he remarked that he considered it possible, given good luck, to perform the journey in much less time, as he experienced considerable delay—nearly four hours—owing to tyre troubles. The steamer on which the car was brought from Boulogne to

arr the rule, valve setting is anything but a simple matter except for the expert. There are, of course, general rules for the timing of the admission, the exhaust and the ignition, which are known to intelligent motor car repairers; but almost every manufacturer has developed, through experiment, rules of his own for valve timing which cause his particular type of engine to give the best operative results in practice. These different methods of individual factories cannot, of course, be known to the general repairer, and the result is that the new valve setting of a motor which has been dismantled in a local repair shop may possibly not be identical with that contemplated by the manufacturer.

### Some Hints.

It is astonishing how much difference in the action of a motor often results from the difference in valve action due to a change of even one tooth in the mesh of the half-time pinions. In engines provided with a single cam shaft, the time of admission and of exhaust in all cylinders is affected by a single error in gear mesh, and in those which make use of two cam shafts the timing of all the inlet valves or of all exhausts is dependent upon which one of two pinions is changed in point of mesh. Owing to their frequent inaccessible location it is not



Photo by]

The Start of the Auto-cycle Club's Reliability Trial from Land's End. (See page 354.)

[Paul Bros.

Folkestone, too, started nearly an hour late, while much time was wasted in landing the vehicle from the boat at Folkestone, and lamp troubles on the English portion of the journey rendered fast travelling out of the question.

### The Resetting of Valves and Ignition Gear.

The engine of every petrol car requires to be taken apart at some time in its life history in order that adjustments or replacements may be made or some bearing re-bushed. In this process of disassembling the pinions which operate the half-time shafts are often unmeshed, and no accurate marks are made to facilitate their correct re-meshing. The chances, then, are that the half-time gears may be incorrectly meshed when the engine is put together, with the result that the valves will not be properly timed and the ignition points thrown out of their proper relation to the cycle. The motor will probably run erratically, and with a serious diminution of power, under these conditions. In order to correct the defective adjustment much experimenting will be required and much time wasted, and very likely the final adjustment may not be exactly correct. Now that all valves are usually mechanically operated and that multiple cylinder engines

always practicable to mark the correct meshing point on the pinions themselves. The best practice to be followed to insure the correct retiming of valves after dismantling is to remesh the cam shaft gears by means of marks made by many manufacturers at the factory upon the rim of the flywheel. These marks are made to correspond with the periods of opening or closing of the exhaust and inlet valves of the several cylinders, and are read with reference to some index point fixed to a stationary part of the engine. When such marks, properly designated, are provided, it is an easy matter for any ordinary mechanic to restore the conditions of valve action contemplated by the maker of the engine. It is to be noted that this marking of the flywheel is being more generally attended to by manufacturers, and when it becomes the rule there will result comparative freedom from the cases of imperfect operation of motors, due to derangement of valve action, which at present are far from uncommon.

To the Defence Fund of the Motor Union the Continental Tyre and Rubber Co. (Great Britain), Ltd., have sent twenty-five guineas. Ten guineas have also been received from the Thames Iron Works, Shipbuilding and Engineering Co., Ltd.

## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
27-33, Charing Cross Road, W.C.]

### THE AGRICULTURAL HALL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR.—As there is again a persistent rumour in circulation that the above Hall is on sale, I am desired by the managing director to request you will be good enough to notify in your columns that this is entirely without foundation.

There are a number of exhibitions with many years to run to complete their present leases, and the continued repetition of this unfounded rumour must tend to be injurious to the exhibitions concerned and to the interests of the company.

It is evident that the repeated circulation of unauthorised information that this Hall is for sale is due to a spirit of antagonism which the company cannot in any way account for, and is at a loss to understand.

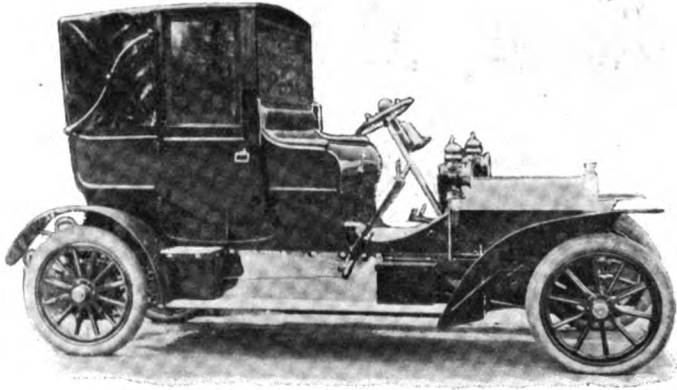
As this is a serious matter to all concerned, I must ask you to accept my apology for thus troubling you.—Yours truly,

JOHN JEFFREY.

### SMELL AND SMOKE FROM MOTOR-CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR.—In reply to the letter of "Stupefactus" in the *M.C.J.* of the 2nd inst., it is impossible in practice to use paraffin for lubricating the



A 14-h.p. Star Car fitted with Landaulet body. The wheel base of the vehicle is slightly over 10 ft.

cylinders and crank chambers of motor-cars; the chief reason being that as the cylinders and pistons become warm and attain their normal working temperature the heat is so very great that the paraffin oil would distil, not only in the combustion area, but also on and behind the rings, leaving the moving surfaces dry. If the piston and cylinder walls were kept cool, for example by the circulation of water, to a temperature below the distillation point of the paraffin, I see no reason why such a light oil should not be used for the lubrication of internal combustion engines with high speed and light load. My previous letter was written on the subject of smell and smoke, and the experiment mentioned therein was not meant to justify the use of paraffin as a lubricant.

The subject of the best combination of distillation point and viscosity for internal lubrication has for some time past had the closest attention of our laboratory, and I think the results which we hope shortly to publish will be of interest. At the moment I may say that we are convinced that a great mistake is being made by those using a so-called "heavy" oil. We consider that the only reason for the use of these heavy oils for the lubrication of internal combustion engines is to hide the defects of faulty workmanship, in badly fitting bearings, and badly jointed crank chambers, etc. With these heavy oils the likelihood of carbonisation is increased, and the loss of power, due to the high coefficient of internal friction, is remarkable.—Yours truly,

A. DUCKHAM.

### FOUR v. SIX CYLINDERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR.—A noteworthy addition to the four v. six cylinder controversy has been made by the announcement that the E. R. Thomas Motor Company, of Buffalo, U.S.A., has given up the construction of "sixes." I have just read the news in an American motor journal to hand to-day, and, as the subject is of general interest, I append the cutting in the hope that you will be able to find space for the same.

Mr. Thomas, the head of the concern, on being asked the reason

for this change of front, stated that "we have had a great deal of experience with six-cylinder cars, and at the start were quite enthusiastic over their fine running qualities. But, after a long series of exhaustive tests, we have abandoned the construction of six-cylinder touring cars and are confining our efforts to four-cylinder vehicles, because of the belief that they are far better suited to the requirements of the general public. We admit that six cylinders are flexible. The torque is more constant, and vibration less. The slight advantage, however, is not perceptible, in a car of adequate power, when on the road. The disadvantages of six-cylinders are not only numerous, but, to our way of thinking, very serious, and very far outweigh the slight advantage claimed. It is obvious that six cylinders weigh more than four, and hence the weight is greater on the front axle. The four-cylinder car is easier to steer, is easier on front tyres and is more comfortable, as the car, being lighter in front, will surmount obstacles with less jar and strain. Six cylinders require ten or more inches longitudinal space in front of the dash in excess of that necessary for four cylinders; hence a six-cylinder car requires ten or more inches of increased wheelbase, allowing the same seating room. The longer the wheelbase, the longer and heavier construction is required to withstand the increased road strains. Six cylinders of equal piston area as compared to that of four will develop much less power than the four, owing to fifty per cent. increased friction of the two extra cylinders and cam bearings. The loss in general results is large, owing to the two extra pistons, the weight of the extra pistons and connecting rods working against the compression on the uplift of two extra valves, and the fact that in addition to the loss of power generated great weight is added to the car by reason of longer wheel base and extra parts. Six cylinders require a longer and comparatively heavier crankshaft, and its liability to twist, spring and break is greatly increased. Accordingly more and larger bearings are necessary. The complications and troubles of six cylinders compared with four naturally increase fifty per cent.; but they seem to increase in a greater ratio. The timing of the engine is one of them; then comes the more complicated system of wiring, of lubrication, of cooling, of getting the proper mixture and distribution of the gas from the carburettor. The problem of most manufacturers is to simplify, for the more complications, the great number of wearing parts, the certain eventual increased annoyances and expense, and hence we regard the six-cylinder car more of a fad than practical for the average user of a touring car."—Yours truly,

R. E. ECCLES.

### JUSTICES' JUSTICE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR.—At the Rugby Petty Sessions, on the 29th ult., the chairman (Dr. Clement Dukes), when fining a motor-car driver for exceeding the legal speed limit, told the defendant "that the use of the roads by manufacturers to test cars must be stopped."

Evidently the doctor is a prejudiced man so far as motor-cars are concerned, and as such he is not the right man to be chairman of any legal tribunal; the law should be administered in a perfectly unbiassed manner.

If British manufacturers are not allowed to use British roads for testing their cars, where, in the name of common sense, are they to test them? Motor-cars are used on the roads, therefore they should be tested on the roads; if manufacturers are not permitted to test their cars, who would buy them?

I venture to think that if Dr. Clement Dukes were buying a car he would ask, "Has the car been tested?" If the manufacturer told him "No, the roads were closed to us," the result would be that the doctor would not buy a British car; and, following the argument out further, if British cars are not allowed to be tested on British roads, the public will not buy British cars, British manufacturers will have to shut up their factories, British workmen will be put out of employment, the development of a growing national industry checked if not ruined, and more British gold will go to pay for motor-cars of foreign manufacture. This is the probable result if men like Mr. Dukes are to be permitted to make thoughtless and reckless statements which tend only to further handicap an industry which has already in the past suffered much from legislative restriction.—Yours truly,

J. B. KING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR.—It was recently reported in the papers that at Uttroter the driver of a cart was charged with deliberately placing his vehicle and horse across the road in order to obstruct an approaching motorist, who, to avoid a collision, was obliged to run into a hedge. A gentleman who was riding in the car was thrown out and severely injured. As in cases of this kind the driver of a horse-drawn vehicle is generally discharged with a caution or fined 1s., it is refreshing to observe that in this instance a fine of £1 was imposed for obstruction, and another of £5 for causing an accident. But even this punishment by no means corresponds with that dealt out to motorists charged with offences far less mischievous.

I have been present in court when an automobilist was fined £10 and costs for very slightly exceeding the speed limit on a straight, open country road, it being admitted that no man, woman, child, or animal was within sight, and the evidence depending on the accuracy of a cheap stop-watch; and when, in addition, it was a first offence.

It seems scarcely fair that a purely technical misdemeanour, which might have been committed inadvertently, should be punished by the infliction of a fine almost twice as large as that demanded from a spite-



ful driver, who, by deliberately and of malice aforethought breaking the law, caused severe injury to a gentleman enjoying his indisputable right of using the King's highway.—Yours truly,

W. J. BOSWORTH,  
Colonel.

### RECOVERY OF A CAR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—No doubt you will be pleased to learn that we have regained possession of the 10-h.p. Darracq car, No. 8910, with long chassis and side-entrance body, which was obtained from us by means of a worthless cheque. We immediately placed the matter in the hands of the detective department at Vine Street Police Station, and we have to thank them for the prompt manner in which they traced the car for us, and for the assistance which they gave us in our efforts to obtain possession of it.

We have also to thank you for the notice which you kindly inserted in your columns on the 2nd inst. respecting our loss, and we trust that you will be good enough to give a similar notice to this letter, in order that the public and trade may know that we have regained possession of this car, and that the warrant is still out for the man who obtained it from us.—Yours truly,

J. KEELE AND CO.

burettor it will not commence to run. We would advise trying to start without flooding the carburettor, and, if this is not a success, the compression tap might be opened and the engine given a few turns until a fair explosion is obtained,—this through the compression tap. Upon closing the latter the engine should start readily.]

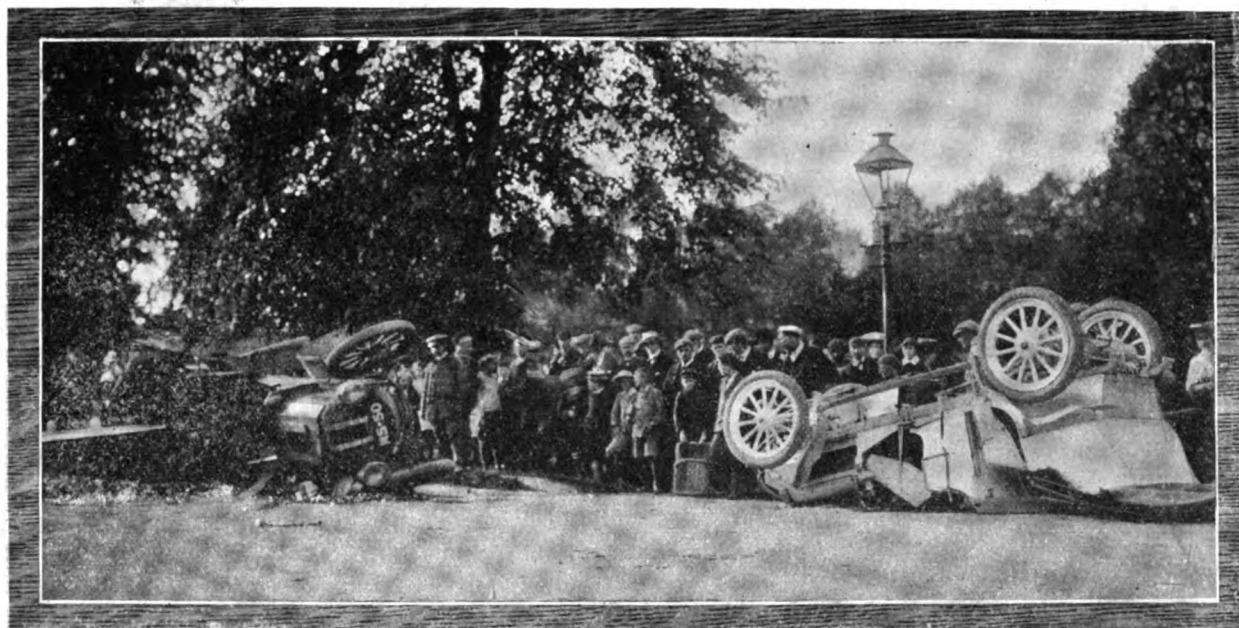
### A TROUBLESOME NOISE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—My car has started to make a hammering noise when travelling on the top speed. It sounds as if some projecting piece, such as a nut, hits against some other piece when revolving. The noise does not occur on the first or second speeds, nor on the reverse, nor even when the engine runs with the gear at neutral. I have had the gear-box open and can find nothing wrong. The noise goes on when "coasting" down hill with the clutch out. The gear drives direct on the top speed. If you can render me any assistance in elucidating the cause of the trouble I should be grateful.—Yours truly,

R. R. KINSLEY.

[The noise may be due to the shaft between the clutch and gear-box being worn where same is connected to the gearing, or, in the case of a cardan shaft, the pins of this may have worn slack. Either of these would cause a knocking as described, and would only be heard whilst the car was running on the top speed, because on the lower gears the engine is running at a high speed in comparison with that of the car and



A Motor-Car Smash at Helensburgh.

The above illustration depicts a bad motor smash which occurred at the junction of Glasgow Street and Princes Street, Helensburgh, N.B., on the evening of the 4th inst. Mr. John Watt, a local motor-car agent, informs us that the cars concerned were a 16-2-h.p. Argyll and a 23-h.p. Vinot, belonging to Mr. D. Kirkpatrick and Mr. T. M. McAlpine respectively. The former was proceeding north up Glasgow Street, and the other west along Princes Street. The Argyll car caught the back end of the Vinot, and the force of the impact sent this vehicle spinning round and over on its side, bursting all the road wheels and twisting the back axle. The Argyll fared worse, being toppled right over, and will require a new frame and practically a new body, as the one fitted was telescoped. On board this car were two ladies and a gentleman and the chauffeur; beyond a slight shaking the former were unharmed, but the chauffeur, who was pinned beneath the car, was badly bruised about the head. The Vinot contained only the driver, who was thrown clear and escaped injury.

### STEAM CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Is there any gear arrangement which can be fitted to the pump of a steam-car, so that the slower the engine works, the quicker the delivery of water will be to the generator? For hill-climbing, this assistance would render a steam-car almost perfect.—Yours truly,

A. T.

### TROUBLE WITH DE DION ENGINE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a 6-h.p. Cupelle with De Dion engine which runs excellently when once it can be induced to start—that is to say, it starts abominably. I have tested the accumulator with a voltmeter, examined the wires for a short circuit, taken down the carburettor and cleaned it out, looked at the plug and contact breaker, and all seems right enough. Flooding the carburettor seems to make no difference. When the motor does start, after about five minutes' tugging at the handle, the engine pulls splendidly. It seems to me rather a mystery, but perhaps you can put me on the right track.—Yours truly,

C R 328.

[Our correspondent's difficulty in starting may be due to the engine getting too rich a mixture, which is sometimes the case, and until the motor is turned round sufficient to suck out most of this from the car-

keeps the slack up to one side. On the top gear the car has a tendency to overrun the engine, therefore the worn part is continually being taken up, first on one side and then on the other.]

### DEVELOPMENT IN MOTOR DESIGN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The existing type of petrol motor, with all its faults on one hand, and all its good features on the other, is only passing through a stage of development; it is impossible to believe that anything like finality has been achieved, or will be achieved, until the enormous heat losses through the cooling water and through the high-pressure exhaust are in some measure prevented; until something more simple than the present ignition systems is evolved; and until the mechanism employed to regulate the aspiration and expulsion of gases—in other words, the valve-operating mechanism—is simplified to the last degree. The turbine driven by the expansion of an ignited mixture of air and petrol vapor seems, at present, to be a practical impossibility, and it is reasonable to believe that for some time to come the petrol motor will develop along the lines of the engines now in use.

No single motor or type of motor has a monopoly of all advantageous features, each possessing its own peculiarities. It may be, and often is the case, that in order to turn out a motor that will embody some

particular feature of merit, the designer incorporates a number of undesirable devices—perhaps more than counterbalancing the benefit to be derived from the meritorious feature. The fact remains, however, that the merit is there, and only needs to be separated and brought to light to improve the motor. There are now three apparently irreconcilable features of petrol motor design that, if successfully combined and refined, would produce a motor having many advantages. These are air-cooling, the two-cycle system of operation and ignition by primary current. A motor in which these features were combined would be free from complications, weight, friction and mechanical losses, constructional expenses, noises and other disadvantages attendant upon the use of valve gearing, pumps, tanks, and extremely delicate and expensive apparatus necessary with high-tension ignition systems. It is obvious that mechanical difficulties of the most serious importance must be overcome before a good motor of this type can be produced; but it is equally obvious that an engine with no valve troubles, no water circulation troubles, and no high-tension current problems, would be almost ideal. It might seem that the production of high-powered motors of this type would be impracticable, owing to the difficulty of air-cooling large cylinders. The mechanical simplicity of the motor would make the use of a greater number of cylinders less objectionable than in four-cycle construction, and this, together with

nowadays of primary importance on a car; but surely, if one is fitted, it should be so installed as to operate accurately and not be subject to the irregular running of a leather belt, the tension of which is affected in so many ways, even by varying conditions of the atmosphere.  
—Yours truly,

R. J. OGDEN.

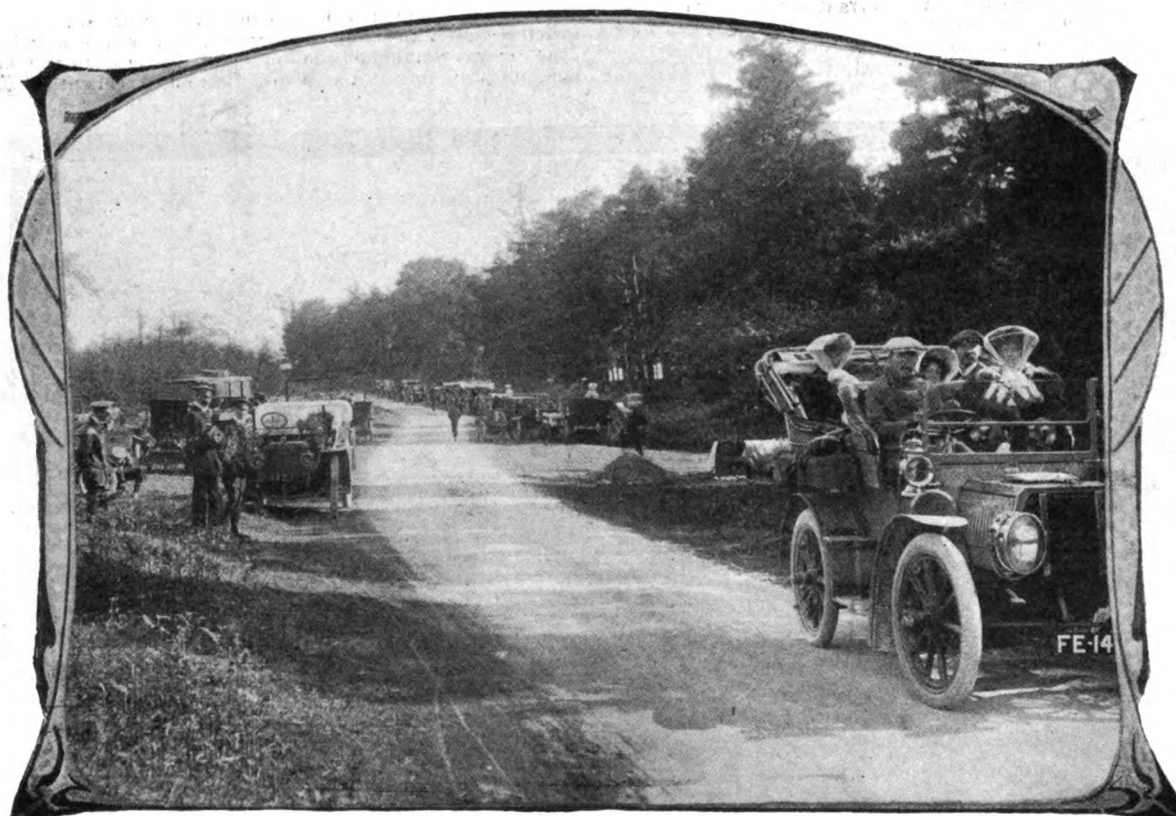
### KNOCKING IN THE ENGINE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—There is a perceptible hammering taking place somewhere in the engine of my car, but so far I have been unable to locate it. It is not due to the ignition being too far advanced, for it is present when the spark is retarded. I took the advice of a fellow motorist and cleaned out the cylinder with paraffin to loosen the rings in case they were sticking, but the hammering still continues. I shall be glad if you or any reader of the *M.C.J.* can assist me.—Yours truly,

E. R. BERTRAM.

[Mr. Bertram's trouble may be due to many things; a loose bearing may in all probability be the cause, or premature firing may be occasioned by the cylinder heads being foul or carbonised. The only remedy for this is to remove the cylinders and thoroughly clean the



The Meet of the Lincolnshire Club at Scawby Woods. (See page 353.)

the fact that there is a power impulse at every stroke, should more than outweigh any objection on that score.—Yours truly,

R. R. CAUSTON.

### A QUESTION OF LICENCE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have just bought a second motor-car. Both cars 'must' be registered, but is it necessary to take out a licence for the second one, seeing that the two will never be on the road at the same time?—Yours truly,

MEDICO.

[The licence is only intended for the person driving the car, and "Medico" will not require a second document of that description.]

### GOVERNOR POSITION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reading through the description of the Austin car in the *M.C.J.* recently, I noted it was stated that the governor is mounted on the rear end of the radiator fan spindle. As the latter is driven by a belt, and, as far as I can see, no provision is made for keeping the belt taut, the arrangement does not strike me as being a good one, as, from my experience, fan belts do not give by any means a steady positive drive. Of course it may be argued that a governor is not

heads; at the same time it will be possible to see if all bearings are in good condition.]

### EXPLOSIONS IN THE INLET PIPE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you could assist me in ascertaining the cause of explosions in the inlet pipe, and sometimes in the carburettor. The latter is inclined to flood when the air inlet is half off or closed. If it is bad carburation, how is it ignited in inlet pipe? The car is a four-cylinder one and runs well, but suddenly developed explosions. Both high tension accumulator and low tension magneto ignition are fitted.  
—Yours truly,

T. E. HENDERSON.

[The trouble referred to by our correspondent is usually caused by a leaky inlet valve allowing a portion of the ignited charge to pass back into the inlet pipe. Sometimes too rich a mixture will cause this, especially when the engine is suddenly throttled down. We would advise the grinding in of the inlet valves. Also see that they are well down on their seat; they may be touching the tappets, slightly holding them off the seating.]

PART of a motor-cycle lamp has been picked up near Bampton; owner can have it on sending description to Mr. O. O. Collett, Bampton, Oxon.

## CLUBS AND ASSOCIATIONS.

## KENSINGTON.

SOME thirty members and friends of the Kensington Automobile Club met on the 9th inst. at the "Compleat Angler," Marlow, for tea, among those present being Miss Haywood, Drs. L. C. Dobson, Corbould, and Messrs. Reeves, Haywood, Foster, Dobson, Bidwell, Bridgland, and Wyness Stuart. A few came earlier, possibly with the idea of a turn on the river, but the beauty of the riverside garden was sufficient to keep them on shore. Regret was expressed that, with such perfect weather and surroundings, so many members had been compelled through other engagements not to join the meet. Though but a few weeks old, there are now close on fifty members enrolled and the number increases at each committee meeting.

## AERO.

THE Aero Club's trial trip of the huge balloon, "City of London," 77,000 ft. capacity, took place on Saturday from the Wandsworth Gas Works, the descent being made on the Banstead Downs. The balloon, which is the largest in England, carried nine passengers, including Lord Royston, the Hon. Mrs. Assheton Harford, Miss Heron-Maxwell, Mr. C. F. Pollock, Professor Huntington, the Hon. C. S. Rolls, Mr. Wright, Mr. Spencer (the maker of the balloon) and Mr. Frank H. Butler. The latter has entered the balloon for the Gordon Bennett Aeronautical Cup race from Paris on September 30th.

## KENT.

ON Saturday the Kent Automobile Club held a hill-climb at Pippingford Hill, three miles from Hartfield, near Crowborough. The cars were timed up the hill from a dead start, the length of the run up being exactly a mile. The average gradient is 1 in 11.9, the steepest parts being rather more than 1 in 6.

Mr. W. Willis was the judge, Messrs. S. F. and Cecil Edge acted as timekeepers with Mr. R. Lucas, Mr. Granville Kenyon as starter, while Colonel Edward Latter, Mr. T. H. Nash, and Mr. A. Gurney Preston were the stewards.

The following are the results:—

Class A.—For cars the list price of which does not exceed £200.

This class was cancelled owing to paucity of entries.

Class B.—For cars the chassis price of which does not exceed £400.

W. F. Bolton	...	10-12-h.p. Humber	Winner by 14 2-5 sec.
H. O. Hall	...	14-22-h.p. Germain	2nd by 2 min. 18 3-5 sec.
A. J. McFarland	...	12-h.p. Prunel	3rd.
F. W. Crook	...	10-h.p. De Dion	4th. Did not finish.

CLASS C.—For cars the chassis price of which does not exceed £600.

A. Huntley Walker	...	20-h.p. Darracq	Winner by 47 4-5 sec.
T. H. Nash	...	20-h.p. Darracq	2nd by 1 min. 11 1-5 sec.
W. Symmonds	...	15-h.p. De Dion	3rd by 1-15 sec.
C. B. Gardner	...	15-h.p. Panhard	4th.

CLASS D.—For cars the list price of which exceeds £600.

F. W. Baily	...	50-h.p. Napier	Winner by 40 4-5 sec.
H. Gardner	...	40-h.p. Mercedes	2nd by 8 2-5 sec.
A. Huntley Walker	...	60-h.p. Mercedes	3rd by 4 1-5 sec.
A. Gurney Preston	...	28-32-h.p. Mercedes	4th by 1 min. 32 3-5 sec.
F. Holman	...	22-24-h.p. Martini	5th.

## LADIES'.

ON Wednesday, the 6th inst., the following ladies were elected to membership of the Ladies' Automobile Club:—Mrs. Adair, Mrs. Walter Bailey, Vere, Viscountess Galway, the Countess of Gosford, the Marchioness of Linlithgow, Lady Milbanke, Mrs. Walter Munday, the Countess of Portarlington, Miss Mary Naylor, Mrs. Henry Stocke, Mrs. Pennell Tate, and the Hon. Mrs. Algernon Hanbury-Tracy.

The members of the club have been invited by one of their number, Mrs. R. C. Turnor, to meet on Wednesday, the 27th instant, at Binfield Park, Bracknell, Berks. The shortest route is *via* Brentford, but the best—which is not very much longer—is as follows:—Putney Bridge, Kingston, Hampton, Sunbury, Staines, Egham, Ascot, Bracknell. The distance from Hyde Park Corner is thirty-four miles. Members should look out for police traps between Egham and Ascot.

## LINCOLNSHIRE.

THE members of the Lincolnshire Automobile Club were on Saturday enabled, by the kindness of Mr. R. Sutton-Nelthorpe, J. P., Scawby Hall, to inspect the wonderful breeding grounds of the black-headed gulls at Scawby gull ponds.

Afterwards the members, nearly 150, drove over to Brigg for tea at the Angel Hotel, and a meeting of the committee was held, at which the following gentlemen were elected members of the club:—Mr. Alfred Shuttleworth, J. P., Lincoln; Mr. N. C. Cockburn, Harmston Hall; Mr. Cecil H. Lamb, Gainsboro'; Mr. C. May, J. P., Stamford; and Mr. G. H. Martyn and Mr. G. Moody, Grimsby.

## CHATHAM.

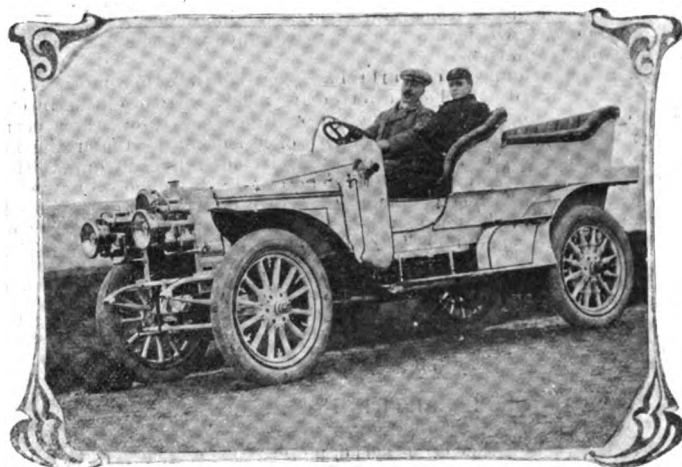
SEVERAL interesting meets are in contemplation by the Chatham and District Motor Club, including a run to Margate on the 23rd inst., to Crayford on the 27th, to Dover on the 15th prox., and Tenderden on the 29th July. It is the intention to add a garage to the headquarters, the Mitre Hotel, Chatham.

## NEW FOREST.

A CLUB for motorists residing in the New Forest and Bournemouth district is now in course of formation, with Mr. Clement J. Haydon, of Westover Chambers, Bournemouth, as hon. sec., *pro tem*. A meeting has been held at the seaside resort, with Col. Roberts Thomson in the chair, and a second gathering will take place on the 23rd inst., at the Balmer Lawn Hotel, Brockenhurst.

## ESSEX COUNTY.

THE Essex Club is holding a gymkhana at Colchester to-day (Saturday), in aid of the funds of the Essex and Colchester Hospital. The Ipswich and East Suffolk Automobile Club have been invited to enter a



The 30-h.p. Daimler which made the fastest time in the Meltham Hill Climb of the Huddersfield Branch of the Yorkshire Automobile Club.

team to compete in the various events. The enclosure is at Sussex Road, Colchester, and has been lent for the occasion by Col. Howard.

## ESSEX.

AN important motor-cycle race meeting will be held at the Canning Town Athletic Grounds, West Ham, on the 14th prox. The events will include a one hour record race limited to 76 by 76 engines; five miles handicap limited to 76 by 76 engines; tourists' handicap race for standard machines, engines not to exceed 90 by 90, and other events, full particulars of which can be obtained from the secretary, Mr. E. G. Reynolds, "Rookstone," Woodford Green.

## IRISH.

THE Irish Automobile Club is organising a pleasant outing, by motor-car, to Glendalough, in September next.

Motorists driving between Naas and Newbridge should drive slowly and with care, as the hounds belonging to the Kildare Hunt are often exercising in the district and have to cross the road at certain points.

## ROAD REPORTS.

BRIGHTON TO ROTTINGDEAN.—A proposal to divert and reconstruct the roadway from Brighton to Rottingdean is before the local authorities. It is to be remade for a length of 1,518 yards with a width of 30 ft. and 6 ft. for roadside waste or for a future widening of the road. The steepest gradient will be one foot in 22.82 feet, and excavations to the extent of 22 ft. will be necessary in some places, while the Ovingdean road will have to be raised 16 ft. above its present level.

CO. MEATH.—The Meath County Council has adopted a resolution of its Roads Committee to the effect that they deem it their duty to bring

home the responsibility for the present condition of the roads in the county to the County Surveyor by deferring his salary for a period.

THE heavy motor-car traffic through Christchurch has raised the dust problem in an acute form, and the Town Council has made more than one attempt to solve it, but without success. The Council has now decided to experiment on a portion of the highway between Barrack Road railway bridge and the borough boundary with a patent dust-laying liquid.

BRENTFORD.—A sub-committee of the Middlesex County Council visited Brentford on Tuesday, to examine the High Street, which the District Council propose to widen by instalments.

### MOTOR-BOAT RELIABILITY TRIALS.

THE Motor Yacht Club will hold its third annual trials for motor vessels, fitted with any form of internal combustion engine, at Southampton, on August 1st and 2nd. The last day for receiving entries at single fees is June 30th, and, although the general scheme of competition remains the same as in previous years, several modifications have been made to the rules. The more important of these may be summarised as follows:—

1. The trials are restricted to vessels propelled by internal combustion engines.
2. Entrants who declare the selling price of their vessels are required to guarantee to supply duplicates at the same price.
3. A more sheltered course than that provided by the lower reaches of Southampton Water will be prepared for use by the river boats in the event of exceptionally rough weather.
4. Vessels entered in the cruiser class will be required to cover the combined sheltered and open courses continuously, instead of running for the greater part of the time over the sheltered course only.
5. A reversing and restarting test has been introduced.
6. The entries will be classified in accordance with the Marine Motor Association regulations.
7. The apportionment of marks has been considerably modified. In particular, "speed" has been allotted 100 marks instead of 50, in order to discourage the running of engines considerably below their normal power with a view to reducing the risk of loss of marks under the head of "reliability." "General condition" has been reduced from 100 to 50; "economy" has been allowed 30 instead of 20; "efficiency of reversing arrangements" will receive 25 marks instead of 10, and an increase has also been made to the marks under the heads of "arrangement," "ease of control" and "silencing." A new head, "starting of engine," has been introduced.
8. On each morning of the trials competitors will be allowed only five minutes, instead of ten minutes, in which to prepare and start their engines. As in previous years, no repairs or adjustments will be permitted at the conclusion of the first day's run.

### SPEEDOMETER PERFORMANCES.

THE award in the recent speedometer trials of the A.C.G.B.I. has already appeared in our columns. From the judges a full report has now been received in which the road record of each instrument is given as follows:—

Cowey indicator, fitted to a 20-h.p. Rolls-Royce, completed a distance of about 2,000 miles without attention and with no repairs.

Cowey recorder, fitted to a 20-h.p. Dennis car, completed a distance of about 2,000 miles. The flexible shaft was broken on the eighth day and replaced; with this exception it ran without attention or repairs.

Elliott motometer, fitted to a 20-h.p. Rolls-Royce, completed a distance of about 2,000 miles. At end of the second day the friction roller was adjusted. With this exception it ran without attention or repair.

Gratz speedometer, fitted to a 28-h.p. Daimler, completed a distance of about 2,000 miles. The bearings were oiled on the third and fourth days; with these exceptions it ran without attention or repair.

Jones speedometer, fitted to a 28-h.p. Daimler, completed a distance of about 2,000 miles without attention and with no repair.

Kirby speedometer, fitted to a 28-h.p. Daimler, completed a distance of about 2,000 miles. On the second the bracket was readjusted, also friction pulley adjusted and tested; on the fifth day the friction wheel bearing was oiled; on the seventh day the flexible shaft broke and was replaced; with these exceptions it ran without attention or repairs.

Staunton speedometer, fitted to a 20-h.p. Dennis, completed a distance of about 2,000 miles. On the fourth and sixth days the bearings of the spur wheel were oiled, and on the tenth day the flexible shaft broke and was replaced; on the eleventh day the instrument ran badly, owing to faulty adjustment of new flexible shaft. During the rest of the trial it ran without attention or repairs.

Vulcan speedometer, fitted to a 20-h.p. Dennis, completed a distance of about 2,000 miles. On the first day the bracket on the front axle had to be removed, a new one being fitted on the second day. It ran during the rest of the trial without attention or repairs.

Warner speedometer, fitted to a 20-h.p. Dennis, completed a distance of about 2,000 miles. On the third day the driving shaft was adjusted;

on the fifth day the flexible shaft broke and was replaced. It ran during the rest of the trial without attention or repairs.

### THE LAND'S END—JOHN O' GROAT'S MOTOR-CYCLE TRIAL.

THE trial of motor-cycles from Land's End to John o' Groat's, a distance of 889 miles, organised by the Auto-Cycle Club, attracted no less than ninety-three entrants, representing all known makes of machines. Of these, sixty-nine are bicycles, twenty-one tri-cars, two side-cars, and one quad-car. The trial commenced on Monday last at Land's End, and competitors are due at John o' Groat's to-day (Saturday), at 3.30 p.m. The event is essentially a reliability trial, any competitor exceeding a speed of twenty miles per hour being subject to disqualification. The competitors were early astir, and rarely, if ever, before has the road between Penzance and Land's End been so crowded with traffic. Out of the ninety-three entries, seventy-five—fifty-nine motor-bicycles, fifteen tri-cars and a quad-car—faced the starter. The first batch of riders were sent off at 8 a.m. on the day's journey of 152½ miles to Taunton. Within twenty minutes all the competitors were on their way with the exception of Miss Muriel Hind, the only lady in the competition, who was considerably delayed owing to the rear wheel of her 9-h.p. Singer sustaining a puncture. In the motor-bicycle class forty-four riders reached Taunton within schedule time, as also did the quad-car, and eleven of the tri-cars.

Warrington, 199½ miles, was the destination on Tuesday, while on Wednesday the run was to Lockerbie, 142½ miles; on Thursday to Pitlochry, 149½ miles; on Friday to Tain, 134 miles, and to-day (Saturday) to John o' Groat's, 110½ miles.

### THE SOUTH HARTING HILL-CLIMB.

THE following routes to South Harting will be of interest to those attending the A.C.G.B.I.'s hill climb there on the 23rd inst.

From London.—The Portsmouth road should be followed from Hindhead, and past Liphook and Rake. About one mile after Rake, and about three miles before Petersfield, turn sharp to the left at the "Jolly Drover." Next turn to the right, and down hill to Rogate village. Straight across at the village, past Rogate Station, and three-quarters of a mile farther on take right-hand fork at signpost. Distance from Liphook, nine miles.

From Petersfield.—For those who fear losing their way, the Portsmouth road may be followed to Petersfield, from which there is a road which cannot be missed to South Harting. Distance, three and three-quarter miles.

From Chichester.—Follow the Midhurst road through Lavant, and about a mile further on take left-hand fork at signpost marked Chilgrove. Follow this road across Chilgrove Green, and up Chilgrove Hill, at the top of which right fork. Pass Hill-lands Farm and North Marden Farm, and follow the only road there is, which leads to the top of South Harting Hill. Distance from Chichester, eleven miles.

From Midhurst.—Follow the Midhurst to Petersfield road as far as Stedham Common, where turn left for Elsted Station. Proceed to Elsted Village, where turn right and pass under Beacon Hill to South Harting. Distance from Midhurst, eight miles.

### MOTOR-CYCLE ELIMINATING CONTEST.

IN the selection of the British team for the International motor-cycle race there were five competitors. The contest took place at Knowsley Park, in Liverpool, on the 8th inst. Of the five entrants R. Morewood (6-h.p. Westlake) retired early in the race through the steering column of his machine breaking, and A. Butt (riding for T. Silver on a 4-h.p. Quadrant, the only single-cylinder machine in the contest) was put out of the competition with exhaust-valve trouble.

The circuit was four miles and a half in extent, and had to be covered twenty-seven times, making a total distance of 121½ miles. In each lap eight awkward corners had to be negotiated. The winner's average speed of 41½ miles an hour, therefore, was remarkably good.

The result was as follows:—C. R. Collier (7-h.p. Matchless), 2 h. 56 min. 26.25 sec.; H. A. Collier (7-h.p. Matchless), 3 h. 21 min. 48.45 sec.; C. B. Franklin (6-h.p. Jap), 3 h. 20 min. 54 sec. for twenty-four laps.

Subsequently speed trials were held over the mile flat, the best effort being H. Collier's 1 min. 4.25 sec. The team to represent the United Kingdom in Austria is C. R. Collier (7-h.p. Matchless), H. A. Collier (7-h.p. Matchless), and C. B. Franklin (6-h.p. Jap).

### MOTOR-BOAT REGATTA.

A two days' international motor-boat regatta was concluded on the Mersey on Saturday. Chief importance attached to the contest for the British Motor Club's flying mile cup. There were only two competitors, the *Rose-en-Soleil*, owned by Lord Howard de Walden, and *Hutton II.*, belonging to Mr. J. E. Hutton. Unfortunately, the latter had sustained a mishap earlier in the day, and was unable to start. *Rose-en-Soleil* went over the course in the remarkably quick time of



2 min. 12 sec., which is believed to be a record for a steam motor. The race for motor-boats not exceeding 40 ft., over twenty miles, was also won by Rose-en-Soleil, in 47 min. 31 sec. A handicap for boats not exceeding 30 ft., distance sixteen knots, went to Takumono, whose time was 1 h. 15 min. 7 sec. Napier Major won the handicap for cruisers, distance sixteen knots, in 1 h. 57 min.; Iris a handicap for motor-boats not exceeding 18 ft. over all, distance eight knots, in 2 h. 7 min. 32 sec.; and Pop a handicap for dinghies not exceeding 16 ft., distance four miles, in 1 h. 36 min. 55 sec.

#### NEW COMPANIES REGISTERED.

**MOTOR HOUSE, LTD.**—Capital, £100. To carry on in the United Kingdom or elsewhere the business of manufacturers of and dealers in motor-cars, cycles and other vehicles, and garage proprietors. Registered office, Broad Street House, E.C.

**HAMPSHIRE MOTOR 'BUS COMPANY, LTD.**—Capital, £20,000. To acquire the business of the Aldershot and Farnborough Motor and Cycle Works, together with the premises where the said business is carried on.

**WARRINGTON MOTOR CARRIAGE COMPANY, LTD.**—Capital, £5,000. To carry on the business of manufacturers and repairers of, dealers in and agents for the sale of motor and other vehicles and accessories for the same, etc., and to adopt an agreement with Messrs. C. Roger, F. R. Holding and T. M. Broadbent.

**GARELOCH MOTOR SERVICE COMPANY, LTD.**—Capital, £5,000. To carry on the business of proprietors of motor-omnibuses, motor-cabs, etc. Registered office, 1, West Clyde Street, Helensburgh.

**NORTH BRITISH MOTOR MANUFACTURING COMPANY, LTD.**—Capital, £20,000. To purchase the business of the Dumfries Brass and Iron Foundry Company and to carry on the business of founders, dealers in automobiles, motor-cycles, etc.

**MOTOR TOURING COMPANY, LTD.**—Capital, £30,000. To carry on the business of manufacturers of and dealers in motor-cars, omnibuses, cycles, and other vehicles, and tyres for the same, etc., and to adopt an agreement with the International Trading Company, Ltd., 20, Copthall Avenue, E.C.

**AUTOMOBILES, LTD.**—Capital, £100. To carry on the business of manufacturers of and dealers in motors and other vehicles of all kinds, etc. Registered office, 5, Great Marlborough Street, W.

**FRENCH MOTOR ACCESSORIES COMPANY, LTD.**—Capital, £1,000. To carry on the business of agents for and dealers in motor accessories, motor vehicles, &c.

**BRITISH AND FRENCH MOTORS, LTD.**—Capital £20,000. To take over (1) the business of a motor and general engineer carried on by Mr. F. W. Jenkins in London and elsewhere, and (2) the undertaking of Kimberley Bearings, Ltd., and to adopt agreements with Messrs. F. W. Jenkins, "Kimberley Bearings, Ltd.," and N. G. Kimberley.

#### PUBLIC MOTOR SERVICES.

THE managers of the West Elers Estate motor-'buses service have arranged to run their motor-'buses from Ealing Broadway, via West Elers estate and Lammas Park, to Kew Gardens and back.

A SPECIAL meeting of the Yeadon (Yorks) District Council has resolved to convene a meeting of the ratepayers to obtain their sanction to a scheme for establishing a local motor-'bus service. A four days' experimental service was recently run, the cost being £29 and the receipts £23.

OWING to complaints of dust being raised by the motor-'buses plying in the Western Road, Brighton, the Watch Committee has decided that it be a condition of the licences issued by the Town Council for motor-'buses to ply for hire within the borough that the speed of such 'buses shall not exceed ten miles an hour.

THE Ramsgate Corporation have sanctioned the establishment of a service of motor-cars to run between the borough and the country districts.

ON Monday next the G.E.R. Company will commence a service of motor-omnibuses for the conveyance of passengers and parcels between Colchester station and West Mersea.

#### A TRIO OF DISMISSALS AT ST. AUSTELL.

AT the St. Austell Sessions three interesting cases have been heard against motorists. The Rev. George St. John Topham, Compton Martin Rectory, Bristol, was charged with driving his motor-car through Sticker village on May 7th at a speed dangerous to the public.—Defendant pleaded not guilty.—P.C. Osborne, stationed at Sticker, stated that he was standing in his garden when he saw a motor-car—marked Y 313—travelling at a very fast rate. He stepped down to his garden gate, held up his hand, and shouted. There were two occupants of the car, and when he shouted one smiled at the other and they passed on without taking any notice of him. They continued at a high rate on towards St. Austell until they were out of view. There were about twenty children at the side of the road; if they had been in the centre they would not have had time to get out of the way. The motor was travelling at a terrific rate, more like a train. Evidence was given, and after considering the case the Chairman said a majority of the Bench were willing to give the defendant the

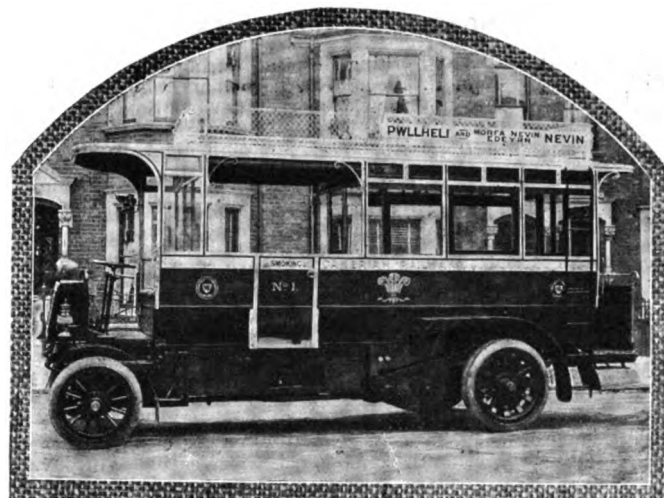
benefit of the doubt and therefore dismissed the case. The decision of the Bench was received with applause, which was instantly suppressed.

WALTER HICKS, jun., St. Austell, pleaded not guilty to riding his motor-cycle on April 24th at a speed dangerous to the public, and Frank Stocker, a local farmer, gave a similar reply to a charge of furious driving. Both cases were dismissed.

#### A NOISY MOTOR-'BUS.

EDWARD FLOWERS, of Carlton Road, Kentish Town, N.W., has been summoned for not using all possible means to prevent the machinery of his motor making a noise when at a standstill. In consequence of complaints from inhabitants of Tufnell Park the police took action. Mr. Barker, who appeared for the Commissioner, called expert evidence to show that the noise of this particular motor could be considerably modified and altogether stopped if all the appliances were used. The defendant said it was a stubborn motor, and needed more than ordinary trouble to set it going when once it was stopped. But he had throttled it down and minimised the noise. The inspector from the Public Carriage Department said the motor in question could be started in 15 sec. after being absolutely stopped; and when the machinery was in motion the noise could be minimised to the extent to which the machinery for the purpose was applied.

Mr. Bros held that the defendant had not done all that was possible to prevent his motor making a noise. People had complained, and drivers should know that the public must not be annoyed. He would be fined 40s. and 2s. costs.



The above illustration depicts one of the 'buses Messrs. Moss and Woodd are supplying to the Cambrian Railways. The vehicle, which is fitted with a two-cylinder horizontal engine, has accommodation for twenty-two passengers, twelve in main compartment, eight in the smoking section and two by the driver, with luggage on top. It is chain driven throughout, can attain a speed of twelve miles per hour and take gradients up to 1 in 8 with full load. Messrs. Moss and Woodd inform us that the order from the Cambrian Railways was secured at the recent Cordingley Exhibition at the Agricultural Hall.

#### PLACING NAILS ON THE ROAD.

WILLIAM AUSTIN, labourer, of Cippenham, near Slough, who a few months ago was acquitted of a charge of placing a wire trap across the Great Bath Road, near Maidenhead, to catch motorists, was summoned at Beaconsfield on Monday for placing nails on the same road. Two plain clothes policemen were cycling, when they came across accused placing slate nails on the road in tracks of motor-wheels. The officers also found two nails placed upright in the road and surrounded by sand. When accused saw the officers he decamped, but was caught, and on being searched similar nails to those found in the road were discovered in his possession. Colonel Phipps, in fining defendant £2 and 9s. 6d. costs or a month's imprisonment, regretted that the magistrates could not deal more severely with him.

#### ASSAULTING A MOTORIST.

MR. ROBERT LEONARD POWELL, an independent gentleman, residing at Chislehurst, was summoned at Bromley Petty Sessions, Kent, on Monday, for assaulting Lord Royston. The latter stated that he was riding in his car near Bromley, and met Mr. Powell coming the opposite way driving a coach and four. As the coach passed Mr. Powell struck the witness across the head and face with his whip, and then drove on. The witness went after him, and asked for his name and address, saying he had been assaulted. The defendant said, "Yes, and I will do it again." Mr. Powell stated that Lord Royston's chauffeur did not allow him sufficient room, and he struck at the

chauffeur, but hit Lord Royston instead. The Bench imposed a fine of 40s. and costs.

### POLICE TRAPS.

THE police are in the habit of timing motor-cars going through the Great Park at Windsor.

RICHMOND PARK is still the scene of a police trap, in which several motorists have lately been caught.

THERE is a police trap between the Locking Road tramway terminus at Weston-super-Mare and Worle, a village a mile or so further inland. This is the road used by motorists when journeying from Bristol to Weston-super-Mare.

THERE is a trap on the Epping New Road, at Woodford, in which several motorists have lately been caught.

A POLICE TRAP at Gatton has resulted in a good haul of motorists before the Reigate County Bench.

THERE is a police trap between Hull and Beverley.

THE police are still very active at Buckden, Hunts.; they have a measured quarter of a mile which starts about 200 yards before entering the village. On the left hand side, coming from the north, two policemen stand behind a square black board. Motorists, if stopped, should take particular notice what distance they pull up in after they are signalled to, as the police appear to be very inaccurate on the point.

A POLICE trap is being set on Sundays on the Ryslip-Eastcote road, Middlesex; the distance between both places is one mile.

### MOTOR-CAR ACCIDENTS.

THE death occurred at Dorking Hospital, during Wednesday night of last week, of Mr. John E. Bloomfield, Tottenham, who met with an accident while riding a motor-cycle on the previous Sunday morning. Deceased was a member of the Tottenham Cycling and Motor Club, which organised a run to Littlehampton for Whitsun. Mr. Bloomfield started on the journey by himself, expecting to overtake his fellow club members, but it appeared that near Dorking he was descending a dangerous hill, when he lost control of the machine, and fell, sustaining a severe injury to his leg, which was afterwards amputated. Blood poisoning supervened, with fatal results.

TRAVELLING from Bournemouth to Sandhurst, in Kent, on a recent Saturday, Mr. and Mrs. Robert Catt, of Bournemouth, had arrived within a mile of their destination when, on going down Bodiam Church Hill, the car had a skid on a greasy patch of road, the passengers were thrown out and the car somewhat damaged. Mr. Catt escaped with slight bruises, but Mrs. Catt was much more severely bruised and shaken and is still unable to get about. She is, however, making satisfactory progress. At the point where the car skidded many trap and cycle mishaps have happened, as the road is generally in a wet condition.

A BAD motor-smash occurred near Chichester on Saturday. It happened at the cross-roads at Woodcote Farm. Two ladies, belonging to Fishbourne, were driving in a trap, when a 16-h.p. motor-car came into collision. One of the wheels of the trap was almost torn away, but it did not come off, and the ladies escaped. The motor-car was extensively damaged. After performing the feat of mounting an almost perpendicular bank about four feet high, it landed in a field some fifteen yards further on. One of the front wheels was completely taken off, the other nearly so, the axle was broken, and the body of the car was smashed to pieces, practically nothing being left intact except the seats. Assistance was secured, and Mr. M. F. Mievile, of Summersdale, superintended its removal to a trolley, its transit to the West Sussex Motor Works at Chichester being, not unnaturally, the subject for much curiosity on the part of those who witnessed it.

### CASES AGAINST MOTORISTS.

AT Nailsworth, near Stroud, Frederick Heyl, a motor-car driver, of Stroud, was fined £5, including costs, for driving at an excessive speed on May 28th. Defendant drove down a hill at a high rate, the car was overturned on a level road and considerably damaged, and defendant and two other occupants were taken to the hospital.

WILLIAM FARQUHARSON BARCLAY, of Leytonstone, was fined £20 and costs, at Brentwood, last week, for driving a motor-car to the danger of the public down Brook Street Hill, South Weald, on May 19th. Late at night he drove down the hill on the wrong side of the road, and dashed into two horses drawing a hay wagon. Both horses were injured, the wagoner was thrown out, and the car was considerably damaged. Defendant said the horses walked into the motor and caused the collision.

AT Windsor, two cases of furious driving have resulted in the motorists being fined. On the licence of one of them being handed up the chief constable asked the Bench to note that there was no room on it for further endorsement.

A. S. MORRIS, of Tunbridge Wells, was summoned at Hove for recklessly driving a motor-car on Shoreham Road, having regard to all the circumstances of the case, on the 24th May. He pleaded not guilty. William Wisden, of Southwick, said he was cycling on the Lower Shoreham Road in the direction of Brighton. Approaching Sackville Gardens he noticed the motor-car proceeding towards Portslade. The car, which was on the wrong side of the road, knocked him over, injuring him and wrecking his machine. Wilfred Garner gave evidence to

the effect that there was only 42 feet of available road where the accident happened, and the motor-car was on the wrong side. Defendant applied the brake a few yards before arriving at the spot where the accident happened. The Bench fined defendant £5 and 13s. 6d. costs.

SEVERAL summonses against motorists were heard at the Uckfield Petty Sessions on Thursday of last week, including one against Mr. U. Stratton, who was summoned for driving a motor-car at a speed dangerous to the public at Framfield, on the Eastbourne road, and also for not causing his car to stop and remain stationary upon a signal from a constable. Defendant pleaded not guilty, and was represented by Earl Russell. P.S. Waghorn deposed that on May 12th defendant, driving in the direction of Bexhill, covered the measured furlong in eleven seconds, which was at the rate of forty miles seven furlongs an hour. An additional forty feet were allowed for each furlong. The electric timing machine was placed in the centre of two furlongs, and was under witness's charge and in perfect working order. After the car had passed the furlong witness sent a warning along the cable to P.C. Rummery, further down the road, the latter having with him P.C. Rawson. The furlongs in question were along a straight road, but there were several openings and houses along the route. P.S. Huntley and P.C. Rummery also gave evidence. The latter, concealed behind a hedge, gave the customary signal—the waving of a newspaper—to P.C. Rawson to run into the road to stop the car. He saw P.C. Rawson run in front of the car and put up both hands, but the car was not stopped. Defendant, giving evidence on oath, said he frequently travelled between Bexhill and London. He remembered the "trap" near the Barley Mow, and watched his speed indicator carefully; it did not record more than twenty miles per hour. He noticed a constable along the road picking up a helmet after the car had passed, but he was certain no one called upon them to stop. Passing the Barley Mow he had pointed to the trap, with which he was familiar. Addressing the Bench for the defence, Earl Russell held that upon the evidence the allegations of the police were inconsistent and impossible. The Bench considered the first summons—that of driving at a speed dangerous to the public—was proved, and imposed a penalty of £10 and costs. The other summons was dismissed.

It is a very rare occurrence in Co. Kildare to find a motorist "tripped up" by a member of the R.I.C., but Constable O'Brien succeeded in getting a conviction on two grounds against Mr. W. Rafferty, who was driving a motor-car belonging to Mr. Parkinson, of the Curragh. One charge was for not having a proper means of identification by number on the front of the car, and the other against the driver for not having produced his licence. In each case a fine of 5s. and costs was imposed, and the licence was endorsed.

THE Reigate County Bench were engaged some time on Saturday in investigating charges made by the police against eighteen motorists who had been summoned for exceeding the speed-limit. Fines were inflicted in each case ranging from £2 to £6 and costs, and, as the result of the monthly haul, over £60 was added to the county exchequer.

GRACE LILIAN OVERTON, of Friar's Gate, Sutton, was summoned, at Croydon, for driving a motor-car at a speed that was dangerous to the public in London Road, Morden, on the 17th ult. Frederick Halson said he was riding a bicycle along London Road when a motor-car crashed into the back of his cycle. He was taken to the hospital, and did not regain consciousness until the next day. No horn was sounded. By Mr. Keeble: He was making a claim against the defendant, who was the driver of the motor-car. Miss Poupart, of Morden, said she too was knocked down by the motor-car, which, she thought, was going at forty miles an hour. Defendant, giving evidence, said the car belonged to her brother. The speed was about fifteen miles an hour. The chairman said the magistrates were not unanimous. The majority wished to dismiss the case, the charge not having been proved, and the defendant would have the benefit of the doubt.

WILLIAM PERRINS, of Manchester, was summoned, at Carlisle, for exceeding the speed limit. Evidence was given by several constables that defendant was travelling at thirty-five miles an hour at Carleton. They timed him from a certain projecting telegraph pole. Mr. Rowland, of Accrington, who defended, cross-examined one of the constables as to the possibility of identifying the particular telegraph pole at a distance of 988 yards, remarking that, according to an optician's chart, a motor-car at that distance would only look half-an-inch square. He proceeded to test the constable's eyesight with a diagram and apparatus. Superintendent Graham objected to this procedure, and Dr. Barnes, the chairman, said the constable's eye could be tested in a reasonable way. Mr. Rowland said the police were not trained to time people. They were given a stop-watch to play with. Carleton was well known to all motorists, the place being a blot on the motor-map of Cumberland. Allan R. Fenn stated that he was in the car with defendant, and he swore they were not exceeding the speed limit. The Bench ultimately fined defendant 40s. and costs.

VICTOR PAUL SPECK, of Herne Hill, surrendered to his bail on Monday at the Lambeth police court, and was charged on remand with the manslaughter of Amelia Biggs, by driving a motor-car over her at Peckham Road, on the afternoon of Sunday, the 3rd inst. Since the case was last before the Court the circumstances of the occurrence have been inquired into by a coroner's jury, who returned a verdict of "Accidental death." Sub-divisional Inspector Shervington stated that in consequence of the verdict of the coroner's jury the Commissioner had directed him, subject to the approval of the Court, to offer no further evidence. The magistrate thereupon ordered the prisoner to be discharged.

# THE Motor-Car Journal.

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## COMMENTS.



ON Tuesday the Automobile Association held a most successful annual meeting in London, under the presidency of Colonel W. J. Bosworth. The chairman mentioned that news of the Association's latest victory reached him as he entered the room. One of their scouts had been prosecuted for obstruction and for not ringing his bell. The scout was defended, and judgment was given against the police, with costs. The present membership was nearly 1,000, and the bank balance equally satisfactory. At the committee meeting earlier in the day 114 new members had been elected, and there had been a great influx of strength since the meeting at the Agricultural Hall Exhibition in March last. All the officers were re-elected, and every speaker was able to testify to the growing efficiency and influence of this unique automobile organisation. It has done much to make the lives of motorists tolerable in the southern counties.

### The Maintenance of Roads.

THE fact that resolutions deploring the alleged injurious effect of motor traffic upon the highways were forwarded to the annual meeting of the Scottish County Councils' Association in Edinburgh last week seems to have inflamed some of the leading journals of the north to declare the unpopularity of the motor-car in the northern portion of this island. Those of us who were received with a floral welcome from the maidens and matrons of Scotland during the Trial, and who were constantly occupied in doffing our caps in response to the salute of laird and labourer alike, can hardly reconcile such a view with the actual facts of the case. Nothing could have been more hearty than the greeting of the Scottish people to the motorists, and although officialdom has been unduly free with the placing of white circles and red triangles upon the roads, its severity was assuaged by the courtesy and tactfulness of the police, who, if not always urging the drivers to greater speed, as they did during the Irish Motor Fortnight of 1903, at least were dourly encouraging and genially showed the way.

### All to bear the Burden.

WE do not take exception to the proposals of the county councils concerned; they are well couched in the public interest. But we do complain of the misrepresentation of the popular view by journals in a position to know the actual state of opinion. Both the Councils of Midlothian and Peebles would devote the proceeds of the present motor-car taxation to the maintenance of the public roads; the Berwick County believes that the national exchequer might well be invited to bear a greater share of this heavy burden that now falls so inequitably upon all districts alike. With these notions motorists generally will be found in agreement. It would be manifestly unfair, for instance, that the people of Tomintoul should be called upon to bear all the cost of bringing the roads

round about to a condition of civilised repair; but the whole of the taxation raised from Scottish motorists could well be utilised in improving such roads and scores of others that might be named, to the general welfare of all. And what is true of North Britain is equally true of more southern latitudes.

### The Motor Cab.

It is anticipated that great development with regard to motor-cabs may be expected in London when the present House of Commons Committee on Street Traffic has concluded its sittings. The authorities at Scotland Yard are of opinion that no motor-cab can be regarded as satisfactory which cannot be turned in a circle of twenty-five feet diameter, a limit made necessary by the narrow streets in some of the busiest parts of the City. With the motor-cab the taximeter seems closely associated in the public mind, and it is not re-assuring to learn from Mr. Basson, the chief inspector of the carriage department of the Metropolitan Police, that by putting a wheel out of order the instrument can be easily accelerated to register twice the distance actually travelled. Judging by the general professional ways of the London cabby, he would not be long in learning such an art; hence the good fortune that awaits the inventor of a taximeter above suspicion.

### Ceylon.

NEW bye-laws with regard to the registration of motor-cars are now in operation in Ceylon, and in order to facilitate matters the Government agent sent to Mr. Harold North, the hon sec. of the local Automobile Club, one hundred and fifty forms of application for registration of motor-cars or cycles, and for licence to drive, with the request that one should be sent to each member of the organisation in the Central Province. From this fact we conclude that the motorists of Ceylon are becoming a numerous body. The registration fee for motor-cars has been fixed at 13s. 4d., and for a motor-cycle at 4s., the latter also being the charge for the licence to drive. Provisions have been made for identification marks being fixed on cars, and the way in which the local authorities are working sympathetically with the Automobile Club is augury of a good feeling being maintained in the motoring community of Ceylon.

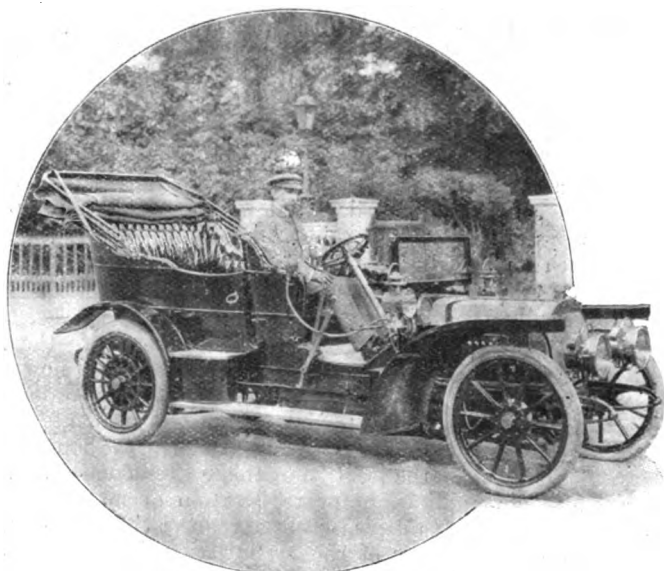
### Blackpool Again.

REALLY the Chief Constable of Blackpool seems strangely disposed towards the local motor firms. Recently we remarked upon his attitude with regard to a garage proprietor who had occasion to pass his motor-cars across the pavement into his premises. Now attention may be called to the case of another local firm which, about two years ago, applied for a licence to store petrol in one of their places. The police suggested that the licence should be granted to one of their places about five minutes' walk from the Promenade, and that they should keep as little as possible in their shop in that populous thoroughfare. They advised that sufficient for immediate use should be carried from one place to the other—an

arrangement which has gone on some time. Naturally in the case of a firm letting motor-cars on hire this arrangement has been exceedingly inconvenient. However, it has come to an end by the issue of summonses (1) for keeping petrol without a licence and (2) for contravening the regulations. We would like to see the authorities at Blackpool go into the whole matter of the local motor trade, and assure themselves that it is being conducted without being unnecessarily harassed.

#### Motor-Cars at the Races.

As at the Derby and Oaks automobiles were prominent at the Ascot Races during the past week, and many of those who went thither journeyed by the shorter route *via* Hounslow, Bedfont, Staines, Egham, and Virginia Water, turning right just beyond the Wheatsheaf Hotel, and thence through Sunninghill to Ascot, following the main Reading and Wokingham road. This route took the motorist direct to the back of the grand stand. Another way which was popular led the motorist to Hounslow as in the other, but, turning right there, he had to follow the main Bath road to the cross roads two miles beyond Colnbrook. There, turning left, he went through Datchet and Windsor, and thence, *via* Queen Anne's Gate, through Windsor Park to Ascot, arriving there on the north or Windsor side of the course.



Mr. A. Campbell Swinton at the wheel of his new 40-h.p. Crossley.

#### M.P.'s and the Motor-Bus.

THE motor-bus has now become a recognised section of the automobile world, and under the heading of "Public Motor Services" we are regularly chronicling leading developments in that direction, while the summary of legal and police court cases in which these vehicles figure is acknowledgment of the growing importance of the motor-bus to a large section of our readers—and, having regard to a new classification of the small advertisements this week, our advertisers as well. The subject of motor-buses also constantly occurs in Parliamentary reports, and Mr. Money, the representative of a Metropolitan constituency, has been setting a serious question to the Home Secretary, with a view of emphasizing the liability of break-downs of the machinery and the falling-out of masters and men as to conditions of employment. All these matters are necessarily incidental to the new industry, and we would remind the M.P. for North Paddington that the science of statistics—with which he has claims to be identified—is not yet perfect or conclusive. When the motor-

bus has received as much attention it will be able to carry figures and persons anywhere with safety and surety.

#### Municipal Motorism.

MANY municipal and other local authorities are now the possessors of cars, and will have to seriously undertake the organisation of a special department with a view to securing efficiency and economy. It is said that the Manchester Corporation contemplates inscribing all its automobiles with the name of the particular departments to which they are allocated, thus minimising the opportunities of officials using them on private business—if they would ever dream of such a pleasure. Now the Corporation of Glasgow is about to erect a special garage and to purchase seven vehicles for the use of those engaged in the public work of the city. It is calculated the initial cost will be £4,430, and the annual expenditure is probably over-estimated at £1 per day. But the saving of time, with its consequent facilitation of the municipal business, should be a matter of great appreciation by the ratepayers.

#### Canadian Progress.

It is calculated that at the present time there are about 300 motor-cars in use in Montreal, where Mr. A. H. Dandurand is recognised as one of the pioneer motorists of the Dominion. More than half of these were purchased last year. The Automobile Club of Canada was formed three years ago with the improvement of the roads as one of its chief objects. Mr. A. J. Dawes is the president, and plans are now being matured so that the organisation shall have a club-house in the suburbs of the city. It has decided to use its surplus funds in giving prizes to landowners in the country districts for the best kept section of public road. At present the rate of speed allowed is of a very moderate character—only six miles per hour in Montreal, and fifteen miles in any other town in the province of Quebec. In turning corners no speed beyond four miles an hour is regarded as legal.

#### Oratorical Extravagance.

THE rural councillors of Northwich have an extravagance of utterance wholly superior to their supply of intelligence and common sense. When the Motor Car Commission has concluded its sitting and is considering its report seems to these wisecracks the belated time suitable for scaring the Commissioners into some restrictive suggestions. And so one of the members has just been gravely telling his fellow-councillors that it is their duty to stop "the slaughter of human life" that now goes on by motor-cars. "Talk of war, of epidemics, and the death rate from fevers," declares this important person, "why it is not in it with motor-car fatalities." In the council there seems to have been another councillor of his own manner of speech, and in seconding the resolution that they should call the attention of the Commission to automobile fatalities, he described the cars as the "gods of Juggernaut, whirling through the dust, deprived of the beauties of God's Nature and pure atmosphere." Alas, poor Northwich.

#### Up-to-date.

NOT far from the office of the *M.C.J.*—in the Strand to wit—there is a journal called the "Family Doctor," which in its issue of June 16th contained the following paragraph:—"Mr. Clifford Earp, the English automobilist, has established at Ormonde Beach, according to a New York correspondent, a new world's record in his English-built car. He covered 100 miles in 1 hr. 15 min. 40 2-5 sec." Probably the news was of interest to those who consult the "Family Doctor." The antiquity of the information can only be explained by the desire of the physician not to upset the nerves of slow-moving patients. The



partiality of the medical profession for the automobile is well known; it is fortunate that they do not take their news from this particular journal of the Strand.

**"The Motor Throat."**

MEDICAL men, who recognise that motoring is a great competitor with their physic in reviving the nerves of jaded business men and restoring the health of the "run down" section of the community, seem also determined to charge it with having other attributes of a less healthy order. Recently we referred to some of the conclusions of medical officers of health with regard to the nerve-destruction incidental to wild careering through the country air; now Dr. Williams, of Flint, has been alarming his colleagues of the Flintshire County Council with stories of inflamed throats and swollen eyelids among the village children. He declares that rural life will become unbearable if people keep their doors and windows open. We remember

suggested that it was really a "test," whereupon P.c. Andrews improved upon the suggestion when giving evidence, and said he was at the other end of the "control." Judging by the results that generally followed the operation of such devices, they might be inscribed with the famous phrase, "All hope abandon ye who enter here."

**Public Service.**

A SUNNY trip to Brighton and back from London was enjoyed on Monday by a number of gentlemen interested in the development of motor traffic in the public interest. It will be remembered that among the novelties at the Agricultural Hall exhibition was a motor char-a-banc built by the Thames Engineering Works for the London and South Coast Motor Service, Ltd. This is now to be put in regular service and from the success of the initial run the other day the venture should prove popular and profitable. Trips to Brighton,

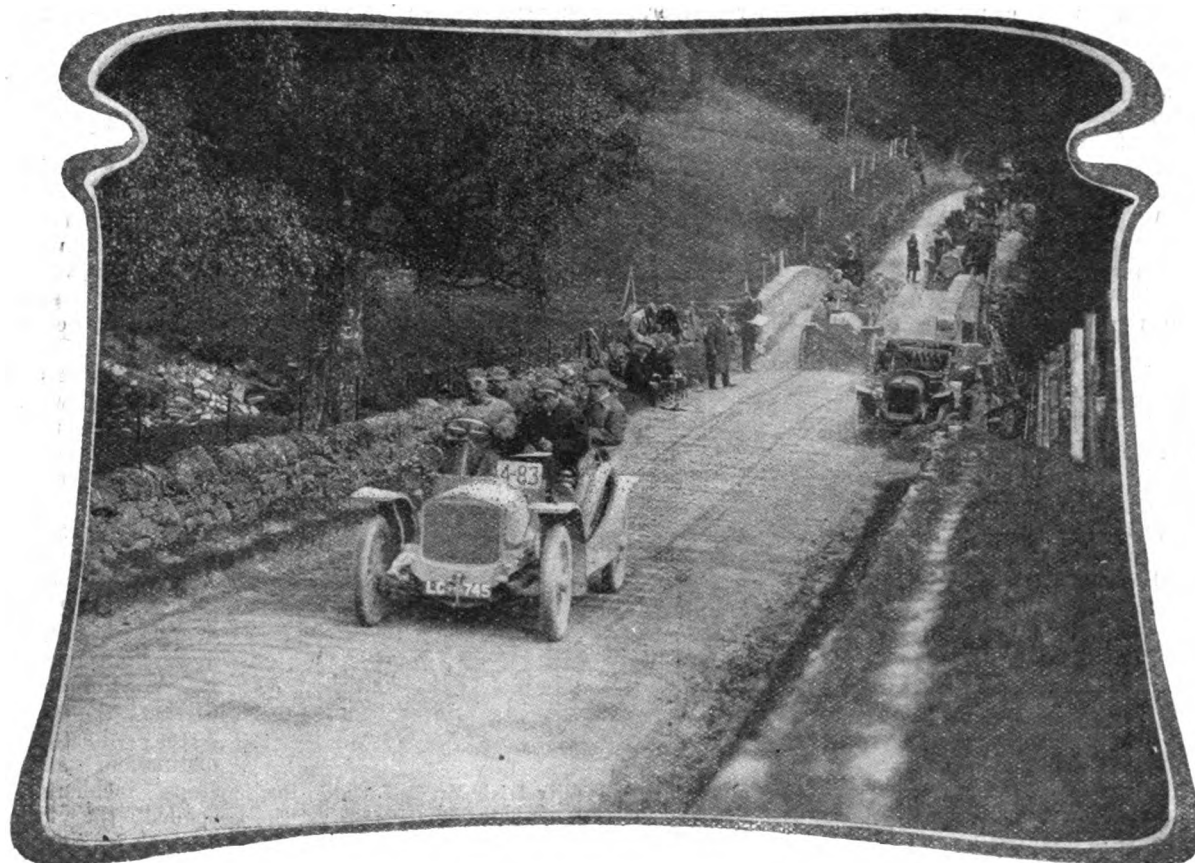


Photo by]

The Scottish Trial. The Start of the Trinafour Hill Climb. (See page 330.)

[Argent Archer.

that a doctor in another part of the country has said that people breathe in the dust and its resident microbes while asleep. But surely there is work for the medical man as well as the motorist, and the former should impress upon the people the necessity of sleeping with mouths closed and eyes shut, thus preventing the ingress of the contaminations raised by the progress of modern invention over badly-constructed road surfaces.

**"Technical Terms."**

POLICE phraseology has undergone a change these last few years, and many new words have been added to the vocabulary of Robert. In a case at Highgate Police Court Sergeant Bailey has been enlightening the public as to some of the terms used by mere constables. Asked at which end of the "trap" he was located, he promptly replied, "at the winning post." One of the magistrates expressed disapproval of the word "trap," and

Folkestone and Southampton are being arranged and a time table will shortly be issued.

OWING to the pressure on our space consequent on the many events that have to be chronicled this week, several of our regular features have had to be omitted or curtailed.

MESSRS. BENSLEY AND DEDMAN have opened a large shop with extensive garage in the rear at 720, Holloway Road, N.

THE Idon Motor-Car Co., Ltd., are selling their premises at Parkside, Coventry (about 5,000 sq. yards), goodwill and machinery, by auction on the 28th inst.

MR. JOHN HARGRAVES, of Temple Combe, Somerset, who is well-known in automobile circles as a keen motorist, has just placed an order with the London and Parisian Motor Company, Limited, for his third Hotchkiss. His first car was a 25-h.p., and then at the recent Agricultural Hall Show he bought a 45-h.p. six-cylinder car of the same make. The latest addition to the trio is a 30-h.p.

## The Scottish Trial.

A WAY in the hills of Scotland a rough mountainous pass between Glen Kinglas and Glen Croe seems to ascend in lofty emulation of the towering majesty of Ben Ime, who frowns from a height of 3,300 feet upon the rivulets and lochs sparkling brightly in the landscape. After a succession of rising corners that, like some "Will o' the Wisp," lead the traveller to the hope of the journey's end, there stands a stone by the roadside inscribed with the words "Rest and be thankful." They were echoed in the thoughts of every motorist—whether driver, passenger, observer, or mechanic—as he, or she, observed them on Saturday, ere proceeding to zigzag along the dark shadows of Glen Croe to the beautiful village of Arrochar, keeping guard over a corner of Loch Long.

For they came near the long pilgrimage of nearly seven hundred miles over roads smooth and stony; plashing through storm clouds on the mountain and gaily coasting along the braes in the Highlands; rising to mountain heights and conquering the highest roads in Great Britain, or rushing headlong down precipitous tracks with corners that turned again and retreated further to the glens, where rich fir forests and bare rugged earth alternated in wayward profusion of nature, untamed by men or restrained by machinery. The Trial of last week was a test such as is only possible in the "land of brown heath and shaggy wood"; it tried men and cars alike; it revealed the over-mastering supremacy of the automobile, and those vehicles that endured the four days' trial over specimens of all roads, and amid samples of every kind of weather, deserve well the success that should follow the achievement.

Of the seventy-nine that started from Glasgow on the morning of the 13th sixty-eight returned to the city of St. Mungo on Saturday evening, and of the survivors no fewer than twenty-five made absolute non-stop runs (save for tyres) on all the days of the Trial. Compared with last year's results, and having regard to the severity of this year's test, such a record is extremely gratifying to those watching the progress of mechanical matters, as well as details of design in motor-car construction. Several of last year's "non-stoppers" have repeated their success, viz., Mr. H. Ramoisy (Germain), Mr. F. S. Bennett (Cadillac), Mr. R. Crossley (Belsize), Mr. Claud Hamilton (Gladiator), and Mr. J. W. Stocks (De Dion), while cars included in the successful lists each year, but handled by different drivers, are the Albion, Argyll, and Humber. The Vinot narrowly escaped the double honour owing to the dust choking the carburettor and delaying the flow of petrol two minutes on the last day—a finicking little trouble that in no way discounts an excellent performance. Mr. Mawdsley Brooke and Mr. Ross Brown are

also entitled to commiseration, the latter losing a few trifling marks on the first day owing to driving a car which had not been tuned up for the occasion, and Mr. Brooke's ignition device lost him the opportunity of making a second record.

On another page we present a full view of the results in tabular form, compiled from the Observers' sheets, and to be accepted as a provisional list rather than the final official return—from which, however, it is not likely to differ in any substantial degree. From this it will be seen that Mr. R. L. Jefferson lost distinction by only one mark, while the other

Rover car had to be withdrawn owing to broken steering gear. The Adams-Hewitt, the novel departure from British practice in which were described in our issue of the 9th inst., made a good impression on its first appearance in such an event, and, save for a carburettor adjustment, would have had a clean sheet. Mr. F. W. Peckham's troubles were few and of a very minor order, and his Maxwell ran strongly and well. As was the case with many cars, owing to the prevalence of dust, the Pope Tribune suffered from a choked carburettor on the first day; the Swift was more fortunate and lost only one mark—officially credited as an engine stop.

In Class 2 Scottish cars predominated. A slight adjustment of the clutch cost Mr. E. A. Rosenheim, who was driving the 12-15-h.p. new Arrol-Johnston, a place of distinction, and troublesome stops incidental to driving spoiled the chances of the 10-12-h.p. Argyll, the 10-h.p. Darracq, Mr. J. P. Dean's

14-17-h.p. Scout, whose third day's performance lost him three marks, and the 10-h.p. Alldays. The 12-14-h.p. Scottish Aster ran well, but had to allow its passengers jumping exercise on one or two occasions, otherwise its performance was a meritorious one. The 14-h.p. Vulcan, which, like the Alldays vehicle, distinguished itself at Frome's Hill, lost four marks owing to commutator troubles. In this class the 16-h.p. Reo, illustrated in last week's *M.C.J.*, attracted much notice, this being its *debut* in the motor world on this side of the Atlantic. That it made a non-stop run on the first day was a significant foreshadowing of its quality. On starting from Edinburgh a minute's delay occurred, which cost one mark, and on the third day's run another mark was forfeited owing to the ignition. Save for punctures on the last day it made a splendid entry into the ranks of this season's competitors for public favour.

Non-stop daily runs in Class 3 were as plentiful as the gorse on the hills. Out of a possible aggregate of seventy-two, no fewer than forty-six were made—a capital result bearing in mind the class of country traversed. Seven vehicles out of nineteen journeyed the whole distance without losing a mark,



The Organisers of the Scottish Reliability Trial—Mr. E. J. Smith, the Hon. Secretary, with his portfolio (on the right), and Mr. John Adam, who started the cars each day (in the centre of the group).

The Arrol-Johnston dogcart proved itself slow and sure—a vehicle scarcely suited to the park, but well favoured in the sporting regions of the Highlands. In this class was a team of three Argylls—one was credited with non-stop, the second lost a single mark for an engine stop, and the third was troubled with a choked carburettor, but as a team the trio were consistently good. Messrs. Crowdy and Ramoisy did well, the former coming again to the front, as he did in the Phoenix Park races of 1903, and the latter delighting the Scottish people with his genial recognition of their salutations. But for having to change sparking plugs, Mr. E. H. Arnott would have been in the select list of those who lost no marks, and had there been an appearance competition—something of the kind will have to be attempted if the credit of motorists is to be sustained—it would have been won by him. His 22-h.p. Minerva had a screen of sufficient height to preserve him from the dust that rose without regard to anyone's feelings, and so enabled him to step from his car almost as spick and span as though he were in the show room. Reference has already been made to the exceedingly hard luck of the Vinot, while ignition troubles bothered the 12-16-h.p. Clement Talbot

of the abnormal clouds of dust which seemed to transform Scotland, in parts, into a great Sahara. Among these were the 18-h.p. Arrol-Johnston and the 24-32-h.p. Gladiator; Mr. E. E. Leverett was another victim of circumstances, his 30-h.p. Standard having a good appearance on the road and travelling as though to certain victory. On the first day the tail lamp fell, and a mark was lost in picking it up. Then at Pitlochry his radiator was damaged in the garage by the thoughtlessness of an attendant, and he lost four minutes on Saturday in refilling the water tank. But for these mishaps the Standard would duly have come into the list of successful ones. The 24-30-h.p. Enfield shared with the Austin the novelty of newness, and started well from Glasgow, but trouble occurred with the petrol pipe connections, and on the second day it was withdrawn owing to the pipe breaking. The new Austin did well, having three non-stops to its credit when, on the last day, a new key had to be fitted to the sprocket shaft—ruining the prospects of victory in the competition. The experience of both these cars demonstrates the advisability of running new vehicles some time before participating in such a severe test. The six-cylinder Brooke had not travelled more



The Scene in the Garage of the Western Motor Company at Glasgow when the Cars were in position.

on the first day, and prevented the car making the record of which it is easily capable. The Mass car also suffered the ills of fortune, as is duly set forth in our record of the third day's run.

Passing to the returns of Class 4, which attracted the largest entry, nearly fifty per cent. of the entrants secured non-stop awards. The success of Mr. J. H. Paterson's Peugeot atoned somewhat for the misfortune of Mr. C. Friswell in the next class, and again demonstrated the reliability of this type of car which has been before the public practically since the beginning of the movement in this country. Non-stops were also secured by the four-cylinder Albion, running for the first time in a public trial; the new Arrol-Johnston, with vertical engine; the Siddeley, driven by Mr. T. Shaw, of Dundee; the Darracq, handled by Mr. Sidney Girling; the 25-30-h.p. Iris—another new-comer—driven by Mr. A. Clifford Earp, a brother of the Earp who has figured so prominently in motor competitions of late years; the Pilain, driven by Mrs. Loder; the Belsize, with its high-tension synchronised ignition; the 30-h.p. Bell, the Spyker, the Pipe, and the Gladiator. Here consolation must be accorded the victims of choked carburettors, a consequence

than three hundred miles before the Trial, and consequently was untuned. But the running of the vehicle, ere the magneto arrangements went wrong, showed its capability. The passengers on the St. Vincent were unfortunate in the fact that the car ran out of petrol near the Bridge of Avon and they had to walk some miles to secure a replenishment, the loss of time thus recorded being 1 hr. 42 min. Ignition bothered the 20-24-h.p. Horbick considerably, and prevented it appearing at its best. Mr. P. W. Northey with his Rolls Royce had petrol troubles, but Mr. Claud Johnson was able to enjoy the pleasure of a non-stop run in Class 5, where further instances of the fickleness of fortune were evident. Mr. Oscar Cupper's 30-35-h.p. Metallurgique is a car that did well at Frome's Hill, securing excellent times. It also did well in Scotland, having non-stop runs on the first two days, and also on the fourth—the worst route of all—but quite a minor detail upset the record on the third day. Similarly the replacement of the fan belt spoiled the record of the 40-h.p. Benz by the loss of a single mark. Captain Wentworth's Daimler was a feature of its class, taking hills in glorious style, and going reliably on the level; while Mrs. Riley's withdrawal was matter of general regret.

**FIRST DAY.—Through the Country of Burns.**

Blythswood Square, Glasgow, was invaded on the morning of the 13th inst. by seventy-nine motor-cars of the competing class and a score or more which might be regarded as of the non-combatant order. Scotland, in the form of a couple of Albion cars, had the position of honour—in fact, of the competitors northern Britain supplied one-fifth, international significance being given the Trial by the presence of English, French, Belgian, and American vehicles. Punctually at 7 a.m. the first car was sent on its way, and within an hour and a-half the Square had resumed its normal appearance. We went out of the city of St. Mungo by Giffnock and Newton-Mearns, finding a gradual ascent for about ten miles after leaving Glasgow—to say nothing of the tramlines and a northerly wind that presaged the passage to a cooler clime ere long. At Fenwick the first of the victims of tyre trouble was despatched, and then at Kilmarnock—to which tramlines formed an introduction—the Burns country began, and interest in the journey increased. Shortly after leaving Prestwick, with its golf links and picturesque houses, a glimpse of the sea was afforded, and through Ayr the motorists had a hearty welcome, passing by Burns' Cottage and Monument with the sun seen for the first time during the day.

As mentioned last week in a telegraphic dispatch from Dumfries, our "mount" for the day was a 25-36-h.p. (5-59 in the official list) Brasier—a powerful, easy-running vehicle driven by Mr. Ross-Browne, a leading member of the Nottinghamshire Automobile Club, and a merry companion for a run of 174 miles. It was a comfortable car, with a luggage carrier at the rear, leaving the tonneau clear for the stretching of legs, so conducive to comfort on a long day's run. More than that, its economical running was a feature, and on the shores of Loch Fyne, on the last day, Mr. Browne assured us he had driven ninety-six miles on four gallons. The High Street, Ayr, has a curve, and, whether from a love of commerce or of literature we know not, but the people make much of Burns. The Wallace Tower and Tam o' Shanter Inn were left behind, and at Patna the first ten mile limit was reached. Many such were afterwards found on the way, and it would seem that the Secretary for Scotland permitted the erection of such devices of restraint wherever they were wanted, and in many places where they were not required. At Waterside, a black, sullen mining village, with great heaps of shale thrown up darkening the landscape, and casting a gloom all around, the miners' wives stood at the doors of their cottages—a monotonous row of buildings with a sameness and a tameness fit for an antiquarian corner in the Garden City of the future. They cheered with vigour and waved their aprons with delight. And then the children—barefooted and lusty-lunged youngsters, merry for the hour's absence from school allowed to see the motor-cars. They fairly yelled with delight, and seemed to enjoy the dust as though 'twere a familiar morsel to their palates. As for the motorists, they had disappeared, and not a car did we see as through Carsphairn we went into a pleasanter country described by S. R. Crockett in "The Raiders"—a modern novel telling of this district—ten miles from St. John's Town of Dalry, with its conspicuous church and loose roads. And thus ended the second "control"—within a couple of minutes of the minimum time. A good run from thence of 26 miles, for which 1 h. 23 min. was allowed, led to Dumfries, the way being of the curly-wurly order about Balmacellan, and sharp bends giving the drivers an inkling of what was to follow on later days. All Dumfries was on holiday bent; the banner of the "Continental tyres" waved in the breeze, and into the yard of the King's Arms Hotel drove the dirtiest, dustiest crowd of living men that the people had ever seen in the respectable town of Dumfries, accustomed to pilgrims who have regard for appearance—and motorists have none.

An hour was allowed for scraping the coatings of dust—with which all were masked—and for rushing around the feeding tables. The most easily obtainable aids to sustenance were the luncheon tickets; evidently the early arrivals had abnormal capacities, and those who came last waited longest. But even luncheon hours end—especially when from them are taken

thirteen minutes for replenishing and lubricating and two minutes for starting.

Then away to Moffatt and the hill climb. About ten miles from Dumfries scenes of sylvan delights began to appear, and strangers to Scotland recognised something of the beauties they had expected. Narrow lanes with turns, descents, red triangles and other features demanding care from the drivers predominated all the way to Tailburn Bridge, where the first hill climb began. The Berkhill climb was but a prelude, the average gradient being 1 in 17; the ascents averaging from 1 in 14 to 1 in 23, with a rise of 305 feet in 1,745 yards. It was a steady climb and good times were made by most of the vehicles, the order of speed in each class being set forth in the table given elsewhere—presenting a fairer criticism than any personal impressions might do. It was then a sinuous course to Peebles, where the landscape assumed a quiet beauty and something of the real scenery of Scotland appeared. By loch and burn and under the shadow of tall hills, with dust accumulating on cars and passengers all the way, we passed through Penicuik up into the glories of Edinburgh. The great castle frowned from its eminence on the dusty wayfarers as we strode by the University buildings and hospital into Spital Street, where the fine garage of Messrs. J. Croall and Son afforded cover for all the cars. Later in the evening strange figures flitted about the modern Athens—around Scott's memorial, with its little statue in a great mass of monument; by St. Giles Cathedral, standing where Knox is buried and over the Heart of Midlothian; down to the Tron Church and the house of John Knox; and away up to Calton Hill, where the great pillars stood gaunt and quaint in the twilight. Even at such an hour the sight was impressive; Leith cowered down on the one side with the Firth of Forth stretching seven miles from land; on the other Salisbury Crags and the Radical road led away from the historic castle of Holyrood; and but a few yards below the one mile of Princes Street cut the city in twain from east to west with its electric lights illuminating the famous artery with a brilliance that stole in and out of the City spires with all the penetration of the modern spirit into the recesses of the ancient world. And amid such scenes—and others—the motorists ended the first day of their trial.

It was unfortunate that Mr. Buchanan Shiell, of Perth, who drove the Maudslay, should have had to reverse at the garage in Edinburgh in order to avoid the crowd, and so sustain a mishap to his clutch. Really this was no fault of his. The Enfield retired owing to a breakdown which could not be properly repaired on the roadside. This was due to the flange (which is a part of the cylinder) breaking off where the water connection is joined, owing to a peculiar flaw in the metal which could not be detected in the fitting, and which did not develop until after the car had been run some distance. In the ordinary way this would have been discovered in the testing, but, very unfortunately, this was postponed until after the Whitsuntide holidays, and instead of the workmen coming in on Tuesday, as required, they practically made a week of it, and a pressure of more important work prevented the thorough testing of the car. It was a piece of exceedingly bad luck, and something which is absolutely unique in its way as far as the Enfield Company's experience goes.

Of the seventy-nine starters from Glasgow practically all arrived safe and sound, a great advance on earlier contests we have known. Forty-four made non-stop runs and many of the stoppages were quite trivial, in no way associated with the mechanism of the car.

**SECOND DAY.—Away to the Highlands.**

If, as may be imagined from the record of the first day's run, the impressions of the journey from Glasgow to Edinburgh were of a somewhat ordinary nature, those of the second round were very different. The course was from Edinburgh to Aberdeen by the Bridge of Allan, across the City of Perth, up the highest mountain road in Britain, and through the Royal country of Balmoral and Deeside, to the Granite City of the north. It was the longest run of the tour—177½ miles—and many of



the cars were twelve and thirteen hours upon the road; but the time never seemed weary, so beautiful was the country through which the calvacade of motorists journeyed to their objective for the night. We were on the Brooke (4-58), driven by its designer. At Corstorphine two roads converged, and, avoiding that by which the cars came from Glasgow last year, we took the right one for Kirkliston, where the aspect of the country changed. Town was left behind and rural delights began. At Winchburgh there was a slight odour from the great oil works at Broxburn, but it was only a tinge of smell. In place of the wallflower that bloomed so freely when the 1905 trial took place—a month earlier than now—was the lilac and the rhododendron, and in the cottage gardens was variety indeed. Through the Dalmeny country the road was taken to Linlithgow, which we dusted in atrocious fashion. The citizens of Laurieston had been wiser in their morning and generation, for the High Street had been watered, so that we could see the houses and their inhabitants could see the cars. A touch of humour occurred in the route-book, for we were told to descend slowly through the town, and then shot down as steep a hill as any civilised community could endure. After a few miles of industrial aspect, the country gladdened into delight across the field of Bannockburn and

Scotland, we reached the City of the Fair Maid, and crossed the Tay. Then the path was by Old Scone and Cargill to Meikleour, where a famous hedge of beeches stood out prominently in the view, their leaves almost yellowed by the dust of nearly four-score cars careering on to Blairgowrie, where their passengers lunched and their engines rested. Blairgowrie is delightful to the eye—and to the fruitarian—its fields of raspberry canes standing like pigmy hop gardens, while women worked, in contradiction of Kingsley's view that "men must work, and women must weep." The women did anything but weep; they came to the hedge sides and, waving their aprons like banners in the breeze, laughed, and laughed again, at the motley motorists who had one common covering—the dust.

That removed, we cheerfully adjourned to the police station, in the large hall at the rear of which replenishment and refilling went on for the allotted time, and then, in the most brilliant sunshine of the tour, a re-start was made for the hill climb, and the even more severe ascent to reach the Spittal of Glenshee. For twenty-five miles the route presented a series of innumerable sharp turns and steep hills, and on the landscape wide fields of white blossomed strawberries added variety to the scene. At the Bridge o' Cally was a particularly twisty corner, and then onwards and upwards went the cavalcade. Cars came



The 20-22-h.p. Mobile getting round the Devil's Elbow on Cairnwell Hill.

through Stirling, delightful in its environment, but with trams of the old-fashioned equine order, such as give the Promenade at Douglas a touch of the antique.

The next control was from Stirling to Perth, through several places of considerable size—for a country with less than the population of London. Reclining in the six-cylinder Brooke with its cosy armchair tonneau was a real delight—no vibration, no jarring notes, no cramped limbs; just such a car as one can spend a day in without discomfort. With Mr. Mawdsley Brooke at the wheel, and Mr. W. Humphrey, his partner, as mechanic for the nonce, we had a delightful day of ease and interest. Danger signs were plentiful, and the usual unnecessary ten mile limits were everywhere. Only a few cars came within our immediate purview. Once we sighted Mr. O. Cupper going well on his comfortable-looking 30-h.p. Metallurgique; the two-cylinder Maxwell, with Mr. F. W. Peckham at the helm, made pretty progress up the mountain sides; the Iris, driven by a brother of the more famous Earp, made a favourable debut, and Mr. Dean's Scout showed up well.

The way to Perth was full of interest. Advance to Dunblane was by way of the Bridge of Allan and then through Auchterarder, one of the most ancient of the Royal boroughs of

and cars went, but the trusty Brooke seemed as though 'twould prove Tennyson a correct prophet, as well as a poet. Over mountain roads we steadily ascended the defile between the hills, narrowing and turning, while in the distance the snow-swathed cairns reminded those familiar with the road that only a few weeks ago it was impassable, and a way had to be cut through the snow. When we arrived on the Cairnwell Hill, with its summit 2,200 ft. above the sea level, others had already left, being despatched without delay, their water warming to the occasion. Some of the cars as they arrived were emitting steam in clouds, and though their drivers confessed it not, many were glad of the opportunity to cool their engines. For three weary, dreary hours they waited for the chance to get away, and loud were the calls for provender, liquid and solid. And yet there was beauty in the scene. Great mountains encircled the wild pass, where the heather was purpling into flower. Now and again the harsh notes of the grouse were heard, while even the click of the camera seemed to lessen the monotony. Bad luck had proved ungallant to Mrs. Riley just before reaching the hill.

The road leading to the starting point of the hill climb was ever ascending and ever twisting, and Mrs. Riley, of Haslingden, driving the 24-34-h.p. Belsize, had decided hardship in her car

being brought to a stop by a mishap to the clutch. When we passed she was standing on the bridge gazing disconsolately at the little burn that trickled and sparkied in ungallant disconcert of her trouble.

The length of the timed portion of the hill was 3,678 feet, the average gradient being 1 in 8.9 and rising to 1 in 7.5 in places. The Devil's Elbow is apparently a device of the Evil One to make hard the way of those who go that road. It is more treacherous than the Hairpin Corner at Ramsey, turning upon itself like an Australian boomerang. Then, too, the surface at that point was as loose as the sand of the seashore, and the cars had to literally plough their way. Most of them were equal to the occasion and did well; a few required the application of manumotive power at the rear. The 30-h.p. Daimler was admirably steered by Captain Wentworth. As he rose from the second bend the rear wheels turned into the gully at the side of the road, and his overthrow seemed imminent, but, with a great lunge, the car drew out into the road, amid the loudest applause of the day. Mr. Cupper was unfortunate in having his brake on just above the Elbow, and so lessened his speed; but when he withdrew the brake the Metallurgique went forward in style, and its going up the last part of the hill was a capital performance.

Among the spectators was Mr. C. Friswell, who had withdrawn his car owing to clutch troubles, and now amused himself with the camera. Away we went on the Brooke, which seemed to have a premonition of coming misfortune. And then into the Grampian country. New delights met the eye everywhere, but never a car. For, truth to tell, the drivers were desperately hungry, and the cars travelled with a set determination, so that it was a hasty run to Braemar, the beauties of nature being almost unheeded. Russet browns and vernal greens formed a vision of delight, while purple peaks rose strongly unto the sky. Long and steep descents opened upon a great plain, where little farmsteads found shelter amid the firs. The fruits of cultivation alternated with great stretches of heather, and sparkling rills glistened in the waning sunlight. Alas! in the beauties of the Braemar district misfortune may lurk. Mr. W. Gutmann found it when driving the Chenard-Walcker car. He was nearing the pleasant town by the Dee when his transmission gear went wrong, and after a fifteen seconds whirligig the car stopped. The repair necessitated the removal of the gears and the replacement of the wheel on the plain axle—a matter of considerable time. Mr. J. Livie was a passenger, and with the Observer he proceeded to trudge to Braemar. A passing competitor, one of the Gladiators played the good Samaritan, and, slowing down, took the travellers on the steps to Braemar. There they obtained a horse, which towed the stranded Chenard-Walcker car to its stable for the night. And the passengers slept the sleep of the disconsolate. They were sixteen miles from the nearest railway station, at Ballater, whither they proceeded the next day by the motor-bus service. The erring car was dragged along the highway by a couple of equines, and packed off to London—by train.

On we went through Ballater, Aboyne, and Banchory, at which latter place Montrose rested before entering the Granite City. We would fain have done the same, but the timekeepers were at Aberdeen, and thither flowed the Brooke with its six-cylinders and four passengers. What a delightful country! The grand road through Royal fir forests showed Scotland in her majestic aspect. Down in the valley the Dee pursued its sinuous course, and a few solitary fishermen looked up from the river as the cars speeded by. A few miles away the tower of Balmoral Castle rose above the tall trees, and then a glimpse of Queen Victoria's Highland home, standing amid scenes of peaceful beauty, was accorded to the voyagers. To the left was Crathie Church—the little kirk associated with the lives of Monarch and peasant in that region of calm confidence and trust. Abergeldie Castle was passed, and then, through Ballater and Dinnet, we entered the granite country. The last twenty miles was a triumphal procession, fair maidens showering bouquets with a winsome grace that gladdened the hearts of the young men and brought smiles to the cheeks of the old. Hardly a car escaped

the offering of rhododendrons, white lilac, and other lovely flowers, carefully tied with notes conveying "good luck and good wishes." From the homes of the Pithies at Turner's Hall, Ballater, and the Thains at the Kinnore, Denet, came scores of such floral tributes; and on behalf of the motorists generally we give public utterance of their appreciation. Away into Aberdeen we went, and a great crowd awaited the cars in the strong, bold city, where garages are plentiful—and that of Messrs. Claud Hamilton is one of the largest.

### THIRD DAY.—A Journey of Ascents and Descents.

There was rain upon the mountains when we left Aberdeen, and all the morning it beat obliquely on the motorists as they went northward through Huntly and Keith—not a very interesting country; at least, so it seemed with the rain drops pricking our faces relentlessly and pitilessly. We were on the Vinot, driven by Mr. Gordon Usmar, with Mr. Harman Wigan in the tonneau to assist in case of need—a necessity not likely to arise in a car of such merit as our mount on the third day. The first forty miles was to Huntly, and through scenery in many of its features resembling the Peak district of Derbyshire we made successful way, a goodly crowd lining the streets and market squares of the town. Huntly to Tomintoul proved a far more interesting control, including a trip through Keith, the most northerly part of the tour. A Scotch mist enveloped the mountains, hiding them from view, and saturating all who rode on cars. The ruts in the roads filled up with water, which splashed the hedgerows as the cars ploughed their way on to the highest village in Britain, viz., the hamlet of Tomintoul, with its trim square, its couple of hotels, and an air of prosperity not usually associated with such an elevated position. The valley of the Spey provided us with some interesting scenery, and gave Mr. Mawdsley Brooke an unenjoyable experience. He was proceeding through Dufftown when the pin carrying the platinum point on the magneto snapped—and he was stranded. As we passed consolations were offered; but later in the day we found that the motorists had been royally regaled in the neighbouring distillery of Glenlivet, which was inspected while repair was accomplished—too late, however, to turn Mr. Brooke from his determination of withdrawal.

As we rose the rain ceased—in fact, it did not appear to have visited Tomintoul—and all seemed well as we neared the Bridge of Avon. There came a short, sharp hill, up which we ran at a good rate, when we stopped within five yards of the top. Brakes were applied, and we walked half a dozen yards, to find half a dozen cars lined up for the reputed hill climb. Our petrol supply had failed to reach the carburettor, that was all. Others were in almost similar plight, and foraging expeditions to Tomintoul and round about were set afoot. Supplies from some cars not in the competition were commandeered, and spirits rose with the distribution of the available resources in the way of petrol.

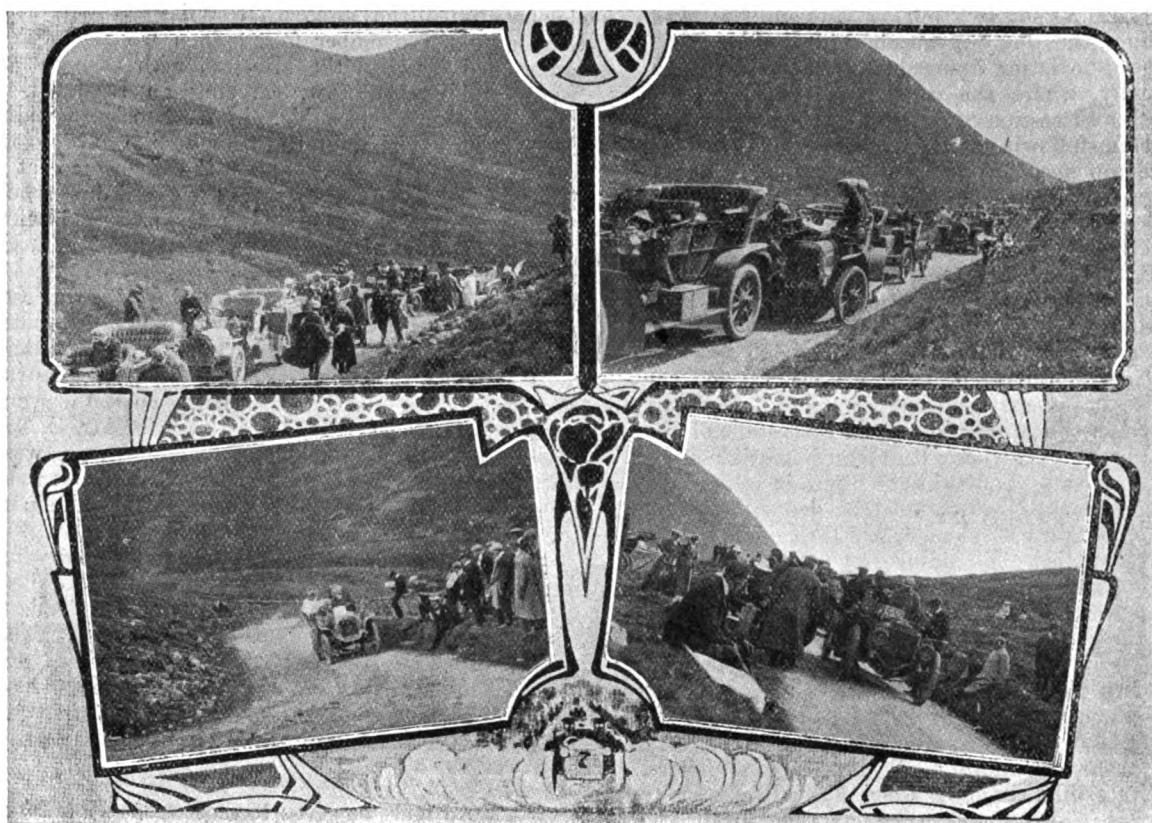
All this delay led to the discovery that the first car had stopped ere its time. This nasty bit of a hill with an awkward bend and a stiffish gradient just where least desired was but the way to the test. It proved tougher than that of the timed distance, and some of the cars nearly made good "copy" for the representatives of the daily press thirsting for news of accidents rather than incidents, and inspired with the one hope of being left alive to tell the tale. One car jibbed near the top; the Mass was going up well behind, and to avoid collision the driver, Mr. A. F. King, had to back gently into the bank, where it tilted over, ejecting the passengers and rendering the observer unconscious for awhile till the car was righted, and he was able to resume his journey. Immediately behind was a car of Scotch production. The driver saw the Mass falling on one side and nearly jumped the precipice on the other in avoiding contact. The drivers assembled on the Bridge of Avon speculated as to the prospects, especially when the six-cylinder Humber stopped at the steepest part, enabling at least one photographer to secure a good picture of Mr. T. C. Pullinger under uncongenial circumstances. The Vinot,

replenished with petrol, took the hill and then got on to the measured distance, where we were timed as in a police trap. From the highest point there was a sharp descent to the Bridge of Brown, along which cars dropped down as into a water chute—certainly the steepest decline, with the sharpest corner of the whole tour. It was enough to try the nerves of any driver unless fully confident of his brakes. "We are all right," said Mr. Wigan, as his partner negotiated the perilous bridge and drove us in good style to the Grant Arms Hotel at Grantown-on-Spey, where we recited our worries of the day over the luncheon table, and rose, like the proverbial giants, refreshed. The last portion of the run had been over a loose road.

The rest of the journey to Pitlochry—seventy miles—was uneventful. A grand run was made by the Vinot to Aviemore and Loch Alvie, around which careful driving was necessary. After Kingussie the railway was in view most of the time,

#### FOURTH DAY.—Through Sunshine into Glasgow.

Scarcely had the dust of Killiecrankie been rubbed from the eyes of the sleepers, when the matutinal motorists disturbed the silence of Pitlochry with the rattling of cans and the cracking of jokes in the main street at five o'clock in the morning. They really arose before it was dark, for the one or two who kept vigil for the morn declared that there was light from the time they read the *M.C.J.* in a garden at 10 p.m. till the boots at the hotel awakened the motorists with a tooting and a piping of considerable vigour. No time was allowed for collecting news, but a few instances of garage treatment, reminiscent of some dark doings of the 1,000 miles trials, filtered through. While the cars were being directed to their places in the tent on the previous evening one had cannoned with the Standard and disjointed the rear cross-piece connecting the springs. "That was nothing," Mr. Leverett told us, when preparing for home in the morning, "but I had to hold my



The 10-12-h.p. Argyll ascending.

The Cars in line during the long wait.

The 28-36-h.p. Armstrong-Whitworth waiting the signal to go.

SCENES ON CAIRNWELL HILL.

separating the country in a really marvellous way. On one side of the line great forest trees rose proudly; on the other vegetation was sparse, and the double row of paling told of the ravages of the winter's snow on the bleak aspect. From that point a long gradual ascent over the Grampians commenced, with mountainous scenery all the way to Blair Athole, where we had a passing glance of Athole Castle, and saw one of Scotland's most favoured inland resorts. And then the Pass of Killiecrankie, with its wealth of vegetation, its great sides laden with trees, a beauty all its own. The horns resounded through the glen and away we sped to Pitlochry—most healthy and most picturesque spot in a country full of beauty.

The results of the day's run were excellent, and the non-stops greater than on any other day, as is shown in our table on pages 368 and 369. As for the Vinot upon which we rode, its running was a pleasant experience of ease and comfort throughout the day.

mechanician when a fellow shouldered the radiator to back the car, and in so doing raised the tubes from their bottom fastenings. But he travelled with his burst radiator, and was rejoicing later in the day with a non-stop run, using only a gallon of petrol for eighteen miles, and his car has six cylinders, it must be remembered. Mr. Leverett's was not the only case of bad treatment in the tent. The 18-h.p. Arrol-Johnston Tourist trophy car, driven by Mr. E. Robertson, had lined up for the start from Pitlochry, when, during the time allowed for replenishment, sand was discovered in the oil inlet to the crank chamber. It had evidently been placed there surreptitiously overnight, and naturally the competitor thereupon retired from the contest—a regrettable incident in a trial so full of pleasantness and good-fellowship.

For nearly a dozen miles the route of the previous day was reversed, and the grand Queen's View was opened up in full glory. Away to Blair Athole the camp of the Scottish Horse

was awakened with our hootings and pipings, and then the route of the previous day was left at Calvine and a winding road led to the hill climb at Trinafour. The measured distance was 1,378 yards in length, with a total rise of 351 ft., equivalent to an average gradient of 1 in 12.9, the steepest point being 1 in 7.5. Practically all the cars went over the hill, only one being left, the fastest in their respective classes being the 9-10-h.p. Swift (with the Adams-Hewitt a creditable second); the 14-h.p. Vulcan; the 16-20-h.p. Beeston-Humber; 20-32-h.p. Darraq, and the 30-h.p. Daimler. From the top of the hill climb to Tummel Bridge and beyond to near Kenmare the road was but a ribboned track winding in and about a great strath, with the waters of the loch as blue as the empyrean above. The scene grew in grandeur as we kept on the way, Ben Lawers and Ben More, with their snow-covered peaks, towering above the minor hills of green and other radiant hues. For miles we had the road to ourselves, and only a sister Argyll passed by. At Killin we got into a procession of cars, and the joy of Nature was dulled with its dust. The Falls of Dochart had nearly dried their tears, and still turning and twisting, striving and straining at ascents and declines, the dusty cavalcade dashed on, one or two cars being guilty of deviating from rules. And so on through Tyndrum to Dalmally, where the road narrowed to a mere strip of a track, with a succession of "dromedaries," hump succeeding hump, and bump following bump, as though an Irish road was being rushed at top speed. Turn followed turn, each one more angular than its predecessor, culminating in a steep winding descent leading to Dalmally, where such a royal welcome was given the motorists last year. Then it was the place for lunch, this time but an incident of the way. A long descent opened out a panorama of entrancing beauty. Loch Awe slumbered peacefully before us, and lordly hills towered all around, clad with verdant beauty. Proceeding due south, a well-wooded glen led to the arch by which we reached the shadow of the Castle at Inverary and the shores of Loch Fyne. There we rested awhile, and prepared for the last stage of the journey. Mr. Campbell Muir, whose Highland home is not far away, met the early arrivals—a picturesque figure in kilts.

The next stage included the treacherous descent through Glen Croe, a dark mountain pass along which the cars zigzagged with brakes sternly applied. Rounding the loch a steep rise began at Cairndon, and the road went up through Glen Kinglass towards Ben Ime, towering 3,000 ft. Then came, to the uninitiated, one of the great surprises of the Trial. From the faithful programme, which never erred in detail, it was clear we were going towards a place indicated as "Rest and be Thankful." Some of the wayfarers thought it indicated a mountain spirit, or mountain dew. Alas! it was but a stone recording something or other about a mountain road. But, horrors! There, down on the left, steadily creeping along a road practically hidden to view, was a car, and then another, until the descending hillside seemed alive with moving heads that glided among the brown earth like ants over a mound. Twenty yards beyond the stone was an acute angled roadway the other side of which jerked back into the mountain side and then zig-zagged to a perilous descent. Mr. Muir had come to see the fun; near the top of the ascent one car had nearly stuck, with the result that those following had to take care; the last in the procession, the six-cylinder Humber, backed to the rut at the side and turned at right angles across the road. On our 14-16 h.p. Argyll we narrowly averted collision. Then boldly to the top, with the representative of the Campbells shouting "Scotland for ever!" as we rose on the back of the hill and over its shoulder to the wild pass of Glencroe with its mighty heights and lowly valleys bathed in sunshine and spread out like a map before the vision. After such an experience the quieter nature of Loch Long with its peaceful calm came as a relief, and by way of Arrochar the shores of Loch Lomond were reached, Ben of that ilk gloomily watching over the scene from the other side of the lake. The undulating run along Loch Lomond, with its frequent twists and turns, and with the stream of traffic from Glasgow, proved a strain on many of the drivers at the end of their long tour. Mr. A. E. Crowdy was steering his 15-h.p. Siddeley along the

road when a private car came alongside, and it was only his smart driving that averted a collision. Such was fortunate, for both of the Siddeleys—the 24-h.p. was driven by Mr. T. Shaw of Dundee—made non-stop runs on all four days, a consistent performance, remembering the arduous nature of the course.

Quickly passing the resorts on the loch, and noticing that the streets of Luss were laid with Crempoid—the newest of dust-laying preparations—Alexandria was reached, where we had a rousing cheer, many of the men from the Argyll works having assembled in front of that building to cheer their comrade Somerville, who drove the 14-16-h.p.—and drove it well. These men are loyal to the company; one was once asked to locate the situation of Ben Lomond to a stranger, and could only reply that "It is near the Argyll works."

Through the succeeding townships we made good pace, joining a dozen other cars in raising the dust—a dust full of strange tastes and wholly unlike the sand of Dalwhinnie or that of the Burns' country. The air was murky with smoke from the chimneys of the Clyde, and a wet mist assembled the constituent elements until the approach to Glasgow was as obscure as London in a November fog. Then we began to crawl, and sandwiched between the Minerva, with a sharp journalist on board, and the Humber, carrying an Irish wit, we entered into a race of sloth. Mr. J. W. Stocks, a whilom Gordon Bennett hero, joined in the tortoise-like procession. "Lame ducks" was the observation of the policeman at Sauchiehall Street. We scowled as well as the caked dust would allow us to vary the expression of our countenances, and, with a spurt to second speed, filed boldly into the garage; Mr. E. H. Arnott, as ever, in the premier class for appearance—thanks to a protecting wind shield—ourselves part of the dustiest, dirtiest contingent on the road, for we had kept to time and encountered all the dust raised by those who hastened out of their order, as well as by a Darraq that marked the conclusion of its run by slicing off a piece of the Martini mudguard, an act of vandalism that seemed likely to arouse a protest from Mr. E. G. Williams, a director of the Martini Company, whose driving was one of the features of the Trial. He did it for fun—just to see Scotland. He saw Scotland, and is not likely to again take part in such a test; it is not all fun.

And the crawl back to the beginning was perhaps the most undignified ending that could be imagined to such a glorious tour of the land of the mountain and the flood, especially as sixty-seven out of the seventy-nine starters returned unscathed from the contest.

During the day there were forty-three non-stop runs and a couple of withdrawals; the 14-17-h.p. Scout after an exceedingly good record had to give up, and the 20-24-h.p. Horbick also.

#### WHERE CREDIT IS DUE.

A word must be given to those responsible for the organisation of the event. Those who participated in the first of these runs knew that the arrangements would be perfect and that there would be no flurry or excitement. The hon. secretary of the Western section of the Scottish Automobile Club delights in the intricacies of the organisation of such events, and the calculations incidental to the performances of eighty cars on hill climbs and the apportionment of marks for various points is a delight to his mind. His capacity for ubiquity is unlimited, and he seemed to be everywhere, never losing the urbanity of deportment that is as natural to him as devising formulæ and doing the work of a dozen committees. And so he is mentioned first. Mr. John Adams was an insistent starter, succeeding in getting everyone away in good time, being assisted by Professor Archibald Barr and Mr. H. M. Napier. Mr. J. M. Ross had an equally arduous task as rear marshal, following the laggards and despatching news to headquarters of those who fell by the way. Messrs. J. Cranb and J. B. Talbot-Crosbie were responsible for the commissariat arrangements, particularly excellent at Blairgowrie, Inverary and Grantown. At the various hill climbs we noticed Messrs. J. R. Nisbet, J. Hunter Steen, C. J. Campbell Steen, L. C. Seligmann, W. Weir, Young and Mackenzie. The timekeepers were Messrs. Bartleman, J. Russell, Swindley and W. Wilton.



Messrs. Bristow and Napier acted as motor-cyclist scouts, doing infinite work in a minimum of time; and at Edinburgh and Glasgow the Right Hon. Sir J. H. A. Macdonald, K.C.B., the Lord Justice-Clerk of Scotland, gave legal welcome to the motorists. But inspiring and directing all was the organising genius, who never tired of answering questions and directing events.

With regard to the tyre troubles, some interesting notes may be made from a review of the performances of the various cars. On the first day nine cars were delayed for this cause, thirteen on the second, five on the third, and only two on the fourth. Class five seems to have escaped with conspicuous success, as only one of the eleven cars in that category had a puncture. In Class 1, however, only two of the seven vehicles went through scatheless so far as tyres were concerned, despite the fact that they were fitted with non-skids of a certain make. The Albion's experiment of providing the solid tyres of the North British Rubber Co. for the back and Dunlops on the front wheels was a success, as was also that of the Straker-Squire in having Continental and Michelins on front and back respectively. The Kelvin car, which, but for a delay at the Devil's Elbow, would have made an absolutely non-stop run, had Gaulois tyres, which behaved

## SCOTTISH NOTES.

ON Tuesday the sun beamed out with a very hot welcome, and those compelled to spend some time in the fine garage of the Western Motor Co., in Berkeley Street, Glasgow, found work extremely unpleasant. Away at Edinburgh a cooler atmosphere with regard to motor matters prevailed. The Association of Tramway and Light Railway Officials was in progress, and the Edinburgh Corporation was practically invited to prohibit the competition of motor-buses with tramways in the Scottish capital, while it was decided to take no action with reference to a letter from the Motor Union calling attention to the danger to the public from the manœuvring of tramcars going in and out of depots.

ACCORDING to some of the Press the entries included a 24-h.p. St. Alban and a Pip car. The gradient on the Cairnwell Hill, just below the Devil's Elbow, was said by one correspondent to be one in seventy-five.

ALTHOUGH marked down on the report of the first test run in the Scottish reliability trials for a two minutes' stop in order



By the Shores of Loch Fyne—The 30-40 h.p. Belsize preparing to leave Inverary after lunch.

splendidly, as did also the Shrewsbury and Challiner tyres on the Arrol Johnston dogcart. On the Belsize, driven by Mrs. Riley, the Moseley tyres did well, and the Argyll which did a non-stop run had Le Persan tyres. Of the others in the trial due recognition must be given to the Continental tyres, which certainly had the smallest proportion of punctures of those which figured prominently on the cars. For the assistance of any who might require help—and they were singularly few—Mr. P. Brodtmann had organised relays of tyres and men at various points almost resembling the elaborated arrangements of a great Continental race. Mr. F. C. Baisley was equally ubiquitous in the interests of his well-known firm.

EXAMINATIONS for the A.C.G.B.I.'s driving and mechanical proficiency certificates are held every Wednesday at 119, Piccadilly, W. Each candidate for the paid driver's certificate is required to answer ten questions on the law affecting motor-cars, and five questions on mechanism. He has also to undergo a strict driving test in traffic, during which he must demonstrate his ability to control his car in any emergency.

to clean a plug, we are informed that No. 71, the 20-24-h.p. Talbot car, went through the entire trials without a single involuntary stop. In addition the car made good time on all the hill climbs, and thus followed up the successes scored recently by the Talbot in the Frome's Hill climb and the Edinburgh to Glasgow non-stop competition.

DURING last week several motorists called at the works of the Acme Rubber and Tyre Co., 343, St. Vincent Street, Glasgow, which are well equipped for the repair of every kind of motor tyre. All repairs which leave the Acme Works are guaranteed for three calendar months or 1,000 miles.

MESSRS. ROBERT TAYLOR AND SON, of Bannockburn, are running a motor-car from Stirling to the Ochil during the season.

A DEPOT for the sale of Swineheart concave solid tyres has just been opened by the Swineheart Tyre and Rubber Company at 117-119, Long Acre, London, W.C. The tyres are made to fit any form of Clincher rim.

## THE SCOTTISH TRIAL—THE PERFORMANCE OF ALL THE CARS IN THE EVENT.

Car.		Car's weight unladen.	Driver.	First Day—Performance.		Hill.	Second Day—Performance.		Hill.	Third Day—Performance.		Hill.	Fourth Day—Performance.		Hill.
No.	Class.			Time.	Remarks.		Time.	Remarks.		Time.	Remarks.		Time.	Remarks.	
CLASS 1.															
21.	8-h.p. Rover	12 2 0	R. L. Jefferson...	N.S.	2	N.S.	2	N.S.	6	3	Stop, 1 min.	...	6	...	...
22.	6-h.p. Rover	10 0 17	J. Gibbon	Tyres, 5 min.	6	Ignition; water, 2 min.; hills, 5 min.; with drawn owing to broken steering gear.	1	N.S.	1	...	...	...	...	...	...
25.	9-10-h.p. Swift	14 1 14	R. H. Every	N.S.	1	Tyres, 11, 14, 10 min.	3	Tyres, 14 min.	3	1	Engine stop, 1 m.; tyres, 7 m.	1	1	...	...
41.	9-10-h.p. Adams-Hewitt	14 1 14	R. R. Smith	Engine stop, 1 min.	3	Carburettor, 7 min.	5	N.S.	5	5	N.S.	5	2	...	...
45.	9-10-h.p. Cadillac	11 2 8	F. S. Bennett	Tyres, 27 min.	4	N.S.	4	N.S.	4	4	N.S.	4	4	...	...
65.	8-h.p. Maxwell	11 2 8	F. W. Peckham	Tyres, 16 min. & 23 min.	5	Commutators, 3 min.	2	Engine stop, 9 min.; tyres, 23 min.	2	2	Replenishing lubricator, 1 m.; eng ne stops, etc., 23 min.	2	5	...	...
69.	14-h.p. Pope Tribune	16 0 0	W. R. Bell	Fan belt, 4 min.; compression tap working, open, 3 min.; changing plug 8 min.; choked carburettor, 10 m.; refilling water tank, 1 min.; replacing air tube, 24 min.	7	Ignition, 12 min.; tyres, 73 min.	7	Ignition, 12 min.; tyres, 73 min.	7	6	...	6	3	...	...
CLASS 2.															
*2.	16-h.p. Allion	22 2 14	D. M. Sharp	N.S.	9	N.S.	8	N.S.	8	10	N.S.	10	9	...	...
4.	12-15-h.p. New Arrol-Johnston	21 3 0	E. A. Rosenheim	N.S.	5	Adjusting clutch, 4 min. tyres, 24 min.	4	N.S.	4	6	Stop, 1 m.	...	3	...	...
*12.	10-12-h.p. Coventry-Humber	19 1 0	—	N.S.	2	N.S.	12	N.S.	12	3	N.S.	...	2	...	...
14.	10-12-h.p. Argyll	19 3 7	J. L. MacLachar	Puncture 20 min., replacing burst tube 23 min.	14	Engine stop, 1 min.	10	N.S.	10	11	N.S.	...	13	...	...
28.	10-h.p. Darracq	16 2 0	A. Brown	N.S.	7	Ignition plug, 5 min.; engine stop, 1 min.	5	Tyres, 10 min.	5	8	N.S.	...	6	...	...
40.	16-h.p. Kelvin	16 2 21	W. M. Bergius	N.S.	6	Stuck on hill, 15 min.	7	N.S.	7	9	N.S.	...	7	...	...
54.	14-17-h.p. Scout	18 2 0	J. P. Dean	N.S.	8	Driving, 3 m.; hill, 1 m.	6	N.S.	5	5	N.S.	...	10	...	...
66.	16-h.p. Maxwell	16 2 14	P. Cox	N.S.	11	N.S.	6	N.S.	12	12	N.S.	...	11	...	...
68.	10-h.p. Alldays	13 2 10	E. R. Bell	Driving stop, 1 min.	4	Hill stops, 3 min.; tyres, 55, 20 min.	9	N.S.	7	7	Engine stop, 1 min.	...	4	...	...
70.	14-h.p. Vulcan	20 3 21	T. Rimmer	N.S.	1	Commutator, 4 min.; tyres, 15 min.	1	N.S.	2	2	N.S.	...	1	...	...
75.	12-14-h.p. Scottish Aster	21 2 0	J. McLean	N.S.	12	Shed passengers, 2 min.	11	Shed passenger, 1 min.; Repairing brake, 5 m.; over- hauling engine, plugs, etc., 12 min.; repairs, 16 min.	13	13	Shed passenger, 1 min.	...	12	...	...
77.	12-14-h.p. Victoria	18 3 7	J. W. Benzer	Engine stop, 5 min.	13	Carburettor ignition, etc., 172 min.	13	N.S.	4	4	Tyres, 32 min.	...	5	...	...
80.	16-h.p. Reo	16 3 8	H. G. Sharp	Gear refused to engage on hill 6 min., adjusting spring 3 min., engine stop 1 min.	3	Delay starting, 1 min.	2	Ignition, 1 min.	2	4	Tyres, 32 min.	...	8	...	...
82.	10-h.p. Argyll	16 0 14	Major Fraser	Tightening water connect n 1 min., drying stop 1 min., screwing up grease lubri- cator 2 min.	10	Engine stop, 3 min.; driving, 1.	3	N.S.	1	1	Jammed brake, 5 m.; bat- tery, 5 m.; gear, 7 m. and 2 min.	...	5	...	...
5.	12-h.p. Arrol-Johnston Dogcart	21 3 7	C. Robertson	Cleaning air lever, 1 m.	20	N.S.	16	N.S.	17	17	N.S.	...	20	...	...
CLASS 3.															
10.	16-20-h.p. Beeston-Humber	23 2 0	T. C. Pullinger	N.S.	3	Tyres, 16 min.	3	Tank troubles, 7 min.	13	13	N.S.	...	1	...	...
*11.	15-h.p. Darracq	22 2 2	H. Kennedy	N.S.	13	N.S.	4	N.S.	3	3	N.S.	...	4	...	...
*13.	16-20-h.p. Sunbeam	23 0 10	F. Eastmead	N.S.	12	N.S.	10	N.S.	9	9	N.S.	...	6	...	...
15.	12-14-h.p. Argyll	21 2 14	W. M. Wallace	Engl. e stop on hill, 1 m.	19	N.S.	15	N.S.	14	14	N.S.	...	19	...	...
16.	14-16-h.p. Argyll	21 3 10	J. Somerville	N.S.	15	N.S.	13	Choked carburettor and seized valves, 45 min.	10	10	Stop, 1 min.	...	12	...	...
*17.	16-20-h.p. Argyll	25 1 3	W. R. Shirress-Gordon	N.S.	7	N.S.	7	N.S.	6	6	N.S.	...	14	...	...
*8.	15-h.p. Siddeley	23 3 7	A. E. Crowley	N.S.	6	N.S.	6	N.S.	5	5	N.S.	...	8	...	...
*19.	14-22-h.p. Germain	20 3 0	H. Ramsay	N.S.	5	N.S.	2	N.S.	2	2	N.S.	...	3	...	...
30.	22-h.p. Minerva	23 0 7	E. H. Arnott	Changing sparking plug, 5 m.	2	Ignition plug, 6 min.	5	Tyre, 2 min.	4	4	N.S.	...	5	...	...
35.	18-24-h.p. Courier	23 3 10	A. E. Gibbons	N.S.	11	Withdrawn, broken bolts to engine rods.	11	N.S.	11	11	N.S.	...	11	...	...
*37.	15-h.p. De Dion	24 3 4	J. W. Stocks	N.S.	18	N.S.	11	N.S.	12	12	Carburettor trouble, 2 min. shed passengers at heat and be thankful for 20 yds.	...	11	...	...
42.	14-20-h.p. Vinot	24 3 14	G. Usmar	N.S.	10	Tyres, 24 min.	14	Loss of petrol, 5 min.	12	12	Carburettor trouble, 2 min. shed passengers at heat and be thankful for 20 yds.	...	10	...	...
44.	16-20-h.p. Cherard and Walcker	21 0 14	J. A. Paddock	N.S.	17	Hill, 9 m.; Carburettor, 2 m.	17	N.S.	16	16	Engine stop, 6 min.	...	18	...	...
49.	18-22-h.p. Speedwell	22 1 0	M. L. Brailhwaite	N.S.	8	Withdrawn, broken differential.	17	N.S.	16	16	Engine stop, 6 min.	...	18	...	...
*53.	12-16-h.p. Wilson-Pitcher	24 1 0	G. H. Slaney	N.S.	14	N.S.	8	N.S.	8	8	N.S.	...	7	...	...
57.	20-22-h.p. Mobile	25 3 14	L. Antweiler	Examining water circulation, 1 min.; examining air lock and refilling water, 40 min.	9	Tyres, 23 min.	12	Engine stop, 1 min.	7	7	N.S.	...	9	...	...

61.	24-h.p. Mass	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...</
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## CONTINENTAL NOTES.

### The Paris-Tourcoing Industrial Vehicle Trials.

The trial of industrial motor vehicles, organised by the Automobile Club du Nord de la France, was brought to an end on Tuesday last week. Out of the twenty-five vehicles which started, the following seventeen completed the seven daily runs within the allotted time:—Class 1.—12-24-seated public service cars: Delahaye. Class 2.—Double-deck buses: Brillié I. Industrial vehicles:—Class 1.—Tri-cars carrying up to 50 kilog.: Three Contals and three Australs. Class 2.—Commercial vehicles for loads from 1 to 2 tons: a Clement-Bayard and a Latil *avant train*. Class 3.—Ditto from 2 to 3½ tons: an Aries, a Brillié, a Latil. Class 4.—Ditto, 3½ tons and over: a Latil, a Prunel, a Peugeot, a Brillié. The Latil Company wins the Regularity prize of the A.C. du Nord for successful cars in three different categories; and the Brillié Company carry off the Ministry of Commerce prize for a vehicle utilising carburetted alcohol as fuel.

### La Coupe de France.

The Paris daily "Le Matin" is organising a tour of France for touring-cars, starting from Dieppe, encircling France in twelve stages of about 200 miles each, and returning to Paris.

will be open to motorists on Sunday, Tuesday, Wednesday, and Friday. On the other days animal traffic alone will be permitted. July and August.—Open to motor traffic each day except Thursday. Motor-cars will not be allowed to cross the pass at night. Permits must be obtained from the gendarmerie at Bregue or Gondo, and the time occupied must not be less than four and a half hours.

### A Belgian Trial of Industrial Vehicles.

The Belgian Automobile Club has decided to hold a trial of industrial vehicles in October next. The event will comprise three daily runs: (1) Brussels-Antwerp; (2) Antwerp-Ghent, and (3) Ghent-Brussels.

### A German Light Car and Motor-Cycle Trial.

The German Motor Cyclists' Union is organising a reliability trial for motor-cycles and light cars to be held from July 5th to 7th. The event will be over a 560-mile course in South Germany, the first day's run being from Munich to Karlsruhe, 212 miles; the second, Karlsruhe-Wurzburg, 169 miles; and the third, Wurzburg-Munich, 179 miles. Full particulars of the test may be obtained from the Secretary of the D. M. V., 2, Victoria Strasse, Munich.



The Meet of the Hereford Automobile Club at the opening of Mr. J. Fryer's large new Motor Garage at Leominster.

The event is to be held in August next, and the amount to be devoted to prizes will not be less than £1,000.

### French Competitors in International Events.

With the view of protecting the interests of French motor-car builders, the Committee of the A.C.F. has decided that the rules and regulations of all automobile contests organised by foreign countries shall be examined by the competitions committee, and a notice issued by the club to the trade that such contest has been found to be in order and is approved, or otherwise. One condition of the approval is that the automobile club organising the event shall permit the A.C.F. to appoint a representative, who, while not having the right to vote, shall look after the interests of the French entries. The right to appoint a representative in connection with contests held by the A.C.F. will in return be extended to all recognised national clubs.

### Motoring Over the Simplon Pass.

The Simplon Pass over the Alps has at last been opened to motorists, and the Swiss authorities have made the following regulations for such traffic:—June and September.—The pass

### An Italian Hill Climbing Competition.

The Automobile Club of Florence is organising a hill-climbing competition over a fifteen kilometre course on the Pontassieva-Consuma road for the 22nd July. There will be classes for (1) cars from 650 to 1,000 kilogs.; (2) light cars from 400 to 650 kilogs.; (3) Voiturettes from 250 to 400 kilogs. and (4) motor-cycles.

### Miscellaneous.

An automobile club has just been formed at Agram, Bohemia.—Attributing his defeat at the last French elections to the frequent break-downs of his motor-car, a candidate has brought an action against a Paris motor manufacturer, and claims £400 damages.—Fourteen entries have so far been received for the Circuit des Ardennes; they comprise four each Panhard and Mercedes, and three each Darracq and Gregoire.—It has been definitely decided to postpone the Circuit European until next year.—The "Auto" proposes to hold an international competition of industrial vehicles in March, 1907.—It has been decided that this year's race for the Florio Cup shall be held on September 2nd, on the Brescia-Castiglione-Lonair-Brescia Circuit.

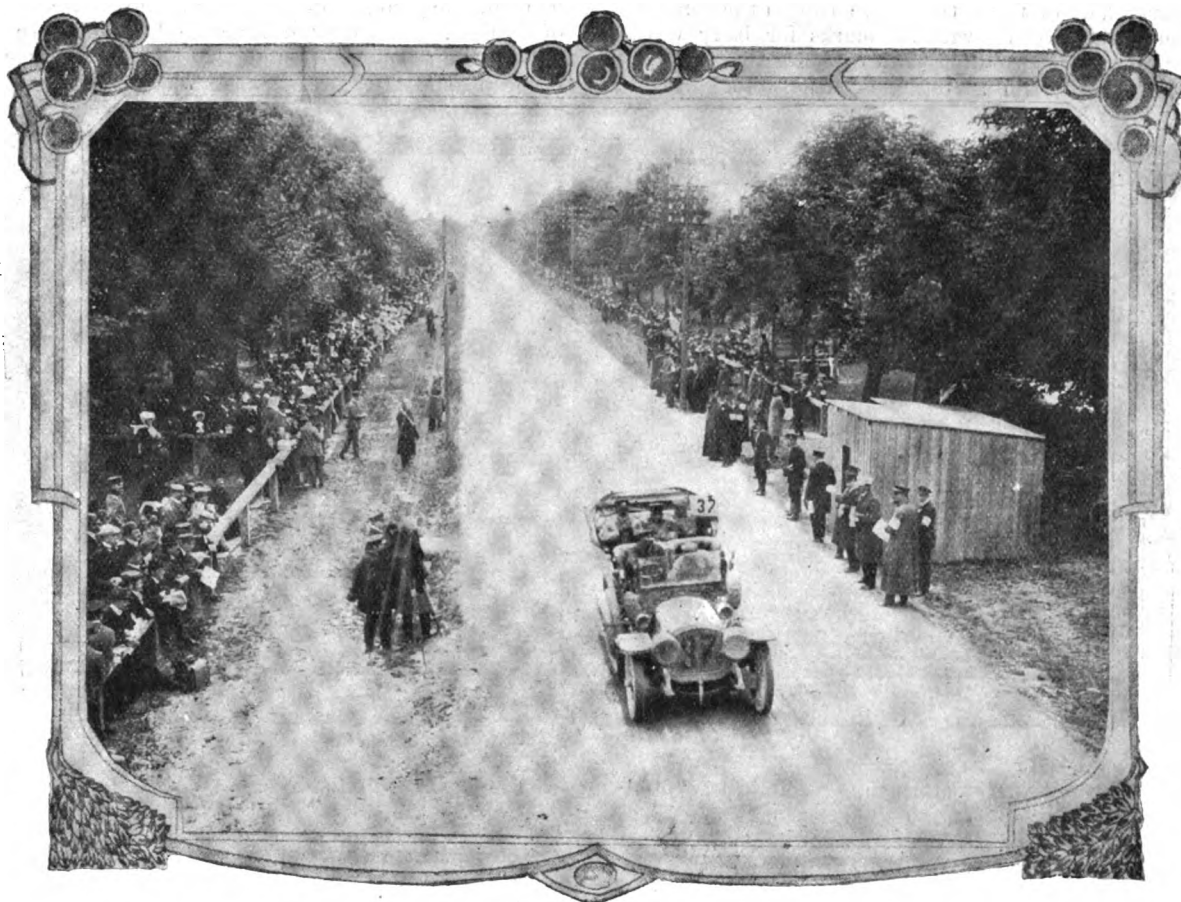


# The Herkomer Trophy Touring Contest.

IT might have been thought that, with a flying start three mile race on a level alone to do, there would be nothing very dramatic at the finish of the second international competition for the Herkomer trophy; but the event proved otherwise, for when the small cars came to be run down the course it was found that if the 90-h.p. Mercedes racer was to win against the 18-20-h.p. Horch on the handicap the former would have to travel at a speed of about 300 kilometres, or nearly 190 miles an hour. As for the legitimate touring cars, such as the 45-h.p. Daimlers, the handicap expected them to run at about 160 to 170 miles an hour each. Truth to tell, the officials of the Club were more dismayed at the appalling discovery that the competition had been rendered a *fiasco* than the competitors themselves were annoyed at the

of last week, the order of the first eleven being as follows:—1, Dr. Rudolf Stoss, 18-20-h.p. Horch; 2, Emil Neumaier, 40-h.p. Benz; 3, Willy Poge, 60-h.p. Mercedes; 4, Heinrich Opel, 22-h.p. Opel-Darracq; 5, K. Neumaier, 40-h.p. Benz; 6, Weingand, 70-h.p. Mercedes; 7, T. Dreher, 90-h.p. Mercedes; 8, G. H. W. Uren, 20-h.p. Priamus; 9, A. Horch, 40-h.p. Horch; 10, A. Grigg, 35-h.p. Daimler; 11, Mrs. Manville, 35-h.p. Daimler.

The Herkomer Trophy thus passes from Herr Ladenburg to Dr. Stoss, while the others mentioned above will receive commemorative plaques. Mrs. Manville was, in addition, given a special prize, which took the form of a solid silver highly ornate vase partly worked in silver gilt. Gold medals were also awarded to the following competitors:—Spitzner, 60-h.p. De Dietrich; Lord Montagu of Beaulieu,



The Speed Trials in the Forstenrieder Park, Munich.

revelation. How such a handicap can possibly have been drawn out is hard to tell, because from the facts available in the way of previously published data the impression had got abroad that the allowance was appreciably in favour of the high-powered cars. It has since been learned that in place of drawing up the curve for the speed formula by actually taking cars of various types over the course, the work had been entrusted to a professor of mathematics, who was evidently good at theorising but hopeless at realising, hence the task already outlined. In the circumstances, comparatively little interest attaches to the results achieved in the tests. Therefore it will suffice to record that on the handicap the three best performances in the Forstenreider Park were made by Dr. Rudolf Stoss's 18-20-h.p. Horch, by Herr Carl Westphal's 16-18-h.p. Ge'main, and by Herr Georg Betzin's 18-20-h.p. Horch, in the order named.

The result of the contest was made known on Wednesday

45-h.p. Daimler; Von Reinhardt, 60-80-h.p. Metallurgique; Tischbein, 60-h.p. Benz; Dahmen, 60-h.p. Benz; Schmitz, 50-h.p. Benz; Haase, 40-h.p. Adler; Hesselberger, 60-h.p. Leon Bollee; Marchal, 35-45-h.p. Renault; Brauda, 30-40-h.p. Darracq; Mathis, 40-h.p. Fiat; Prince Henry of Prussia, 40-h.p. Benz; Roth, 40-h.p. Benz; B. Flinsch, 45-h.p. Mercedes; Dreher, 45-h.p. Mercedes; Weiss, 40-h.p. Benz; Jurgens, 28-h.p. Benz; Aschoff, 40-h.p. Metallurgique; Count Arco, 28-32-h.p. Mercedes; Comerell, 28-32-h.p. Mercedes; Kaldi, 28-h.p. Benz; Wandesleben, 24-h.p. Adler; Frankenberg 20-h.p. Clement-Bayard.

Out of the 133 cars which started from Frankfort, 97, or about 73 per cent., completed the whole trial under the conditions laid down in the rules, including the 16-20-h.p. Argyl driven by Mr. Robertson-Grant, whose vehicle, while it did not succeed in getting among the prize winners, made an excellent

showing. The winning car is the product of Messrs. A. Horch and Co., of Zwickau, and it is noteworthy that not only did the three vehicles entered by this firm survive the difficult contest, but all distinguished themselves, Dr. Stöss's 18-20-h.p. machine securing the first place in the Forstenrieder Park speed trials, and in the general classification, Herr Horch's 35-40-h.p. the ninth place in the latter, and Herr Betzin's 18-20-h.p. the third position at the Forstenrieder Park.

In reviewing the second annual motor-car competition organised for private owners for the Herkomer Trophy, the subject resolves itself into a number of points, some of them to be pondered, but the bulk mere reflections of an entirely pleasant sort. The barefaced manner in which the regulations with regard to the coachwork of the competing cars were flouted is one of the most regrettable parts of a competition initiated by a distinguished artist, whose whole and sole aim is to encourage the production of the most desirable and eminently legitimate design of horseless carriages for private use. It is no exaggeration to say that no self-respecting citizen of any of the chief countries of Europe would be seen riding along in such unfinished productions as nearly half of those that were run in the contest. There is a difference between awarding marks for body work and remaining practically indifferent to the subject. For instance, as the competition is designed wholly for private

call one of his fellows to make some repairs to vital parts of the mechanism under his instructions, while he posed as a controller making due note of the same. Again, in the timed hill climb those competitors who did not carry four persons in all had to carry sandbags each to represent a person not carried. These were put on board at the starting line, but no examination took place subsequently. It is somewhat interesting to note that some of these sandbags were found cast on the roadside on the Semmering Pass, within comparatively a short stage, but just out of sight of, the timekeeper's box. Even in lesser matters it was observed right from the outset that no two controllers acted alike, and that few of them seemed to know anything about the rules. It is not easy to know exactly how to help the committee out of the difficulty in this matter. It would appear that the best way would be to issue no rules whatever to the Observers, but merely to instruct them to make note of all that happens and keep them in entire ignorance as to whether the stoppages or incidents involve penalisation or not. Apart from these matters the competition has been fruitful of a store of pleasant incidents that will be happy memories for years to come. Throughout it all one felt the genial and gentlemanly influence of Prince Henry of Prussia. Not only did he do his own tyre pumping and replenishing, but also found any amount of time to look after other people. In particular he was unfailing in his attentions



Mrs. Manville on the Brenner Pass.



Some of the Daimler Party at the Foot of the Bavarian Alps.

[Photos by Capt. David Hughes Morgan.]

owners as against professional motormen, a committee should have laid down the rule that, though no marks could be gained by bodywork, by whatever degree the *carrosserie* failed of being handsome and comfortable it should be docked in marks. The adoption of a policy like this would entirely have frustrated the undesirable action of such entrants as the owner of the 90-h.p. Mercedes racer which, by a mistake by one of the officials, was allowed to run and has actually been awarded seventh place in the competition, though it had only a bent rod as a step to the front seats, while the tonneau was a caricature, the whole having merely had a wash of grey paint. Several other equally flagrant examples might easily be cited, but that one will suffice.

It is understood that next year any car that emits vapours or ill odour, or which is noisy, will be penalised accordingly, and this is essential if the aim of the donor of the trophy is to be kept in view, and a legitimate type of touring car is to be encouraged. Lastly, we come to the most regrettable feature of all, and one over which the committee have practically no control. We refer to the conduct of the honorary Observers appointed by the Club, and to the cheating that took place. As examples, it may be mentioned that in the Exhibition Hall at Vienna a mechanic was deliberately seen to go up to a car, take an Observer's badge off an overcoat, pin it on his own arm, and

to the British competitors. Being the only lady competitor Mrs. Manville naturally received a great deal of attention, the committee presenting her at the finish with a superb wreath six feet in diameter and decorated with broad ribbons, one of each of the three national colours of the clubs represented, viz., the German, Bavarian, and the Austrian.

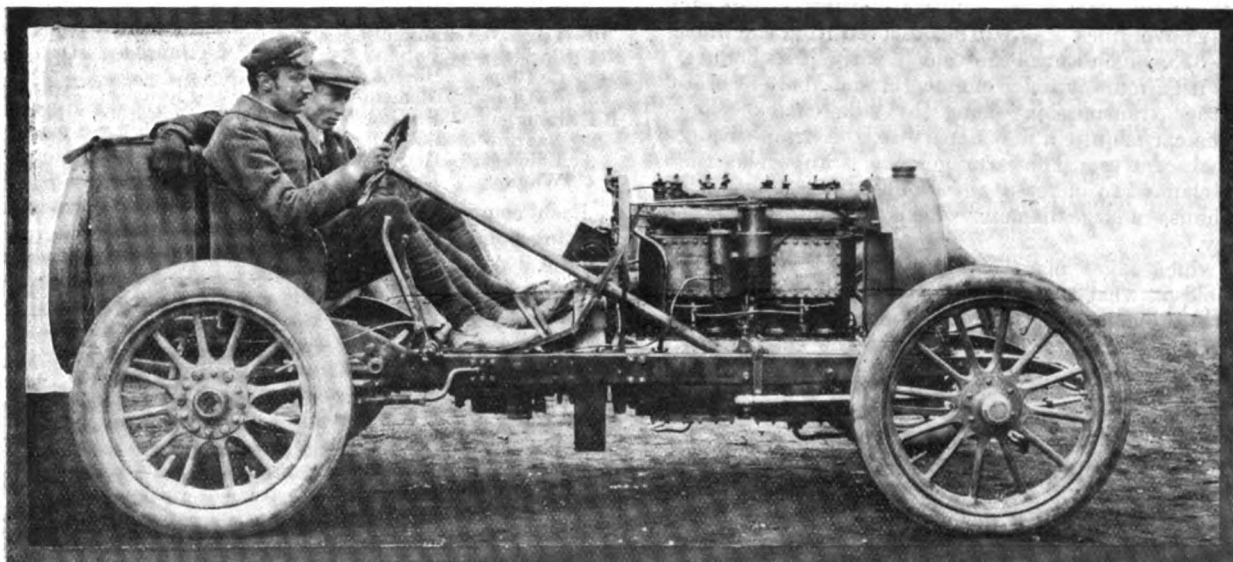
FROM Messrs. Jarrott and Letts comes a neatly got up booklet containing an interesting description of Mr. Charles Jarrott's recent run from London to Monte Carlo on the 40-h.p. Crossley car, together with some illustrations and a map of the route taken from Boulogne.

A COMPANY to be known as the Newman Hydraulic Motor Car Company, Ltd., is being formed in Sydney with a capital of £10,000, to purchase the rights of an Australian invention for propelling by hydraulic pressure motor vehicles of every description, from the very small car to the traction wagon, including motor-buses, with the object of selling or otherwise dealing with such rights in London. The invention is said to entirely do away with the present inefficient transmission mechanism, comprising the clutch, shafts and change-speed gears, and substitutes an hydraulic piston gear of extreme simplicity.

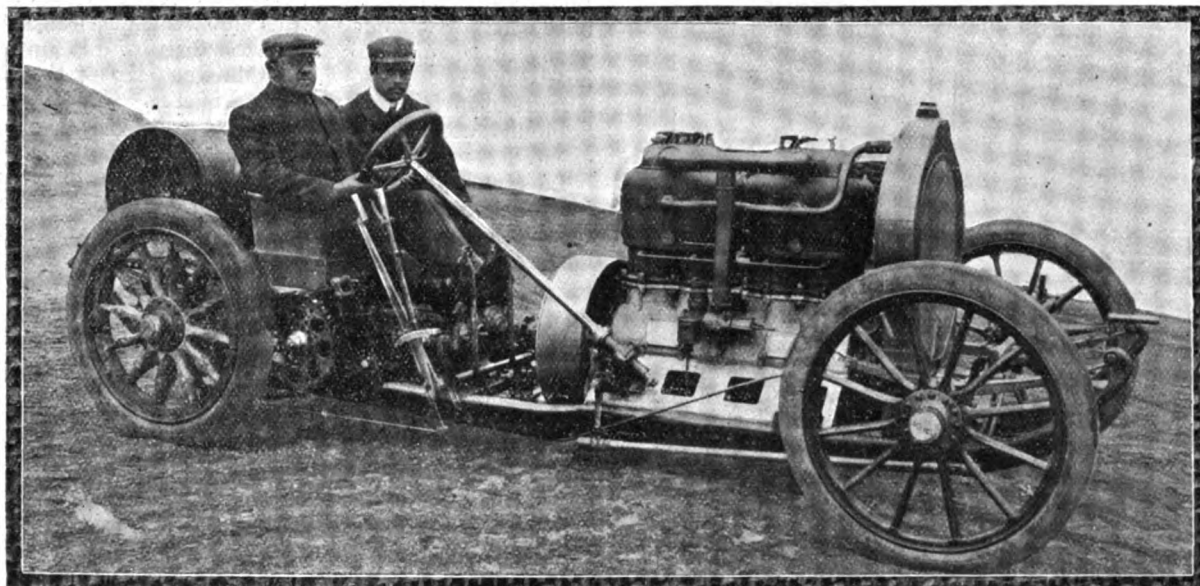
## THE A.C.F. GRAND PRIX RACE.

THE great event of the coming week is the Grand Prix race organised by the Automobile Club de France in substitution of the Gordon Bennett contest. The discussion which led to the change has already been detailed in these columns, so that it need only be stated that the main object of the A.C.F. in bringing about the new contest was to secure for French manufacturers an opportunity of a larger participation in the race than was possible in the Cupevent, it being considered that they were entitled to this by reason of the importance of the motor-car

Country.	Cars.	Drivers.	H.P.	THE COMPETITORS AND THEIR CARS.	
				Bore and Stroke.	Transmission.
				mm.	
France..	3 De Dietrich	Gabriel, Rougier and Duray	130	185 by 180	chains
Italy ..	3 Fiat	Fiat, Nassaro and Weisschott	110	180	"
France..	3 Renault	Siez, Edmond and Richez	105	165	cardan
" ..	3 Darracq	Hemery, Wagner and Hanriot	125	180	"
" ..	3 Brasier	Paras, Bariller and X.	110	145	chains
Germany	3 Mercedes	Jenatry, Mariaux and Florio	125	185	"
France..	1 Gobron	Rigolly	110	140	"
Italy ..	3 Itala	Cagno, Fabry and De Caters	110	180	cardan
France..	2 Gregoire	Tavernaux and De Bosch	70	140	"
" ..	3 Panhard	Teste, Heath and Tart	130	185	170
" ..	1 Vupe	Barriaux	130	180	chains
" ..	3 Hotchkiss	Le Blon, Salleron & Shephard	125	180	cardan
" ..	3 Clement-Bayard	A. Clement, Vilemain and De la Touloubre	125	140	160



Tavernaux on the 70-h.p. Gregoire Racer he will drive in the Grand Prix.



Barriaux at the wheel of the Vulpes Racer.

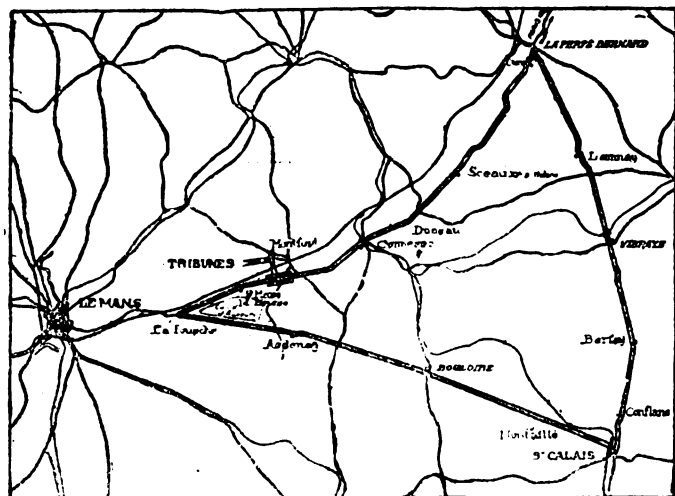
industry in France as compared with other countries. From the appended list of thirty-four entries it will be seen that as a result of the change the international character of the race has been considerably reduced, for while six countries were represented in the 1905 Gordon Bennett, only three are participating in the Grand Prix, three German and six Italian cars being ranged against a formidable phalanx of twenty-five French vehicles. The countries which have abstained from the new race are Great Britain, Austria and America.

Contrary to expectations, none of the competing cars will be provided with six-cylinder motors, all being of the conventional four-cylinder vertical type. It is also noteworthy that magneto ignition will be employed on every car. We have already illustrated a number of the vehicles which are taking part in the contest, and this week we are able to reproduce photographs of the Gregoire and Vulpes racers which will be seen at Le Mans next week.

This is the first time the Gregoire firm have taken part in

such an important event and the behaviour of their two vehicles will be watched with interest, especially as they are the lowest powered of all the competing machines. As will be seen, they are extremely low built. The four-cylinder engines, which are rated at 70-h.p., are 140 mm. bore by 130 mm. stroke, the normal speed being 1,200 revolutions per minute. The valves are located in the cylinder heads and are operated by tappets. Ignition is by high-tension magneto and the water-circulation is by thermo-syphon, no pump being employed. The clutch is of the leather-faced cone type and the transmission is by a cardan shaft and bevel gear. Ball bearings are used throughout and shock absorbers are fitted in connection with the springs. Another new comer is the Vulpes Company, whose car is on exceedingly novel lines. As will be observed from the illustration on page 373, which shows the vehicle without its bonnet, it is provided with a four-cylinder engine 180 mm. bore by 160 mm. stroke, the transmission being by side chains. The suspension of the car is quite a new departure, the frame being below the wheel centres. The arrangement is known as the Stabilia, and is claimed to increase the stability of the vehicle and to enable the use of large diameter wheels without raising the centre of gravity.

The race, which takes place on Tuesday and Wednesday next, is being held on what is known as the Sarthe circuit, which measures 103.11 kilometres, or approximately 64½ miles. This has to be covered altogether twelve times by the competitors, six on each of the two days. The circuit is within three hours



Map of the Sarthe Circuit, on which the Race for the A.C.F. Grand Prix is to be held.

of Paris, and conveniently located as regards access by rail; it is in the form of a fairly regular triangle, one of the apices being situated about five miles outside the town of Le Mans. From this point the road goes in one direction to La Ferté-Bernard, and in the other to St. Calais. The course is made up almost entirely of straight stretches, with a road offering an excellent surface, and presenting occasional gradients that can hardly have any appreciable effect upon the speed of the machines. It has been decided that the circuit shall be covered in such a way that the turns will be to the left; the start will take place at Pont de Gennes, the route then being La Fourche, Bouloire, Saint Calais, and La Ferté-Bernard. In order to avoid the narrow streets of St. Calais, a road has been formed across some fields by laying down planks, over which the competitors will have to steer their cars. The road over the whole length of the circuit has been tarred with the view of keeping down the dust. Close upon 7,000 soldiers will be employed in guarding the course on each day of the race. Grandstands have been erected at a number of places on the course, the French and Sarthe Automobile Clubs having each a large one at Pont de Gennes, the starting point. After being closed for several weeks the circuit was once more opened on Wednesday to the racing cars, since when the

competitors have been busy practising in order to become accustomed to the corners.

The thirty-four competitors will be despatched on the first day at one and a half minute intervals in the order shown in the appended table:—

No.	Driver.	Car.	No.	Driver.	Car.
A1	Gabriel	De Dietrich.	B5	Barillier	Brasier.
2	Lancia	Fiat.	6	Mariaux	Mercedes.
3	Siez	Renault.	8	Fabry	Itala.
4	Hemery	Darracq.	9	De Bosch	Gregoire.
5	Baras	Brasier.	10	Heath	Panhard.
6	Jenatzy	Mercedes.	12	Salleron	Hotchkiss.
7	Rigolly	Gobron.	13	Villemain	Clement-Bayard.
8	Itala	Cagno.	C1	Duray	De Dietrich.
9	Gregoire	Tavernaux.	2	Weilschott	Fiat.
10	Teste	Panhard.	3	Richez	Renault.
11	Barriaux	Vulpes.	4	Hanriot	Darracq.
12	Le Blon	Hotchkiss.	5	X.	Brasier.
13	A. Clement	Clement-Bayard.	6	Florio	Mercedes.
B1	Rougier	De Dietrich.	8	De Caters	Itala.
2	Nazzaro	Fiat.	10	Tart	Panhard.
3	Edmond	Renault.	12	Shepherd	Hotchkiss.
4	Wagner	Darracq.	13	De la Touloubre	Clement-B.

Each competitor will be allowed to have two men at the starting point for the purpose of turning the engine starting handle. At the end of the first day's run the cars will be locked up in separate compartments, and access to them will not be permitted until the starting time on the second day, the time occupied in filling up with fuel and water counting in the running time. All work of this kind, as also all repairs, must be effected by the driver and mechanic. All cars finishing four hours after the leading one on the first day will not be allowed to start on the second half of the race, in which the surviving contestants will be despatched at the same intervals as those at which they finished on the first day. One of the rules provides that the competitors shall be permitted to change the drivers if desired on the second day. The weighing operation is fixed for Sunday next, the 24th inst.

Visitors to the circuit needing assistance of any sort should apply to the Secretary of the Automobile Club de la Sarthe, 7, Boulevard Rene-Levasseur, Le Mans. All the local arrangements have been carried out by this club, which has also published a handy little guide to the Sarthe district. It gives a list of hotels and restaurants in Le Mans, a map of the Circuit, and a route map from Paris to the Sarthe. The booklet should be found useful to all who propose to visit France for the event.

Le Mans, which is practically the headquarters of the circuit, is about 210 kilometres (130 miles) from Paris. The following route thereto from the French capital may prove useful to any motorist contemplating a visit to the district:—

	Kil.	Kil.		Kil.	Kil.
Paris ...	...	...	Chartres ...	8	86.
Suresnes ...	4	4	Courville ...	19	105.
Ville d'Avray ...	7	11	Champrond ...	13	118.
Versailles ...	5	16	Montlaudon ...	5	123.
La Miniere ...	5	21	Margon ...	17	140.
Dampierre ...	13	34	Aveze ...	19	159.
Les Cascades ...	6	40	La Ferté-Bernard ...	5	164.
Rambouillet ...	10	50	Sceaux ...	11	175.
Orphin ...	10	60	Connerre ...	9	184.
Gallardon ...	8	68	Saint Mars ...	10	194.
Coltainville ...	10	78	Le Mans ...	15	209.

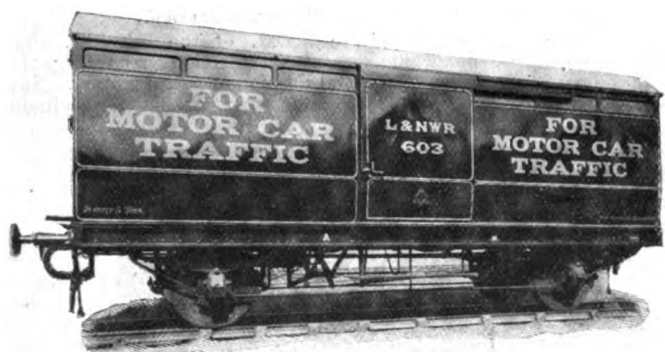
With the object of helping touring motorists with really efficient tyre repairers, Messrs. Harvey Frost and Co., Ltd., have issued enamel signs to all such repairers for exhibiting or hanging outside their business premises. The sign is only issued to repairers who have satisfied the firm with their capabilities as repairers by the H. F. vulcanising process. None but fully qualified men will be able to get a sign, so that the motorist halting at a repairer's with such a sign over his premises should get any tyre repair satisfactorily carried out. No doubt the motoring public will appreciate it by keeping the sign in mind whenever a tyre demands urgent attention, either whilst a car is in use or in the matter of general upkeep required by resident motorists in the same locality.



A MOTOR fire escape, the first of its kind in the metropolis, has just been added to the London Fire Brigade equipment.

THE County Council of Kinross intends to ask for the scheduling of Milnathort and all the villages in that county for a speed of ten miles an hour for motor-cars.

THE accompanying illustration depicts one of six special vans the London and North Western Railway Company have lately put in service to deal with the motor-car traffic. The vehicles, which were built at the Wolverton Works, are 27 ft. long by 8 ft. wide; they have double folding doors at each end, giving an opening the full width of the inside of the truck. Also, on each side at centre, there are sliding doors with 5 ft. clear opening, so that after loading the cars these doors are available to complete the security. The framing of the body



of the truck is in oak and teak, and panelled outside with planished steel plates. Over the tops of these panels and under the cornice are glass framed lights, which give a good light to the interior. The underframe, which is made of steel throughout, is mounted on two pairs of wheels of standard pattern.

FOUR-AND-A-HALF miles of new roads have been constructed on the Garden City estate in Hitchin.

THE Colonial Office is watching the results of some experiments that are being made in Northern Nigeria as to the possibility of employing motor traction there.

MESSRS. PRESTON AND CO., LTD., of Great Brunswick Street, Dublin, have recently erected fireproof stores in connection with their business in motor spirit, of which they claim to be the largest direct importers in Ireland.

ARRANGEMENTS have been completed for the "Henry Edmunds" hill-climbing trophy race, which will be held on the 14th prox. at Blackdown Park, Fernhurst, Sussex. This year the trophy will be awarded to the car making the best aggregate time for three runs up the hill.

THE Lancashire Farmers' Association, at Preston, on Saturday, adopted a resolution stating that considering the damage done to roads by motor-car traffic and the heavy expenditure entailed to meet the requirement of the traffic and the nuisance and annoyance to all others who use the roads, the Association is of opinion that a £20 licence per annum on motor-cars would not be too much.

MESSRS. SHIPPEY BROS., of King Street, London, E.C., have been appointed British agents for the Logan cars built by the Logan Construction Company of Chillicothe, Ohio, U.S.A. Both pleasure and industrial vehicles are being made, the former comprising a 10-h.p. runabout and 20-h.p. and 30-h.p. touring cars, and the latter a 10-h.p. 20 cwt. delivery van, a 30-h.p. 2-ton lorry and a 30-h.p. twenty-seated public service car. The engines fitted to these vehicles are of the opposed double-cylinder horizontal type, the 10-h.p. being air-cooled by means of a fan mounted on the crank shaft and the 20-h.p. and 30-h.p. water cooled. The change-speed gear is of the sliding pinion type, and the drive by a single centrally-located chain on to a live axle.

## HERE AND THERE.

THE Society of Automobile Mechanic Drivers has removed its headquarters to Rawlings' Garage, Halkin Street, Belgrave Square, London, S.W.

WE learn that Les Usines Prunel have secured a contract

for twenty of their Prunel motor-omnibus chassis for Alexandria, Egypt.

THE Bishop of Ripon has been elected a member of the Automobile Club.

AN order for three Critchley-Norris motor-buses has just been placed by the Rossendale Carriage Company, of Bacup.

THE Yorkshire Steam Wagon Co. have secured an order for two steam wagons for the Corporation of Richmond, Surrey.

SOME Free Church ministers from London have recently been combining a motor-car tour with a preaching mission in Devon and Somerset.

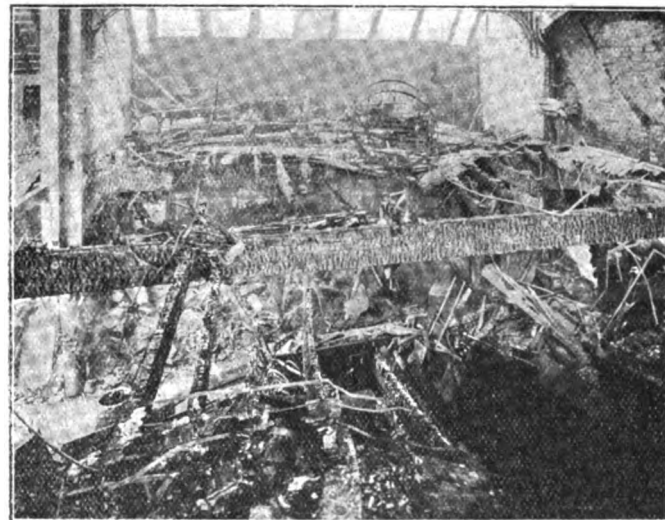
THE excellent behaviour of Palmer Cord Tyres in the Frome's Hill Speed Trials and the London to Edinburgh run was a notable feature of both events.

AT Maidenhead, on Wednesday last week, the Berks magistrates imposed penalties amounting in all to £108 on motorists for driving their cars at an excessive speed.

MR. L. H. BARNES, secretary of the Highways Protection League, says that last month 326 people were summoned for offences against the Motor Car Act, and that 275 were convicted. The odd 51 may consider themselves fortunate.

THE Masham Urban District Council intends to ask the North Riding (Yorks) County Council to obtain an order prohibiting the use of motor-cars on several roads within the area of its jurisdiction which are less than 16 ft. in width.

THE Coventry Motor Fittings Co. are having a new factory built on lines suitable to the requirements of their business. For some time past they have had considerable difficulty in coping with orders for want of room, and their new premises, when finished in September, will be three times as large as the old factory, with ample provision for further extensions.



A View of Messrs. W. & F. Thorn's Factory in Little Portland Street, W., after the Fire on Wednesday last week.

Messrs. Thorn inform us there will be no delay in carrying out orders, owing to their having several large factories in various parts of London, fitted up with modern machinery, plant and materials, also a large staff of highly skilled mechanics, most of whom have been in their employ for many years. Their large stock of seasoned timber is stored at Haggerston, and was consequently unaffected by the fire.

THE New Arrol-Johnston Company, Limited, has recently supplied a 12-15-h.p. chassis to the order of its sole agents for Northumberland and Durham, Messrs. Sanderson and Sanderson, Newcastle-on-Tyne, who have equipped it with a special body for use by a wholesale drapery firm, to carry loads up to 15 cwt. at speeds up to twenty miles per hour.

## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
27-33, Charing Cross Road, W.C.]

### STEAM CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have watched with interest for the replies to Mr. Martin's query re steam cars in the *M.C.J.* of June 2. Both Stanley and Locomobile steam cars are quite rightly commended for their good qualities for steaming, both on the level but more especially up hills, which is their strong point. For some years I have taken in the "English Mechanic," and, since I have become a motorist, I have also taken in the *Motor-Car Journal*. In passing, I must thank the Editors of these able papers for holding the scales of justice so evenly between the advocates of steam v. petrol. I conclude, from the various notes, queries and answers in these two papers, that on the whole pound for pound spent on either of these rival systems the steam cars give a better horse-power and less trouble all round than the petrol cars.

One of the objections named against steam cars is the time it takes to get up steam. Until quite recently it took the Gardner-Serpollet vehicle about six minutes to get under way, but just lately the

with four up. The grade is given as 1 in 3½ in the steepest part. In all official hill climbs in England in which the Serpollet cars were allowed to compete, they, of course, won easily, defeating petrol cars of six times their power. The hill mentioned above no petrol car has as yet, I believe, climbed, even on its low gear. A few weeks ago a well-known firm of petrol car makers "found" a hill in Kent of a reputed grade of 1 in 4 in parts. One of their 20-h.p. cars, on a low gear, succeeded in climbing this, which was, of course, no more than it should have done. A client wrote me that for several years he had gone up this hill on his old 6-h.p. Serpollet, carrying four passengers, and only regarded it as a stiff climb. On short grades Serpollet cars do not do so well, as there is not time to adjust the working pressure before the hill is surmounted; but on long, steep hills the speed gradually increases till it practically equals speed on level. I have from a standing start driven a 9-h.p. new type Serpollet up a short incline of 1 in 3½ without trouble."

I think the above is a good set-off against the wonderful performances (!) by petrol cars which have been chronicled in the papers just recently. Please excuse my being so late with my letter, but I am staying in the Austrian Tyrol at present.—Your truly,

J. H. BROOKES-SMITH.

### SMELL AND SMOKE FROM MOTOR-CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice in the issue of the *M.C.J.* of the 9th inst. that "Bored" makes a somewhat sweeping assertion regarding the possibility of using paraffin for the lubrication of petrol motors. Now I have been experimenting for some time with paraffin for cylinder



Mr. C. Jarrott on the 60-h.p. De Dietrich.



Mr. H. Luff-Smith on the 5-h.p. Wolseley.

Photos by]

THE MIDLAND CLUB'S HILL CLIMB AT SHELSEY WALSH. (See page 380.)

[Mr. H. Luff-Smith.

agent for these cars mentioned that steam can now be raised in about three minutes. Query, Do all petrol cars get off in that time? Not only that, but one does not in the case of a steamer require to make acquaintance with that hind leg of a mule, the starting handle.

For Mr. Martin's benefit, if I may do so, I should like to quote part of a letter by Mr. D. J. Smith to the "E. M." of April 27th, in which he says:—"For a light runabout the Stanley has much to recommend it. Its water range is only 35 to 40 miles, and it burns petrol; but it is a very handy little car, light on tyres, and makes a good average. The direct drive on the rear axle is a great point, the only objection being the flexible steam pipe, and the fact that should anything go wrong with the engine the car cannot be wheeled. Last, but not least; if Mr. Martin goes in for a second-hand steamer, the chances are in favour of his having to spend much less on it than if he goes in for a petrol car, as on a steamer there is less to get out of order. If, however, Mr. Martin should wish to carry more than two persons, I think it would be worth his while to try a Gardner-Serpollet steam car; in any case he might get Mr. G. H. Oliver's "Note on the Management of the Gardner-Serpollet steam car."

With your kind permission, and if space permits, I should like to quote a further paragraph by Mr. D. J. Smith in the "E. M." of June 1st, which will give Mr. Martin a good idea of the tremendous power (there is no other expression for it) of the steam car, and it will also explain why petrolists do not care to have steam competitors in hill climbing competitions, or, in fact, in any competition. Mr. Smith says:—"Serpollet cars are such exceptional hill-climbers, and have scored so many successes, that it is hard to say what is the steepest grade that one of these cars has climbed. There is a hill on a by-road not far from Dorking, up which a 10-h.p. Serpollet car was driven at nearly fourteen miles per hour

lubrication in a small horizontal petrol motor, and find that by using from 25 to 30 per cent. of paraffin in the petrol it lubricates the piston and cylinder walls thoroughly. The motor I used was water cooled, and has low compression, about 65 lbs. per square inch. What takes place is this. Owing to the low compression, only the lighter and volatile constituents of the paraffin are vaporised and fired, the heavy mineral oil portion being deposited on the cylinder walls. Of course it would be scarcely possible to lubricate the crank shaft bearings in this way, as sufficient oil would not be likely to find its way past the piston rings to the crank case unless the rings were in bad condition.—Yours truly,

THOMAS W. P. HANNAM.

### UNFAIR POLICE TRAP

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—May I call attention to the unfair methods of trapping motorists in Leeds? On June 3rd, Sunday, I was motoring from Harrogate to Sheffield, and at six o'clock was stopped by a policeman on the Chapeltown Road leading into Leeds. I was informed that I had done 220 yards in 18 seconds, or at the rate of 25 miles per hour, and should be reported. I was not travelling at the speed alleged, the road was wide, there was only a milk cart in view at the time, very few people about, it being tea time, and I had just put on my side brake as I had struck a hill and did not know how steep or how long it was. The usual cheap stop-watch was produced in court, and, although the case was ably defended, I was fined £1 and costs 10s. In all the matter cost me £5. I am not grumbling at the price, but that

any Chief Constable in England should allow his underlings to measure, on their own responsibility, distances of 200 yards and to persecute motorists.

In the south of England many traps have been rendered null and void by the cyclist corps giving warning. I should like to suggest that notice boards be fixed on the main roads into Leeds by the local club, warning motorists to drive slowly. To measure short distances like 220 yards on the beginning of a down grade is most decidedly unfair. A stranger will always be caught before he has realised the descent and got his brake fixed. The way to checkmate this police game is to post a notice that can easily be read by motorists wherever a measured distance is known to exist, and this could easily be done by the local automobile clubs, or a sign would be sufficient.—Yours truly,

C. D. L.

### GOVERNOR POSITION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was pleased to notice in this week's issue of the *M.C.J.* a criticism of the position of the governor on our new car, as it gives us the opportunity of pointing out that adjustment is provided for keeping the belt taut, although we find this is hardly ever required, owing to the special belt which we fit. Apart from this fact there is no reason why a belt should not give just as good results in driving a governor as any other contrivance; in fact, most high-speed governors are driven by belts.

As the fan spindle runs at a higher speed than any shaft attached to the motor, we are able to use a very light and sensitive governor placed in a position where it can be very easily got at, and where the connections to the throttle are simple and direct. Many of your readers will, we feel sure, be able to appreciate these points.—Yours truly,

H. AUSTIN.

### DETAINED BY THE POLICE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The conduct of the St. Neots Bench and the local police towards motorists has been so oppressive that some of your readers may be interested to know that I am instituting proceedings against certain of the police there for detaining me because, after conviction, I failed to produce my licence immediately. I shall be much obliged if anyone who has suffered similar treatment will communicate with me, at 30, Burton Road, Brondesbury, N.W., or my solicitors, Messrs. Kenneth Brown and Co., 11, Pancras Lane, London, E.C. Your kind insertion of this letter in your valuable paper will be greatly esteemed by—Yours truly,

ARCHIBALD CANTY

### THE AUTOMOBILE ASSOCIATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—May I enlist your valuable aid in order to inform automobilists that we intend to protect the Great North Road to Scotland during the shooting season with our well-known cyclist patrols? It is quite a formidable undertaking, and how long the protection can last is entirely dependent upon the financial support we obtain from motor-car owners, who are invited to write at once to our offices at 18, Fleet Street, E.C., when, in return for a remittance of £2 7s., the car badge and fullest particulars shall at once be sent.—Yours truly,

STENSON COOKE.

### CHARGING ACCUMULATORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have an electric lighting plant from which I should like to be able to charge my 15 ampere-hour ignition accumulator. The installation consists of 150 lamps of 16-c.p. at 100 volts continuous current. The lamps are grouped in sets of ten, i.e., one switch controls ten lamps, and I also have at intervals wall sockets for connecting up extra lamps as required. Should I be safe in taking current from one of these wall sockets to charge my accumulator? Any information you or any readers of the *M.C.J.* can give me on the subject will be greatly appreciated.—Yours truly,

F. R. RANSOME.

[It is an easy matter to charge a 15 ampere-hour accumulator from a 100 volt installation, but on no account should the attempt be made to do so from a wall socket, as this would result in connecting 100 volts on to the accumulator, which would probably destroy it in a few moments. All that is necessary is to obtain what is known as a charging adaptor from an electrical firm, and use this from one of the electric lights. A charging adaptor is simply an ordinary lamp holder with a flexible cord attached to it in such a manner that one can charge an accumulator in series with an incandescent lamp. The lamp should be removed from one of the pendant fittings (inserting the charging adaptor in its place, which it is made to fit), the lamp being put into the holder which is provided in the adaptor. A flexible cord is fixed in the holder, and after testing the two ends of this with pole-finding paper to ascertain which is the + wire, the accumulator should be connected up, taking care to connect the wire from the adaptor to the terminal of the

accumulator. The accumulator is charged by the current passing through the lamp and then through the accumulator, the lamp acting as a resistance and preventing too much current flowing through the accumulator.]

### TROUBLE WITH DE DION ENGINE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to "CR 328," I think the cause of his engine refusing to start easily is due to either (1) incorrect adjustment of the platinum points on contact breaker, or (2) a "short" occurring through the aluminium cover of contact breaker.

In regard to (1) he should see that the points are clean, meet square to each other at the "make," and that the "buzz" when testing trembler by hand is correct, i.e., the note should be like that of a Jew's harp. Also that the trembler lies exactly half-way in the notch in the cam. As regards (2) he should test the spark at the plug, with contact breaker cover removed, and also with it screwed up properly. In either case a stream of sparks, from two to five, should occur at the plug when turning the starting handle slowly, every time contact is made.

I have completely cured a troublesome "short" on my cover by fitting a new vulcanite plate. If he will write to me at Eastwick Rectory, Harlow, Essex, I shall be pleased to give him more detailed instructions than possible in this letter, as I have had considerable experience with De Dion ignition, and I can always start my own 8-h.p. De Dion at from one to three pulls on the handle, without winding, when correctly adjusted.—Yours truly,

(Revd.) GEORGE ROWLEY.



A Motor Car Wedding at Lowestoft.

Mr. W. G. Fuller, motor engineer, Kirkley, was recently married at St. Margaret's Church, Lowestoft, to Miss Hayward. The bridal party went to and from church on motor cars supplied by Mr. W. R. Youngs and Mr. W. H. Smith. As this was the first motor wedding in the town it attracted considerable attention.

### CLEANING RADIATORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Can you or any reader of the *M.C.J.* advise me as to the proportion of sulphuric acid that should be used with water for washing out furred-up radiators, and how long should the solution be left in the radiators without damaging the pipes? If there is any other way of cleaning radiators than by the use of acid, I should be glad of information.—Yours truly,

J. TRIBE.

[We should advise our correspondent in the first place to try a strong solution of soda and water to clean the radiator, letting this stand all night. This would not have any ill effect on the metal. If this treatment is not found effective, a solution of sulphuric acid in the proportion of twenty parts water to eight of acid may be tried. As to the length of time, this depends entirely upon the amount of fur which has to be removed. If very bad, a somewhat stronger solution may be used, but this would have to be carefully watched. It will also be necessary to thoroughly wash out afterwards, the best way to do this being to allow clean water to run through for a short time.]

THE SCOWEN CHANGE-SPEED GEAR.—R. J. W. writes:—"Will any reader of the *M.C.J.* who has had this gear fitted to his cars inform me how it works in practice?"

THE DUBRULLE LUBRICATOR.—"Oiler" writes:—"The car I am in charge of has a Dubrulle mechanical lubricator which has gone wrong. Could any of your readers inform me if I can have the same repaired in London or shall I have to send it to France?"

## THE IRISH AUTOMOBILE RELIABILITY TRIALS.

THE first series of reliability runs and hill-climbing contests promoted by the Irish Automobile Club was carried to a successful issue last week. The programme consisted of a three days' reliability run of one hundred miles over an out-and-home course, starting and finishing each day at the club's headquarters in Dublin, and a hill-climbing contest on the fourth day. The competition was divided into two sections, the first confined to members of the club and private owners resident in Ireland, the cars so entered to be the bona fide property of the entrant, to be driven by the owner or a member of his family. Section 2 was open to those qualified for Section 1, and also to motorists connected with the trade. The competition was sub-divided into classes according to the selling price of the car, and certificates will be awarded to cars in each class which fulfil the required conditions of both reliability tests and hill-climbing contest. A gold medal is awarded for the best performance in each class.

The following took part in the contests:—G. M. Meares 16-20-h.p. Reeston Humber; W. A. Heaven, 10-h.p. Cadillac; T. Henshaw, 28-h.p. Daimler; Harvey Du Cros, junior, 20-30-h.p. Austin; W. Naismith, 16-20-h.p. Argyll; Argylls Limited, 10-12-h.p. Argyll; E. C. Herdman, 20-30-h.p. Darracq; G. Swift, 16-24-h.p. Prosper Lambert; T. C. Pullinger, 16-20-h.p. Beeston Humber; T. L. Plunkett, 28-h.p. Daimler; Miss E. Massy Wheeler, 8-h.p. Rover; R. W. Morris, 40-h.p. Ariel Simplex; Captain E. Lindsay Knox, 22-h.p. Orleans; C. Moore, 40-h.p. De Dietrich; T. W. Murphy, 6-h.p. Rover;

speed during the two preceding days had to change before reaching Gorey. Miss E. Massy Wheeler, the only lady taking part in the contest, reported one stop on the return journey, the first she had experienced for the three days. Several others were equally as unfortunate on the Friday, Mr. Godwin Swift, who was driving a Prosper-Lambert, not being able to resume the return journey within the schedule time. The Argyll driven by Mr. Naismith lost two marks through sparking-plug and carburettor troubles, and the Vinot and Globe had one stop each. Both Messrs. E. C. Herdman (Darracq) and Plunkett (Daimler) lost marks before leaving the garage on the outward journey in the morning. The arrangements in connection with the reliability runs both at the club headquarters along the routes and at the control were of a very elaborate description, and reflect much credit on the thoughtfulness and consideration of the committee in their endeavour to cater for the convenience and comfort of the competitors, observers and other officials. Special mention should be made of the valuable assistance rendered by Messrs. Hum Bland, C. Seagrave, E. White, hon. sec., and Mr. Chaytor, secretary.

A hill-climbing contest for competing cars in the reliability tests was held on Saturday. The venue was Callow Hill, Newtownmountkennedy, co. Wicklow, some eighteen or twenty miles from Dublin. Thirty cars took part in the contest, including several that did not enter for the reliability tests.

The fastest time recorded during the contest was credited to the 22-h.p. Minerva, which got over the distance in 2 min. 21 4-5 sec. with Mr. J. C. Moore Brabazon at the wheel. The local arrangements in connection with the hill climb were in the hands of Messrs. Hum



Sir W. G. Goff starting on his 20-h.p. Clement.

Colonel R. Chancellor Knox, 20-h.p. Orleans; W. D. Sainsbury, 16-20-h.p. Argyll; J. B. Dunlop, 16-20-h.p. Humber; J. T. Moore Brabazon, 22-h.p. Minerva; S. T. Robinson, 20-24-h.p. Clement Talbot; Chambers and Co., 8 h.p. Chambers; T. J. Watters, 16-20-h.p. Vinot; J. E. Mills, 20-h.p. Clement Talbot; Turner Bros., 10-12-h.p. Globe; W. F. Peare, 20-h.p. Gladiator; P. Hallinan, 10-h.p. Clement; E. L. O'Brien, 20-h.p. Wolseley; H. Whitworth, 40-h.p. Napier; Sir W. G. Davis Goff, Bart., 20-h.p. Clement; E. M. Stirling, 20-30-h.p. Richard-Brasier.

The first day's run on the 13th inst., to Carlow and back, 99½ miles, was favoured with seasonable weather. Twenty-six out of the twenty-eight starters reached Carlow without a stop, the two exceptions being the 10-h.p. Clement and the 10-h.p. Cadillac. The former had a short circuit in the earth wire and lost half an hour putting it right, while the former put on his clutch too early after running down hill and stopped his engine; both, however, reached Carlow inside schedule time, returning to Dublin after the sixty minutes official stop had expired.

The second day's run to Dundalk and back, 102 miles, was equally uneventful. Several cars experienced some difficulty in negotiating Tullyisker hill, outside Drogheda, both on the outward and homeward journey. Some minor delays occurred on the return to Dublin, the driver of the Cadillac being again delayed for a short period, and the Chambers car stopped through tyre troubles, all the other competitors doing non-stop runs.

The run on the third day, June 15th, from Dublin to Gorey and back, 122 miles, was by far the most trying trip of the series. The route lay through county Wicklow, which abounds with hills, and strange to say many of the powerful cars that ran on the high

Bland and Captain Seagrave. The times were taken by Messrs. Colman and Connell, and Mr. E. White, hon. sec., officiated as starter.

The best times on the hill climb in each class were as follows:—

CLASS A. (Cars costing £200 or under.)			
		Min.	Sec.
Chambers, Ltd.	8-h.p. Chambers	5	52 3-5
CLASS B. (Cars costing over £200, not over £300.)			
J. E. Mills	8-h.p. Clement-Talbot	4	11 2-5
CLASS C. (Cars costing over £300, but not over £400.)			
Colonel C. Knox	20-h.p. Orleans	3	47 3-5
CLASS D. (Cars costing over £400, but not more than £550.)			
J. T. C. Moore-Brabazon	22-h.p. Minerva	2	21 4-5
CLASS E. (Cars costing £550, but not over £700.)			
T. Henshaw	28-h.p. Daimler	2	24

Section III.—Open to members of the club, private owners, and those connected with the trade, not taking part in the reliability tests:—

Sir H. A. Robinson ... 20-h.p. Argyll ... 3 23 2-5

As we go to press we learn that the Goff cup for the best performance in all amateur classes was won by Mr. J. B. Dunlop on his Humber car. Mr. T. Henshaw on the Daimler was second; Colonel Knox on his Orleans third. There was only a difference of 47 between the first two. The announcement is subject to final audit. The Dunlop cups were won by Mr. Ducros on the Austin, Mr. Robinson (Talbot) being second.



## CLUBS AND ASSOCIATIONS.

## MOTOR CYCLING.

In connection with the recent London to Edinburgh twenty-four hours run of the Motor Cycling Club, the following have been awarded the club's gold medal:—Motor-bicycles.—Ashworthy, D. S. Baddeley, L. A. Baddeley, Badenoch, Bailey, Bellinger, Blackney, F. M. Bond, H. M. Bond, R. G. Booth, Brice, Campbell, Drummond, Freeman, Frost, Godfrey, Goslett, Hart, Hulbert, Hull, Jacobs, Mussell, Reynolds, F. Sale, Shutes, Sproston, Jackman, Webb, Wells, Williams, Wright. Tri-cars.—Earp, Gunn, Miss M. Hind, J. Van Hooydonk. Cars.—Platts-Betts, A. J. Brown, C. W. Brown, F. J. Jenkins, Peckham, Price, Sewell, J. W. Stocks, H. Taylor, Miss A. Wood.

In connection with the above run the following completed the return journey in another twenty-four hours in competition for the Schulte Cup, awarded to the competitor who kept nearest schedule time on both journeys: J. W. Stocks (winner of the cup), Bailey, Bellinger, Platts-Betts, C. W. Brown, Godfrey, Hart, Hulbert, Peckham, Reynolds, Williams.

## BLACKHEATH.

THE annual hill climb held on Saturday last resulted in a somewhat small attendance. The hill selected was at Hixey Road, Ightham, the length of the course being 1,377 yards with a total rise of over 341 feet and an average gradient of 1 in 12.09. Cars were weighed with passengers at Sevenoaks "Bat and Ball" Station, and then proceeded to Crown Point Inn, Seal, where tea was partaken of. The competition commenced later, Professor Carlton J. Lambert acting as starter and Mr. Hugh Beadle as timekeeper. About a dozen cars were entered for the competition, the following being the result of four fastest according to formula, subject to confirmation by the judges:—

			M.	S.
1. T. Marshall	...	10-h.p. De Dion Bouton	5	34 4-5
2. L. Beadle	...	8-h.p. Regal	...	6 8
3. W. Whiteway	...	14-h.p. Regal	4	32 4-5
4. E. W. Stabb-Johnson	...	7-h.p. Star	4	33 3-5

Mr. Duckham has kindly promised to increase the value of the challenge cup from five to ten guineas, which is to become the property of the winner if won for three years in succession.

## SOUTH HERTS.

THE South Herts Automobile Club members' hill climb at Newgate Street on the 9th inst. proved a most successful event. The weather was perfect and attracted a large number of motorists from the surrounding districts, who followed the proceedings with evident interest. There were fifteen starters out of seventeen entrants in the motor-cycle class and five out of six cars. The silver medal in the car section was won by Mrs. Price, who drove her 7-h.p. Star splendidly; J. Rochford, 12-h.p. Wolseley, being second, and S. R. Noble, 6-h.p. Rover, third. In the motor-cycle class very good times were made, the winner being F. Sykes, 5-h.p. Rex; C. E. Fell, 2-h.p. Waltham Cross, 2nd; H. W. Speight, 5-h.p. Rex, 3rd; F. W. Foott, 4-h.p. Minerva, 4th; W. E. Hamilton, 5-h.p. Waltham Cross, 5th, and E. M. Ridge, 4-h.p. Givardan, 6th. The following were awarded certificates of merit:—Mrs. Price and S. R. Noble in the car class, and E. M. Ridge, W. E. Hamilton, F. W. Foott, H. C. Walsh, C. K. Trotter and F. Sykes in the motor-cycle class.

## ESSEX.

THE Essex County Automobile Club held a successful gymkhana at Colchester on Saturday, in aid of the funds of the Essex and Colchester Hospital, in an enclosure kindly lent by Col. W. Howard.

There were six competitions, the winners of which were as follows:—

Obstacle Race	...	Mr. Burnett Tabrum.
Ladies' Passenger Race	...	Mr. J. Hossoch.
Tortoise Race	...	Mr. J. Gurney Fowler.
Starting and Stopping Race	...	Mr. F. C. Hill.
Turk's Head and Pig Sticking (open event)	...	Mr. F. C. Hill.
Musical Chairs	...	Mr. W. R. Fasey.

## KENT.

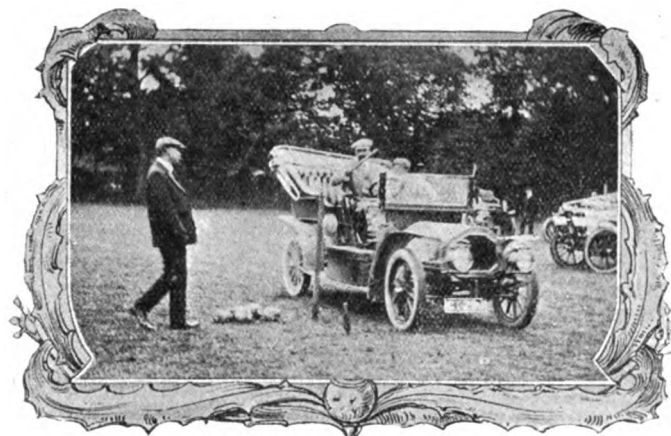
IN spite of the wet weather many members and friends were present at "Hulsewood," Dartford Heath, the residence of Mr. and Mrs. Morgan, on Saturday, when all those who braved the weather were most hospitably entertained. Among the first to arrive were Dr. Firth, the chairman, and Mrs. Firth, then followed Mr. and Mrs. Gardner, Mr. and Mrs. Bailly, Mr. and Mrs. A. S. Hordern, Mr. and Mrs. Batchelor, Mr. Cobham, Mr. and Mrs. Norman, Mr. E. B. Gardner, Mr. and Mrs. Fraser, Mr. Neate and several others, including the hon. sec. and Mrs. Kenyon.

## LEEDS.

By kind permission of the Earl of Harewood, the Leeds Motor Cycle Club will carry out a hill-climbing competition in Harewood Park, near Leeds, to-day (Saturday). Two classes are arranged for, one for motor-cycles, for the Triumph challenge cup and club medal of merit, in gold, and another for any passenger machine with not more than three wheels, for which event a gold medal and certificate is offered, the medal being given by the Rex Motor Manufacturing Company. The event is a purely private one, each member of the club, now 130 strong, will have a pass to enter Lord Harewood's beautiful park, and an enjoyable afternoon is expected. On the 9th inst. a speed judging contest was held on a twenty mile course near Leeds, some twenty-four members competing, each having a different number of minutes allowed to ride the course. The winner of the club medal was found in the president, Mr. James R. Kelly, who rode within 2 min. 5 sec. of his time. The win was greatly appreciated by the club members, who accompanied the president to the Wellington Hotel after the event, a private room being engaged. Some speech-making took place and several medals for other events were promised on the spot.

## MANCHESTER.

THE Manchester Automobile Club held the sixth run of the season on Saturday. Fine weather and a good programme attracted a large number of members. Delamere Forest was the destination, and Vale Royal Abbey was visited *en route*, and a most enjoyable hour was spent in this interesting mansion. It is the seat of Lord Delamere, and contains many fine portraits, including some by Rubens, Sir Peter Lely, and Sir Godfrey Kneller, besides a library of rare and valuable books. Leaving this fair scene, the cars rapidly covered the intervening distance between the Abbey and the depths of the forest, where the *al fresco* repast was made.



The "Heads and Posts" Competition at the Lincolnshire Club's Gymkhana.

## LINCOLNSHIRE.

THE Lincoln members of the Lincolnshire A.C. decided to include a motor gymkhana when entertaining the county members at Lincoln on Saturday in the beautiful grounds of Monk Manor, kindly placed at their disposal by Col. J. S. Ruston, J.P., a prominent member of the club. The Lincoln Volunteer band was again engaged, and played, under Mr. F. George, a very good programme, and for "Musical Chairs." The various events were well contested and, when not amusing, were instructive and interesting. There was a very good attendance, though the weather was bad in the morning. The following are the results:—

BENDING RACE.—1, Dr. W. J. Gilpin, Bourne, 12-h.p. Brasier; 2, Mr. G. E. Sanders, Scampton, 4-h.p. De Dion.

MUSICAL CHAIRS.—1, Dr. Purves and Miss Wray, Lincoln, 6-h.p. De Dion; 2, Mr. G. E. and Miss Sanders.

STARTING AND STOPPING RUN.—1, Dr. Gilpin; 2, Dr. Purves.

OBSTACLE RACE (over balloons).—1, Dr. W. Jagger, Lincoln, 8-9-h.p. Cadillac, 4 balloons, 57 1-5 sec.; 2, Mr. W. J. Newsam, Lincoln, 15-20 h.p. Panhard, 5 balloons, 1 min. 54-5 sec.

HEADS AND POSTS.—1, Dr. de Beauvais, Woodhall Spa, 9-h.p. Oldsmobile, 8 "heads," 1 min. 14 sec.; 2, Dr. W. J. Jagger, 9 "heads," 1 min. 19 sec.

BALLS IN TUBS.—1, Mr. G. E. and Miss Sanders, 6 balls, 1 min. 15 sec.; 2, Dr. V. Smith, Wellingham-by-Stow, 5 balls, 1 min. 15 sec.

Sir H. B. Bacon, the president of the club, is giving a silver challenge cup for the hill-climb at Cawkwell on July 12th.

## MANCHESTER MOTOR CLUB.

THIS club held the second competition of the season on Saturday last on Cheshire roads, being a 100 miles reliability trial for motor-cycles and a speed judgment test of 17 miles an hour combined. The course was a circular one of 18½ miles from Oakmere by way of Delamere, Kelsall, and Tarvin (near Chester), then turn to Tarporley and back to the starting point by way of Cote-

brook. There were 25 entries and 21 competed. Twelve made a non-stop run and qualified for prizes or club certificates. These were Messrs. H. Tipples, P. H. T. Butler, F. Dunderdale, F. W. Newbury, G. Watson, C. E. Kettle, W. T. Munroe, H. Brady, V. E. Grindon, J. T. Ward, P. Nicholas and H. Hurst. The times were worked out later and showed the following result:—1st, J. T. Ward (Bat motor-bicycle); 2nd, H. Hurst (tri-car); 3rd, G. Watson (motor-cycle).

### SHEFFIELD.

THE Sheffield and District Automobile Club held a hill-climbing competition at Grindleford on Saturday last. The course was exactly the same as in previous years, starting just over the bridge at Grindleford, and finishing a little over 100 yards below Fox House. The gradient in one or two places is as much as one in eight, but the average is about one in seventeen. The hardest part of the course is that from just below the farm until after the Maynard Arms has been passed. The competition was divided into three classes, but unfortunately Class No. 2, which was for motor-cycles, had to be omitted on account of insufficient entries. Class No. 1, in which there were eleven entries, was really an open class, as both makers and private owners could compete; whilst Class No. 3 was restricted to private owners only, there being fifteen entries.

The official times as given out by the timekeepers will be found below. It does not, of course, follow that the car doing the quickest time will be the winner, that having to be worked out on a sort of handicap by the formula of the A.C.G.B.I., and will be made known later:—

#### CLASS I.

		M.	S.
Mr. A. Farnell ...	Daimler, 30-h.p.	3	28
Mr. Thomas Nash ...	Mercedes, 18-h.p.	5	15
Mr. Benjamin Hind ...	Clement-Talbot, 12-h.p.	5	25
Mr. C. D. Leng ...	F.I.A.T., 24-h.p.	5	56
Mr. C. D. Leng ...	White, 18-h.p.	6	2
Mr. J. H. Hall ...	Darracq, 20-h.p.	6	12
Mr. F. Churchill ...	Hallamshire, 14-h.p.	6	26
Mr. Jas. Barber ...	Belsize, 10-h.p.	6	43
Mr. F. Gregory ...	F.I.A.T., 16-h.p.	6	43
Mr. A. S. Fawcett ...	Darracq, 15-h.p.	7	46
Mr. F. Churchill ...	Hallamshire, 24-h.p.	15	13

#### CLASS 3.

		M.	S.
Mr. Thomas Nash ...	Mercedes, 16-h.p.	5	14
Mr. C. D. Leng ...	F.I.A.T., 24-h.p.	5	48
Mr. J. H. Hall ...	Darracq, 20-h.p.	6	9
Mr. J. W. Vessey ...	Belsize, 10-h.p.	6	23
Mr. F. Gregory ...	F.I.A.T., 16-h.p.	6	37
Mr. Percy Johnson ...	Clement-Talbot, 12-h.p.	6	59
Mr. A. S. Fawcett ...	Darracq, 15-h.p.	7	43
Mr. W. W. Wood ...	Humber, 10-h.p.	8	13
Dr. Parsons ...	Swift, 12-h.p.	9	17
Mr. W. N. Drew ...	Albion, 16-h.p.	10	13
Mr. H. Beesley ...	Wolseley, 6-h.p.	10	34
Mr. C. D. Leng ...	White, 18-h.p.	11	48
Mr. A. J. Blyde ...	Aster, 7-h.p.	12	33
Dr. Thorne ...	Wolseley, 8-h.p.	13	5

The officials, who are to be highly complimented on the complete success of the venture, were as follows:—Clerks of the course, Messrs. P. J. Benson, E. W. Hatfield, and W. Watts; judge, Mr. E. F. Coupe; starter, Mr. W. Robinson; clerk of the scales, Mr. G. D. Flather; marshal, Mr. Benj. Hind; timekeepers, Messrs. W. E. Cope and T. Lonsdale; handicapper, Mr. J. R. Wade; hon. secretary of the meeting Mr. Fred B. Cawood.

### Huddersfield Branch of Y.A.C.

SOME members of the Committee of the Huddersfield Automobile Club and several competitors who had entered the competition met at the house of Mr. W. Singleton at Wood View, Kirkburton, last week for the purpose of presenting him with the cup offered by the club for the best result out of the three classes of cars in the recent hill-climbing competition. Mr. Singleton was also the winner of the medal for being the best in his particular class, which consisted of two-cylinder cars. There were present, among others, the president (Mr. W. H. Jessop, J.P.), Messrs. W. Singleton, A. Dawson, F. H. Wilson, H. Broadbent, W. Priest, F. Sutcliffe, J. W. Hobson, G. A. B. Lockley, W. H. R. Lockley, Edmund Swallow, and the secretary, Mr. E. G. Learoyd. Mr. Learoyd read the results of the competition, showing that the medals were won in their respective classes by Messrs. W. B. Lawton, W. Singleton and D. Stoner Crowther, and that the cup for the best all round performance was won by Mr. Singleton. Mr. Jessop, the president, then presented the cup and medal to Mr. Singleton, and stated that the latter had commenced his membership of the club in a very satisfactory manner to himself, as he only joined a day or two before the competition took place and succeeded in beating all other members in the trials. After the ceremony was over the members partook of Mr. Singleton's hospitality in his garden, surrounded by most beautiful scenery, and a very pleasant evening was spent.

THE North Yorkshire Automobile Club held its opening meet at Eserick Park, by invitation of Lord Wenlock, on Saturday.

### THE A.C.G.B.I. TRIALS.

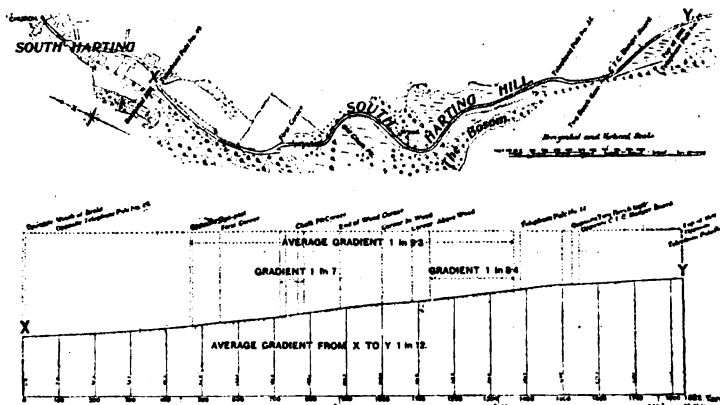
WITH reference to the recent lamp trials of the A.C.G.B.I. we have been asked by Messrs. George Polkey, Ltd., to give publicity to their views with regard to the same, from which they withdrew their lamp after it had been run about 1,700 miles. Their report is based upon the observations of a director, Mr. John Polkey, who examined the lamp every day, and was therefore well able to judge of its condition. The manner in which the trials were conducted was considered by the firm to be unsatisfactory, and they "withdrew from the trials owing to the publication by some of the motor press of incorrect and incomplete reports which were misleading to motorists." With regard to this suggestion we may recall a reference to our own columns of March 17, when we said "comment on the performances may fairly be left over till the official records of the judges have been obtained."

The report of Mr. John Polkey on the lamp in the trial is as follows:—

1. Mileage run to date of withdrawal about 1,700 miles. (2) Consumption of oil, one pint for twelve hours, cost one penny. (3) Capacity ten hours. (4) Glass chimneys broken, none. (5) Front glasses broken, none. (6) Wicks. Original still in use. (7) Burner. Original still in use. (8) Parts damaged or broken, none. (9) Reflector not cleaned by us at all, still in good condition. These important points had been ignored up to date of withdrawal. (10) Our bracket fitted by car owner was lengthened and shaped to form a spring and then fitted on car front dumb iron (to which our representative objected.) (11) Exterior only cleaned (by garage boy) every day. Light tested up-to-date of withdrawal by daylight. We therefore concluded the results of such a trial would not be very convincing and withdrew.

### THE SOUTH HARTING HILL CLIMB.

IN connection with the South Harting hill climb to be held to-day (Saturday), Mr. M. F. Mievile, the secretary of the Sussex County Automobile Club, has arranged that all competing cars which cannot



The Course and Gradient of the South Harting Hill Climb.

conveniently reach Petersfield on the morning of the competition can be garaged free overnight at the West Sussex Motor Company's garage in Chichester. He has also arranged with the company to have a good supply of petrol, accumulators, tyres, and lubricants at Harting, close to where the cars start for the climb.

### THE MIDLAND CLUB HILL CLIMB.

THE Midland A.C. hill climb was held last Saturday in the private grounds of Court House, Shelsley Walsh, Worcestershire, by the permission of Mr. M. C. H. Taylor. There had been much rain over night, which made the road surface very slippery, and several light cars had great difficulty in mounting the hill, the gradient of which in several places is about 1 in 6 $\frac{1}{2}$ , and the total length of the distance 1,100 yards. Most of the London competitors journeyed down on Friday and stayed the night at Worcester. The weighing-in taking place shortly after 9 o'clock necessitated the Coventry and Birmingham cars starting early. By invitation of Mr. Oscar Harmer, we took a seat in his 30-h.p. Daimler, starting from Coventry in the early morning. Although threatening, luckily the weather kept fine during the open event, but as soon as the closed competition was started a severe thunderstorm broke out and rain came down in torrents. Mr. T. H. Ryland, the hon. sec. of the club, worked well in looking after the Press, and all the officials were zealous in the performance of their duties.

In the open handicap three Alldays cars of 10-h.p. were first, second, and third, their times being 3 min. 25 1-5 sec., 3 min. 29 4-5 sec., and 3 min. 40 1-5 sec. respectively. Similarly the 10-h.p. Alldays car won the gold and silver medals in the closed event, the silver medal going to Mr. Cecil Edge on the 40-h.p. Napier. For the two events there were sixty-seven entries, among them being Mr. E. M. C. Instone, 35-h.p. Daimler, who climbed the hill in the good time of 1 min. 26 1-5 sec., but, like the other Daimlers, was heavily

handicapped; Mr. J. A. Holder, 12-h.p. Wolseley; the Maharajah of Tikari, 40-h.p. De Dietrich; Mr. G. F. Heath, 20-32-h.p. Darracq, and Mr. O. Harmer, 30-h.p. Daimler. The best time of the day was accomplished by Mr. Frederic Coleman on his 18-h.p. White steam car, which went up the hill in 1 min. 20 2-5 sec., a capital performance that entitled it to the cup for the fastest time.

### ROAD REPORTS.

**SURBITON.**—The District Council has decided to apply to the Surrey County Council for an extra grant from the funds derived from the issue of motor licences towards defraying the extra cost incurred for watering that portion of the Portsmouth road in the Council's district.

**TAUNTON.**—As an experiment for preventing dust, the tar-painting of fifty yards in length of one of the main roads has been resolved upon by the Taunton Town Council.

**ESHER.**—Main road maintenance in the Esher and Dittons district will, this year, cost £2,412—an increase of £912.

**BECKENHAM.**—The Beckenham Rural District Council is inviting tenders for patent tar macadam, and, as an experiment, will lay it in short stretches on two roads where there is much traffic, including, of course, that of motor-cars. The limit of expenditure ranges between £1,400 and £2,000.

### PUBLIC MOTOR SERVICES.

A PUBLIC motor-bus service between Fraserburgh, Rosehearty, and New Aberdour, N.B., was started last week.

THE Southwark Borough Council is asking the Commissioner of the Metropolitan Police to take steps to effectually control the speed of motor-buses in the public streets and to regulate their stopping places.

MOTOR-CARS are now competing against the Stirling and Bridge of Allan trams.

NINETEEN motor-buses have just been licensed by the Watch Committee of Hove to ply between there and Brighton, Worthing and Steyning.

THE Manchester Corporation is about to put six more motor vehicles into service between Sale and Northenden and Chorlton and Manchester, to supplement the present service to the Palatine Road terminus.

TWENTY motor-buses in Birmingham have been re-licensed for a period of six months.

### THE DU PRE CHALLENGE CUP.

It has been found inadvisable to hold the competition for the cup presented by Mr. Wm. Baring Du Pre to the Automobile Clubs of Leicester, Nottingham, and Derby in North Leicestershire this year, in accordance with the terms upon which the cup is competed for, and it has accordingly been arranged that the contest shall take place at Hazlewood Hill to-day (Saturday) at 2.30 p.m. The cars must assemble at Hazlewood Station, and must weigh in with passengers at that station between 1.30 p.m. and 3.30 p.m. The weight ticket must be handed to the starter together with the entry form. Hazlewood is on the Duffield and Wirksworth road and about six miles from Derby. Competing cars should proceed to Duffield and take the first turn to the left on entering that place, and take the first turn to the right, which is about two miles further on. The cup will be awarded to the car achieving the most meritorious performance; all cars, no matter of what h.p., will have an equal chance of winning. The competition has been declared to be a closed competition by the A.C.G.B.I., and will be held under the rules of that body.

### INTER-CLUB RUN TO BUXTON.

THE following clubs are taking part in the above run to-day (Saturday), the arrangements for which are being made by the Manchester Automobile Club:—The Halifax Automobile Club, Midland A.C., North East Lancashire A.C., Sheffield and District A.C., and the Yorkshire A.C.

As previously announced, there is to be no procession of cars going or returning, but all cars should arrive at the Empire Hotel, Buxton, in time for a photograph to be taken of the assembled cars at 5 o'clock. Dinner will be at 7 o'clock.

It is suggested by the committee that club badges should be worn as a means of identification between the members.

### A MOTORIST ASSISTS THE POLICE.

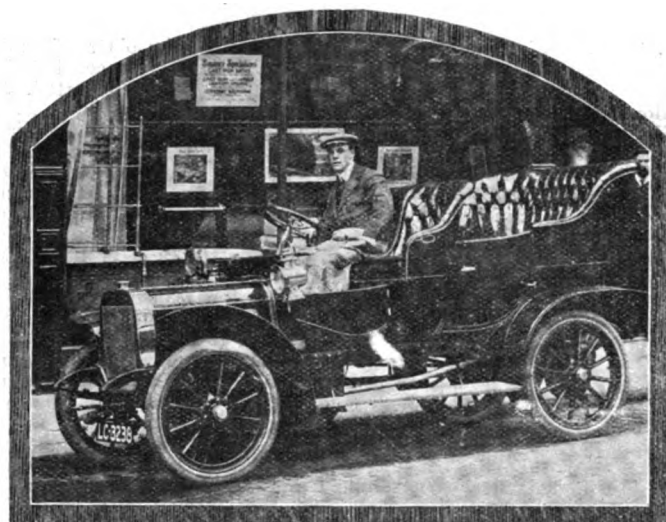
IN a case at Barnsley, it has just been shown how the motor-car had come to the aid of the police in detecting a furious driver. The defendant was George Hall, a butcher, of Dewsbury, and on the 2nd inst. Mrs. Pearce, wife of Dr. Pearce, of Darton, whilst looking from a window at the house saw the defendant driving a couple of horses attached to a wagonette through the village. The man was whipping the horses, which were going at a dangerous speed. Mrs. Pearce told her husband, and, considering the matter to be a proper one for interference, Dr. Pearce got out his motor-car, and finding Sergeant Stewart, they gave pursuit, overtaking the defendant at Newmillerdam. Defendant did not appear, but had written admitting his guilt, and was fined 20s. and costs.

### CASES AGAINST MOTORISTS.

*[It must be understood that it would be impossible to report all the cases that are heard every week; we therefore endeavour to give only those which involve points of particular legal importance or of public interest.]*

AT Snaith last week a batch of motor-car drivers were fined for having covered at an excessive speed a measured quarter-mile of road at Eggborough village, midway between Selby and Doncaster. In one case, Owen Williams, engineer, of Glasgow, in addition to being summoned for having driven at the rate of twenty-four miles an hour, was summoned for being without a licence. The defendant's solicitor stated that the defendant had a licence, but it lapsed, and the renewal had slipped his memory, as he was on his honeymoon at the time. In the circumstances, the magistrates dismissed this charge on payment of costs, but for the other offence defendant was fined £3 10s.

THE victims of police activity on the measured distance between Fishergate and Southwick have come before the Shoreham Petty Sessions. There were nine prosecutions, and convictions were obtained in eight of the cases, adjournment being granted in the other. After the fines had been announced, P.C. Marsh was congratulated by the Bench on the plans placed before the magistrates in connection with the matter. From evidence tendered it appears that Mr. Walter Long, watchmaker, of North Street, Portslade, is the official watch tester for the local police. The defendants came from London, Walsall, Hove, Buxton and Manchester, and the chairman of the magistrates acknowledged that the road was the most dangerous in the county.



Mr. W.W. Perks at the wheel of the 10-12-h.p. Argyll car, the property of Messrs. McDowell, Steven & Co., of Upper Thames Street, London, E.C. Mr. Perks is the first to gain the prize under the drivers' prize scheme of Argylls London, Limited, and succeeded in running the car at a cost of 1'181d. per mile for a distance of 5,000 miles.

THE prosecution of Mr. E. A. Barker, the Barnsley Borough Electrical Engineer, at the Leeds Police Court, for furious driving, was notable for his solicitor animadverting upon the unreliability of the timing arrangements. Thereupon the deputy chief constable promised that the watch should be tested forthwith; in the meantime Mr. Barker was fined 20s. and costs.

THE chauffeur to Mr. G. Cornwallis West has been fined £5 and costs for driving a motor-car beyond the speed limit at Finchley. Mr. West paid the money and threatened that if such persecution continued he would no longer subscribe to the police charity funds.

AT Daresbury a chauffeur in the employ of Messrs. Lawton and Sons, Ltd., of Liverpool, has been fined £2 for covering a distance of 4 miles 830 yards at the rate of 41½ miles per hour. At Northwich another motorist was fined 20s. for a speed of thirty-four miles an hour, while a lady who drove at a rate of four miles less was fined 2s. 6d. more.

MR. F. J. BIRCH was the leading witness for the police against a motor-car driver, James Begg, who was summoned at the Westminster Police Court last week for driving his vehicle in a dangerous manner. Mr. Staplee Firth defended and characterised the evidence as fable or fiction with a wealth of florid expressions but no real evidence. The magistrate agreed and the summons was dismissed.

ALTHOUGH he was alleged to be driving at a speed of thirty miles an hour between Littlemore and Sandford, Mr. E. A. Morel, of Penarth, was only fined 10s. and costs at the Bullingdon (Oxford), Petty Sessions.

AT Guildford county bench on Saturday fines amounting in all to £60 were inflicted on motorists, in most cases for exceeding the speed limit at Witley, Shottermill, Artington, or Ockham.

AT Carlisle on Saturday, Dixon Losh Thorpe, of Carlisle, was charged with driving a motor-car at a greater speed than twenty miles an hour at the Todhills trap, to the north of Carlisle, on May 30th. Mr. Thorpe denied that the car ever exceeded twenty miles an hour,

He said he had made tests at Todhills, the result of which showed that it was impossible to tell without a signal when the measured distance was entered upon. In the end the magistrates decided to adjourn the case for a week in order that they might view the place and satisfy themselves as to the points raised.

A COVENTRY motorist was summoned at Stratford Police Court on Saturday for driving a motor-car at more than twenty miles an hour at Epping New Road, Woodford, on May 22nd, and also for having no licence. Sergeant Weber and Constable Hill timed defendant over a distance of 220 yards. When stopped it was found that his licence had run out a month. He was fined 40s. and costs on the first summons and 10s. and costs on the second.

AT Haywards Heath Petty Sessions several motorists have been charged with driving beyond the legal speed limit. With one exception fines were inflicted. William Fletcher, of Harley House, Marylebone Road, who had been previously convicted, was ordered a month's imprisonment and his licence was suspended for six months. Police-Sergeant Waghorn said that defendant was travelling at Slaugham at a speed of forty miles an hour. The chairman (Major Borrer) said that in future at that court the maximum penalty would be inflicted on all motorists travelling beyond ten miles an hour over dangerous cross-roads. The police would be instructed to charge offenders with driving to the danger of the public.

MR. A. K. BROOK, a London solicitor, has been fined 10s. and costs for leaving a motor-car unattended in the Bull Ring, Horncastle, for half an hour.

### THE LAND'S END—JOHN O' GROAT'S MOTOR-CYCLE TRIAL.

THE trial of motor-cycles from Land's End to John o' Groat's, a distance of 889 miles, organised by the Auto-Cycle Club, was concluded on Saturday. Out of the seventy-five competitors who started, the following thirty-five successfully completed the long journey:—A. H. Albert (3½-h.p. Quadrant), W. Harrison (3½-h.p. Quadrant), A. Williams (3½-h.p. Quadrant), W. H. Wells (5-h.p. twin-cylinder Vindee), H. G. Cove (2½-h.p. De Dion), H. E. Blackney (4-h.p. twin-cylinder Werner), P. C. Camporale (3½-h.p. Rex), M. J. Tuchmann (3-h.p. Quadrant), Rev. B. H. Davies (3-h.p. Triumph), J. Tassell (3½-h.p. Matchless), E. W. Ashworth (4-h.p. twin-cylinder Werner), F. Hulbert (3-h.p. Triumph), S. Bramley Moore (3-h.p. Triumph), W. Brough (3½-h.p. Brough), J. F. Dixon (3½-h.p. Bradbury), R. M. Brice (3½-h.p. Brown), W. Milnes (3½-h.p. Phelon-Moore), R. Moore (3½-h.p. Phelon-Moore), W. G. Brooks (5-h.p. twin-cylinder Rex), S. W. Carty (3½-h.p. N.S.U.), H. L. Cooper (3-h.p. Triumph), A. W. Browne (7-h.p. twin-cylinder Lurquin-Coudert), D. Poupert (3-h.p. Fafnir), F. E. Cox (5½-h.p. twin-cylinder G.B.), F. W. Applebee (3½-h.p. Rex), W. Hayes (5-h.p. twin-cylinder Rex), W. Hayes (5-h.p. twin-cylinder Rex), G. W. Blackaller (3½-h.p. Quadrant), H. R. Dougal (4-h.p. Stevens), Tri-cars and Quad-cars.—H. G. Priest (6-h.p. Quadrant carrette), A. B. Albert (6-h.p. Quadrant carrette), J. van Hooydonk (6-7-h.p. Phoenix quadcar), Wilbur Gunn (10-h.p. Lagonda tri-car), A. Carmeal, jun. (9-h.p. Riley tri-car), and Miss Muriel Hind (9-h.p. Singer tri-car). The latter met with considerable trouble, but, with a determination that made her very popular, Miss Hind surmounted every difficulty and successfully accomplished the end-to-end ride. On the last day A. B. Albert (Quadrant) had hard luck with his machine, which had run perfectly up to that time. The valve in the rear tyre began to leak, making it necessary to pump up every two or three miles. Finally, wearying of these frequent stops, Albert rode the last seventy miles on the rim. F. W. Applebee (3½-h.p. Rex) ran out of petrol eleven miles from the end, and tried to run on paraffin. This did not prove a success, however, and he had to send back some miles for petrol, which resulted in his arriving at John o' Groat's late in the evening.

### THE DRAWBACKS OF WIND SHIELDS.

MR. WALTER DEMUTH appeared before Sir Albert de Rutzen at Bow Street Police Court on Saturday to a summons charging him with driving a motor-car on a public highway in a negligent manner.

Mr. Herbert Muskett, who supported the summons on behalf of the Commissioner of Police, said the proceedings were taken under Section 1 of the Motor Car Act of 1903. Shortly before ten o'clock on the night of Sunday, the 6th ult., a cab, in which Dr. Lankester was seated, when passing the top of Birdcage Walk towards Buckingham Palace Road, was dashed into by a motor-car driven by Mr. Demuth. The cab was badly damaged. Mr. Demuth subsequently explained that he was unable to see where he was going owing to the reflection of the arc lamps at this spot on the glass wind screen of his car. He (Mr. Muskett) thought that, in the interest of the public, the use of these screens should be discontinued if motor-drivers were unable to see through them. Dr. Lankester said he thought the defendant sounded his horn just before the collision occurred. The car was only going at a moderate speed, but it went for the cab like an avenging angel. Dr. Lankester added that he had received from Mr. Demuth a very polite letter relating to the accident, and he produced it for the magistrate's information. The defendant said the accident was caused in the way described, and not because he drove negligently. Sir Albert de Rutzen said Mr. Demuth ought to have stopped his car when he found that the wind screen obstructed his view, and must pay a mitigated penalty of £5 and £3 costs.

### POLICE TRAPS.

THERE is a police trap at Slyne, near Bolton-on-Sands.

A CORRESPONDENT writes, there are several traps on the Bath road in the neighbourhood of Maidenhead. There is no safety between Slough and Twyford.

THE Upper Shoreham Road, Southwick, is a place of police resort. Motorists should take warning.

THE new police trap devised by the Cheshire police is now in operation at Stockton Heath, Northwich, and other places. Constables are stationed at distances of one, two, or even more miles apart, and keep a record of the times at which all motor-cars pass them. So far the speeds recorded have been good.

THERE is a measured 220 yards on the St. Leonard road, Ayr.

SEVERAL traps have been notified on the London and East Grinstead road, notably at Godstone.

AT the Colchester Police Court on Tuesday, P. C. Friend described the setting of a police trap a quarter of a mile long opposite St. John's Church, Ipswich.

### THE STORAGE OF PETROL.

WILLIAM MARSHALL, of the South Shore Motor Garage, the Promenade, Blackpool, was summoned at the Blackpool Police Court for keeping and selling petroleum without a licence, and also for contravening the petroleum regulations.

Inspector Butterworth spoke to finding tins of petroleum in the Garage at South Shore, and also forty-four empty tins, which were more or less dangerous, as they sometimes contained vapour. With regard to the breach of regulations, the inspector said he found a two-gallon tin, a number of empty ones, and two partly-filled in a store. The Chairman (Ald. Fish) told the defendant that the seriousness of the case could be seen by the fact that they could impose a penalty of £20. They, however, would be lenient, and impose a fine of 20s. and costs in each case.

### THE NECESSITIES OF TRAFFIC.

SHERIFF ARMOUR has heard proof at Cupar Sheriff Court in a motor-car prosecution case, in which John Webster, motor-car driver, Kemback, was charged with having on Monday, 21st May, on the highway between Pitscottie and Dairsie, failed to stop the engine of a motor-car which he had drawn up in consequence of a horse under the charge of a ploughman having become restless and unmanageable. A plea of not guilty was tendered, and it was stated for the defence that the Motor Car Act provided that when a motor-car was stopped for any reason other than the necessities of traffic, the engine must be stopped to avoid noise. In the present case the car was stopped owing to the necessities of traffic, and it was not therefore compulsory to stop his engine. In course of the evidence it was said that the car was stopped through a horse becoming frightened and swerving across the road. His Lordship held that this was a stoppage that was due to what might be described as the necessities of traffic, and he therefore found the accused not guilty.

### MOTOR-CAR LAW ANOMALY.

MR. E. T. GILES, of Streatham, was summoned at the South-Western Police Court last week for driving a motor-car to the common danger of the public. It was alleged that Mr. Giles passed a furniture van on the off-side and ran into a police-sergeant and his wife, who were cycling at the time, and severely injured them. A fine of 40s. and 23s. costs was imposed. Defendant's solicitor asked that the licence might not be endorsed. The magistrate, Mr. Francis, stated that he had no discretionary power in this case. When a man is knocked down and killed the driver of the car need not have his licence endorsed, but when the car is driven too fast and a penalty of a shilling imposed, then it is necessary to have the endorsement. Such is the inconsistency of the motor-car laws. The licence was consequently endorsed.

### A MOTOR-CAR COLLISION.

AT the Coventry County Court, last week, a motor-car case was called before his Honour, Judge Ingham, and a jury concerning a collision in Coventry. Fredk. John Hibell, Queen's Road, Coventry, sued the Humber Motor Company, Ltd., for £10 damages sustained by the alleged careless or negligent driving of a motor-car by one of the company's servants. Mr. J. F. Eales (Messrs. Band and Hatton) represented plaintiff, and at the conclusion of his opening statement a settlement was arrived at, the defendant company agreeing to pay £7 and costs in full settlement.

### MOTOR-BUS CASES.

FOR driving in a manner dangerous to the public in the Finchley Road, C. W. Simons has been fined 30s. and costs at Marylebone Police Court. While driving a Vanguard bus he knocked down a policeman. It was subsequently discovered that the defendant was learning his duties. Another motor-bus driver who "narrowly escaped collision with a cab" was fined 40s. and costs on the same occasion.



# THE Motor-Car Journal.

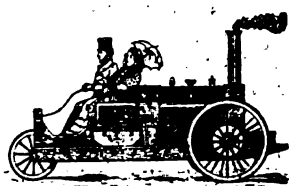
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## COMMENTS.



THE Select Committee of the House of Commons to whom the Cabs and Omnibuses (Metropolis) Bill has been referred, have now reached the consideration of the question as to the advisability of recommending fresh regulations as to motor-buses and electric trams. At the meeting of the Committee, on Tuesday, Mr. Henry Norman presiding, Chief Inspector

Basson was inclined to think that the Chief Commissioner of Police might withdraw opposition to the London County Council's proposal to increase the speed of tramcars to fifteen miles an hour, but would not sanction any greater speed than now for motor-buses. Mr. A. A. Campbell Swinton, M.I.C.E., said that he had been appointed to give evidence on behalf of the Motor-Van, Wagon, and Omnibus Users' Association, representing more than 400 motor-buses now running in the streets of London, and carrying about one and a-half million passengers per week. The motor-bus was in process of rapid development, and in a year or two would be very different from what it was now. Therefore it was very undesirable that regulations should be made which would stereotype the present bus. As to noise, that was a matter which depended on the width of the street and the state of the pavement. The bad state of the streets was due to the horse traffic, and when horses practically disappeared from the streets there would be no difficulty in keeping the roads smooth, and the noise would then disappear. As to smoke, that was chiefly due to over-lubrication. A little time should be allowed to let matters get straight. At present skilled drivers were practically unobtainable, for they were driving private cars; at that they had a much easier life. The bus proprietors had to teach their men to drive, which was a slow process. In time all omnibuses which gave off smoke should be ordered off the streets; but this regulation should not be pressed on too hurriedly.

### Australian Advance.

MOTOR-CAR advance is undoubtedly being made in Australia, and good work is being done by the Roads Improvement and Touring Association of Melbourne in arousing the Colonial mind to a due appreciation of the importance of good roads in developing the resources of the country, as well as making easier the path of the automobile. In South Australia motorists have become so numerous that the Government has sought to apply stringent regulations to motor-cars in the districts outside of Adelaide. At a meeting of one of the local authorities the mayor reported that he had received a copy of regulations which the Government intended to proclaim under the Motor Traffic Regulation Act, 1904. Regulations for the control of traffic in Adelaide had been adopted. They contained, in addition to clauses providing for lights, bells or horns, and silencers, and an obligation for drivers to stop in case of accident, provision to guard against negligent or reckless driving, and to restrict the speed to fifteen miles an hour within

certain boundaries, and to thirty miles an hour in any other part. It was resolved by the Council to petition the Attorney-General to allow the speed of motors in the suburbs to be raised to twenty miles an hour. The mayor thought motorists were already surrounded with regulations, and to keep them down to fifteen miles an hour would be to impose too great a restriction. He had had some experience, and could assure the Council that twenty miles an hour was a moderate speed. Evidently the automobilists of Australia have to encounter opposition almost as virulent as some of the prejudice which has had to be combated in the old country.

### Ladies and the Car.

THE presence of ladies in connection with the social events organised by the various motoring associations must be regarded as among the reasons of their success. Now some of the clubs are going further than of yore, and consideration is being given to the question of admitting the fair sex to full membership. The Liverpool Automobile Club has already come to a decision in the matter, having agreed to admit them to membership at an annual subscription of half-a-guinea. It has also been resolved that "Ladies proposed for membership must be members of their proposer's family, and that they shall enjoy the use of the club room between the hours of 3 p.m. and 7 p.m. daily, and that they shall, with the exception of the right to vote at meetings of the Club (either committee or annual), be entitled to the full privileges of membership." London is now being traversed by three or four ladies in a motor-car bearing the legend, "We demand the vote"; it is to be hoped they will not invade the harmonious haven of the Liverpool Automobile Club.

### Accommodation for Motorists.

ONE of the most notable impressions of a tour in Scotland is the evidence afforded of the universal desire to cater for the requirements of motorists. Throughout the country every hamlet as well as popular resort proclaims its provision for the accommodation of cars, the supply of petrol and desire that motorists should halt within its area. The contrast between a journey by road in this country and north of the Tweed is extremely great on this account, and indicates a recognition of the commercial value of the motorist in the latter land which is certainly not so observable in England.

### The Argyll Works.

ON the shores of Loch Lomond the new works of the Argyll Company are now getting into running order, and already more than sixteen hundred men are finding employment in this modern factory. Pleasantly situated in the open country, this new establishment is really a model industrial palace, the conditions of light and air being all well considered in the design. Not only has regard been paid to the conditions under which the men will work, but in the provision of workmen's dwellings in the locality and the organisation of music and recreation in their leisure hours the directors have shown a

proper concern for the welfare of the new community that is being attracted to Alexandria by the development of this enterprise. The land purchased for the works covers 53 acres, and the official opening on Tuesday served to emphasise the keen interest with which the whole of the automobile movement in this country regards the success of the Argyll works and the Argyll cars.

#### Motor Ambulance.

THE presence of a motor ambulance in one of the shops, intended for the St. Andrews Association of Glasgow, indicated a department of activity which is likely to figure materially in the automobile output of the future. In London the matter has hung fire many months, and apparently the central authorities are prepared to allow the leaders in such work elsewhere to be pioneers with regard to motor ambulances. In view, however, of the saving in time, and consequently of



The Du Pre Challenge Cup. (See page 400.)

The first illustration depicts Mr. Ross Brown on the 35-h.p. Brasier, and the second one Mr. R. Cripps on the 16-20-h.p. Argyll.

pain, made possible by the motor ambulance in rural and suburban districts, it is to be hoped that development in the future will be much more rapid—particularly as makers of automobiles have shown their capacity to design and construct suitable vehicles of the kind required for such humane service.

#### A Conviction to Stand Over.

ON Thursday of last week, at Hayward's Heath, Mr. E. G. Hemmerde, instructed by Messrs. Kenneth Brown and Co., made application on behalf of Mr. William Fletcher that the sentence of one month's imprisonment and the suspension of Mr. Fletcher's licence for six months should not take effect pending the appeal against the conviction which had been lodged. Counsel pointed out that Mr. Fletcher had under an entire misapprehension pleaded guilty to the summons charging him with driving at a speed dangerous to the public, whereas the police at the time they stopped Mr. Fletcher gave him notice in writing to the effect that he would be prosecuted under Section 9

of the Motor Car Act, and, in consequence, the telegram that Mr. Fletcher had sent was forwarded entirely under a misapprehension. Mr. Fletcher entered into a recognisance for £200 to prosecute the appeal, and the Bench acquiesced in the application. The hearing of the appeal has been fixed for October 16th next.

#### The Motor Union.

THE development of high-handed, or High Barnet justice with regard to motorists shows the necessity for organisation among them; the way in which the Motor Union has interested itself in the case of the motorist who has been be-garbed in convict's clothes, because he did not pay a fine, proves the lively concern it takes in all that interests motorists. The case is to be argued before a Divisional Court of the King's Bench on the 10th prox., so that we are precluded from comment on the matter. This does not, however, prevent us from congratulating the Motor Union on taking prompt and effective action to secure a writ of habeas corpus and the order from Mr. Justice Phillimore for the hearing of the matter in a higher court.

#### Next Year's Trials.

TIME will soon be opportune for the provisional arrangement of events in connection with next year's trials and tests, and we would suggest that the A.C.G.B.I. might well take early action in bringing before the various clubs likely to organise competitions the advisability of avoiding such clashing of dates as recently took place when the Irish and the Scotch Trials occurred simultaneously. This is rendered all the more necessary now that the Welsh club promises to enter the lists of trial promoters. There are parts of the Principality eminently suited to the purposes of a Reliability Trial, and something like joint action in the selection of dates will be necessary as events become more numerous and cover a wider range of interest. Already, with regard to the Scottish Trial of 1907, the committee are being favoured with suggestions, one of which is that the event should be run over the same course but reversing the route, so that it would practically begin with a climb to the "Rest and be Thankful"—an idea not regarded very favourably by many familiar with the gradients of the district.

#### Another Trial.

OF the proposing of trials there is no end, and some are rather given to fear that these will soon make up practically the whole of the automobile year, leaving little time in which the manufacturers and agents can do their business. At the present time the A.C.G.B.I. are considering a suggestion to organise a contest of motor-cars for town use, as distinguished from those suitable for touring and general purposes. It is thought that the various types of vehicles—petrol, steam, and electric—might well be tested with regard to their merits for society use, emphasising smokelessness, absence of vibration, noise, &c., as well as other features of importance. Something might also be attempted as to the bodies themselves, so as to secure an acceptable combination of utility with appearance.

#### Correct Entries.

MENTION of trials suggests a growing practice that should be discouraged by those responsible for the receipt of entries. In the recent Scottish Trial some discrepancies were noted as to the cylinder dimensions and horse-power, and in one glaring case of similar horse-power the cylinder dimensions were so contrary as to suggest a mistake somewhere. At South Harting, too, on Saturday, dissatisfaction was expressed with regard to the same point, and one competitor declined to start—by way of protest—when he ascertained that one entry was found to be of different dimensions to that ordinarily sold as a standard touring car. The time is coming when the

entries at all these competitions will have to be carefully overhauled and checked with any available data, so that makers entering wrongly described cars may know of their own errors—or, at least, recognise that someone else may discover the mistake.

#### Observers.

AMONG the minor details of organisation to which recognition should certainly be given in future is the size of the observers appointed to the cars. As a whole those officially appointed on the last event did their work well, although some few cases of officiousness, or of a desire for mathematical exactitude rather than a display of common sense, occurred. But cannot a weight limit be applied? One observer with his baggage lowered the scale at 23 stone; another with his impedimenta weighed over 19 stone—some were excessively lean, and found bags and coats useful in bringing the aggregate weight to a reasonable total. When hill climbs are of daily occurrence

in that district who own cars. The handbook contains a list of hotels and garages which give a discount to members staying at those places, route maps from Newcastle, Sunderland, Durham, West Hartlepool, Stockton and Darlington, several pages ruled for notes of runs, &c., and much information of local utility. Certainly the Association deserves the support of all motorists who reside within the area of its operations.

#### The Dust Question.

THE ninth annual conference of the Association of Cleansing Superintendents has been held at Salford. Mr. W. H. Hamblett (Cleansing Superintendent, Salford, President of the Association), in the course of his inaugural address, referred to the questions of the future, one which was urgently pressing for solution being that of the sanitary conditions of roads and streets. The electric trams and motor-cars had come to stay, and if they were not dust creators they were



The South Harting Hill Climb. The Cars lined up behind the Starting Point (See page 400).

the change of observer, say from 23 to 10 stone, may mean much in estimating the performance of the car. We recognise that the subject must be approached with more than the average Scottish caution, but it should not be difficult to avoid such disproportions in future.

#### In the North East.

THE most comprehensive Year Book yet issued by any of the automobile associations, apart from the A.C.G.B.I. and the Motor Union, is that of the North Eastern Automobile Association, which has now the largest membership of any motoring club in the provinces. The system of local organisation developed by the association has proved most successful, both in knitting together the motorists of the north-eastern corner of England and in maintaining the rights of those

here as dust raisers, and they had served to emphasise and make more general and permanent a complaint, a nuisance, and a danger to health which only a few years ago was very limited and much more easily dealt with, and not troubled so much about by the public. In towns where granite pavement obtained there was not the same intensified cause of complaint as where the roads were macadam; but even in the villages demands were constantly being made for some remedy which should at least minimise the nuisance and the danger to public health. He went on to say that so wide was the difference of opinion with regard to the utility of the various "dust-layers" on the market that he had made a serious attempt to persuade the Executive Council of the Association to endeavour by practical tests, and, if necessary, by the expert advice of some leading chemist, to endeavour to obtain a medium which would be both efficient and economical, in the hope that the time was not far distant

when there would be no complaining in regard to dust in the roads and streets.

#### Progress in Ireland.

SIGNS are not wanting that the motor movement in Ireland is developing very rapidly, especially having regard to the limitations that naturally arise in a country where no great industrial development is taking place. The Motor Directory published by Mr. W. A. Tempest brings this fact clearly before us, containing as it does the names and addresses of more than 3,000 motorists in the Emerald Isle, about two-thirds of whom are motor-cyclists and the remainder owners of cars. This excellent directory has now got into the second year of its usefulness, and, in addition to the list of names, contains the Motor Car Act of 1903, together with the Local Government Board regulations, tables of speed, a list of hotels, &c., completing a useful work in which a couple of pages devoted to roadside troubles is not the least interesting feature.

#### A Dismissal at Kingston.

NOT often are dismissals of cases against motorists secured at Kingston; hence Mr. Staplee Firth is to be congratulated on having secured such a result in a case where Superintendent Marks was concerned. Mr. Rupert Williams was summoned for driving dangerously, despite the fact that he was carrying five passengers, and his car had only just come from the repair shop, added to which was his knowledge of the trapping propensities of the police of the locality. The police asserted their capacity to discriminate as to the distance of a motor-car when out of sight by the blowing of the horn. Other equally surprising abilities were also acknowledged until photography was introduced into the case, and in the end even the Kingston Bench had to dismiss the case.

#### Dust in Derby.

It speaks well for the fairness of British journalism that both sides of most matters are given publicity by the leading journals. Where motorists write dispassionately they can generally secure replies to tirades against cars, and we congratulate Mr. C. J. Allin, the hon. sec. of the Derby A.C., upon his letter to a local paper replying to a spirited attack on automobiles as public nuisances. This was based upon the statement of a Lancashire farmer to the effect that he had spent £20 extra in veterinary fees owing to the illness of cattle eating hay impregnated with dust raised by motor-cars. Mr. Allin rightly points out that, so far as the county of Derby is concerned, the remedy lies with the authorities. Without a doubt the dust (caused by the hoofs of horses and iron-tired vehicles of all descriptions) is an unmitigated nuisance when raised by passing motor-cars, but while the roads of Derbyshire are "repaired" by rolling in the fresh metal with the previous sweepings of the surface, and even (as he has seen within five miles of Derby) with soil taken from the adjoining fields, there is bound to be dust in dry weather, and corresponding mud in wet weather. Under such circumstances only dust may be expected.

#### Prosecutions in Scotland.

UNDER the new Minute of Agreement with the Motor Union and the Automobile Club, the Scottish Club now carries out on its own account the support of legal cases or the testing of important principles, for which hitherto they were entitled to look for some support to the Motor Union. A point of extreme importance is one of the first thus to be dealt with. They have just had under their careful consideration the question of the jurisdiction of Summary Courts in Scotland other than the Sheriff Court. Various prosecutions have taken place recently before police magistrates, and the objection which has been urged on behalf of the defender to the competency of the jurisdiction has been repelled. The Scottish

Automobile Club are aware that, without committing themselves to any definite expression of opinion, the Crown authorities have advised that all cases under the Motor Car Act should be taken before the Sheriff, and they have taken legal opinions and are taking steps to test the matter in the Supreme Court.

#### A Daily Record.

MOTORISTS are not usually regarded as the most methodical of men; but that section which wisely keeps account of mileage and expenses will welcome the Motorist's Daily Record of Runs which Messrs. Charles Jarrott and Wm. Letts have edited and Messrs. Dow and Lester have published "to induce and maintain a more general indulgence in record keeping as applied to motor-car runs than has hitherto obtained." Under easily located headings will be found space for the entry of practically every detail connected with the running of the car, condition of roads, and all items of general or personal interest, so arranged that the writer can complete the story of each day's run in a few words. We commend the volume to motorists generally as a book of value.

#### Municipal v. Private Enterprise.

WHILE it does not come within our province to criticise the municipal policy which seeks to swallow all forms of private enterprise, the controversy which has arisen at Birkenhead, Blackpool, and other places with regard to opposition to motor-buses because they may prove serious rivals to the municipal tramcars cannot be ignored. We rather dispute the alleged right of local authorities to thwart or delay the progress of a new industry merely because it may threaten the profits obtainable by some older method. And yet that is what is happening in many places throughout the country. Thus when an offer was made to the Corporation of Blackpool of £2 a day for the privilege of running motor-cars to ply for hire on the promenade it was refused, on the ground that competition with tram-cars was not desirable. Such a view is an excessively narrow one, and has no regard to the ultimate benefit or convenience to the public.

THE Manchester crippled children's motor car ride will take place to Redesmere, Siddington.

THE Standard Motor Agency, Ltd., have removed from Regent House, London, W., to a new depot at 106, Albany Street, Regent's Park, N.W.

MR. FRITZ LOESER, the chairman of the Belsize London Agency, has just started on his 40-h.p. Belsize car for a 20,000 miles tour through the Continent, with a view of opening up business in the various centres.

MR. GRAHAM NOTLEY will open, on the road between Henley and Marlow, in Henley week, a garage large enough to house 400 cars, at which a large staff will be in attendance, and every facility given for the storage and repair of vehicles.

THE Adams Manufacturing Co., Ltd., have appointed the Dublin Autocar Co., of Dublin, sole agents for the Adams-Hewitt cars in the central counties of Ireland. The Dublin Autocar Co., of which Mr. A. W. Inglis is the manager, will shortly be in a position to give demonstrations of the standard type "R" car, together with trial runs.

WHILE the 20-22-h.p. Mobile car was ascending the Devil's Elbow on the second day of the Scottish Trial, the observer unfortunately switched off the switch underneath the coil, causing a loss of time of 55 seconds. This allowance will, we are informed, be given to the Mobile when the final results are made up.

ON Saturday the Daimler Co.'s employees, to the number of 850, went to Blackpool for their annual excursion. On the same day about 120 members of the office staff journeyed to Dunchurch by brake and motor for the annual picnic. Later in the day Mr. P. Martin presided over dinner at the Dun Cow Hotel.



# SOME WELL-KNOWN DRIVERS IN THE GRAND PRIX RACE.



Signor LANCIA (Fiat).



Signor NAZZARO (Fiat).



Signor CAGNO (Itala).



M. JENATZY (Mercedes).



M. DURAY (De Dietrich).



Baron de CATERIS (Itala).



M. GABRIEL (De Dietrich).



M. ROUGIER (De Dietrich).



M. SALLERON (Hotchkiss).

# The Grand Prix Race.

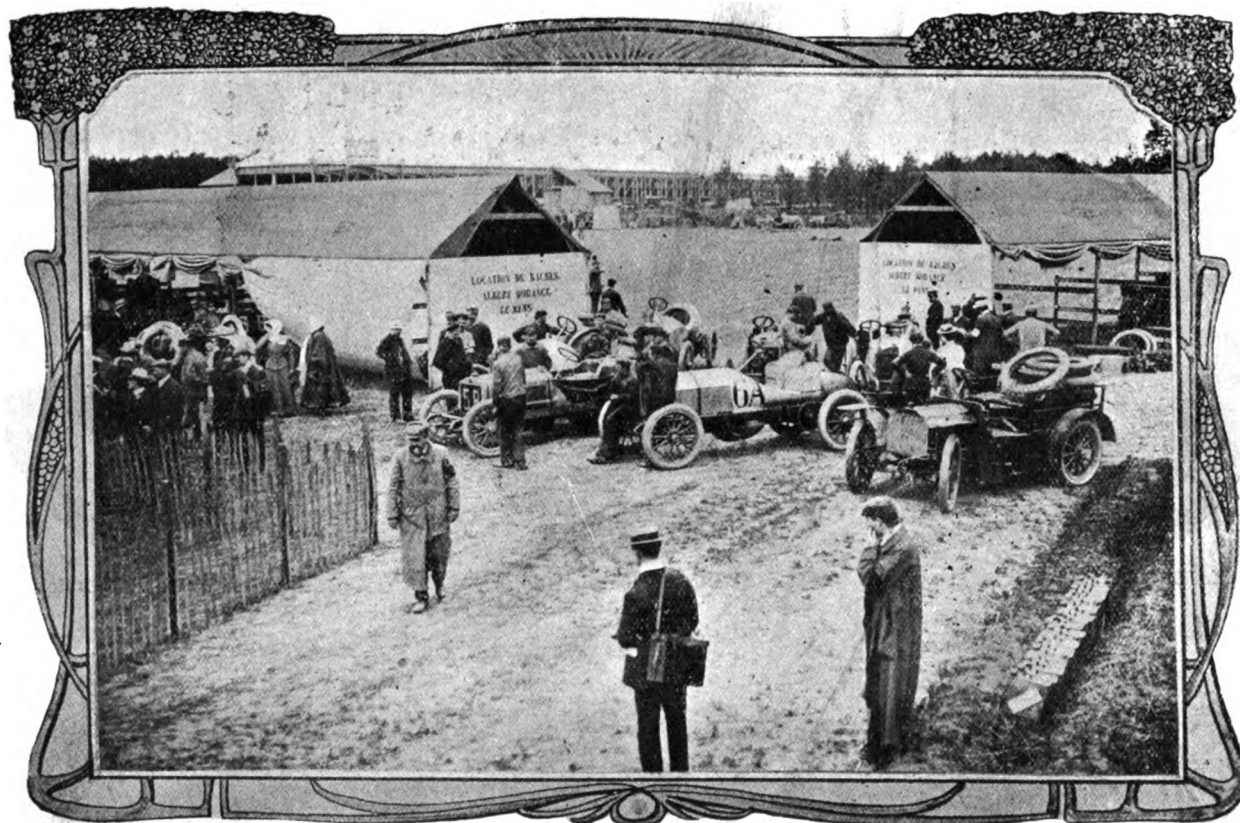


LE MANS, Sunday.

WE made the journey by automobile, *via* Southampton and Havre, which seaport was reached shortly after seven in the morning, but, in consequence chiefly of unshipping the cars—there were several others besides our own—it was after ten o'clock before the departure for Rouen was made. At this interesting town a stay was made for the night, and an early start made next morning for Alençon, where *grand déjeuner* was partaken, and Le Mans was duly reached on Saturday evening. The weather was gloriously fine, and the roads—mostly national—were as straight as a die, albeit very dusty.

During special events people expect to pay more than at ordinary times at hotels. At Clermont Ferrand the Bonifaces contented themselves with charging twenty-five francs a day. The hotels, while of course not equal to those on the Riviera,

automobile world, and should be more generally followed by the similar bodies of other countries. After the cars were weighed, the drivers had to open their silencers and race their engines over a length of sand to test the efficiency of their silencers, with a view to the prevention of the dust nuisance. Twenty-six vehicles duly passed the ordeal of the scales to-day, these comprising three each De Dietrich, Fiat, Brasier, Darracq, Mercedes, Hotchkiss, two Clement-Bayard, a Gobron, an Itala, and four Panhards, one of the latter being a reserve car. The remainder will be weighed-in to-morrow. Afterwards the cars got rid of their excess of lubricating oil, with an effect similar to that of a dense London fog, with the addition of that pungent odour which lubricating oil usually gives. One noticeable feature of the racers was their quietude and their apparent ease of control. Most of them are built higher than



The Scene at the weighing in at Pont-de-Genne, on Sunday last.

were clean, and first-class specimens of provincial hotels. But here the proprietors have combined, and charge all and sundry fifty francs a day, with wretched, badly-cooked food, and accommodation which would disgrace a minor coffee-house. Moreover, the town itself is dirty and untidy. As for the garages, the owners have combined to make a charge of 10s. a car per night.

Our own car being *en panne* through the magneto giving out, we were indebted for a seat on the car of M. Hochmelle, late sporting secretary to the Automobile Club of France, for the journey out to the starting point at Pont-de-Genne, which is about 17 kilometres from Le Mans, and for our return, after ten hours in the paddock, to Mr. Heath, who drove in last year's Gordon Bennett race. The weighing-in took place in a field opposite the grand stand, and, as usual, was a lengthy and tedious affair. As is well known, the A.C.F. is nothing if not thorough, and its organising powers are well known to the

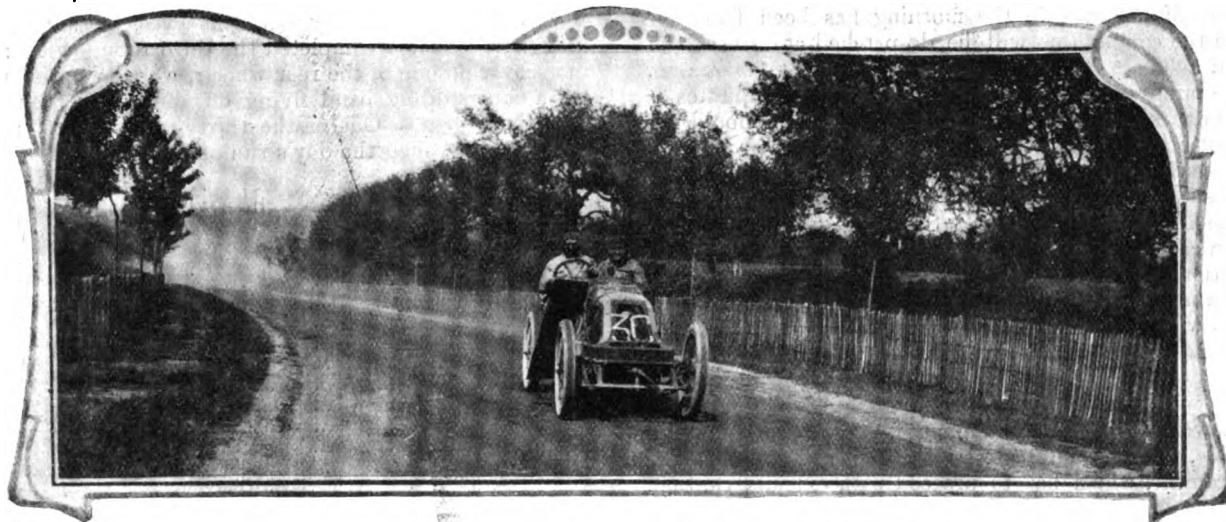
last year, when the tendency was to keep as near as the ground as possible.

As is generally known, pines grow on a specially loose, sandy soil, and round the neighbourhood, at all events of the grand stands, there are nothing but pine woods, hence, although the roads are tarred for a width of five feet in the centre of the road, there is still enough dust left to cover the clothes of the spectators and make their throats like leather. The paddock itself was inches deep in dust, and walking up and down innumerable times was very tiring work. All round were open stalls for the competing cars, but very few were occupied, they being scattered all over the place. The interior of the fence was kept exclusive for those who had work to do, but outside there were hundreds of cars and thousands of visitors, who comported themselves patiently in the broiling sun. It being Sunday, the whole surrounding population were taking advantage of the fact, and the consequence was that the roads were practically impassable.

Amongst those who have gained fame as speedy motorists, we noticed present, either as spectators or officials, Messrs. René De Knyff, Heath, Thierry, Farman, Stead, Siz, in addition to those in charge of racing machines this year.

Going over the course, it was found to be very much cut up, loose stones being far too plentiful, but the number of tar

10.30 p.m. with a confrere, when he suddenly observed, "What has become of all the people?" They had disappeared, so that we followed suit, he to a quiet abode; and we to a room overlooking the square. Proceeding to disrobe, we were startled by a diabolical row; the owners of all the instruments which had been sold during the day had formed themselves into a band,



Riches having a trial run on the Circuit on his Renault Racer. Siz, the Winner of the Race, drove a similar Car.

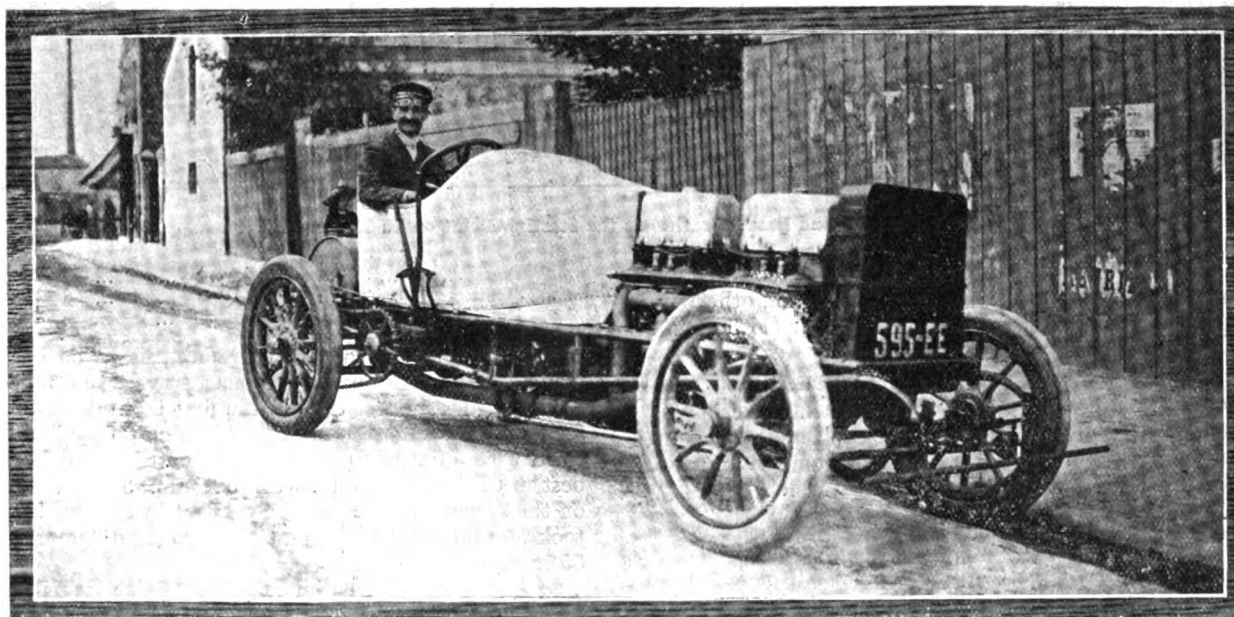
barrels by the roadside suggested the thought that possibly the roads would be tarred again, and the impression left on our minds was that luck and tyres would win the race. At all events, from the nature of the course, the times should be phenomenal, and at points it is hoped that "flying kilometres" will be taken.

Returning to Le Mans, the sight that presented itself was a most astonishing one; a procession of vehicles—horse, car, and cycle—was in progress, the occupants of many of which carried banners, and all vehicles were gaily decorated with flowers, while the profusion of flowers and confetti was overwhelming—most

which was followed by thousands of people, and soon the Place de la Jacobin was as crowded as before. The band commenced to play, the people set to partners, and when sweet Morpheus, somewhat after two in the morning, claimed us the proceedings were still continuing. It was the occasion of the annual battle of flowers.

#### LE MANS, Monday.

To-day the road between Le Mans and Pont-de-Gennes has been crowded with traffic, and the dust has been terrible. Seven of the remaining nine cars—three Renaults, a Gregoire, two Italas, and a Clement Bayard, were duly weighed. Barriaux



Rigolly on his Gobron Racer.

uncomfortably so. The noise of all the most hideous instruments that it had been possible to get together was indescribable; and what with the shouting of the purveyors of the halfpenny French papers, hawkers, etc., one would imagine that pandemonium had broken loose. However, we were sitting at a café, about

(Vulpes) has declared forfeit, his car having proved too heavy Tavernaux (Gregoire) will also be a non-starter owing, it is reported, to trouble with his engine. The number of competitors is thus reduced to thirty-two. As regards tyres, it may be of interest to add that Michelins are fitted to two of the

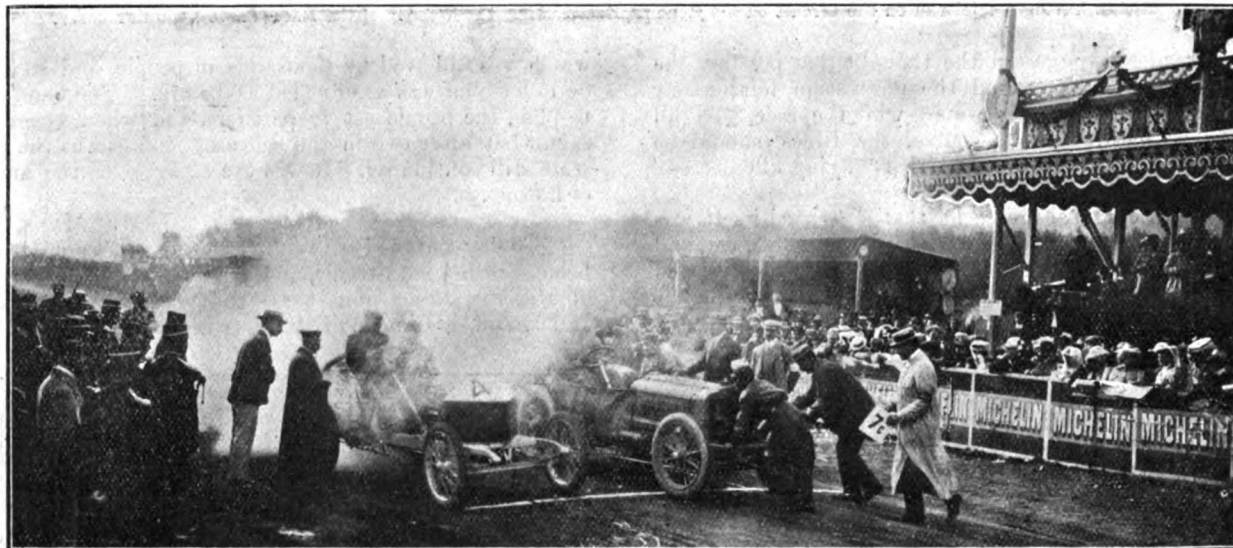
De Dietrichs, the Fiats, Renaults, Italas, Panharda, and Hotchkiss; Continentals to one of the De Dietrichs, the Mercedes, Brasiers, and the Gregoire; Gaulois to the Gobron, and Dunlop to the Darracqs and Clement-Bayards. In order to facilitate the replacement of tyres, many of the cars are fitted with detachable rims.

The start of the race in the morning has been fixed for 6 a.m., when the competitors will be despatched at intervals of a minute and a half. The last man is due away at 6.49½ a.m., or nearly 50 minutes after the leader. Fifty-seven minutes is reported to be the record for the circuit, so that there should not be a long wait ere the competitors begin to make their appearance after covering the first lap. The Sporting Commission of the A.C.F. has issued a notice asking visitors not to throw flowers or objects to the drivers as they pass. Special provision has also been made in case of accidents, doctors having been appointed to take up positions at short intervals along the route.

In Le Mans the number of people arrived was really startling, and there is wailing amongst the ladies as to where they will sleep. The men are content, and say they will sleep in the square on their cars. The night is warm—not to say sultry—and their decision will cause them no great hardship. This evening again the town is brilliantly illuminated, and the only moving thing possible, other than pedestrians and motorists, is the single-line tramcar, which has to proceed with extreme caution.

Gabriel, who was the first to be despatched, was in some slight trouble, and Lancia crossed the line before him. Lancia, too, was the first to cover the circuit, his time being 64 min. 30 sec., Sisz following a minute or so later. At the end of the first lap Cagno had to stop for petrol, as also did Salleron. Edmond pulled up at the grand stand at 9.40 a.m. to make some repairs. He was suffering badly with his eyes, he having broken his goggles. Jenatzy completed the third round with neither tube nor cover on one of the rear wheels, whilst Gabriel was stopped by a non-skidding band flying off and getting entangled with the chain gear. Out of the thirty-two starters, the following seventeen finished the day's run of 387 miles:—

Driver.	Machine.	Time.		
		H.	M.	S.
Sisz ...	Renault ...	5	45	30 2-5
Clement ...	Clement-Bayard ...	6	11	40 2-5
Nazzaro ...	Fiat ...	6	26	53
Shepherd ...	Hotchkiss ...	6	30	45
Barillier ...	Brasier ...	6	31	48 1-5
Richiez ...	Renault ...	6	35	47
Heath... ..	Panhard ...	6	48	12
Teste ...	Panhard ...	7	1	52 2-5
Lancia ...	Fiat ...	7	12	9 1-5
Hemery ...	Darracq ...	7	26	18 2-5
Rigolly ...	Gobron ...	7	36	8 1-5
Mariaux ...	Mercedes ...	7	39	31 2-5
Baras ...	Brasier ...	7	41	43
Duray... ..	De Dietrich... ..	7	58	46



Hemery (Darracq) and Baras (Brasier) at the Starting Point on Tuesday morning.

The procession of vehicles to the course is expected to be unexampled, and a start has to be made at 2.30 a.m., otherwise progress will be impossible. Even at this late hour (11.30 p.m.) vehicles are still arriving in endless procession.

#### THE FIRST DAY OF THE RACE.

LE MANS, Tuesday.

The start of the great race duly took place in splendid weather at 6 a.m. this morning; thirty-two competitors were despatched in the order shown in the appended table:—

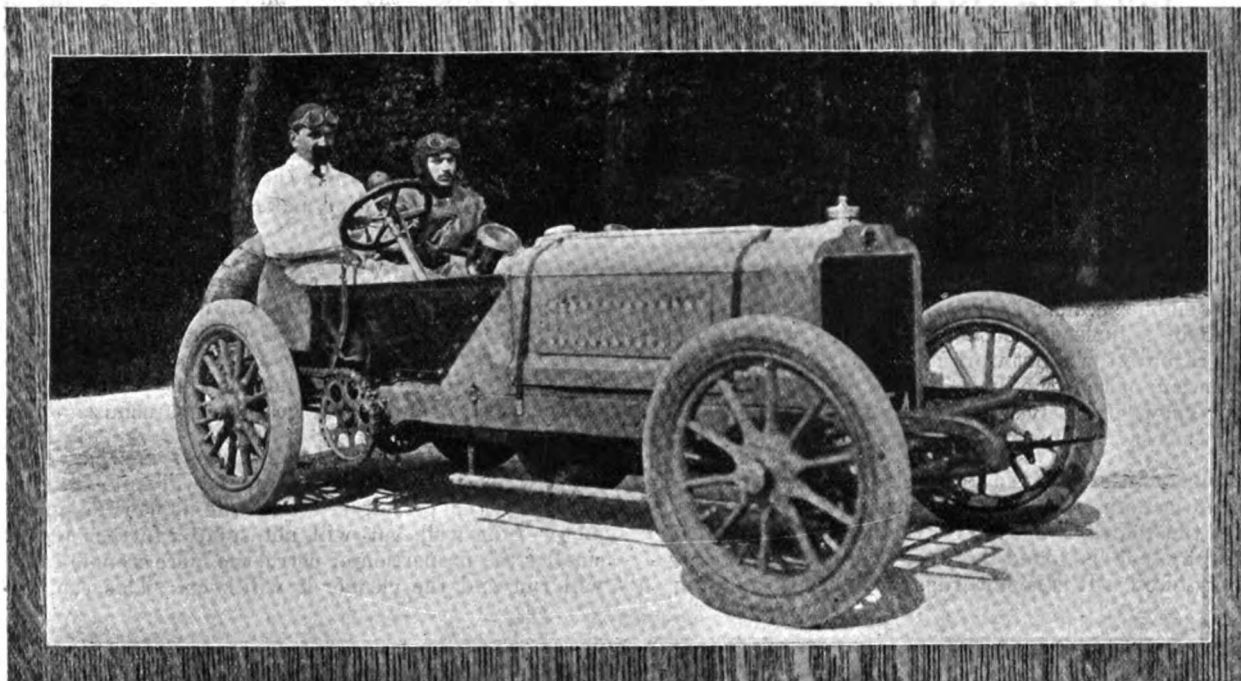
No.	Driver.	Car.	No.	Driver.	Car.
A 1	Gabriel	De Dietrich	B 6	Mariaux	Mercedes.
2	Lancia	Fiat.	8	Fabry	Itala.
3	Sisz	Renault.	9	De Bosch	Gregoire.
4	Hemery	Darracq.	10	Tart	Panhard.
5	Baras	Brasier.	12	Salleron	Hotchkiss.
6	Jenatzy	Mercedes.	13	Villemain	Clement-Bayard.
7	Rigolly	Gobron.	C 1	Duray	De Dietrich.
8	Itala	Cagno.	2	Weilschott	Fiat.
10	Heath	Panhard.	3	Richiez	Renault.
12	Le Blon	Hotchkiss.	4	Hanriot	Darracq.
13	A. Clement	Clement-Bayard.	5	Pierry	Brasier.
B 1	Rougier	De Dietrich.	6	Florio	Mercedes.
2	Nazzaro	Fiat.	8	De Caters	Itala.
3	Edmond	Renault.	10	Teste	Panhard.
4	Wagner	Darracq.	12	Shepherd	Hotchkiss.
5	Barillier	Brasier.	13	De la Touloubre	Clement-B.

Pierry... ..	Brasier ...	7	59	5
Jenatzy ...	Mercedes ...	8	7	20
Rougier ...	De Dietrich ...	8	15	55

The hero of the day is, therefore, Sisz, who on his Renault made an average speed of about sixty-seven miles per hour. Duray made the best time in the first lap, taking 52 min. 32 1-5 sec., Baras being second with 52 min. 53 sec., and Weillschott third with 53 min. 40 sec. Pierry, on the third Brasier, was the best in the second round, with 52 min. 31 sec., while Barillier, on the second Brasier, was the fastest in the third circuit, which took 55 min. 23 2-5 sec., and Nazzaro (Fiat) in the fourth, with 55 min. 58 1-5 sec.

As regards those who failed to finish, it is reported that Le Blon (Hotchkiss) overturned at St. Calais. Fabry, who in the first round is reported to have covered a flying kilometre in 43 2-5 sec., ran into a wall, putting his Itala *hors de combat*. Hanriot (Darracq) is stated to have retired with a damaged engine. Weilschott's Fiat, after running well for five rounds, is said to have overturned. The Itala car, driven by Baron de Caters, also turned turtle near Bouloire. All the drivers complained of eye troubles, caused, it is said, by the nature of the composition with which the track had been covered.





Barillier on the Brasier Racer he drove in the Grand Prix.

#### THE SECOND DAY. [BY TELEGRAPH.]

LE MANS, Wednesday.

There was another exciting scene at the start of the second day's race this morning, when fine weather again favoured the event. The 17 remaining competitors were sent off at the same intervals of time as separated them at the end of the first day. One of the rules provides that all repairs must be made in the running time by the drivers and their mechanics, many of whom were busily employed near the Grand Stand in getting their machines in order. Nazzaro was one of the quickest away, while Richez and Shephard were amongst those who started behind time. News came to hand that Teste (Panhard) had met with an accident at one of the turns near Champagne. At the end of the seventh round Sisz's total time was 6 h. 47 min., Clement being 27 minutes behind. The latter, however, gained five minutes in the eighth lap, reducing Sisz's lead to 22 minutes. The times of the leaders for ten circuits were:—Sisz, 9 h. 56 min. 7 sec.; Nazzaro, 10 h. 40 min. 11 sec.; and Clement, 10 h. 41 min. 34 sec. Sisz, on his Renault, kept his lead to the end, and came in an easy first. Nazzaro (Fiat) finished second, and A. Clement (Clement-Bayard), third. The winner met with a rousing reception, and M. Barthou, Minister of Public Works, congratulated him on his victory, on behalf of the French Government.

THE Maudslay Motor Car Company, Ltd., have just completed a motor-omnibus to the order of Sir Marcus Samuel. The vehicle is intended for country house and station use, and is arranged so that it may be used either as a single or a double-decker. Further, when the seats are removed the centre rail on each side can be let down, so that goods can be placed on the top of the body by way of a portable ladder. The vehicle, it may be mentioned, is fitted with pneumatic tyres to all four wheels, although we understand that, in addition, a set of wheels is being supplied with solid tyres in the event of these being required. The pneumatic tyres fitted are Continentals of extraordinary size as pneumatic tyres go. The front wheels have 930 mm. by 150 mm. covers with plain treads, whilst the rears are 1,035 mm. The motive power is supplied by a 30-40-h.p. engine. The body is arranged to carry twenty-four passengers—twelve on the top and twelve inside.

#### TRAMS AND ROADS.

TRAMWAYS are necessary nowadays; they are, however, great monopolists of the roadways, often absorbing half the width, and consequently reducing the area available for other wheeled traffic. When the accounts of local authorities are made up for the entertainment of the ratepayers no notice is taken of the way in which they usurp the carriage way, to the possible exclusion and the certain congestion of vehicles unrestrained by the metal tracks.

But the growth of the tramway system which thus restrains the area of the roadway for vehicular traffic suggests that a widening of the main roads may ultimately be necessary. From London—save in the Brentford High Street and one or two other arteries—the main thoroughfares to the country are wide and commodious, and as yet the evil has not become so clearly apparent as in some of the northern towns, particularly of East Lancashire. But suburban authorities, when considering their tramway schemes, should remember the width of the road and provide for its widening, so that the interests of future years should not be jeopardised. Otherwise the trams will be laid along new districts, houses and shops will spring up, and then the expenses of razing them to the ground in order to make the roadway capable of carrying all the traffic will be so great that only a reckless Council would dare to make such a change. At Hull the Corporation recognises its duty in this respect, and wherever its trams are laid into the country districts the roads are widened to a distance of 100 ft., thus allowing the laying of the tram-lines without incommoding existing or possible traffic, which can find its own track between the trams and the pavement.

The present seems an opportune time for raising this point of municipal improvement, for it suggests a means of utilising some of the unemployed funds which, if not administered on business lines, may result in an aggravation of the evil they have been formed to ameliorate. In times of distress, work is often undertaken from sentimental motives, and wages paid for work that is unprofitable and even painful—witness the condition of Wanstead Flats, Essex, after the expenditure of the Relief Fund of a few years ago thereon. But to widen the roads in view of the growth of traffic that is now inevitable seems a necessary work and one that is admirably suited to the exigencies of the time.

## USEFUL NOTES.

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BEWARE of putting resin and other concoctions on the leather of a clutch; the cure by such agents as resin is only temporary and very detrimental to the leather, and resin, it should be noted, has the unfortunate property of becoming heated by the friction, and consequently sticking up the clutch so that it cannot be withdrawn when required. Beware also of having a car washed when the clutch is held out by the hand-brake, as the effect of water upon the leather is by no means good.

EVERY automobile speaks a language that can be understood by the exercise of a little patient effort. Then when a car signals that its carburettor is not working right, that a sparking plug needs attention, or that the lubrication is faulty, the understanding hearer knows precisely what to do and can remedy the trouble at once, thus saving himself both annoyance and expense.

HOT bearings may be the result of lack of lubrication, too close adjustment, or both, and should be carefully watched for, especially when the vehicle is new. Feel the bearings frequently at first, and if any one is found hot, see whether it is getting its proper supply of oil. If it is, but runs hot notwithstanding,

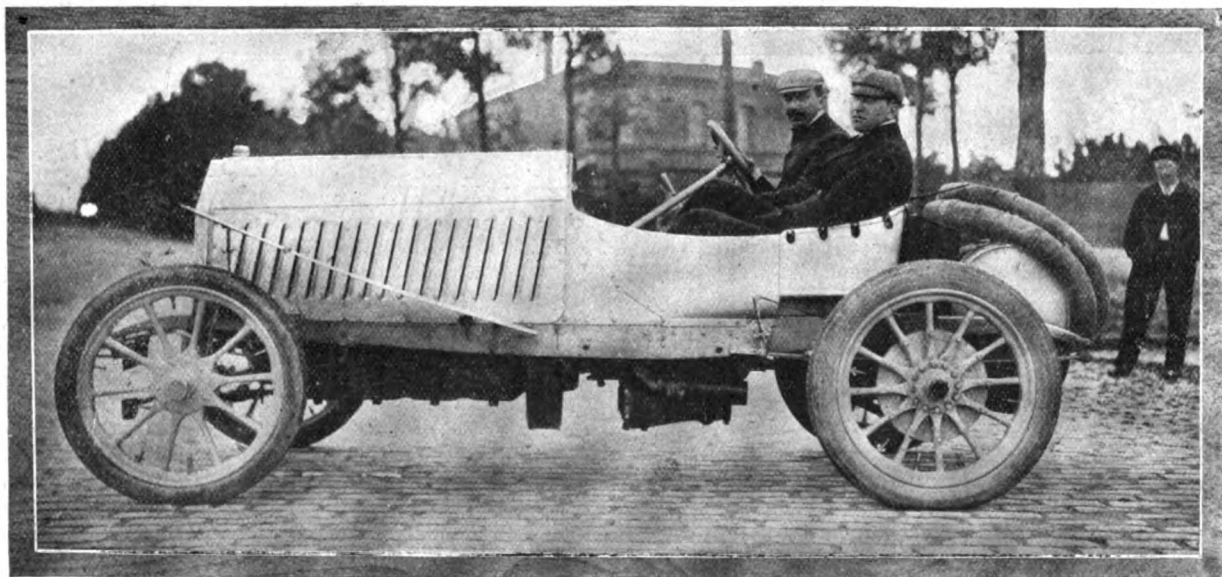
If a valve or the porcelain in a sparking plug breaks care should be taken to ascertain whether any of the pieces have got into the cylinder. If so, they should be removed before attempting to run the motor, as it does not take a piece of steel or a few chips of hard porcelain a very long time to so cut a cylinder that it must be renewed. As a rule, cylinder walls are not of sufficient thickness to permit reboring if it is necessary to take off more than the merest suspicion of a cut, and a few chips caught by the piston can make fairly deep grooves the entire length of the stroke.

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WHEN travelling over rough roads the driver should sit in such a position that the feet will not be shaken off the pedals. Otherwise, when the clutch is disengaged, as it should always be for a rough spot, and the car allowed to "coast," the feet may be jarred off the pedals, allowing the clutch to slam in, and causing great strain on the gears and transmission mechanism.

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WHEN a motorist has become somewhat expert in the running of his car it will be found advantageous to gradually cut down the petrol feed until the point is found at which the motor runs well, but will not stand a further reduction. The smaller the proportion of petrol the more economically the motor will run and the cleaner it will keep. This can, of course, be



Tests on the Panhard Racer he drove in the Grand Prix, and on which he met with an accident on the Second Day.

ease it a little by slackening the adjustment nuts or screws until it turns freely without lost motion. A little time spent in the adjustment of bearings is a good investment, for lost motion quickly multiplies itself. A bearing that is frequently adjusted will last much longer than one that is only attended to when the wear becomes serious.

THE compression strokes of a four-cylinder engine immediately succeed one another, so that one cylinder is always under compression, and in a six-cylinder motor successive compression strokes overlap. With such engines it is not very easy to determine whether there is any lack of compression, and which cylinder or cylinders are defective in this regard, unless some precautions are taken. The best method of procedure is to remove all the sparking plugs but one, and slowly turn the starting handle. This will give a test of the compression of the cylinder, which is closed by the plug, all the others working freely. After the compression of this one cylinder has been noted the plug may be removed and placed in one of the others, the compression of which may then be tested. All four or six cylinders may successively be tried by noting the manner in which their respective compressions may be overcome by turning the handle, and those which are unsatisfactory noted.

carried to extremes and the efficiency of the engine interfered with; but the proper feed can be determined without great difficulty. The same process should be applied also to the cylinder lubrication. When the petrol and lubricating oil are feeding into the cylinder in the smallest quantities that will produce good results, the motor should run for a long time without fouling the sparking plug and on the minimum amount of oil.

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WHEN about to pass over holes in the road, or short patches of loose stones, the car should have sufficient momentum to carry it over such rough places, so as to allow the clutch to be disengaged. This prevents racking the mechanism.

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MYSTERIOUS cases of motor missing fire can occasionally be traced to leaks in the admission pipe, the vibration of the car causing the leaking joints to open up, at times to such a degree that enough air will be drawn through them to dilute the mixture until it loses its ability to explode. Soldered joints are especially liable to this trouble, and with them it will sometimes be found necessary to take the pipe down to locate the difficulty, as with the engine standing still and the pipe bolted in place the looseness will not show.

## CONTINENTAL NOTES.

### The Ostend Automobile Week.

The definite programme for the automobile meeting at Ostend, organised by the Automobile Clubs of Flanders and Antwerp, has just been issued. The "week" will open on July 13th, when the competing cars will be officially weighed. The morning of Saturday, July 14th, will be devoted to a series of flying kilometre speed trials for racing and touring cars on the Ostend-Snaeskerke road, and in the afternoon a similar series of tests over a mile course from a standing start will be held. An excursion to Bruges will form the programme on the 15th, while on the 16th both racing and touring vehicles will participate in a five-kilometre speed contest. On the 17th the touring cars will take part in a reliability run over a round circuit, which, starting and finishing at Ostend, takes in Blankenberghe, Bruges, Roxem, West Kerke, and Snaeskerke. The meeting will end on July 18th with a balloon chase organised in conjunction with the Aeronautic Section of the Namur and Luxembourg Automobile Club. Entries for the meeting should be sent before July 2nd to M. T. Ratineckx, 40, Grande Place, Antwerp, from whom full particulars can be obtained.

kilometre hill climb for tourists is to be held on the Tingry Hill at Samer, about twelve miles from Boulogne.

### The Gordon Bennett Race.

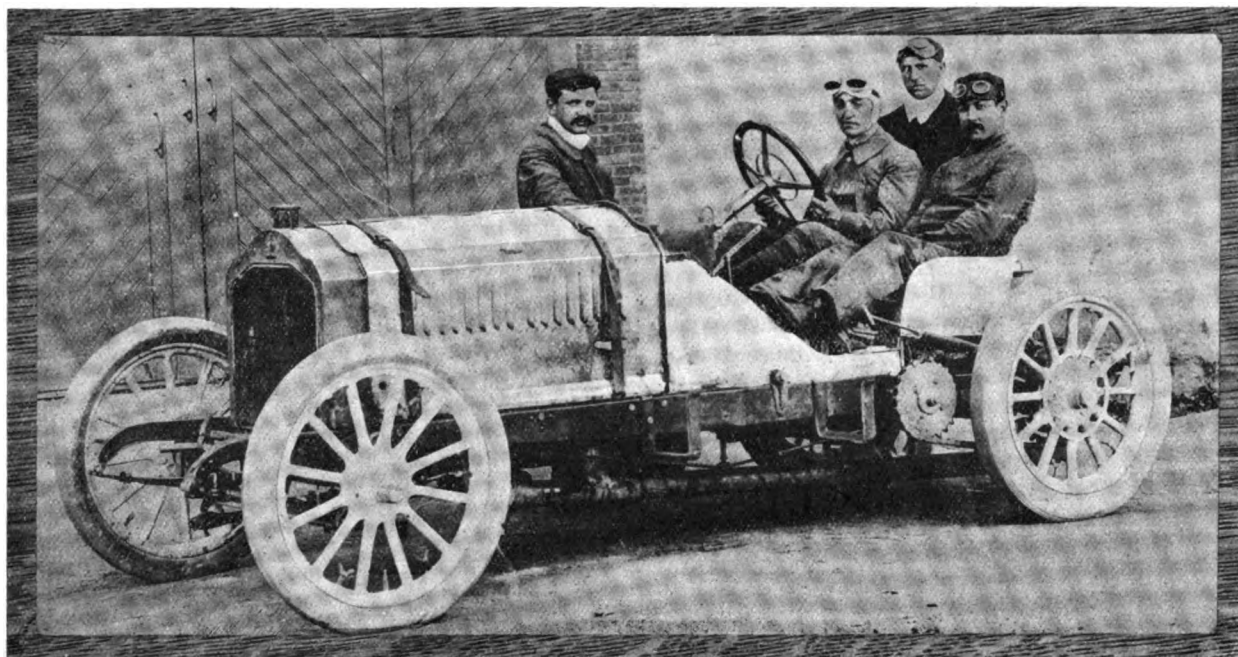
A meeting of representatives of the recognised national automobile clubs was held at Pont de Genes (Sarthe) on Monday to consider the proposals of the A.C.G.B.I. with regard to the continuance of the Gordon Bennett Cup race, but after a long discussion it was resolved to postpone action until the annual meeting of delegates at Paris in December. From this it is apparent that there will be no cup contest in 1907.

### Public Services in Germany.

Plans are in progress for the establishment of public motor-car services between Eidelstedt and Hamburg and between Bayrischzell and Bad Kreuth. A company has also just been formed in Cronberg to inaugurate a service between that town and Konigstein.

### The Automobile Movement in Denmark.

With the view of popularising the automobile in Denmark, demonstrations are being organised in different parts of the country to enable agriculturists to accustom their horses to



Bougier at the wheel of his De Dietrich Racer.

### The Spa Automobile Meeting.

Arrangements are well in hand for the automobile meeting which is to be held at Spa from July 20th to 27th. The first five days will be devoted to the Criterium de Regularité, the run on the 20th being from Spa to Nimegen, on the 21st from Nimegen to Bonn, on the 22nd from Bonn to Luxemburg, on the 23rd from Luxemburg to Rheims, and on the 24th from Rheims to Dinant. On July 25th there will be a 250-mile race on the Meuse circuit; on the 26th a 5-kilometre hill-climbing contest at Spa, and on the 27th a gymkhana at La Sauvenière, Spa.

### An Automobile Fete at Boulogne.

The Boulogne-sur-Mer section of the Automobile Club du Nord de la France is organising a motor fete for the 19th and 20th July next. On the first day there will be a gymkhana and a procession of the competing cars along the Boulevard Sainte Beuve, and an elegance competition. On Friday, July 20th, the first event will be a kilometre hill climb for touring cars in the Forêt de Boulogne, followed by one of 500 metres for racers and a kilometre speed trial on the level. In the afternoon a

motor-cars. A meeting of this kind was recently held at Frederikavark, in North Zealand, when a large number of local landowners and farmers took advantage of the opportunity of giving their animals a closer acquaintance with the motor-vehicle.

### Miscellaneous Items.

The French Automobile Club has decided to organise a trial of industrial vehicles next year.—The Automobile Club of Russia has just moved into its new headquarters at 15, Rue Spalernaia, St. Petersburg. In addition to the club rooms, the new premises, which have been specially built, comprise a garage and a repair shop.—Three Mercedes cars have been entered for the Vanderbilt Cup race.—Messrs. Thomas Cook and Sons are now employing a N.A.G. 24-26-h.p. twenty-two-seated char-a-banc for sight-seeing purposes in Berlin.—La Société Mors are about to considerably extend their works at Grenelle, Paris.

THE Automobile Association of Bengal intends to organise a motor-car exhibition in Calcutta in January next.

## SOME CURRENT TOPICS.

### A Novel Dust Screen.

Dr. J. F. Walker, of Swallowfield, Reading, has kindly sent us some photographs of the dust screen he has designed for use with his 12-h.p. Darracq, which has a back entrance tonneau body. The first picture shows the screen in ordinary use, and in the second one the device is seen elevated to allow access to the tonneau. The screen is made up of an iron frame fitted on a pivot to the sides of the car, with a jointed arm on each side which straightens out rigid to keep the screen up when getting into the car. This screen, of course, could be used with a side-entrance body, where a Cape cart hood is not employed. Dr. Walker informs us that he has had the arrangement in regular service for some time, and finds it most efficacious in keeping dust out of the tonneau.

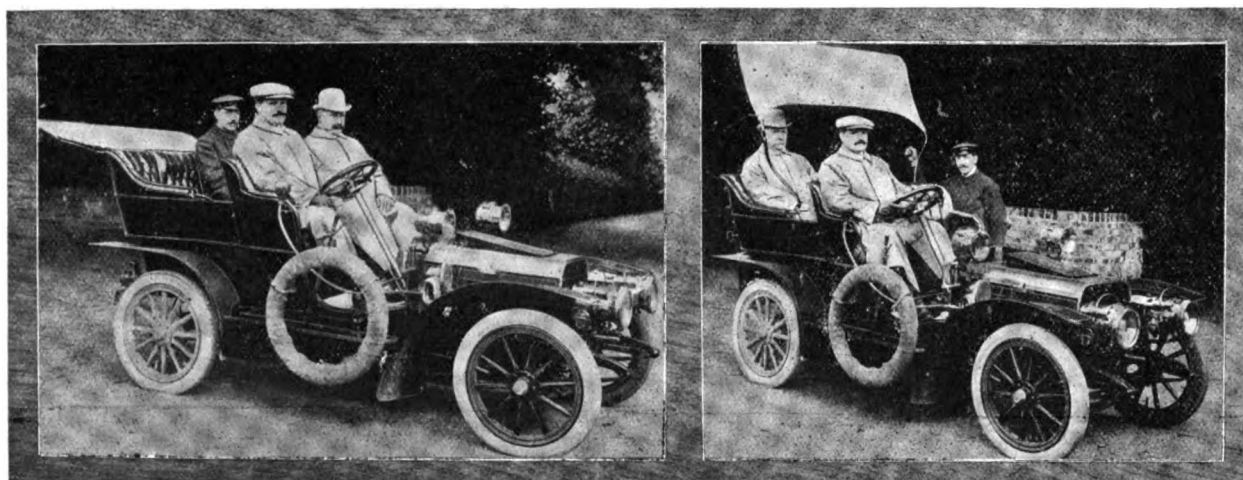
### A Glass-Insulated, Sparking Plug.

Portable Accumulators, Ltd., have sent us a sample of a somewhat novel form of sparking plug, known as the "I. C. U." they are putting on the market. The feature of the device is

like an ordinary gas flame. Thus any variations or irregularities in the operation of the carburettor are at once made as apparent as are those of the induction coil or ignition system. We hope shortly to try the new plug.

### The Capacity of Accumulators.

In the new catalogue lately issued by Messrs. Peto and Radford some useful information with regard to ignition accumulators is given, from which we take the following:—"The term 'capacity of accumulators' is the number of ampere hours they will give, when discharging at certain rates of current discharge. An accumulator which has a capacity of twenty ampere hours at one ampere discharge would not have so large a capacity at three amperes rate, so that it is necessary to consider the rate of discharge when taking capacity into consideration. The capacity of an accumulator will, moreover, be much greater when the discharge of current takes place with intervals of rest, as this allows the acid around the plates to become equally distributed again, the acid in the pores of the plates being weaker on discharge." In their list Messrs. Peto and Radford give two values for the capacity of accumulators which are used for ignition purposes, one being the maximum capacity at a low rate of continuous current discharge, the other being the maximum capacity at an intermittent rate of discharge. "When an accumulator is tested for capacity at a certain rate of



Dr. Walker's 12-h.p. Darracq fitted with novel Dust Screen.

that, in place of porcelain or mica, the insulating medium consists of a specially treated fireproof glass of great mechanical strength, capable of resisting high pressures and extreme changes of temperature. The advantages of glass as an electrical insulator are well known; it is claimed to be superior to porcelain, soapstone, mica, and other similar substances hitherto used, as, being of a homogeneous nature and a vitreous substance, there are no flaws or interstices through which the high tension current can leak to earth unseen. The insulator is made in the form of a cylinder, open at the upper end and closed at the other. The central wire is hermetically sealed into the latter, and therefore cannot work loose and cause leakage. The following advantages are claimed for the plug:—(1) It provides an observation window through which all the phenomena occurring within the cylinder may be seen. (2) It permits one to see if the spark is taking place under the normal working compression, it being well known that a spark that will pass in air may be too weak to pass when under the normal compression. (3) It enables the action of the carburettor to be estimated, as the colour of the flame during explosion varies with the proportion of gas and air admitted to the cylinder. If the mixture is at its best the colour of the explosion will appear blue, somewhat resembling a Bunsen burner flame, while if too rich a mixture is being used the flame will appear a brilliant orange colour,

current, readings are taken until the voltage of one cell has fallen below 1.8 volts, and is taken as the full capacity. But the reason why the voltage has fallen to 1.8 volts is that the acid in the pores of the plate, and closely contiguous to the plate, has fallen in gravity, whilst the outside surface of the plate has become discharged. But if an interval of time is allowed for the acid to mix with that in the surrounding space, and for the surface of plate to receive more charge from the interior (speaking untechnically) it will then be found that more current can be taken at a voltage above 1.9 and the capacity value increased. In all forms of portable batteries the current is generally taken from the cells in periods of time with a rest, therefore the capacity is based upon this method, in order that users may know the utmost the cells will do under the best conditions, saving the need to buy a larger size than may be necessary for the purpose required. For continuous current discharge at high rates of current these capacities would not be obtained, and larger sizes should be allowed for."

MESSRS. J. W. BROOKE AND CO., LTD., of Lowestoft, have sent us a photograph of a 30 ft. motor launch they have just delivered to the "Midnight Sun," for service in Norway. The engine is of the Brooke standard 45-h.p. type, and on its trial the boat attained a speed of fourteen knots.



MESSRS. S. SMITH AND SON have just been honoured by the Royal Warrant for their speedometers.

ON Wednesday last week the members of the Society of Engineers paid a visit of inspection to the Iris Motor-Car Works of Messrs. Legros and Knowles at Willesden Junction.

THE membership of the Automobile Association has now got beyond four figures.

THE EARL OF ABERDEEN, P.C., has been elected a vice-president of the Motor Union of Great Britain and Ireland.

LARGER premises have been taken in Rock Street, Bury, by Messrs. Carr and Co., who now have a garage for motor-cars.

A DEPOT for the sale of the new Arrol-Johnston cars is about to be opened in Princess Street, Hanover Square, London, W.

WE hear that Mr. E. A. Greathed has resigned the position of Assistant-Secretary of the Automobile Club of Great Britain and Ireland.

THE municipal authorities of Nelson, Lancashire, have ordered a 5-ton steam tipping wagon from the St. Pancras Ironwork Company, Ltd.

THE sizes of the Stepney spare motor wheels which Messrs. Davies Bros. supply from stock will be given every week in their advertisement in the *M.C.J.*

RECENTLY the secretary of the A.C.G.B.I. circularised the makers of steam cars, asking if they would be willing to enter cars for a race for steam vehicles only. Only three replies have been received—all in the negative.

THE London County Council has again changed the form of driving licences; they are smaller than the previous series, are arranged to last for three years in place of two, while the number of pages allotted for particulars of endorsements is not so liberal as formerly.

THE new Arrol-Johnston 12-15-h.p. motor launches, built to the order of the Fylde Motor Service Company, Ltd., Bispham, near Blackpool, have now been launched, and have been found to be satisfactory in all respects. The boats are capable of running at a speed of eight knots.

WHEN in Blackpool recently, we called in at the Central Motor Garage, in Abingdon Street. In view of the steady growth of the business, the new proprietors, Messrs. Jackson Bros., are increasing their garage accommodation, and are installing a car lift to give communication to the upper floor. The repairing plant has also been extended by the addition of several new machine tools and a tyre vulcaniser. Messrs. Jackson have also opened a branch garage in Eaves Street, Blackpool, at the rear of the Imperial Hydro.

MESSRS. PETO AND RADFORD, LTD., are removing their sales depot and re-charging department from 57B, Hatton Garden, to larger and more commodious premises at 100, Hatton Garden, close to Holborn Circus, E.C. As they have been established for seventeen years at the former address, they are particularly anxious that the numerous motorists who drive to their place may be spared the trouble of looking for the firm at the wrong end of Hatton Garden. The new premises are close to those of Gamages, Ltd.

THE latest illustrated trade catalogue issued by Mr. G. Goldschmidt, of 323, Green Lanes, Finsbury Park, N., is a very comprehensive list of the many useful accessories handled by that well-known factor. These include the "Imperator" non-skid, which is made up of a foundation of vulcanised canvas covered by a moulded leather protector. To this an outer band is attached by means of studs riveted with washers. The "Imperator" headlights, the Zanardini lamps, the "Glaria" lamp, and several other illuminating agents are illustrated and described. The motor horn section is equally exhaustive, the devices shown including "La Magissante" and Goldschmidt's French Octopus, which secures a powerful and long tone. Jacks, lamp brackets, goggles, &c., complete the selection of accessories mentioned in the list.

## HERE AND THERE.

THE MARQUIS OF BAT- has purchased a 28-h.p. Daimler-car.

THE officials in the Land's End to John o' Groat's used an 8-h.p. Wolseley car lent them by the Wolseley Company. The

vehicle went right through the arduous course with three passengers without trouble.

THE Doncaster Rural District Council is calling the attention of the County Council to the deep ruts made in the highways of the district by motor-car traffic.

THE G.P.O. has just invited tenders for the conveyance by motor vehicles of the night mails between London and Colchester, London and Ipswich, and Southend and Chelmsford.

THE value of the motor-cars and parts exported from the United States during April last is returned at £81,666, as compared with only £47,492 in the corresponding month of 1905.

LA Compagnie des Tramways Bruxellois, of Brussels, has placed an order for a 30-35-h.p. Metallurgique car for the use of its line inspectors. The same company has also ordered a motor-tower wagon from the Metallurgique concern.

THE Motoring Annual for the current year, edited by Messrs. N. B. and E. Kenealy, is an encyclopædia of the year's automobilism, and also a "Who's Who" so far as the motor world is concerned. Its main-features are familiar to motorists.



The Inauguration of the Service of Orion 'Buses' at Nevin, North Wales. (See page 408.)

A NEW building is being erected in Wardour Street, W.C., by Messrs. Mitchell Motors. It will have an area of 18,000 sq. ft., and will provide the West End with a new garage of good capacity. The firm will also place a new motor-cab on the market.

To a series of pretty stories and funny pictures, for which Mr. Archibald Williams and Mr. A. Wallis are responsible, the title of "Petrol Peter" has been given. The book, illustrated in colours and written in rhyme, has been published by Messrs. Methuen and Co., and should prove useful in whiling away hours which, but for "Petrol Peter," might drag somewhat.

THERE is a decidedly gasoline odour—as they would say in America—about "The Motor-car Divorce" which Messrs. Duckworth and Co. have published. It is written by Mrs. L. C. Hale, and illustrated with drawings by Mr. Walter Hale. It will prove a volume of pleasant reading to motorists when touring on the Continent.

AT the Garden City estate at Letchworth matters are developing rapidly, and the efforts of the promoters to attract industries are meeting with success. At the Station Hotel, near the railway station, a motor garage with inspection pit has been opened, and petrol can be obtained at all hours. This is in the centre of the estate, and overlooks the new Howard Park.

THE United States Senate has passed the bill for duty-free alcohol for industrial purposes.

A POSITION at Phyllis Court will be again reserved at Henley for members of the A.C.G.B.I.

AT Harker's Hotel, St. Helen's Square, York, an examination for A.C.G.B.I. certificates will be held on the 6th prox.

THE Westminster Motor Works, Ltd., despatched one of their Thor 10-h.p. four-cylinder cars to Colombo, Ceylon, a few days ago.

AT the recent Bath and West and Southern Counties Agricultural Society's Show at Swindon the Swindon Motor Engineering Company exhibited a number of Wolseley, Siddeley, and Peugeot cars.

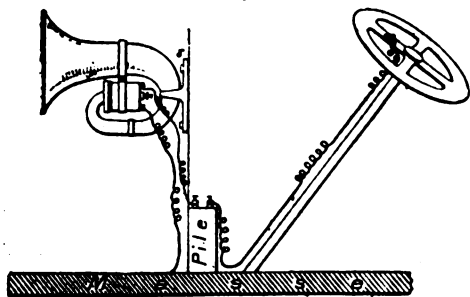
MESSRS. LAMB BROTHERS AND GARNETT have discontinued the sale of the L.B.G. or one-year sparking plug, which has been on the market for the last two or three years, and are introducing a new type of plug.

IN proposing the toast of "Success to the Society," at the luncheon at the Northampton Agricultural Show, at Kettering, the Duke of Grafton said he was in his eighty-fifth year, and had that day done what he said he would never do—ridden in a motor-car.

THE accompanying illustrations show the new electric horn recently introduced into this country by Messrs. Gauthier and Co. The Electrophone, as it is called, is of simple and strong construction, a push button taking the place of the rather uncertain bulb fitted to the usual pattern of motor-horns. The parts consist of a push-button switch and battery, and in the horn is embodied a vibrator of special construction, connected up to the battery, as shown in the



second illustration. The horn is fitted preferably to the dashboard of the car, behind which the battery is fixed, while the button can be placed on the steering wheel or column. The driver can obtain intermittent or continuous sounds distinctive and sonorous, as we have found by experiment, and, if desired, the small amount of electric power required can be drawn from the ordinary ignition accumulators, a pressure of six volts being, however, usually required. The horn is supplied complete with one dry battery, five yards of insulated cable, and interrupter button.



MESSRS. WEST, LTD., are, we learn, exporting quite a large number of the West chassis to their Italian agents, Messrs. Ninci and Graziani, of Bologna.

THE Zenith (Motor) Engineering Company, 101A, Stroud Green Road, Finsbury Park, N., have a City office at 4, New London Street, E.C., where the Zenith bi-car may be seen. This is fitted with a 3-h.p. Fafnir engine. The framework consists of an independent upper and a lower frame which are connected only at either end. Together they form a spring which absorbs all the ordinary vibration. In turning the base of the wheel goes outside the centre line of the machine, thus minimising side slip. By the peculiar system of construction front forks are dispensed with. The steering is effected by means of connecting rods fixed on the ends of the axle and bar at the bottom of the steering pillar. The machine is also characterised by being built very low, while the provision of a free engine and clutch enable the bi-car to be started with a handle. The Zenith tri-car is another popular machine fitted with a 4-h.p. engine and two-speed gear, while the Zenith "tri-car de luxe" has a 5-h.p. twin-cylinder engine, and presents a machine that is attaining wide popularity.

GARAGE accommodation is now provided at the Callander and Trossachs hydropathic establishment at Callander.

A TEST of six White steam cars as vehicles for hire was recently made in Osaka, Japan, by the Osaka Automobile Company.

THE Technical Instruction Committee of Pembroke Technical Schools, Dublin, has decided to purchase a 15-h.p. four-cylinder car, subject to the sanction of the Department of Agriculture and Technical Instruction for Ireland.

WE learn from Bombay that it is intended to hold the Poona Motor Trials for the Aga Khan Challenge Cup in the early part of July instead of in September. The cup was won last year by a Wolseley car driven by Lieut. Jenkins.

ONE peculiarity about leather clothing, says the "Leather Trades' Review," is that it does not keep out the cold; the air simply whistles through it, and it is safe to say that the coldest person in a car on a winter's day is the man who looks the warmest.

A RECENT run on a savings bank at Painesville, Ohio, was promptly stopped by means of the motor-car. The run started at 9 a.m., and the officials immediately telephoned to the First National Bank of Cleveland for assistance. Bags of money aggregating £20,000 were loaded into a motor-car, and the journey was made in fifty-five minutes. Supplies also came from other quarters, but the speedy automobile was an easy first.

CALLING in at the depot of Messrs. J. Keele and Co., in Brook Street, London, W., we had an opportunity of inspecting a 20-32-h.p. Darracq car with double landaulet, which has just been delivered to Mr. Julius Berlein. They have also recently supplied a 10-h.p. Darracq landaulet to Dr. McNaughton Jones for professional use. Messrs. Keele are now making a special feature of overhauling and repairing cars, Lord Castletown's 20-h.p. Spyker being among the vehicles which have lately passed through this department.

THE police have determined to appeal against the decision of the Croydon magistrates in dismissing the charge against Mr. Little for obstructing the police. The facts of the case, previously reported in the *M.C.J.*, were that Mr. Little, who is not a motorist, simply gave warning to drivers of cars about a certain stretch of road that was being timed by the police with a view to prosecutions, whereupon the police summoned him for obstruction. The defence of the case was undertaken by the Motor Union, and was successful.

FROM Messrs. Newell Bros., Grosvenor Terrace, Camberwell, S.E., we have received a sample bottle of a new preparation, known as "Carfume," they have lately introduced. It is intended as an addition to engine lubricating oil, with the object, as the name implies, of overcoming the objectionable odour due to over lubrication. It is mixed with the oil in the proportion of 1 to 15, and it is claimed that by its use any fumes which the engine may give off have an odour which is rather pleasing than otherwise, both to motorists and to the general public. Messrs. Newell also state that "Carfume" assists in the perfect combustion of the mixture in the cylinder.

AT Ayr Sheriff Court, Mr. Alexander Craig, of Coventry, was charged with having, on April 16th, driven a motor-car through Colmonell village at a speed exceeding ten miles an hour. A police officer stated that he had had a complaint about the rate at which this car was travelling from Mr. Cathcart Wason, M.P., who resided in the district. Several witnesses estimated the speed at which the vehicle was running at twenty miles an hour. Accused said he had had a tour from Coventry through Scotland, and his average speed was eighteen miles an hour. He was aware of the speed limits in Ayrshire, and recollected at Colmonell saying to a lady in the car, "Thank goodness, this is the last of the speed limits." He was certain that he did not go beyond the ten miles, and he believed he was considerably under it. The complaint had evidently originated with Mr. Cathcart Wason, M.P., who was notorious for his bigoted intolerance of anything connected with motors and motorists. Sheriff Shairp found the charge proved, and imposed a penalty of three guineas.

## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
27-33, Charing Cross Road, W.C.]

### TYRE PROTECTORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Which is the best tyre protector? I have tried the Otto on one car, the Grose on another, and have Desclee non-skids on a third. The cemented leather bands with three rows of studs come loose in time, they heat the rubber cover and wear it into holes, the perished rubber accumulates in lumps, and the leather protector bursts. I thought the Desclee non-skids were a great improvement. I have run mine 2,000 miles without a puncture and the tyre covers are not damaged, but the plates are falling off and the smooth steel treads do not get the same grip of the roads as do the rivets. Then, I am told that the system of attaching these non-skids by hooks to the rim allows the wet to get at the head of the cover and causes the tyre to perish.

Why should these non-skids be attached to the rim? Is it not possible to attach them to the wheel itself independently of the rim, which should take the tyre only? Could the tread also be made of cotton belting instead of armoured leather? I have found the ordinary red cotton or canvas belting to last six times longer than the best leather on motor-car brakes, and I am persuaded that this material would make a splendid tread for a tyre protector. Has it been tried?

I would not drive a car again with plain tyres over limestone roads and wet tram lines, and I believe in protecting the cover and inner tube (the vital parts) from punctures. I have never had a puncture either on my car fitted with Grose bands—a 24-36-h.p. Fiat bought in 1904—or on my car fitted with Desclee non-skids, which, as mentioned above, has done 2,000 miles, but the former (on all four wheels) are becoming lumpy and the latter (driving wheels only) are shedding the plates. The unprotected front wheels (Dunlop non-skids) are badly cut with flints. I drew out one evening from one of the driving wheels a large horse nail which had penetrated the leather and the Dunlop non-skid cover below, but had not, fortunately, penetrated the tube. With any other non-skid this nail would have punctured. If the Desclee bands could be fastened to the wheel outside the rim on bolts or hooks attached to the wood rim and quite independent of the tyre rim, the wet would not penetrate and damage the rubber and canvas of the tyre proper. A strip of thin leather should also be introduced to prevent the rivets boring into the rubber of the tyre. These rivets become hot and bore holes in the rubber. The strip of leather would prevent this. A football stands a good deal of violence and the delicate rubber bladder is the life of the ball, but all the hard knocks are taken by the leather covering. I feel sure that there is a splendid opening for a leather or other protector to fit on the outside of the rim by means of buttons, bolts or hooks, the flaps being slotted and easily slipped when the tyre is deflated, but tight and secure when the tyre is inflated.—Yours truly,

C. D. LENG.

### THE L.C.C. "BUSINESS" METHODS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Upwards of a week ago I applied to the L.C.C. for a driving licence. After three or four days I had a form returned to be filled in. This was duly filled in and returned. After a further delay of three days I sent a messenger down to the offices at 3 p.m. After a great deal of difficulty he at last found somebody to attend to him, and was then informed that the letters arriving by that morning's post had not yet been opened.

After being detained upwards of two hours, he eventually succeeded in obtaining the licence. I am troubling you with these details just to show you how the public officials carry out their duties.

The poor ratepayer is evidently quite a secondary consideration with these individuals.—Yours truly,

FAUTEIL.

[Recently we referred to the dilatory methods in the office of the L.C.C., and also the needless ascending and descending of the lift necessary after the attention of the officials has been secured.]

### AN UNUSUAL IGNITION TROUBLE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The following trouble may be a warning to many, and also may interest some of the readers of your valuable paper. A friend of mine in this district has a large motor-car and I always drive it for him. It has high tension magneto ignition, the coil of which is on the dashboard. The other day he bought a new dash-board clock and fitted it himself by screwing it on to the coil case with  $\frac{1}{4}$  in. screws which went right through into the condenser of the coil. The other day we started out on a journey and the car ran beautifully up to its best form for about three miles, when, without any warning, all firing stopped and the engine came to a standstill. I got out and examined everything as far as I could, in-

cluding the platinum points on the contact breaker of the magneto, but could find nothing wrong. I could not, however, get the magneto to act, and fortunately we had reserve battery and coil ignition, which I switched on to, and drove to a motor shop in Clonmel, co. Tipperary. After another long examination we finally took off the coil and opened it up to see if the screws by which the clock was held on had gone into its vitals, and found, as I mentioned before, that three of them had gone through part of the condenser. Can you or any of your readers tell me if this is the probable cause of the complete breakdown in the magneto, and if so, why was it so sudden and without warning, and why did the car run even three miles so well without a misfire? I should have thought myself that if these screws were the cause of the trouble, the magneto should never have worked after they were put in. I may mention the clock is one of the usual brass ones.—Yours truly,

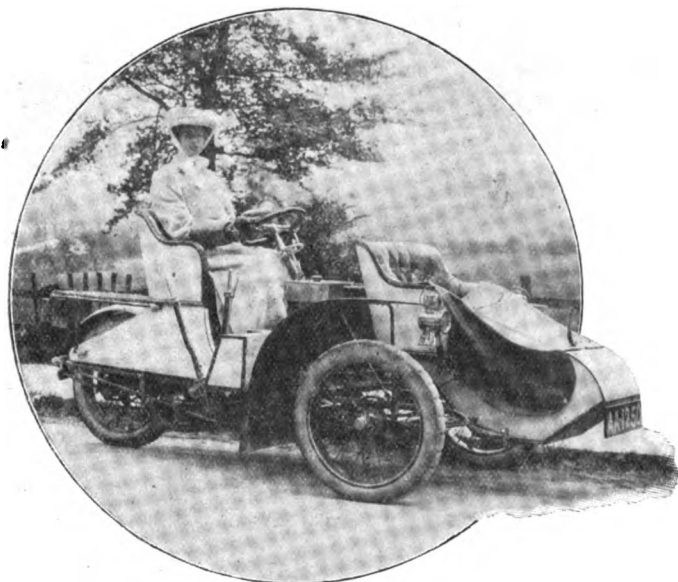
T. W. N. QUINN.

### CLEANING RADIATORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to Mr. J. Tribe's letter with regard to cleaning radiators, in the last issue of the *M.C.J.*, I have rendered assistance to a large number of my friends by giving them directions how to clean the radiators by means of a solution which is harmless to all kinds of metals, rubber, &c. If Mr. Tribe will communicate with me at Marieberg, Mansel Road, Small Heath, Birmingham, I will give him full instructions, so that he will be able to tell his friends.—Yours truly,

ARTHUR BURGESS.



Miss Muriel Hind on her 6-h.p. Singer Tri-car.

In addition to being one of the few successful tri-carists to complete the journey from London to Edinburgh within the 24 hours in the recent run of the Motor Cycling Club, Miss Hind also succeeded in getting through in the Land's End to John o' Groat's Six Days' Reliability Trial of the A.C.C. The latter performance was a particularly plucky effort, and says much for the endurance of Miss Hind and her lady passenger, as well as for the qualities of the Singer machine.

### TROUBLE WITH DE-DION ENGINE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I had an 8-h.p. De Dion car two years ago which behaved precisely as your correspondent CR 328 describes. It usually (but not always) took from five to ten minutes to start, and sometimes would not start at all. No ingenuity of the best experts could discover the cause of failure, but I fancy it was in the carburettor and ignition combined. I took the car to the De Dion firm to be overhauled, and their own workmen were about fifteen minutes starting the engine after putting it in perfect order! I eventually sold the car for scrap iron. My present car, a Panhard, starts at first turn of the handle; it has a Krebs carburettor. I believe this is unique.—Yours truly,

C. N. R. WHEATLEY.

### SOLID TYRES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be pleased if you or any reader will give me their experience and advice in the use of solid tyres for the rear wheels of small motor-cars in place of pneumatics already fitted. I have a 6 $\frac{1}{2}$ -h.p. Wolseley single-cylinder two-seated car weighing about 12 cwt. unloaded, and having a chain-driven live axle. The roads in my district are very flinty. I have worn and cut to pieces in a few months a pair of tyres by a leading maker, fitted with non-detachable steel-studded non-

skids. I have now in use a pair of rubber tyres which I have used only about two months, and they are cut in many places nearly to the fabric. When I have a puncture I do not find it out until I have run the deflated tyre some considerable distance, so little is the extra vibration, with the result that the fabric gets strained and the inner tube cut and abraded. I should like to know if solid tyres could be fitted to the present beaded rims, what make you would recommend, and any other information to enable me to decide on the advisability of changing to solids.—Yours truly,

W. J. A.

## STEAM CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to your correspondent A. T., whose letter appears in the issue of the *M.C.J.* of the 16th inst., such a gear arrangement as he suggests is not at all necessary, as the amount of water supplied to the boiler can be easily graduated by means of the valve, which should be fixed within easy access of the driver's seat, and is so in all steam cars that we have had to do with.—Yours truly,

THE WATFORD ENGINEERING WORKS.

## FOUR v. SIX CYLINDERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As you published in the *M.C.J.* of the 16th inst. the extract from an American motor paper I sent you giving the opinion of Mr. E. R. Thomas on the question of four v. six cylinders, you may think well to find room for the view of Mr. Henry Ford, of the Ford Motor

spaces, pistons and other parts also must be larger. Consequently, the six-cylinder motor is 25 to 30 lbs. lighter than the four-cylinder of the same power. An even more convincing demonstration would be to weigh a six-cylinder motor on the same scale as a four-cylinder of the same capacity.—Yours truly,

R. E. ECCLES.

## A WARNING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I wish to warn drivers advertising in your pages against a man who sometimes answers advertisements, saying that he has been sent by the manager of the Central Garage, Brondesbury Station. He then asks for 2s. to send a telegram to the manager of the garage giving full particulars as to capabilities, etc., as he would not be back at the garage before closing time.

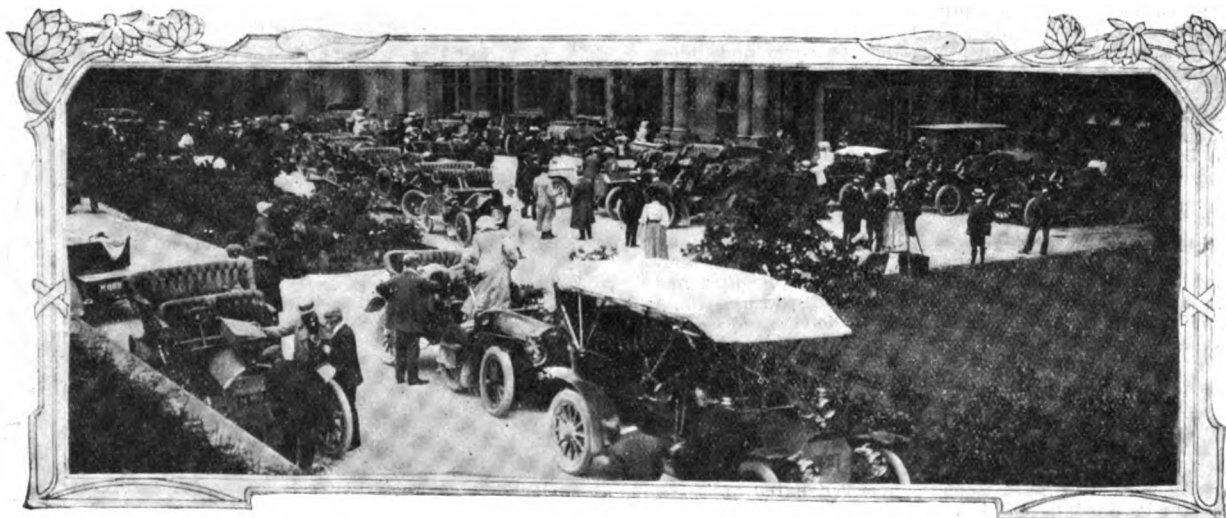
He is a man between 25 and 30 years of age, height about 5 ft. 5 in. He is rather full in the face, with fair moustache. It was getting dark when I saw him, and he had been to my lodgings once before in the day while I was out. Trusting you will be able to give this warning for the benefit of others.—Yours truly,

A. E.

## A NOVEL DESIGN OF PETROL MOTOR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you or any of your readers could give me any information upon the following point. What h.p. might I expect to obtain from a petrol engine having three pistons, 80 mm. diameter by 90 mm. stroke? The centre line of each piston makes an angle of 120 deg. with each other, and are driven outwards at the same time by the explosion in the combustion chamber in the centre, the connect-



The Inter-Club Meet at Buxton. (See page 402.)

Company, on the same subject, which I take from a New York journal I received to-day:—

Mr. Ford remarks that "the six-cylinder motor not only is no heavier than the four-cylinder one of the same power, but, on the contrary, is even somewhat lighter. Without authentic tests at hand, the only way to compare the powers is to compare the piston displacement of each. Compression and speed being equal, the difference between the two will be so slight that it may be considered a negligible quantity. The six-cylinder Ford motor is rated at 40-h.p. The cylinder dimensions are  $4\frac{1}{2}$  by  $4\frac{1}{2}$  in. bore and stroke respectively. The total piston displacement in the six cylinders is therefore 360.5 cubic inches respectively. A four-cylinder motor of the above dimensions would ordinarily have a flywheel of 20 in. diameter and weighing not less than 140 lbs. The six-cylinder has a 16 in. flywheel weighing 65 lbs. By increasing the diameter to 20 in. the flywheel need only weigh 50 lbs., or 37 lbs. if the diameter were 24 in., the usual size in single-cylinder motors. In short, the weight may be decreased to any desired amount by increasing the diameter. That the six-cylinder motor of same total piston displacement is lighter than the four of the same power is shown by the following:—The two extra cylinders in the Ford weigh with valves and all attachments exactly 56 lbs. Two extra pistons and connecting rods complete, 17 lb. The additional length of crank shaft and aluminium base chamber is exactly compensated for by the necessarily larger diameter of parts in the four with its large bore and longer stroke. We then have 73 lbs. of extra weight due to the addition of the two cylinders, which is, however, offset by 75 lbs. reduction in the flywheel weight necessary for type of motor. This leaves an advantage of 2 lbs. for the six-cylinder. But the larger cylinders necessary to produce the same power in four that we get from six would weigh fully 25 per cent. more each than the smaller ones—they must not only be larger, but the walls, water jacket

ing rods and cranks being reversed to the Brotherhood three-cylinder steam engine, and are kept in uniform relation to each other by pinions on the crank shafts gearing with large wheel having a multiple of teeth, 8 to 1; ordinary Otto cycle movement, M.O. valves, water-cooled. What disadvantages are likely with this type of engine, the idea being to get a balanced motor?—Yours truly,

S. J. S.

[The question raised by our correspondent seems to be entirely a matter for the inventor. In the first instance, the question of horse power cannot be figured out according to formula, as there are frictional losses to be taken into consideration, occasioned by the introduction of the gears. Then, as regards balance, this appears to be far from perfect, as by the force of the explosions exerted on the three pistons at once there is an idle revolution and a half, which would at once cause a pendulum motion on the engine. It would appear, therefore, that the balance would not be so perfect as in the ordinary four-cylinder engine, but, as above mentioned, it must be purely an experiment on the inventor's part to obtain good results.]

CAR WANTED.—A correspondent wishes to have specification of an 8-h.p. car with tonneau body which he has seen listed at about £100.

THE DUBRULLE LUBRICATOR.—In reply to "Oiler's" query in the last issue as to where he can get a Dubrulle lubricator repaired in England, Mr. Alan Hickman, of Birmingham, writes:—"I am happy to be able to inform him that he can get this job done by the Brighton and Sussex Motor and Carriage Works, at the Grand Hotel Garage, 13A, Cannon Place, Brighton, Sussex. I have myself had a Dubrulle lubricator repaired at their establishment." On the other hand, United Motor Industries, Ltd., write that—"Dubrulle lubricators, we find, can only be successfully repaired at Dubrulle's works, and we shall be pleased to forward them for your correspondent, and will get earliest possible attention."



## CLUBS AND ASSOCIATIONS.

### AUTO-CYCLE CLUB.

THE judges appointed by the Auto-Cycle Club have recommended the committee of the club to award gold medals as follows:—Motor-bicycles: 3½-h.p. Quadrant, A. B. Albert; 3½-h.p. Quadrant, W. Harrison; 3½-h.p. Quadrant, A. Williams; 5-h.p. Vindec Special, W. H. Wells; 5-h.p. Vindec Special, T. Woodman; 2½-h.p. De Dion, H. G. Cove; 4-h.p. Werner, H. E. Blackeney; 3-h.p. Triumph, B. H. Davies; 3½-h.p. Matchless, J. Tassell; 4-h.p. Werner, F. W. Ashworth; 3-h.p. Triumph, F. Hulbert; 3-h.p. Triumph, S. Bramley-Moore; 3½-h.p. Brough, W. Brough; 3½-h.p. Brown, R. M. Brice; 2½-h.p. Phellon-Moore, W. Milnes; 3½-h.p. Phellon-Moore, R. Moore; 3½-h.p. N.S.U., S. W. Carty; 3-h.p. Triumph, H. Cooper; 7-h.p. Lurquin-Coudert, A. W. Browne; 3-h.p. Fafnir, D. Poupert; 5-h.p. Rex, W. Hayes; 3½-h.p. Quadrant, G. W. Blackaller. Tri-cars: 6-h.p. Quadrant carette, H. G. Priest; 10-h.p. Lagonda, Wilbur Gunn; 9-h.p. Riley, A. Carpmael.

### HERTFORDSHIRE.

THE third annual open hill climb up Aston Hill, near Tring, will be held by the Hertfordshire County Automobile Club to-day (Saturday). The event is a handicap, the winner to receive a trophy. A special prize is awarded to the car making fastest time up the hill. Mr. E. T. Pryor has presented a £10 10s. challenge cup, to be known as the Aston Challenge Cup, to the car belonging to a member of the club unconnected with the trade who makes the most meritorious performance up the hill. The weighing in takes place at Boxmoor Station, L. and N.W. Railway, from 11 a.m. to 2 p.m. The first car will be sent up the hill at 3 p.m. Aston Hill is on the Wendover road, between Tring and Aston Clinton, on the Aylesbury road. Motorists coming from London take the first turn to the left after reaching the top of the Chiltern Hills. The descent must be taken slowly, otherwise the turn, which is half way down, will be missed. The hill is about one and a half miles from the turn.

### LINCOLNSHIRE.

ANOTHER very successful meet of the Lincolnshire Automobile Club was held at Crowland on Saturday, the members being again splendidly entertained by Dr. and Mrs. Husband. After an inspection of the beautiful Abbey, dating from 716, and the peculiar and ancient bridge, the members were invited to inspect a "museum." This was found to contain the doctor's gig, now rendered obsolete, for he has long been a motorist, and uses a 14-h.p. Spyker and a 6-h.p. De Dion, his one-time stable being now an up-to-date garage. Among those present were Mr. A. A. Padley, Market Rasen, and Major J. A. Cole, J.P., chairman, 16-20-h.p. Humber; Mr. Linnell, Market Deeping, Mr. Tomlinson, Sleaford, 10-12-h.p. Coventry Humber; Dr. Gilpin, Bourne, 12-h.p. Richard; Mr. C. W. Pennell, Mr. W. R. Pennell, Mr. Godfrey Lowe (hon. sec.), 16-h.p. Martini; Mr. W. B. Parish, Horncastle, 6-h.p. Rover; Mr. W. B. Chapman, Horncastle, 8-h.p. De Dion; Dr. Miller, Wrangle, 8-h.p. Peugeot; Mr. F. Clark, Lincoln, 15-h.p. Panhard; Dr. Benson, Mr. F. H. Hutton, Market Deeping, 6-h.p. Humber; Mr. Gibson, Bourne, 12-h.p. Richard; Rev. T. A. Stoodley, Dowsby, 8-h.p. De Dion; Rev. M. C. Wilkin, Wainfleet, 10-12-h.p. Argyll; Mr. Wadsley, Bourne, Orient Buckboard; Mr. T. W. Mays, Bourne, 15-h.p. De Dion; Mr. Cook, Boston, 13½-h.p. Minerva tri-car, and Dr. Sharp, Brant Broughton, 12-h.p. Richardson. The committee held a meeting, and decided the formula for their hill climb at Cawwell on July 12th, also the regulations, and both these will be sent round to the members. It was decided to hold the race on Mablethorpe Sands on July 21st, under the closed competition rules of the A.C.G.B.I. The invitation of Sir John Thorold for a meet at Syston Park and a hill climb was accepted, and August 12th provisionally fixed. Mr. Dobson, of Cawwell House, who is to entertain the club at the hill climb there, was elected an honorary member.

### THE MOTOR UNION.

THE June meeting of the General Committee of the Motor Union was largely attended. Representatives of the A.C.G.B.I. and of twenty-one provincial clubs were present. It was reported that the Automobile Club of Great Britain and Ireland had made a contribution of £200 towards the Union's Defence Fund. It was resolved to contribute towards the tarring of the road at Dunton Green, on the London-Hastings road. A draft letter to manufacturers on the subject of exhaust cut-outs was authorised to be sent. Legal assistance was voted in several instances to members of the Union. It was also resolved to prosecute in the case of one of its members who was assaulted by the driver of a cart. A successful prosecution for obstruction on the highway was reported, and it was resolved that any cases of assault or obstruction on the highway communicated to the Secretary of the

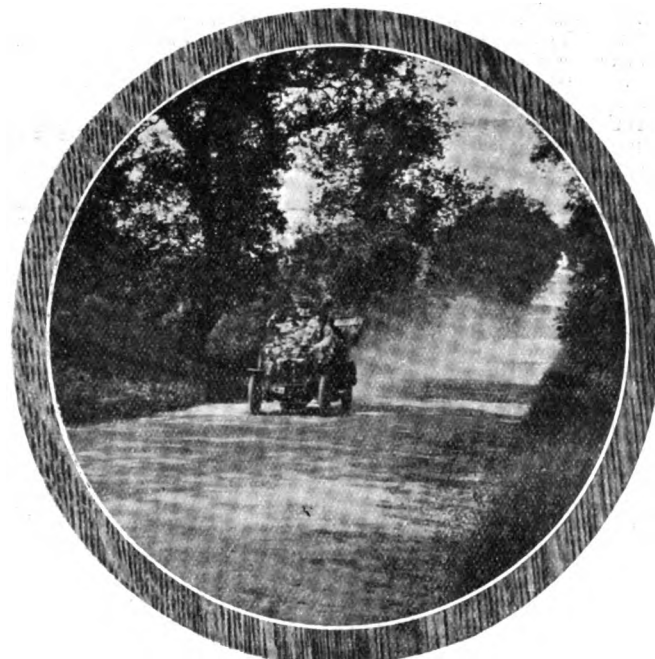
Union, 1, Albemarle Street, London, W., would be at once investigated with a view to proceedings being taken.

### NORTH-EAST LANCASHIRE.

THE members of the North-East Lancashire Automobile Club were entertained to a garden party by Mr. T. E. Higham, at his residence at Chadswell, recently. In all about fifty motor-cars made the journey. Unfortunately the weather was rather chilly, and on the way through Worston the motorists found the roads in wretched condition. Tea was served on the lawn, and the guests spent a pleasant time, Mr. George Thornton's orchestra discoursing excellent music at one end of the garden.

### KENT.

ONCE again the members of the Kent Automobile Club were most hospitably entertained by Mr. and Mrs. Austin at their charming home at West Court, Detling. Over fifty members and friends were present and all thoroughly enjoyed themselves. Members are reminded that the gymkhana takes place at the Athletic Ground, London Road, Maidstone, to-day (Saturday). The competitions start at 2.30 p.m. Lunch at 1 o'clock. Members and their friends will be admitted to the ground free on production of their membership tickets. The band of the 1st V.B. Royal West Kent Regiment will play during the afternoon by permission of Major C. R. Smith.



A Snapshot taken during the Irish Reliability Trials.

Photo by)

(Mr. E. W. le.

### NORTH-EASTERN AUTOMOBILE ASSOCIATION.

IN view of the large number of entrants who were unable to be present at the recent hill climb of the North-Eastern Automobile Association, at Ragpath Side, near Lanchester, the event will be re-run on the 7th prox. In all thirteen cars and one motor-cycle took part in the initial effort, and the fastest performance was that of Mr. G. S. Barwick's Daimler, Mr. Leather's 40-h.p. Fiat being second.

### LEICESTERSHIRE.

It has been found inadvisable, owing to the state of the course in Bradgate Park, to hold the proposed speed trials to-day (Saturday). The committee of the Leicestershire Automobile Club have, however, arranged for the gymkhana to take place at Garendon Park, near Loughborough, instead.

Garendon Park is situated about a mile and a half out of Loughborough, and all cars must enter the park by the Thorpe Gate. The best way to the park from Loughborough is by the Ashby road, until just short of the first milestone, where turn right, and straight ahead. Direction cards will be placed at the turning on the day of the gymkhana.

The road behind the sea bank from Sutton-on-Sea to Chapel St. Leonard's, via Anderby, has been declared unfit for motor-cars by local motorists, and members are urgently requested not to use it. The Lindsey County Council has applied to the Local Government Board for this road to be closed to motor-cars. As no roads within the county have yet been officially closed, and as the club is erecting warning-boards on this one, it is hoped to avoid a precedent being established if members

and others will avoid using it. The road is merely a sandy track, and has fifteen gates across it. There is an excellent alternative road, via Huttoft.

### IPSWICH AND EAST SUFFOLK.

ON Saturday a seventy-five mile non-stop run was held under the auspices of the Ipswich and East Suffolk Automobile Club, for the Botwood and Egerton Challenge Bowl. Of eighteen entries, sixteen cars started, and an observer appointed by the club travelled in each car. The winner of the competition was Mr. A. J. Snowden, who drove a 16-h.p. Argyll. Dr. Hossack was a very good second, and he and five others were awarded a silver medal presented by the club. These were Mr. Leon, Mr. J. R. Egerton, Mr. Gordon-Stewart, Dr. Brown, and Dr. Reed Hill. Dr. Moseley and Mr. Q. Vulliamy acted as judges. The cars and owners taking part in the run were as follows:—Mr. A. J. Snowden, 16-h.p. Argyll; Dr. Hossack, 10-h.p. Alldays and Onions; Mr. Leon, 8-h.p. De Dion; Mr. Egerton, 10-h.p. De Dion; Mr. Gordon-Stewart, 14-h.p. Spyker; Dr. Brown, 12-h.p. Hallamshire; Dr. Reed Hill, 6-h.p. De Dion; Mr. List, 8-h.p. De Dion; Mr. Castell, 10-h.p. Clement Talbot; Dr. Staddon, 8-h.p. Darracq; Mr. Laxen, 20-h.p. Clement Talbot; Mr. Scottorn, 12-h.p. Darracq; Mr. G. Leighton, 10-h.p. Motobloc; Mr. G. V. Millbank, 10-12-h.p. Argyll; Mr. W. H. Scottorn, 18-h.p. Belsize.

### LADIES'.

MEMBERS of the Ladies' Automobile Club were on Wednesday invited by Mrs. R. C. Turnor to motor to Binfield Park, Bracknell, Berkshire. This was the second of this year's meets, and many members were present. The band of the 1st Life Guards played during the afternoon. Members are also reminded that the entries for the club gymkhana are closed. The event is open to members and to the sisters and daughters of members. Sir David Salomons and Mr. James Ochs have consented to act as the judges on this occasion, and the president of the club, the Duchess of Sutherland, to distribute the prizes. On the 25th July a meet will take place at Bear Wood, Wokingham, by invitation of Mrs. Walter.

### CANADA.

THE leading city officials, including the mayor, board of aldermen, and the heads of the civic departments, were the guests of the Automobile Club of Canada on its first club run held recently. With the evident intention of showing the officials the unsatisfactory condition of the roads, the route out of town included some thoroughfares that were in bad condition.

AT the British Motor Boat Club's Regatta on the Mersey at the beginning of the month, petrol motors won nine races, and, in each case, the winner used "Shell" motor spirit.

THE subscription of the Irish A.C. is to be raised to three guineas per annum for all members who shall be proposed after July 1st and who reside within a radius of twenty miles from Dublin.

The following ambassadors have accepted honorary membership of the A.C.G.B.I. during their residence in Great Britain:—Senor de Bernabe (Spain), M. Paul Cambon (France), Musurus Pasha (Turkey), Signor Tittoni (Italy), Count Benckendorff (Russia).

UNDER the auspices of the Blackburn and District Motor Cycle Club a 104 miles non-stop run to Kendal took place on Thursday last week.

## HILL CLIMBING CONTESTS.

### ASTON HILL.

THE third annual open hill-climb at Aston, to be held by the Hertfordshire County Automobile Club to-day (Saturday), has produced a total of sixty entries. Aston Hill is on the road between Tring and Wendover, and is the first turn to the left after reaching the top of the Chiltern Hills, before one reaches Aston Clinton. The road divides the property of Mr. Alfred C. de Rothschild. The nearest railway station is Wendover. Motorists going from town are warned of police traps from Hendon to Stanmore, and from Berkhamsted to Tring. A long distance trap is in existence at the latter spot. Among the drivers of cars will be Capt. Masui, Messrs. W. Whittall (Crypto); F. Coleman (White steam car); J. E. Hutton (Berliet); W. H. M. Burgess (Pilain); A. C. Earp (Iris); J. M. Garnham (Daimler); W. Hacker Arnold (Whitlock-Aster); C. Watney (Pipe); C. Friswell (Peugeot); C. Bianchi (de Dietrich); E. M. C. Instone (Daimler); J. E. Lound (Beaufort); A. L. Guinness (Darracq); M. Brooke (Brooke); O. Cupper (Metallurgique), and other well-known cars and drivers.

### HAZLEWOOD HILL.

THE competition for the Du Pre Cup took place on Saturday last at Hazlewood Hill, near Duffield, Derbyshire. The cup is competed for annually and is open to members of the Leicester, Nottingham and Derby and District Clubs. The cup is awarded to the car which achieves the most meritorious performance, which is decided by the

Automobile Club of Great Britain and Ireland. The following is a list of the competing cars with the times:—

Name.	Car.	Min. sec. 5ths.
F. A. Bolton	25-h.p. Daimler	1 14 1
W. M. Hutchinson	30-40-h.p. Daimler	1 28 4
E. W. Wells	30-40-h.p. Daimler	1 32 1
J. A. Doran	22-h.p. Minerva	1 52 2
J. A. Doran	30-h.p. Rolls Royce	1 52 4
M. Ross Browne	25-36-h.p. Brasier	2 0 2
C. T. Leech	18-22-h.p. Daimler	2 4 0
Capt. W. Byron	20-h.p. Rolls Royce	2 11 4
R. Cripps	26-30-h.p. Argyll	2 16 1
G. A. Strutt	16-20-h.p. Humber	2 24 2
E. Arnott	22-h.p. Minerva	2 25 0
R. G. Hogarth	12-16-h.p. Clement Talbot	2 28 0
J. A. Harper	16-20-h.p. Humber	2 29 4
T. C. Pullinger	16-20-h.p. Humber	2 39 1
L. P. Moll	15-h.p. Darracq	2 40 2
A. J. Clay	20-h.p. Ryknield	2 53 3
H. J. Marsden	20-32-h.p. Darracq	3 2 2
Capt. W. Byron	16-h.p. Minerva	3 10 2
Dr. H. W. Boreham	10-h.p. Darracq	3 39 2
H. E. Barron	10-h.p. Peugeot	3 43 4
G. F. Reading	10-h.p. Wolseley	3 47 2
C. J. Allin	8-10-h.p. Humber	3 59 1
R. Sutton Clifford, junr.	12-h.p. Georges-Richard	4 10 1
C. H. Smith	8-h.p. Rover	4 41 1
J. T. Eady	8-h.p. Waite	5 28 2
H. G. W. Dawson	7-8-h.p. Swift	5 38 1
H. C. Reading	10-h.p. Wolseley	Stopped.

Messrs. Charles Perry, Nottingham, and F. K. Ward, Leicester, officiated as timekeepers. Mr. P. E. Joule, Derby, clerk of the scales; Mr. R. Sutton Clifford, junr., Mr. C. J. Allin, Mr. Alan McAlpin, and Mr. Booth Granger as clerks of the course, and Mr. R. Sutton Clifford, junr., starter and secretary of the meeting.

Where the cars were waiting their turn at the bottom of the hill the road was very narrow and had a sharp bend at the point. Mr. G. H. Wait was sitting in the Clyde car, which was waiting its turn at the rear of the row of cars. He heard a noise behind, and, turning round, saw a big Daimler come swinging round the bend only about 30 yards away. The driver saw that the road was blocked and jammed on his brakes. The wheels skidded, and the car swung round sideways and toppled over on to the back of the Clyde car. It broke the fall of the other car but bent the back axle of the Clyde and the back part of the frame. The owner of the Daimler and his daughter were thrown out, and it was fortunate that the party escaped with only a few cuts and bruises.

### NORTH EASTERN.

THE following are the official results in the hill-climbing competition at Ragbathside, held by the North Eastern Automobile Association on the 16th inst.:

- CLASS 2.—Motor-bicycles. Only one ran. V. Corbett, N.S.U.
- CLASS 5.—Capacity not exceeding 2 litres; seven ran. 1st, Co-operative Wholesale Society, 10-h.p. Alldays. 2nd, R. A. Young and Co., 10-h.p. Darracq.
- CLASS 7.—Capacity not exceeding 3 litres; two ran. Captain H. H. Paynter, 12-16-h.p. Wilson-Pilcher.
- CLASS 8.—Capacity not exceeding 4 litres; three ran. Mr. J. R. Ritson, 10-h.p. Stanley steamer.
- CLASS 9.—Capacity not exceeding 5 litres; only one ran. Mr. C. R. Engelbach, 18-24-h.p. Wilson-Pilcher.
- CLASS 11.—Capacity exceeding 6 litres; two ran. Mr. G. S. Barwick, 30-h.p. Daimler.

The fastest time on the hill was made by the 30-h.p. Daimler, which was 17 sec. faster than the 40-h.p. Fiat running in the same class. On the handicap for all cars, the Stanley steamer, in spite of being classed as equivalent to an 8-cylinder petrol engine, came out the best, the second being the 10-h.p. Alldays car, entered by the Co-operative Wholesale Society, and the third the 30-h.p. Daimler.

Arrangements are being made for re-holding this competition on the 7th prox., when a very interesting competition is expected, as there are already considerably over 50 entries.

### SOUTH HARTING.

SATURDAY'S hill climb at South Harting was a great success, calling forth a large entry of cars thoroughly representative of the present state of the automobile industry. The cars were weighed at Petersfield and were then driven to the hill about four miles away. The hill on which the contest took place is 1,833½ yards in length, the average gradient being 1 in 9, with 1 in 7 in the steepest part.

The features of such meetings are familiar and similar, and of most general interest is the results as determined by the timekeepers and duly set forth on the next page. Some incidents, however, stand out prominently in a day of considerable interest. Mr. E. M. C. Instone's driving in Class D. was conspicuous, for after colliding with a post and swerving across the roadway, he came well into the straight and safely careered up the hill. In Class C interest was whetted by the entry of Mr. Frederic Coleman's 18-h.p. White.

steam car; but ill-luck prevented his appearance in time. He was proceeding in the morning to the weighing-in when the engine began to jump, and on being dismantled it was found that the link motion had snapped. A new link was put in after two and a half hours' working, and he resumed the journey to Petersfield, where the link again snapped, the guide having been thrown out of line. Later in the day, however, Mr. Coleman was able to enjoy a racing run up the hill. Mr. H. E. Hall's Fraschini made a good appearance in Class C.

After the high-powered cars had gone up the hill, the performances in the other classes appeared somewhat tame. The results in Class B were all in favour of the Darracq—just as the Daimlers had done well in D and C. In consequence, however, of protests the prizes are being withheld until the adjudication by the committee. Mr. Ernest Arnott withdrew his entry, as he heard that other competitors had entered vehicles which were not standard cars as delivered to customers.

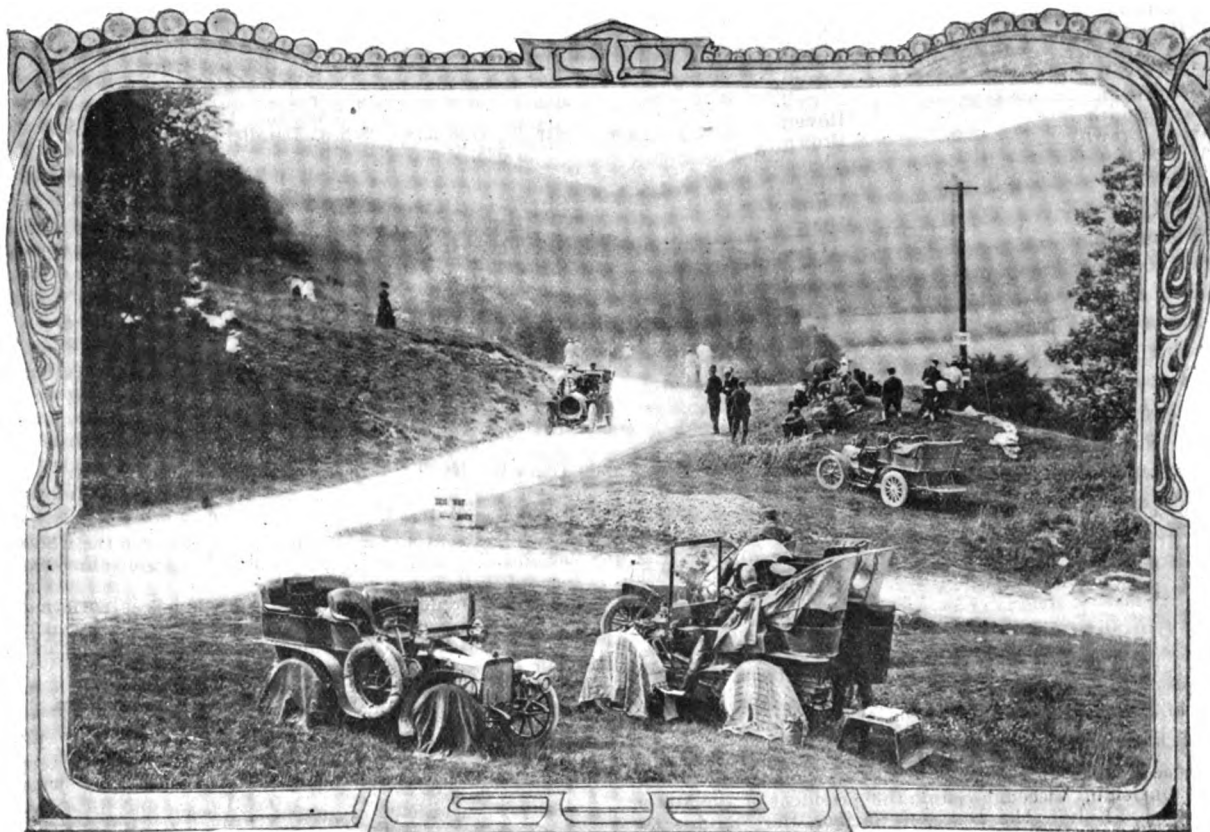
In Class A there was a varied entry, a Stanley steamer and the 10-h.p. Alldays, which have done so well in Midland competitions, being in the first quartette, and the new Reo, driven by Mr. F. G. Sharp, maintaining the excellent impression created by its performances in Scotland earlier in the month. The marks scored by the leading competitors in each class were as follows:—

# CLASS B.

For cars the chassis price of which is £300 and not more than £500.			
No.	Car.	Driver.	Points.
1.	20-h.p. Darracq	W. G. Wright	264
2.	20-h.p. Darracq	A. H. Walker	254.2
	20-32-h.p. Darracq	S. Girling	231
	20-32-h.p. Darracq	G. F. Heath	229.6
	20-32-h.p. Darracq	A. L. Guinness	214.4
	12-16-h.p. Talbot	Q. O. Grogan	212
	14-h.p. Germain	H. Ramoisy	200
	12-16-h.p. Clement-Talbot	T. H. Woollen	197.6

# CLASS A.

For cars the list price of which is £150 and not more than £350.			
No.	Car.	Driver.	Points.
1.	10-h.p. Stanley	A. Bruck	188.4
2.	10-12-h.p. Coventry Humber	L. Coatalen	172.4
	10-h.p. Alldays	E. J. Blakemore	171
	10-h.p. Alldays	F. W. Huband	170.4
	16-h.p. Reo	F. G. Sharp	149.4
	8-h.p. James and Browne	C. L. Cattell	107.6
	10-12-h.p. Humber	Mrs. H. Musker	91.6



The South Harting Hill Climb.—The 18-22 h.p. Whitlock Aster making the Ascent.

# CLASS D.

For cars the chassis price of which is over £850.

No.	Car.	Driver.	Points.
1.	35-h.p. Daimler	E. Manville	286.6
2.	35-h.p. Daimler	G. D. Powell	276.6
	60-h.p. Napier	C. Edge	275.6
	60-h.p. Berliet	J. E. Hutton	273.8
	60-h.p. De Dietrich	C. Bianchi	273.2
	35-h.p. Daimler	E. M. C. Instone	272.4
	35-45-h.p. Daimler	H. Musker	271.2
	35-h.p. Daimler	A. D. Grigg	264.8
	60-h.p. Napier	S. H. Pearce	262.8

# CLASS C.

For cars the chassis price of which is over £500, and not more than £850.

No.	Car.	Driver.	Points.
1.	30-h.p. Daimler	G. S. Barwick	278
2.	50-h.p. Napier	Miss D. Levitt	276.2
	40-h.p. Darracq	A. Rawlinson	273.8
	30-40-h.p. Daimler	H. Musker	267.7
	30-h.p. Daimler	J. M. Gorham	264.6
	25-35-h.p. Fraschini	H. E. Hall	251.4

The first in each class will receive a silver cup, the second a silver medal.

The event was held under the auspices of the A.C.G.B.I. and the Sussex County Automobile Club, and the leading members of both organisations assembled in considerable force. After Countess Russell had presented the prizes, the motorists partook of tea at the invitation of Earl Russell.

At the conclusion of the programme a steam car went up the hill, followed by a petrol car, officials taking times and facilitating the event, which proved of considerable interest. After his inability to get ready in time in the morning, Mr. Coleman sought to make a sporting match with some of the successful cars. Thus it came about that on his 18-h.p. White steam car he was matched up the hill against Miss Dorothy Levitt on the 50-h.p. Napier. The latter made a splendid run, getting well away at the start. Mr. Coleman went up with a rush; getting near the top he had to shut his throttle for the last bend; then he opened out and finished 1½ second ahead of the other car, also beating the fastest time of the Daimler by one-fifth of a second. Such events add a spice of interest to club events, and certainly gave a good conclusion to the South Harting climb.

# GRINDLEFORD.

The winners in the various classes of the Sheffield Club's hill-climb

Grindleford, reported in last week's issue, have been officially declared as follows:—

- CLASS 1.—(1) A. Farnell, 30-h.p. Daimler.  
(2) Ben Hind, 12-h.p. Talbot.  
CLASS 3.—(1) J. H. Hall, 20-h.p. Darracq.  
(2) T. Nash, 18-h.p. Mercedes.

### THE INTERNATIONAL TOURIST TROPHY RACE.

THIS competition will take place in the Isle of Man on Thursday, September 27th, with an allowance of one gallon of petrol for every twenty-five miles of the course. The following is a list of entrants at the ordinary fee of £20 per car up to Wednesday last. The fee for any entries that may now be made will increase £2 per week up to and including August 27th, after which date no further entries will be accepted:—

1. Mr. John S. Napier	Arrol-Johnston.
2. Mr. A. Rawlinson	Darracq.
3. Mr. A. Rawlinson	Darracq.
4. Hon. C. S. Rolls	Rolls-Royce.
5. Hon. C. S. Rolls	Rolls-Royce.
6. Mr. Warwick J. Wright	Minerva.
7. Mr. D. Citroen	Minerva.
8. Mr. T. B. Browne	James and Browne.
9. Mr. C. Harman Wigan	Vinot.
10. Mr. John S. Napier	Arrol-Johnston.
11. Mr. Alec Govan	Argyll.
12. Mr. Alec Govan	Argyll.
13. Mr. Harry Smith	Rover.
14. Mr. Albert Brown	Brown.
15. Mr. A. Mosses	Clement.
16. Mr. Claude Watney	Pipe.
17. Mr. T. C. Pullinger	Humber.
18. Mr. Edward Powell	Humber.
19. Capt. W. E. D. Owen	Aries.
20. Capt. W. E. D. Owen	Aries.
21. Mr. R. L. Jefferson	Rover.
22. Mr. F. Guy Lewin	Peugeot.
23. Mr. J. Ernest Hutton	Berliet.
24. Mr. J. D. Siddeley	Siddeley.
25. Mr. K. R. Brown	Siddeley.
26. Mr. J. Ernest Hutton	Berliet.
27. Mr. Tom Thornycroft	Thornycroft.
28. Mr. E. Lisle	Star.
29. Capt. H. H. P. Deasy	Deasy.
30. Mr. E. W. Lewis	Deasy.
31. Mr. Gordon Usmar	Vinot.
32. Mr. J. Percy Dean	Scout.
33. Mr. J. Lisle	Star.
34. Mr. C. H. Dodd	Speedwell.
35. Mr. J. Mayfield	Climax.

### THE OPENING OF THE ARGYLL WORKS.

ON Tuesday the new works of the Argyll Motors, Ltd., at Alexandria, near Glasgow, were declared open by Lord Montagu of Beaulieu, in the presence of a representative gathering of motorists from every part of the United Kingdom.

Mr. W. A. Smith, the chairman of the company, presided, and read apologies for absence from the Duke of Argyll, the Marquis of Linlithgow, Lord Balfour of Burleigh, Viscount Selby, the president of the Motor Car Commission, Lord Kelvin, the Duke of Ratibor, the Marquis de Dion, Baron de Zuylen, the Hon. Arthur Stanley, M.P., Sir J. H. A. Macdonald, Professor Herkomer, and many other well-known public men and motorists.

After the loyal toasts had been honoured, Dr. Robert Crawford proposed "Automobilism," and in the course of his response Mr. W. A. Smith gave an interesting resume of the history and progress of the concern, reciting some of the record runs held by Argyll cars and eulogising the work of Mr. A. Govan in designing and planning the works, which certainly must take a premier place among motor-car establishments.

Speeches were also made by Messrs. A. W. Steven, A. Govan, W. L. Sleight, A. Rodger, J. Newton, W. R. McTaggart and John Adam, and the company then made an inspection of the works, further reference to which will be made in an early issue.

### INTER-CLUB MEET AT BUXTON.

ON the initiative of the Manchester Automobile Club, an inter-club meet of the members of the Manchester, Midland, Yorkshire, North-East Lancashire, Halifax and Sheffield Automobile Clubs took place at the Empire Hotel, Buxton, on Saturday last. The weather was glorious and attracted a large number of members. There were over fifty cars present at one time in the spacious courtyard of the Empire Hotel, and, as each car had brought a full complement of passengers, the scene in front of the hotel was indeed lively. In the evening the motorists and their friends dined together at seven o'clock.

The weather was so favourable in the early part of the day that most of the members had made arrangements to go home on the Saturday night, and kept to this plan, though a heavy downfall when the time came for their departure made the surface of the roads very skiddy. Quite a number, however, stayed until after lunch on Sunday, employing the morning in using their cars to view the beauties of the Peak district. Amongst those present were the president of the Manchester Automobile Club and the chairman of the Yorkshire Automobile Club.

### THE IRISH AUTOMOBILE CLUB RELIABILITY TRIALS.

THE awards in the above trials were announced on Thursday last week, gold medals being won by the competitors mentioned below:—

#### AMATEUR SECTION.

CLASS A. (Cars under £200.)  
Mr. T. W. Murphy, 6-h.p. Rover car. Total marks 1,031 out of a possible 1,035.

CLASS B. (Cars under £300.)  
Mr. W. A. R. Heaven, 10-h.p. Cadillac. Total marks, 1,028; Maximum, 1,035.

CLASS C. (Cars under £400.)  
Col. R. Chaloner Knox, 12-h.p. Orleans. Total marks, 1,021.92; maximum 1,035.

CLASS D. (Cars under £550.)  
Mr. G. M. Mears, 16-20-h.p. Beeston Humber. Total marks, 1,019.14; maximum, 1,035.

CLASS E. (Cars under £700.)  
Mr. T. Henshaw, 23-h.p. Daimler. Total marks, 1,029.62; maximum, 1,035.

CLASS F. (Cars above £700.)  
Sir W. G. D. Goff, 20-h.p. Clement. Total marks, 1,003.7; maximum, 1,035.

The winners in the different classes in the Open Section were as follows:—

Class.	Entrant.	Car.	Total marks gained.	Maximum marks.
Class A	Chambers Bros.	8-h.p. Chambers	1,035	1,035.
Class B	Mr. J. E. Mills	8½-h.p. Clement Talbot	1,034	1,035.
Cars under £400.				
Class C	Argyll Ltd.	10-12-h.p. Argyll	1,017	1,035.
Cars under £550.				
Class D	Mr. T. C. Pullinger	16-20-h.p. Beeston Humber	1,005.42	1,035.
Class E.	Mr. T. Henshaw	28-h.p. Daimler	1,034.49	1,035.

The Goff Cup for the best performance in the whole of the amateur classes was won by J. B. Dunlop (10-12-h.p. Coventry Humber) who scored 1,018.76 marks.

The Dunlop Cups for 1st and 2nd best performance in the Open Class were won by S. T. Robinson (20-24-h.p. Clement-Talbot) 1,030.74 marks, and H. du Cros, Jun. (25-30-h.p. Austin) 1,025.99 marks.

### MOTOR-CYCLING CLUB.

IN the Motor Cycling Club's Private Owners' Trial on Saturday last four members completed the 100 miles without stopping; these were sent for a speed judgment test of five miles with the following result:—

		Min.	sec.
1. R. C. Davis	2½-h.p. Rover	15	6 2.5
2. G. C. Grimsdale	2½-h.p. Bat	15	12 2.5
2. L. A. Baddeley	3½-h.p. N.S.U.	15	34 3.5
4. S. J. Frost	3½-h.p. Pendragon	17	45 3.5

### THE INSTITUTION OF AUTOMOBILE ENGINEERS.

THE eighth annual meeting of the members of this Institute was called for Thursday last week, at the Grand Hotel, Birmingham, for 7.30 prompt. At that hour, however, only three members were in attendance, and after waiting for half an hour, in accordance with the rules, no other members attended and the business was transacted by the Council. The meeting should have been held, according to the rules, within the first four months of the year, i.e., before the end of April, but the difficulty has been to raise a quorum of members. Even now a quorum was not present, and for that reason the business had to be undertaken by the Council. The only members present besides the president (Mr. A. E. Tucker) were Mr. O. P. Clements, (past president) and Mr. F. E. Baker. There were also present the secretary (Mr. C. H. McPherson), and the solicitor (Mr. Sylvester).

The chief matter for consideration was the alteration of the rules so as to comply with the new conditions which would arise on headquarters of the Institute being transferred from the Midlands to the Metropolis. On this point the Council's report contained the following:—It had been proposed to rent suitable premises, and so establish a home for the Institute, in Birmingham, but, as a consequence of their



most careful deliberation, your Council have decided to transfer the headquarters of the Institute to London. It had become increasingly apparent that London offered a much wider scope for the Institute than Birmingham, and they have met with cordial support in this connection from the many gentlemen interested in motor engineering. The use of the rooms of the Institution of Mechanical Engineers has been most generously placed at the disposal of the Association, the proposed new title of which is that of "The Institution of Automobile Engineers." The report was adopted by the Council and the balance-sheet showed that the accumulated funds of the Institute amounted to £244 1s. 2d. The formal business connected with the transference of the Institute was gone through by the Council under the guidance of the solicitor, the first requisite being to pass a resolution constituting the present meeting a legal one, seeing that it was being held two months later than the time specified in the rules.

Nominations for officers of the Institute were received and the voting resulted as follows:—

President:—Lt. Col. Crompton, R.E., C.B.

Vice-Presidents:—Messrs. Douglas Leechman, and E. H. Godbold.

Members of the Council:—Messrs. G. H. Nash, Victor Riley, Charles Sangster, Archibald Sharp, Percy Martin, and W. G. Phillips.

### A MOTOR-BUS SERVICE IN WALES.

THE Cambrian Railways having received delivery of the first two "Orion" motor-omnibuses from Messrs. Moss and Woodd, they recently subjected them to numerous severe tests over the hilly and mountainous roads around Pwllheli, under the supervision of the following gentlemen:—Mr. Herbert Jones, locomotive superintendent; Mr. Gough, traffic manager; Mr. Dunbar, works manager, and Mr. Macdonald, engineer.

The following is the summary of the week's work, which was carried through without a stop or hitch on any occasion:—Two trips were made on the 11th inst. to Edeyrn *via* Bodvean and Nevin, at each of which places are nasty hills of 1 in 6 to be negotiated, with very sharp corners. On the second journey the vehicle was loaded with twenty-two adults, thirteen children, and 9 cwt. of weights in the place of luggage, and successfully mounted the hills without a stop. On Tuesday, the 12th inst., a circular trip was taken, starting from Pwllheli Station through Llanbedrog, Aber-soch, Llanengan, Llangian, Llandeow-nang, Ddifryn, Sarn, Bryncross to Aberdaron. At all of these places the gradients are very steep, both entering and leaving the villages. Near Aberdaron the level showed the hill to be steeper than 1 in 5.

On the return journey the route was altered at Sarn to pass through the beautiful Nanhoron Valley, Llanfihangel, Bachollaeth, Rhyd-y-chafdy, Efail-Newydd to Pwllheli. The car gave entire satisfaction, having negotiated all the gradients without a stop or hitch of any kind. The rest of the week was taken up with running the cars over the ordinary route. On Saturday, the 16th inst., a select party of the directors and friends travelled to Pwllheli by special train to officially start the service. After inspecting the 'buses, which were standing in readiness by the platform, a move was made to inspect the garage that has been erected to house the vehicles. The building is well arranged to give a good draw in and plenty of clearance for cleaning purposes. Two large inspection pits have been provided, and petrol storage is arranged in a 250 gallons cistern sunk in the ground outside the garage, the spirit being drawn up by means of a pump. The party then boarded the cars, and Mrs. Bailey Hawkins, the wife of the chairman of the Cambrian Railways, under the guidance of Mr. Moss, started the first car by pulling the change-speed lever into first speed and letting in the clutch, thereby declaring the service open. A pleasant journey was then made to Nevin, a halt being called for lunch at the Nanhoron Arms Hotel, a commodious and quaintly built hostelry recently erected to accommodate the increasing influx of visitors that patronise this healthy and beautiful spot.

The return to Pwllheli was successfully accomplished by a different route. Upon arriving at the station the visitors complimented Mr. Moss upon the excellent working of the 'buses, and wished the Cambrian Railways every success in their new venture.

### ROAD REPORTS.

LANCASHIRE.—The proprietors of the United Alkali Works, Thornton-in-the-Fylde, have placed at the disposal of the Thornton Urban Council a waste liquid product from the works for the purpose of trying experiments in dust laying on the roads. The surveyor is making arrangements to treat the streets and roads with the liquid once a week.

WORCESTERSHIRE.—The County Council of Worcestershire has declared in favour of the maintenance of main roads being made a national charge.

WESTMINSTER.—The following streets in the city of Westminster will be repaved at or about the dates mentioned:—July 2nd to 23rd, Garrick Street; August 13th to end of month, St. Martin's Lane and Waterloo Place; from September 3rd to 31st, Charing Cross Road.

BURY ST. EDMUNDS.—The Town Council is about to make application to the A.C.G.B.I. for a supply of notices cautioning the drivers of motor-cars to reduce their speed when passing through the town.

CHESHIRE.—In Central Cheshire, beyond Northwich, the roads just now are simply perfection, and a credit to their surveyors. One of the best roads is that leading from Stretton (near Warrington) to Tarporley, about fourteen miles of the best possible surface and a beautiful country. Most of the roads leading to Chester are also in good surface, being fairly free from dust.

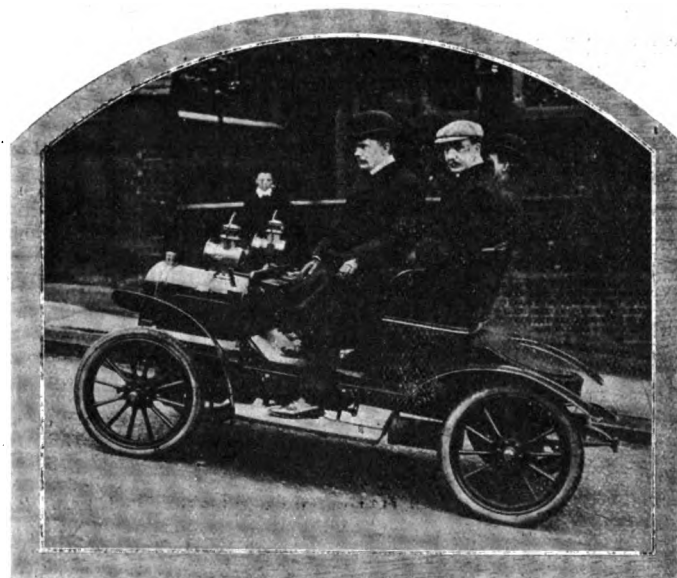
### NEW COMPANIES REGISTERED.

NORTHERN AUTOMOBILE COMPANY, LTD.—Capital, £5,000. To acquire the lease and option of purchase of premises in Oak Lane, Manningham, Bradford, lately used as tram sheds and now in part occupation of the Bradford Carriage Company. Registered office, Oak Lane Garage, Bradford.

DOOK SWAIN TYRE AND RUBBER COMPANY, LTD.—Capital, £8,000. Object: To adopt an agreement with E. A. Dook and L. H. Swain, and to carry on the business of manufacturers and vendors of and dealers in noiseless pneumatic and other tyres, motor-cars, and other vehicles, &c. Registered office, Soho Works, Pollard Street, Ancoats, Manchester.

MOTOR CARBURETTOR SYNDICATE, LTD.—Capital, £4,000. Objects: To adopt an agreement with G. L. W. Dorwald, and to carry on the business of manufacturers of carburettors, motor-car and cycle manufacturers, &c. Registered office, 20, Eastcheap, London, E.C.

A. DARRACQ AND CO.—(1905).—An interim dividend on the ordinary shares has been declared at the rate of 2s. per share, free of income tax.



A 6-h.p. Beyrol Light Car mounting Netherhall Gardens, N.W., the well-known test hill, with three passengers on board—an excellent performance for so small a vehicle.

### INLAND REVENUE.

MR. THOMAS CROOK, of Hilldrop Road, Holloway, was summoned to the North London Police Court for keeping a carriage without a licence. Mr. Hawkins, who appeared for the Board of Inland Revenue, said the carriage in question was a motor-car—LC 3576. The defendant said the car was registered, and he had a driver's licence, but he did not know he needed a licence for the car until he had it actually in use. In reply to the magistrate, Mr. Hawkins said that a carriage licence was necessary for any vehicle drawn by a horse or propelled by steam, electricity, or other motive power. Mr. d'Eyncourt said the penalty was £20; but the defendant would be fined only 20s. and 2s. costs.

### CASE AGAINST A CYCLIST SCOUT.

AT Beaconsfield Police Court a cyclist in the employ of the Automobile Association was summoned for "not giving warning by ringing his bell while passing persons in the road." The occurrence took place on the Bath road, near Taplow. The evidence showed that at the particular point the road was 21 ft. wide; on the right-hand side was a path 6 ft. wide, and on the left was a large open space of grass. It appeared the only persons in the road were two constables who had been engaged in trapping motorists. The cyclist passed these men at a distance of 6 or 7 ft., at the furious (?) speed of four miles an hour. The cyclist was defended by Mr. Walter Payne, instructed by Messrs. Amery-Parkes and Co., solicitors to the Automobile Association. As a result the magistrate dismissed the summons and awarded costs against the police.

## PUBLIC MOTOR SERVICES.

Two plain-clothes policemen tested the speed of a motor-omnibus driven by Francis Rowe, in the Broadway, Cricklewood, over a measured 220 yards, and discovered that the rate was fifteen miles an hour. The chauffeur, at Hampstead Police Court, pleaded that he was driving a very powerful car, and it was difficult to judge the pace when one changed from one car to another. He added that there was great competition in this trade, and they had to work very hard to earn a living. He was fined £2 and costs.

THE Eastbourne Corporation have withdrawn their motor-buses from the Lascelles Terrace route.

WITH reference to the London to Brighton motor service mentioned in last week's issue, the company hope to receive delivery of eight motor char-a-bancs within a few days. The service from the Hotel Metropole, London, to various south-coast resorts will then be commenced.

IT was explained at the first statutory meeting of the Manchester District Motor Omnibus Company, held at 60, Spring Gardens, Manchester, that the motor-buses of the company will soon run in the Manchester suburbs. Mr. Hardman A. Earle, the chairman, stated that a good deal of time had been spent in looking for a garage, which it had been estimated would cost to build about £5,000. They had now found a building in Trafford Park which suited their purpose admirably, and most of the vehicles were ready for delivery. They had appointed an engineer and drivers, and Mr. D. Boyle had arranged the routes. The first service would be started on the Stretford route. The report showing the receipts was submitted in accordance with legal requirements. The amount received in cash by the company was stated to be £37,497. The amount paid on account for omnibuses was £8,023.

ON Monday the New London and Suburban Omnibus Company replaced their service of horse vehicles plying between Kingston and Richmond with motor-buses.

THE Isle of Wight County Bench has accepted three sureties of £100 each for prosecuting an appeal against the conviction of one of the drivers of the Isle of Wight Motor Express Syndicate for using a car not constructed on the principle of consuming its own smoke.

THE time table of the new motor service between Westbourne Park and Southall is now included in the local time tables.

LITIGATION is proceeding at the South West (London) Police Court between the L.C.C. and the Road Car Company, who have converted their stables at Wellington Road, Battersea, into a garage without fulfilling the requirements demanded of them.

A FIRM of Hindoo merchants in Surat has started a motor-car service between Surat and Dumas, India, a distance of ten miles.

THE Folkestone Motors, Ltd., have started daily special runs to Hythe, via Newington.

THE Highways Committee of the Wandsworth Borough Council have had before them a letter from the Commissioner of Police in reply to the letter received from the council on the subject of motor-omnibus traffic in Putney. The Commissioner is satisfied that the police are alive to the necessity of strictly enforcing the law in all cases, and that whenever visible vapour is seen to be emitted by motor-omnibuses the matter is reported by the police and particulars sent to the London County Council that whatever action considered desirable may be taken. The Commissioner suggests that if the Council's measures in regard to the dripping of oil are not sufficiently effectual the Council might take action under the Highways Act. The committee state that they are consulting the solicitor in regard to the Commissioner's suggestion.

## CASES AGAINST MOTORISTS.

*[It must be understood that it would be impossible to report all the cases that are heard every week; we therefore endeavour to give only those which involve points of particular legal importance or of public interest.]*

SIX London motor-car drivers and owners have been fined nearly £30 with costs by the Mayor of Colchester, who, when the guest of the Essex Automobile Club a few days before, expressed the hope that motor-cars would often visit Colchester.

AT the Bradford Police Court, Arthur S. Drummond was summoned for using a motor-car without sufficiently illuminating the identification plate. In a letter to the Stipendiary Magistrate the defendant pleaded guilty, and said he had lent his own lamp to a friend. It was stated by Chief Inspector Jones that the defendant had been eight times previously convicted, three times for this particular offence. A fine of £2 and 7s. costs was imposed.

AT Wilmslow Police Court, John Batty, Didsbury, was charged with driving a motor-car at a greater speed than twenty miles an hour between Wilmslow and Alderley. The evidence showed that the defendant passed through Wilmslow at a rate of about twenty miles an hour, and then covered two miles at the rate of thirty miles an hour. The Bench fined the defendant 40s. and costs.

AT Alton, Kiugi Yano, a Japanese, has been summoned for riding a motor-bicycle at a speed of over twenty-five miles an hour. The defendant stated he was only trying the machine. He was fined £1, including costs.

AT Colehill Police Court, the police have had two summonses against Ashley Myott, earthenware merchant, Newcastle-under-Lyme, for driving a motor-car at a speed which was dangerous to the public, at Colehill, on May 5th, and also for refusing to stop his car when

requested by a police-constable. The Chairman said the magistrates meant to stop excessive driving through towns and villages, and they would make an example of defendant by fining him £5 and £1 11s. 6d. costs for the dangerous driving. The second case was dismissed. Leave was given to appeal against the conviction.

AT Chiswick, Arthur Thomas has been summoned for driving a motor-car at High Road, Chiswick, on March 29, at a speed exceeding twenty miles an hour. Defendant was represented by his wife, who said he had been out of employment several months, and he was now in a situation in the provinces. Defendant also sent a letter to the court, and stated that at the time he was learning to drive a motor-car. It was stated that defendant was going at over twenty-five miles an hour. The Bench imposed a fine of £3 and £2 2s. costs.

SEVEN motorists were fined at the Oxted Police Court on Monday. One, Charles O'Connor, Great Russell Street, London, W.C., admitted that he was unable to attend the last court as he had to appear at Godalming the same day, when he was fined £10 and costs. After leaving South Godstone he was stopped by the Sussex police and fined £5 and costs. Defendant also admitted that during the last nine months he had paid £37 in fines and his licence had been suspended for six months. The Bench fined him £15 and costs, and suspended his licence for twelve months.

AT Bromley (Kent), Frederick Small was summoned for driving a motor vehicle, with trailer attached, without anyone on the trailer who could apply any brake power. Arthur Cook, the owner, had also been summoned for permitting the vehicle to be so driven. The owner was fined £1, and Small 10s., with costs, 10s. in each case.

ALGERNON BUTLER, Tunbridge Wells, was summoned at Bromley (Kent) for driving a motor-car on the 3rd inst. without having a light to illuminate the identification number; with not having a light in front, and also with not producing a licence when asked to show it. Fined £1 and costs for not having a front light, 10s. and costs for not having a rear light, and 10s. and costs for not producing his licence.

FIVE cases against motorists at Horsham on Saturday resulted in an addition of £13 to the county funds.

ON his way to the Scottish Trials Mr. A. E. Crowdy, Delamere, Castle Bromwich, fell into the police-trap at Slyne, and at the Lancaster Police Court has been fined £7 and costs.

## POLICE TRAPS.

A TRAP is being worked on the road from Lewes to Brighton. It is at present located close to the County Prison, Lewes, but we hear it is to be moved about on that road.

MOTORISTS on the Hayes-Uxbridge Road should beware of police devices on that road during the week end.

WE hear that police activity is likely to be directed towards motorists in Henley week, and drivers through Maidenhead and Twyford should beware of traps.

SEVERAL traps are being set in the suburbs of Essex, notably in the Woodford and Wanstead districts.

THERE is a two-mile trap between Wilmslow and Alderley, and one of 220 yards in the centre of the village of Alderley Edge.

MOTORISTS in the south should look out for a police-trap at any point between the top of Egham Hill and the turn below the Wheatsheaf Hotel to Ascot.

## MOTOR-CAR ACCIDENTS.

A STARTLING accident to a motor-car occurred near Buxton on Saturday. The car, which contained five passengers, had reached a dangerous bend in the road just below the Cat and Fiddle, and being unable to round the curve shot across the eight feet of roadside grass, dashed through a limestone wall, and rolled over and over down the slope for eighty yards, being finally wrecked against another wall. The experience of the passengers was terrible. They were thrown in all directions, but fortunately did not go down the declivity. Another car came up containing two medical men, who rendered every aid.

AFTER inquiring into the cause of death of an actress's maid, who was knocked down by an electric brumham, the jury returned a verdict of "Accidental death," but expressed the opinion that proper precautions had not been taken by the chauffeur to give the alarm in the congested traffic.

AN inquiry was held before the deputy-coroner for Birmingham, on the 13th inst., into the circumstances of the death of Harold Price Baker, of Selly Oak, who was killed in a motor accident at Olton on the previous Saturday night. Herbert Collins, chauffeur of the motor-car, which belonged to Messrs. Wills and Sons, of London, railway contractors, attended in custody of the police. Evidence showed that the prisoner was on the wrong side of the road, and a police-sergeant declared that he was under the influence of drink. The jury found that death was caused by the prisoner's negligence, and he was formally committed for trial on a charge of manslaughter.

## MOTOR-BUS ACCIDENT.

ON Monday a motor-bus mishap occurred on the London-Brighton road, the driving rod of a vehicle breaking between Cuckfield and Burgess Hill and causing the vehicle to swerve across the road. Fortunately no one was injured.

# THE Motor-Car Journal.

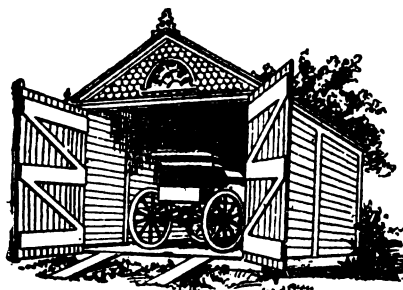
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## COMMENTS.



IT is evidently a wise thing not to offend the magistrate, as a Kensington motorist has just done, by non-attendance at successive adjournments of his case. Ultimately, when he did appear on Tuesday at the Greenwich Police Court, he was fined £10 and 6s. costs, and the magistrate said his motor-car would be detained until the money was forthcoming. Should many such cases occur the provision of garages at police stations may become a necessity, and then the magistrates may be tempted to increase the fines to cover the cost. That, at least, would be the way of the "great unpaid." There is no doubt, apart from the justice or merits of the case, that motorists will find it an economy to be punctual and civil in any dealings they may have with the magistrates.

### Social Events.

DURING the present month and August some particularly interesting gatherings of motorists are to be held, and some of the clubs contemplate spending week-ends in most delightful surroundings. Mr. C. D. Rose, M.P., will meet the Berkshire Club at Pangbourne, and Mr. C. Hardy will entertain the Nottinghamshire Club at Bulwell Hall. The former organisation has also accepted an invitation from Earl Roberts, K.G., to meet at Englemere on the 18th inst. Among inter-club meets there is that of the Essex Motor Club and the Motor Cycling Club at Burnham-on-Crouch, likely to attract a goodly number of motorists of both the land and the water variety. Dr. and Mrs. Firth are having an "at home" to-day (Saturday) to meet the members of the Kent and the Blackheath Clubs, and next week motor-carists will have a hill-climb at Fernhurst under official auspices, while motor-cyclists will see some record-breaking efforts at Canning Town. In the north speed trials on the sands between Redcar and Saltburn will claim the attention of Yorkshire motorists.

### The Trend of the Trade.

FINE weather has doubtless had its effect on the demand for cars, and done something to deplete the showrooms of their stocks. The effect of the Grand Prix race has already been seen in the premiums charged for the early delivery of the cars of certain successful types—a policy which is apparently necessary to restrain the demand to a point of possible supply, but which will have the effect of sending some prospective motorists to a comparison of such prices with those of competing firms, and thus customers may be lost—irretrievably. One of the most distressing aspects of the motor-car business to the successful agent is the return of deposits when he realises that he cannot augment his supply of vehicles of the type in good demand. At the same time there are plenty of cars available for sale, and a conspicuous feature of the small

advertisements in the *M.C.J.* last week was the number of large cars on offer by motorists who publicly declared their intention of purchasing vehicles of less power. It would be interesting to know the reason of this, and whether the attitude of the police in certain ill-favoured districts is responsible for the feeling of uncertainty which has come over some motorists whose enthusiasm was once a matter of daily demonstration, but who now seem disinclined to take the risk of police persecution.

### A Motor-'bus Guard.

EXPERT evidence with regard to motor-'buses was given to the Select Committee on London Traffic, on Tuesday, by Mr. W. Worby Beaumont, who said that the present practice of inspection was to look at the visible parts and take the maker's guarantee for the invisible parts. He thought that for the present at any rate there should be a certain clearance beneath a motor-omnibus. At places where people crossed the street most frequently 'buses generally moved slowly, and if a person fell clear of the wheels the 'bus might pass over him without doing him injury. If a certain clearance were made a condition for a year or two it would be seen if it were really of importance. He thought a guard, or cowcatcher, might be fitted to motor-omnibuses, and, as a matter of fact, had seen one in course of construction in the works of the Road Car Co. The guard was a flat board nearly of the width of the wheels, slightly tilted downwards, and made to run within about three inches of the ground. Such a contrivance might carry a person forward or push him aside, and, in Mr. Beaumont's view, it is a thing which ought to be tried.

### Still Growing.

THE Automobile Association Press run will take place on Sunday, the 8th, starting from Colonel Bosworth's house, Cedar Court, Roehampton, at 10.30 a.m. The cars will proceed by way of Sutton, Reigate, and Crawley to Brighton, where luncheon will be taken at the Hotel Metropole. Any member caring to join the party either at Roehampton or Brighton will be cordially invited. The strength of the Association is increasing daily, and its usefulness extending far beyond the anticipation of the founders. Those not already in membership should apply for particulars to the secretary, at 18, Fleet Street, E.C.

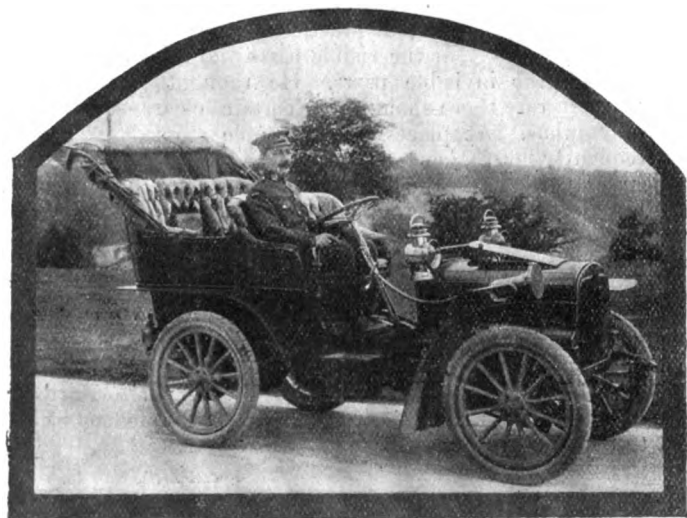
### The G.E.R. and Motor-'Buses.

AMONG railway directors the late Sir Wilfrid Lawson was the first to realise how important the motor-car might become as a feeder to the companies if properly and promptly adopted. His view is now the accepted one among railway experts, and all the great lines are favouring the motor-'bus to deal with the traffic obtainable from isolated districts, and from those places inaccessible by the ordinary route. The Great Western Railway in Cornwall, and the North Eastern Railway in some parts of Yorkshire, have been able to successfully combine the motor-'bus service with their ordinary railway facilities, to the advantage of passengers and shareholders alike. In East Anglia the Great Eastern Railway Company has been quite as enterprising as these other lines, and their motor-'bus services are appreciated

features of the traffic at Colchester, Chelmsford, and other centres of population. Several vehicles have been made at the works at Stratford, but the management is not necessarily committed to one style of vehicle, and the first of three motor-buses which the Thornycroft Company has in hand for the company has just been delivered at Stratford, and several trials have been made during the last few days preparatory to its being put on the road for public service. The Maudslay Company is also building three motor-buses for the Great Eastern Railway Company, which is evidently determined to meet the heavy demand for passenger accommodation in East Anglia.

#### Horse Driver v. Motorist.

SUMMONS and cross-summons lately attracted a good audience in the court-house at Macclesfield. Both parties were prominent in their respective spheres, Mr. Gerald Higginbotham as a motorist, and Mr. C. E. Thornycroft as the Chairman of the County Council Education Committee, and not yet a motorist. The first gentleman summoned the second for driving a dog-cart on the wrong side of the road, and the second took similar legal process against the first for driving a motor-car in, as he alleged, a dangerous manner. Mr. Higginbotham was driving into Macclesfield one morning last month when a serious accident, owing to the dog-cart being on the wrong side of the road, was narrowly averted. When the motor-car was safely



Mr. S. H. Justin, of Bristol, and a member of the Motor Volunteer Corps, at the wheel of his 12-h.p. Mobile Car.

past the horse-drawn vehicle Mr. Thornycroft pulled up and addressed a series of interrogations to the motorist, using words, according to the latter's witnesses, not altogether becoming in the chairman of an education committee. The whole incident has been recited in the local police court, and, although both cases were dismissed, the impression seems to prevail locally that a useful lesson has been administered to drivers of horse-drawn vehicles who do not always disguise their hostility to motor-cars.

#### Giving Pleasure to Others.

MOTORISTS who own cars have ample opportunities for giving pleasure to others, and probably the most really satisfactory club meets of the year are those organised for the purpose of taking crippled children for a day's outing. The delight of the youngsters is unfeigned; questions of social distinction never enter into their calculations, and the motorists who thus place their cars at the service of others are able to share the joy of their little guests without any limitations. At Manchester and Sheffield these children's days are recognised engagements of the local clubs, and some other associations will shortly be added to the list of those who thus care for less

favoured mortals. The Leicestershire Automobile Club is now developing the idea so that its guests will have the maximum of pleasure. Mr. and Mrs. Ralph Walker have offered to entertain at Ratcliffe Hall as many of the members of the Leicester Cripples Guild as can be conveyed thither on motor-cars belonging to members of the county automobile club, and the latter are each subscribing half-a-crown so that each child shall have a present in remembrance of the occasion. Charity, like mercy, "blesses him that gives and him that takes," and only the sunny approval of the clerk of the weather is now wanted to make complete the happiness of the Leicestershire Automobile Club on the 14th inst.

#### Hill Climbs and Gymkhanas.

OUR columns have lately testified to a state of enthusiasm with regard to hill climbs that has something of the character of an epidemic. The days of the long procession of motor-cars following each other in dusty array are over; but the hill climb, with its opportunities for picnic and chat, is now in the zenith of its popularity. A club is scarcely recognised as a club unless it holds a hill climb or taxes the ingenuity of its officials in devising some new form of competition at a gymkhana. In view of the badly-constructed roads in many parts of the provinces, this is a wise trend of the times; but to our comment of last week with regard to accuracy of entry—a warning emphasised in the proceedings at Aston Hill—we would add a suggestion that the contests at gymkhanas have probably reached the greatest desirable point of levity in the contest in which gentlemen have to go down on their knees and immerse their noses in a pail of water while their lips range around in search of an apple. With such an item on the programme serious business can be indulged in during the rest of the afternoon.

#### Personal Attendance Wanted.

On Tuesday warrants were issued against a couple of well-known London motorists because they had not personally responded to the invitation of the police to present themselves before the Steyning Bench. Last Saturday the Guildford magistrates wished a summoned motorist to stand within the shadow of the dock, and other indignities have been reported elsewhere in the south. Unfortunately there is little escape from the vagaries of magistrates, and to the heavy fines inflicted in some courts the insistence on the personal attendance of the victims may be regarded as really an addition to the costs. Having regard to the fact that such place of alleged offence may be hundreds of miles from the residence of the motorist, this aggravation of the expense is a matter of grave injustice, to which the attention of the President of the Local Government Board should be drawn ere the report of the Royal Commission—a body of estimable gentlemen who have long lost their reputation for celerity—is presented to Parliament.

#### Children and Cars.

At the Birmingham meeting of the Motor Union reference was made to the danger of stone-throwing at motorists by school children in several districts, and it was decided to send a circular letter to the education authorities, with a warning. Since then several similar complaints have reached us, and we are pleased to hear that the police superintendent in Harrogate and Knaresborough has written to the schoolmasters in the elementary schools in his district, asking them to use their influence with the school children for the prevention of stone-throwing. Some time ago one of the Yorkshire automobile organisations wrote to the teachers in the elementary schools with good effect, and it is to be hoped that equally satisfactory results will follow the present police warning. We would also suggest that the automobile clubs throughout the country should do all they can to induce a proper spirit among school children, thus seconding the efforts of the Motor Union to abate a practice which is a danger as well as an annoyance.



### Cars—New or Old.

A CASE which is shortly coming before the courts is concerned with the problem, "When is a new car not a new car but an old one?" The question hinges on the point as to whether a car on exhibition and used for trial runs therefrom can be regarded as a new vehicle, or whether the occasional use in such a connection transforms it into an old one. It is a point of interest to the trade and public alike, and we understand that barristers with "watching briefs" will be a feature of the barristers' desks when the trial of the action takes place.

### Motorists to be Shot.

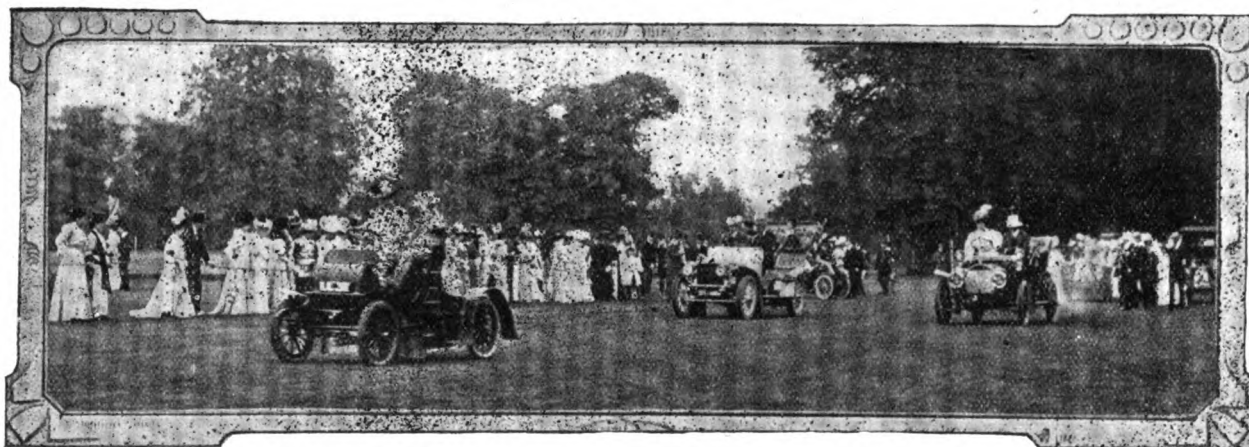
THE case of the motorist is, according to Councillor Thomson, of the Salford Town Council, analogous to that of the dog. Certainly the worthy councillor seems to be suffering from motorphobia, for he has declared, at a meeting of the Council, that he treats "the motorist as a dog. I think sometimes he goes mad, and we ought to serve him as we serve the dog. We ought to shoot him." Fortunately there are some medical men as colleagues of Mr. Thomson on the Council, and one of them, Dr. Pinder, was able to administer an antidote of common sense and reason, pointing out that diatribes against motorists were useless, and that he was opposed to anything likely to thwart their progress, which he welcomed from the

### Motor Spirit.

"THE spirit of the time shall teach me speed" is a Shakespearean quotation put to commercial uses by Messrs. Carless, Capel and Leonard, whose new list of agents for their petrol and Movril—this being a new quality of motor spirit—shows how completely the automobile industry has taken hold of the country. There is scarcely a hamlet of any size where motor spirit is not obtainable, and to the enterprise of the firms supplying petrol, in covering the country with a network of agencies, much of the development is due.

### Racing on the Sands.

THE Yorkshire Automobile Club deserves credit for having taken the initiative in holding motor-car races on the sands in this country, and although its experiment at Filey last year was partially spoiled by inexperience, a success is anticipated for the races to be held under its auspices this year between Saltburn and Marske. Now there is an active Cleveland branch of the county organisation to help, and Major Bowers, the Chief Constable of the North Riding, will see that the course, about a kilometre in length, is amply protected, to avoid a repetition of last year's *contretemps*. Lord Zetland and the local councils of Saltburn and Redcar have also shown considerable interest in the event, for which



The Ladies' Automobile Club Gymkhana.—The Start of the Final in the Police Trap Race. (See page 417.)

professional as well as the commercial standpoint. Not only was the development of the industry calculated to be of service to the country, but the car was becoming more and more used by men of his own profession, and by others who recognised its value as a means of economy and efficiency.

### Arches Across the Road.

UNTIL they actually get into operation the promoters of public motor services scarcely realise the many small points of detail which they must settle to the satisfaction of the public as well as their own. The difficulties are not confined to London; they are to be found in the rural districts as well. The passengers in a motor-omnibus which was approaching Kingsferry Bridge railway arch for the first time on Sunday afternoon, bound for Sheerness, Isle of Sheppey, had a narrow escape. Mr. W. Coomber, of Milton, near Sittingbourne, Kent, thinking that the arch was not high enough, rushed forward, holding up his hands, to warn the driver of the omnibus, which was travelling at a high speed. The car was stopped just in time, for it was discovered that there was only an inch and a half to spare. The outside passengers were obliged to lie down in order that the omnibus might pass under the arch. What with railway crossings and railway arches the motor engineer has many worries incidental to the practice of his profession.

Mr. E. H. Hepper will act as chief marshal, and Mr. C. P. Wilson, of Leeds, as secretary.

### The Tourist Trophy Race.

LAST week we gave a list of the entries which had then been received for the International Tourist Trophy Race to be held by the A.C.G.B.I. in the Isle of Man at the end of September next. To the thirty-five cars then notified must now be added the following:—36, Mr. Robert Burns (Swift); 37, Mr. W. L. Hardman (Hardman); 38, Mr. Hugh P. MacConnell (Bianchi); 39, Mr. Arthur McCormack (Gladiator); 40, Mr. Sydney Straker (Straker-Squire); 41, Mr. L. R. L. Squire (Straker-Squire); 42, Mr. Christopher Hill (Climax); 43, Mr. Harold Bruce (Metallurgique). Several other entries are pending, and "it is confidently expected that the perfect car for everyday use will eventually be obtained" by this competition.

MORE than a hundred firms have already booked space for Cordingley's Motor Car Exhibition at the Agricultural Hall, London, next year.

ON Tuesday the appeal of the driver of a motor-bus at Ryde, Isle of Wight, against a conviction for driving a vehicle which did not consume its own smoke was heard. The appeal, which was supported by the Motor Union, was allowed.

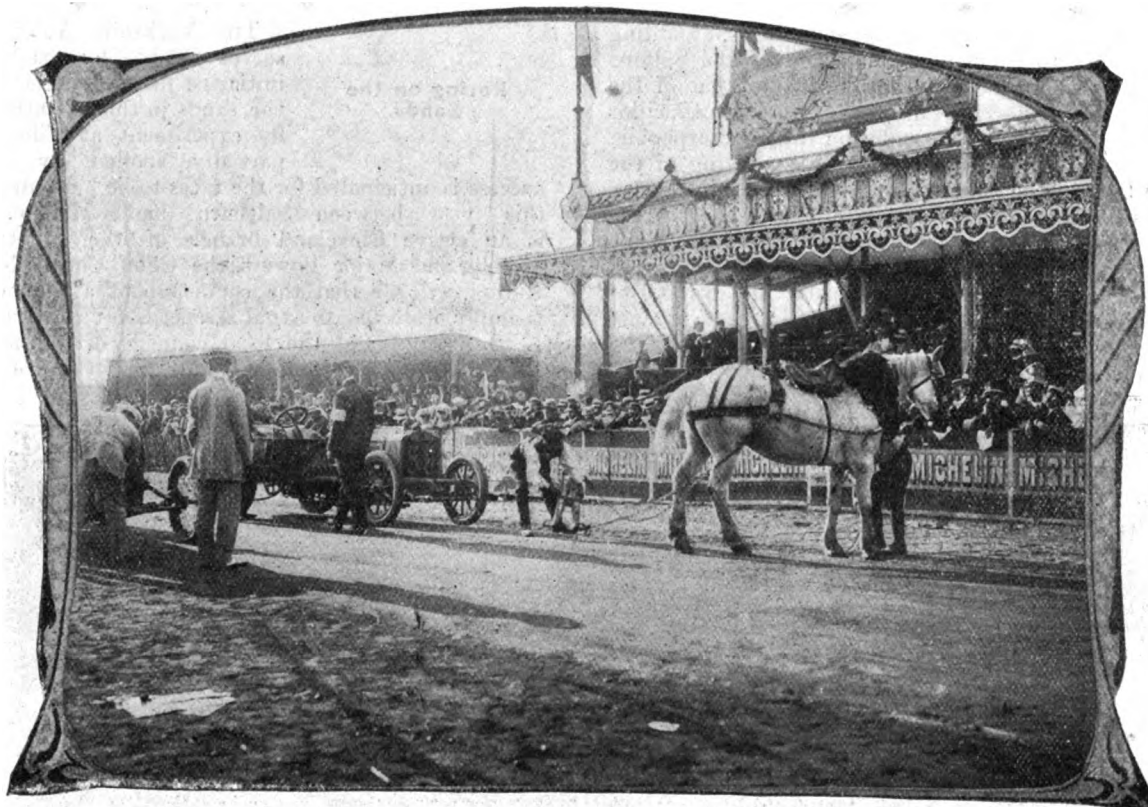
## The Grand Prix Race.



**A**S we were able to record in our last issue, Szisz—this it transpires is the correct spelling of the speedy motorist's name—proved the winner of the Grand Prix, he covering the total distance of 774 miles in 12 hrs. 14 min. 7 sec., equal to an average speed of just over 63 miles per hour.

11 min. 40 sec.; Heath, 12 min. 20 sec.; Barillier, 14 min. 2 sec.; and Lancia, 16 min. 40 sec.

At the end of the seventh round the order of the first five was Szisz, Clement, Nazzaro, Barillier and Heath. The only one who failed to finish this lap was Teste, who met with a bad



How the Cars were brought to the Starting Point on the Second Day.

The following were the competitors who set out on the second day's race, Mr. Alexander Burton taking Jenatzy's place at the wheel of the Mercedes A 6, in accordance with the rule permitting a change of drivers for the second half of the contest:—

Driver.	Machine.	Driver.	Machine.
Szisz ...	Renault.	Jenatzy }	Mercedes.
Clement ...	Clement-Bayard.	Burton }	
Nazzaro ...	Fiat.	Rougier ...	De Dietrich.
Shephard ...	Hotchkiss.	Lancia ...	Fiat.
Barillier ...	Brasier.	Hemery ...	Darracq.
Richez... ..	Renault.	Rigolly ...	Gobron.
Heath ...	Panhard.	Mariaux ...	Mercedes.
Teste ...	Panhard.	Baras ...	Brasier.
Pierry ...	Brasier.	Duray... ..	De Dietrich.

The start took place just before 6 a.m., the drivers being sent off at the same intervals of time as separated them on the first day. All repairs and replenishments having to be effected in running time, the cars were brought to the starting point by means of horses, as is depicted in the above illustration, and at the proper moment were given the signal to go. This done, the competitors made for their "ravitaillement" stations, where the necessary supplies of fuel and water were taken in, tyres changed, &c. Each competing firm had been allowed one of these stations, and the installations for the quick transfer of petrol and water to the tanks of the cars, and also for the rapid inflation of the tyres, were on quite an elaborate scale. Nazzaro and Mariaux were away with but a few seconds delay; Clement took 4 min. 37 sec. in getting off; Szisz, 11 min. 26 sec.; Teste,

accident at Champagne, resulting in injuries to his leg. Szisz finished the eighth circuit at 7 h. 50 min. 26 sec., Clement still being second, and Nazzaro third. Hemery (Darracq) retired in this round owing to valve troubles, as also did Rigolly with radiator troubles, and Shephard as the result of a broken wheel. Szisz increased his lead in the ninth lap to 42 min.; Clement was still in second place, with Nazzaro only 3 min. behind, and running strongly, a keen struggle taking place between the two. The number of surviving competitors was reduced to twelve by the retirement of Richez (Renault) owing to one of his road wheels collapsing. The completion of the tenth round saw Szisz still well to the front, and with him looked upon as a certain winner, interest centred on the battle of speed raging between Nazzaro and Clement, the latter having been overhauled by just over a minute. In the eleventh round Szisz further increased his lead to 46 min. Clement made a great effort to re-win the second place, but was unsuccessful, although he managed to reduce the margin between him and Nazzaro to 32 sec. Rougier fell out, being utterly exhausted with tyre troubles. He is stated to have changed no less than fourteen tyres in one day. Szisz entered on the last lap shortly after eleven, and as mid-day arrived the excitement grew intense. Curiously enough the final circuit was his slowest, and it was not till about 12.15 that he put in an appearance. Needless to say he met with a rousing reception. Thirty minutes elapsed ere Nazzaro finished. He had made the concluding round at the fastest pace and had

slightly increased his lead over Clement, who came in 3 min. behind. A long wait ensued, Barillier not arriving until over an hour had elapsed, while no less than 4 hr. 24 min. separated the last man from the winner.

The appended table shows the times of those who successfully completed the two-days' race of 774 miles. Taking the performances of the survivors on the second day alone it will be seen that the best time was made by Nazzaro, 6 hr. 20 min. 33 sec., Szisz being second with 6 hr. 28 min. 37 sec., and Clement third, 6 hr. 38 min. 6 sec.

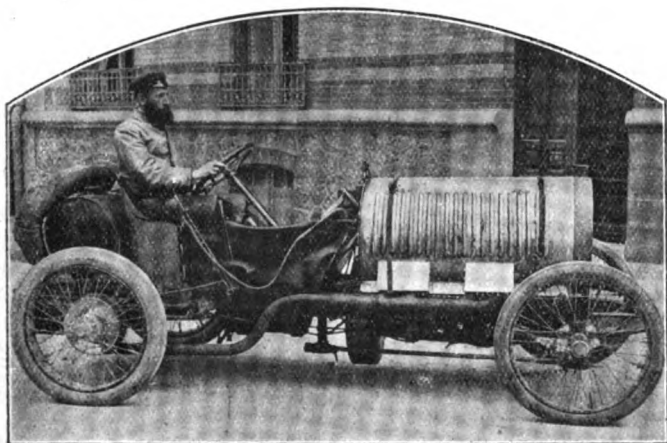
Order.	Driver.	Car.	Time on first day.			Time on second day.			Time for two days.	Approx. aver. speed. m.p.h.
			H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.	H. M. S.		
1	Sisz	Renault	5 45 30	6 28 37	12 14 7	63				
2	Nazzaro	Fiat	6 26 53	6 20 33	12 46 26	60½				
3	Clement	Clement-B.	6 11 40	6 38 6	12 49 46	60½				
4	Barillier	Brasier	6 31 48	7 21 12	13 53 0	58½				
5	Lancia	Fiat	7 12 9	7 10 2	14 22 11	53½				
6	Heath	Panhard	6 48 12	7 59 33	14 47 45	52½				
7	Baras	Brasier	7 41 43	7 34 7	15 15 50	50½				
8	Duray	De Dietrich	7 58 46	7 27 15	15 26 1	50				
9	Pierry	Brasier	7 59 5	8 16 2	16 15 7	47½				
10	Jenatzy	Mercedes	8 7 20	8 11 22	16 18 42	47½				
	Burton									
11	Mariaux	Mercedes	7 39 31	8 59 27	16 38 58	46½				

Szisz, who is now the hero of the hour, is a foreman in the testing department at Messrs. Renault's works at Billancourt. His average speed of 63 miles per hour compares with Thery's 49 miles in the Auvergne last year, and 60 miles in the Gordon Bennett race in 1904. A feature of the winning car is that no differential gear is provided. The engine comprises four cylinders, 165 mm. bore by 150 mm. stroke, and is rated at 105 h.p. Szisz is said to have only had to stop once on account of motor troubles, this being due to a broken plug.

As will be seen from the appended table, the fastest lap of the whole contest was made by Baras on a Brasier in 52 min. 19 sec., equal to a speed of 74 miles per hour:—

FASTEST TIMES IN EACH LAP OF 64½ MILES.

Lap.	Driver.	Car.	Time.	
			H. M. S.	
1	Baras	Brasier	0 52	19
2	Pierry	Brasier	0 52	31
3	Barillier	Brasier	0 55	23
4	Tart	Panhard	0 55	28



Le Blon on his Hotchkiss Racer.

5	Duray	Dietrich	0 52	41
6	Riches	Renault	0 57	51
7	Mariaux	Mercedes	0 58	39
8	Clement	Clement-B.	0 57	17
9	Rougier	De Dietrich	0 53	17
10	Lancia	Fiat	1 4	1
11	Duray	Dietrich	1 0	4
12	Nazzaro	Fiat	0 57	51

Although Renault has replaced Brasier as the winner of the race, the victors in the 1904 and 1905 Gordon Bennett races enjoy the honour of being the only firm whose team of three

cars successfully went through the race. Below we give a comparison of the cars entered with those that finished, and their position in the classification:—

THE RESULT OF THE RACE.

	Cars Entered.	Cars Finished.	Position in Classification.
Brasier	3	3	4, 7, 9
Fiat	3	2	2, 5
Mercedes	3	2	10, 11
Renault	3	1	1



Salleron leaving the Paddock for the Starting Point.

Clement-B.	3	1	3
Panhard	3	1	6
De Dietrich	3	1	8
Darracq	3	—	—
Hotchkiss	3	—	—
Itala	3	—	—
Gobron	1	—	—
Gregoire	1	—	—

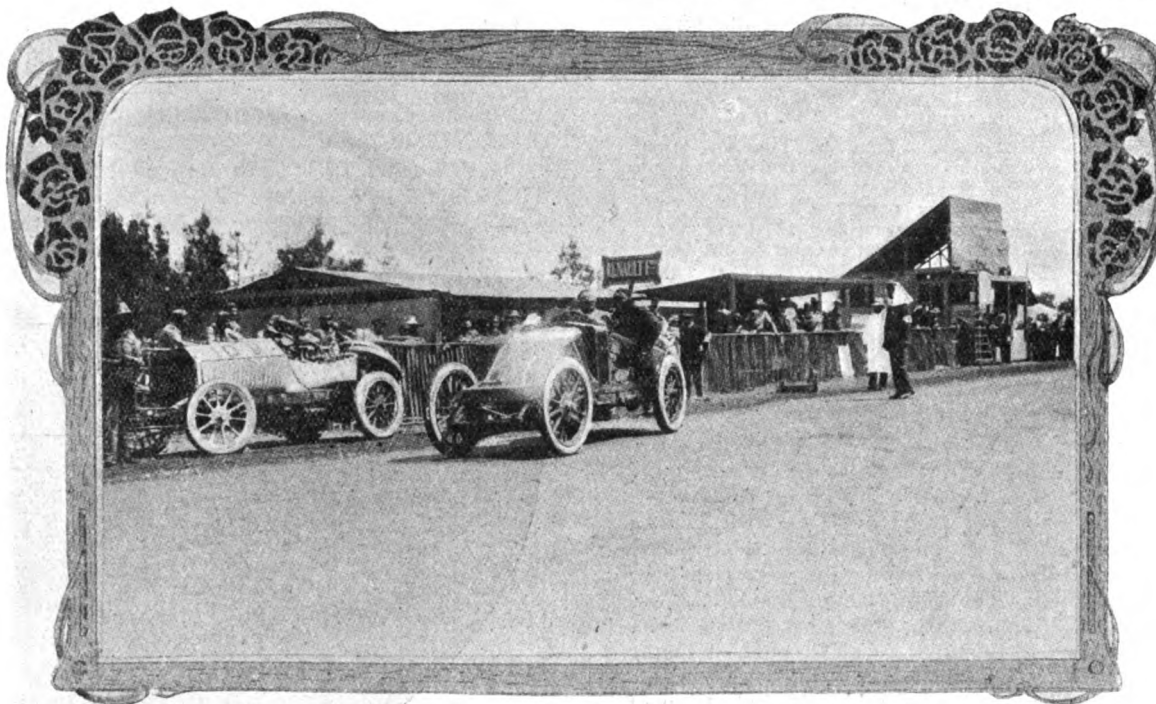
From the foregoing it will be seen that out of the thirty-two competing cars no less than twenty-one fell out of the running, the causes which led thereto being summarised below:—

Driver.	Car.	Retired in Lap	Cause.
Fabry	Itala	1	Overturned.
De Bosch	Gregoire	1	Broken radiator.
Hanriot	Darracq	1	Broken valves.
Gabriel	De Dietrich	1	Broken radius rod.
De Caters	Itala	2	Flattened rim flanges.
Cagno	Itala	3	Engine over-heated.
Wagner	Darracq	3	Broken oil-pipe.
Salleron	Hotchkiss	3	Wheel collapse.
Touloubre	Clement-B.	3	Gear-box came loose.
Villemain	Clement-B.	4	Flattened rim flanges.
Le Blon	Hotchkiss	5	Wheel collapse.
Tart	Panhard	5	Broken dumb iron.
Edmond	Renault	6	Eye troubles.
Weilschott	Fiat	6	Ran off road.
Florio	Mercedes	6	Flattened rim flanges.
Teste	Panhard	7	Accident at Champagne due to swerving.
Hemery	Darracq	8	Valve troubles.
Rigolly	Gobron	8	Broken radiator.
Shephard	Hotchkiss	8	Wheel collapse.
Riches	Renault	9	Wheel collapse.
Rougier	De Dietrich	11	Exhausted by tyre trouble.

The organisation of the race was well carried through, the arrangements, with the exception of those for the Press, having been carefully planned. Special reference may be made to the ambulance service, which, under the guidance of Baron Henri de Rothschild, performed excellent work. All the competitors

suffered with eye troubles, due, it is considered, to the tar with which the course had been sprinkled. Edmond suffered so much that he had eventually to retire, while Jenatzy, as already mentioned, was unable to start on the second day, owing to the same cause. —

employing a *jante amovible*—as it is known—were able to get away under 4 min., one driver even succeeding in changing a tyre and rim in 1 min. 45 sec. The idea of detachable rims is not a new one, but, now that it has received the necessary fillip in the Grand Prix, they will no doubt not only be fitted to all

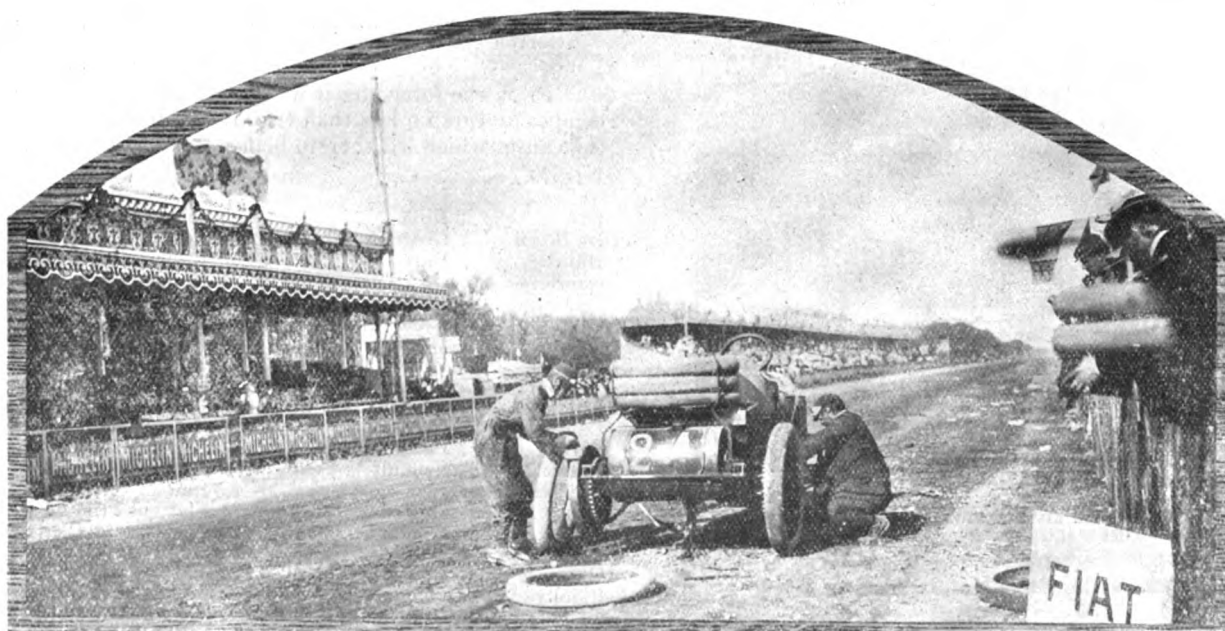


Szisz, the winner, leaving the Renault Station. Tart's Panhard is seen at the side of the road.

One point that has been brought out by the race is the advantage to be gained in the way of getting on the road rapidly when punctures are sustained, by employing road wheels with detachable rims, carrying as spares complete rims and tyres, the latter being already inflated. Several of the competitors em-

cars in future contests, but also to large touring vehicles.

Since the race a report has gained currency that the Automobile Club de France has decided that for next year's Grand Prize race the weight limit will be abolished, that makers will be required to build their engines with no greater cylinder



Lancia and his mechanic busily engaged in changing tyres near the Grand Stand. As will be seen, the wheels are fitted with detachable rims.

ployed wheels of this kind, including Szisz and Nazzaro, and there is no doubt that the rapidity with which they were able to replace tyres played a large part in their success. While the competitors whose wheels were fitted with tyres in the ordinary way occupied from 18 min. upwards to effect a change, those

capacity than that represented by a bore of 150 mm., or 6 in., for a four-cylinder motor. M. Rene de Knyff has, however, stated that the matter has not been considered by the Sporting Commission of the A.C.F. No doubt, however, the subject will be brought forward at an early date.



## CONTINENTAL NOTES.

### Le Criterium.

Still another touring car competition which is to be held during the present season is that known as Le Criterium, which is being organised by the Automobile clubs of Belgium, Namur and Luxembourg, and Spa. The event is to commence on the 21st inst., and continue until the 27th inst. The competitors will be divided into three classes, the first of which will be subdivided into six categories as follows:—

Class I. Category	Max. total Piston Area.	Equivalent Bore.		Mean Speed to be attained.
	cm <sup>2</sup> .	cyls.	Max. Bore mm.	kil. per hour.
1	113,097	1	120	20
2	226,194	2	120	25
3	283,530	4	95	30
4	346,360	4	105	30
5	490,876	4	125	30
6	615,753	4	140	30

The competitors in Categories 3 to 6, in addition to the five days' tour outlined below, will be required to take

### A Touring Competition in the South of France.

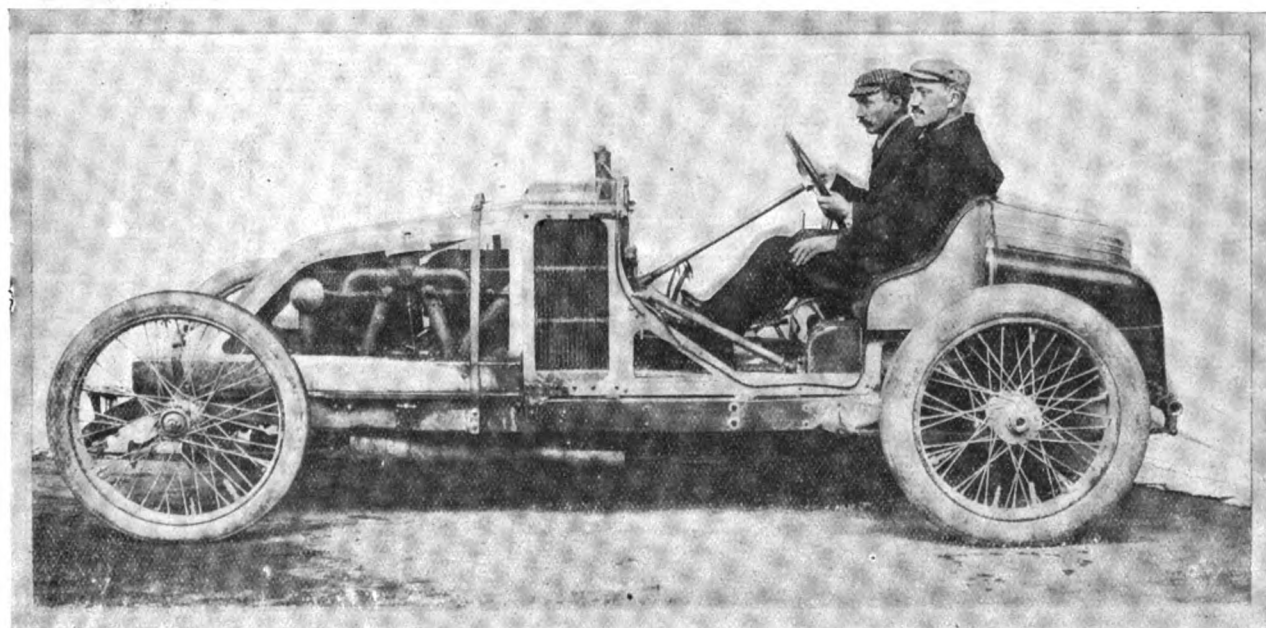
The Automobile Club du Rhone is organising a touring competition for the 12th, 13th and 14th inst. The competitors will be divided into five categories, according to cylinder capacity. On the first day the run will be from Lyons to Vals-Bains, *via* St. Galmier and Le Puy; on the second from Vals to Lambert and back; on the third day there will be a hill-climbing competition from Vaisseaux up the Col de l'Escrinet.

### Public Services in Germany.

Arrangements are in hand for the establishment of a motor-bus service between Bochum, Harpen, and Gerthe. A company is being formed to run public motor vehicles between Butzow, Kroplin, and Arendsee (Mecklenburg). Negotiations are also in hand with reference to the establishment of a service between Markkirch and Ekirch.

### Industrial Motor-Vehicles in France.

M. Martin, of Grenoble, who owns certain mining concessions at Saint Martin-de-Belleville, near Moutiers, is making experiments with a 20-h.p. lorry for the transport of coal between the mines and the railway station. It is also proposed to establish a motor service for the transport of goods between



Szisz, the Winner of the Grand Prix, at the wheel of his Renault Racer.

part in a 500 kilometre race on the Circuit de la Meuse, while for those in Categories 1 and 2 there will be a hill climb at Spa on the 27th inst. Class II. is for cars entering for the five days' tour and the hill climb but not the race, while Class III. is for competitors willing to enter the five days' tour, but covering the same at any speed they choose, the only obligation being that they submit to official control when starting and on arrival at their destination. On the first day the cars will make a run of about 186 kilometres, from Spa to Nimegen, and will proceed to Cologne, 166 kilometres, on the second day. Luxembourg, 226 kilometres, is the destination on the third day. Rheims, 256 kilometres, will be reached on the fourth day, while the cars will go to Dinant, 150 kilometres, on the fifth day. On the 26th inst. the competing cars will take part in a speed race, five times round the Circuit de la Meuse (about 500 kilometres). Various fetes, banquets and receptions will be organised in honour of the participants by the automobile clubs of the districts visited. Entries will be received up to the 15th inst. at the Belgian Automobile Club, 5, Place Royale, Brussels, whence information as to the various classes and regulations of the competition can be obtained.

Bourg-Saint-Maurice and the Hospice du Petit-Saint Bernard, a distance of twenty miles.

### Miscellaneous Items.

The Magyar Automobile Club of Budapest has just issued a very complete handbook.—A public service of motor-cars is being started between Avignon, Chateaufort, and Saint-Remy, France.—The annual hill-climbing competition from Schottwein up the Semmering, organised by the Austrian Automobile Club, is to be held on the 23rd September next.—A trial trip round France, extending over fifteen days, during which time about 2,500 miles were covered, has just been completed by one of the new Darracq-Serpollet steam buses.—The Buchet Company has just brought out an 8-h.p. engine, comprising four cylinders cast in one piece. The bore is 70 mm., the stroke 76 mm., and the normal speed 1,400 revolutions per minute.—The Post Office authorities in Berlin are experimentally using a motor-tricycle in the parcel post service.—A petrol motor street sweeping and watering cart has been put in service in Paris.—The race for the International Motor-cycle Cup will take place in Bohemia, on Sunday next, the 8th inst.

## SOME CURRENT TOPICS.

### Inspection Pit Dangers.

Elsewhere in the present issue a correspondent draws attention to what might have proved a fatal accident due to the presence of petrol vapour in an inspection pit. News has also reached us from Lyons that an explosion lately took place at the works of Messrs. Rochet-Schneider in that town. It appears that two men were at work in an inspection pit cleaning up a chassis, when suddenly an explosion took place. It is thought that a lighted match must have been dropped into the pit, the bottom of which was impregnated with petrol and lubricating oil. The men were quickly got out from their dangerous position, but not before they were badly burned. We have frequently urged that too much care cannot be taken wherever petrol, either in liquid or vapour form, is or may be present,

tage has also been taken in the circular by the Union to draw attention to the objections to exhaust pipes which are pointed downwards, and to suggest that the influence of manufacturers and clubs should be used to discourage the downward exhaust, in the manner suggested for the exhaust cut-out, as there is no doubt that when the discharge is carried downwards it tends to intensify the dust nuisance.

### Testing a Magneto.

A query of general interest is raised in our Correspondence columns this week with regard to the testing of magnetos. The current from a magneto machine is an alternating one, and as the magnets lose their strength the current through a fixed resistance will become reduced, owing to the fact that the magnetic field is weakened, which reduces the voltage at a given speed, and therefore reduces the current. The best method of measuring this would be to use an alternating current ampere-meter such as Siemen's dynamometer. The method is more suitable for a testing shop or laboratory, and is as follows:—When the magneto is new, run it at a fixed speed through a fixed resistance according to the relative voltage of the magneto.



The Inauguration of the Argyll Company's New Works at Alexandria, N.E.

and the two cases above alluded to may serve as a further warning.

### Exhaust Cut-outs.

We are glad to learn that, largely as a result of the discussion which originated in the columns of the *M.C.J.*, the Motor Union has taken up a subject that has often been a source of offence to the public on the roads, namely, the annoyance caused by the use of exhaust cut-outs on motor-cars. The Union is appealing to manufacturers of cars and secretaries of clubs all over the country, pointing out that this is an undesirable contrivance, and one that is of no practical value on a touring car, and, considering it is often the cause of considerable annoyance not only to other motorists but to the general public, asking the co-operation of the firms and clubs referred to in discouraging its use. The Union suggest that manufacturers should take every opportunity of preventing the adoption of this unnecessary adjunct, when advising their clients, and that committees of clubs should advise their members to refuse to take delivery of cars which are fitted with exhaust cut-outs. Advan-

The machine will then register a definite current on the dynamometer, and as it loses strength in the course of time this amount of current will gradually grow less in proportion. A rough method of judging the strength of the magnets is by noting the amount of attraction they exert upon a steel key or other similar article, but this is of course a very crude method. It should be remembered that permanent magnets do not create any force or power, they only gradually give up the magnetism which is in them, which they impart to a surrounding body such as the armature coils, and as this gradually occurs, the field magnets will undoubtedly grow weaker in a similar manner to a discharging accumulator.

MESSRS. DES CLEE AND Co., of 220, Shaftesbury Avenue, W.C., whose non-skidding tyre protectors are familiar to motorists, are also agents for Messrs. Howes and Burley, Ltd., the well-known lamp makers, of Birmingham. The latter have just issued a most effective showcard drawing attention to their specialities in headlights, sidelights, &c.

## THE DUCELLIER SWIVELLING LAMP BRACKET.

WE illustrate herewith the new swivelling and extensible lamp bracket which has lately been brought out by Messrs. Ducellier, and which has been put on the English market by Mr. André A. Godin. The brackets are arranged to be fitted in pairs and connected to the steering rod by means of flexible cable, so that when steering the car the head lamps fitted on the swivelling brackets automatically move together with the

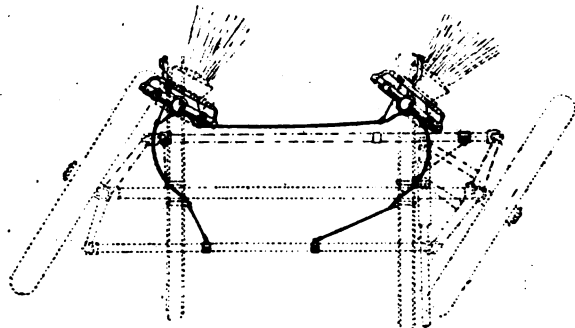


Fig. 1.

front wheels and at the same angle, thus allowing the light to be projected in the right direction when rounding a corner. Each bracket (Fig. 1) consists of a fixed and movable part, and has attached to it a Bowden wire, the latter being connected at its opposite end to the steering bar. A third wire connects the two brackets in such a way that both turn in unison, as shown in Fig. 1. The arrangement can be fitted to all cars, whether the steering bar be in front of or behind the axle. The brackets can also be

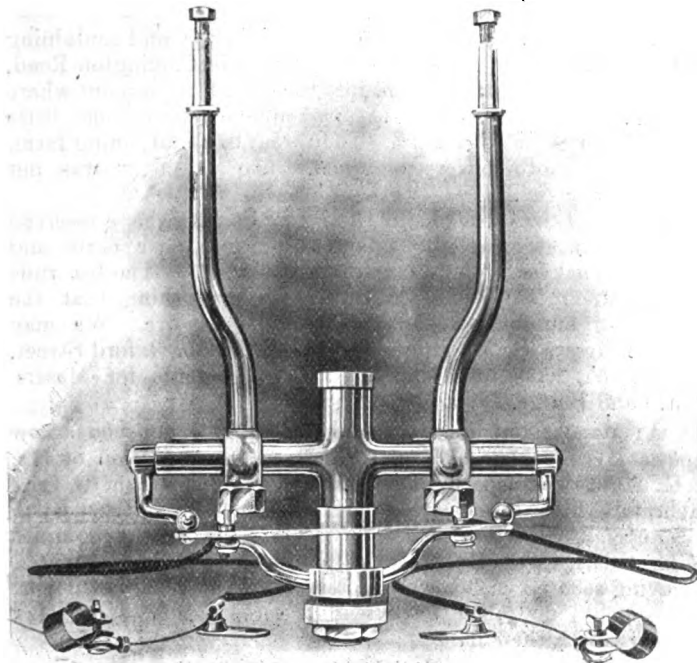
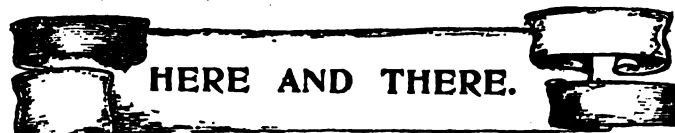


Fig. 2.

extended to suit any size of acetylene head lights, the vertical arms supporting the lamps being arranged to slide laterally on the horizontal support and be bolted in the desired position.

FROM M. René Legros, of Fecamp (Seine Inferieure), we have received a copy of the catalogue of the René Legros motor-cars. The work contains a very complete description, with illustrations, of the action of the special form of two-cylinder engine fitted to these vehicles.



## HERE AND THERE.

A MOTOR mail van is now running between London and Hastings and *vice versa*.

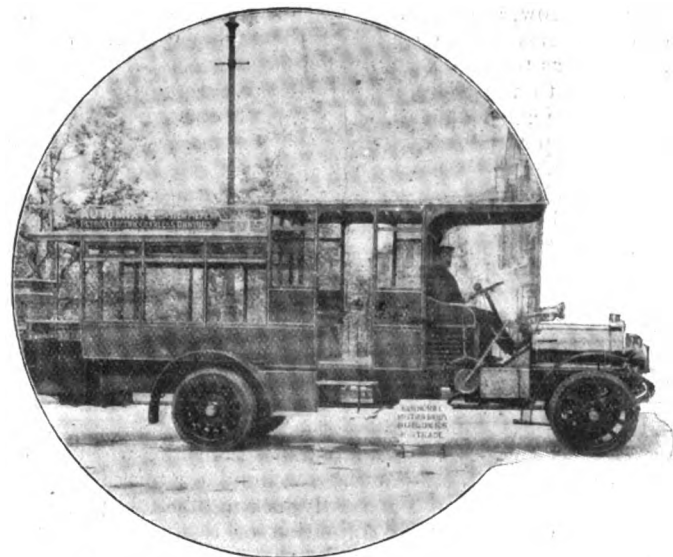
THIS week 450 horses belonging to the London Omnibus and Carriage Company, Ltd., have been sold by auction.

A BATH tub forms part of the luggage of a party of New York motorists at present touring on the Continent in two large cars.

MR. H. E. HUGHES, of Brinckley, near Newmarket, is fostering the automobile movement in that district—hitherto associated mainly with horses.

It is worthy of note that the 30-35-h.p. Metallurgique car which did so well in the Scottish Reliability Trial carried five passengers throughout the journey.

MESSRS. E. AND H. HORA, LTD., the well-known van and omnibus builders, of Camberwell, have built the first body for the "Automixte" motor-bus chassis in record time. The body illustrated herewith was designed, finished, and turned out complete in eight days. It is constructed to carry ten passengers



in the rear compartment and eight in the front, or the smoking division. As will be seen, the vehicle, which is finished in natural wood, has a neat and light appearance.

THE licensed boatmen at Bognor have petitioned the Urban District Council to remove the stand for motor-cars from near the pier, as they consider the competition of the vehicles has injured their calling.

SEVERAL summonses against the London Road Car Company for using motor-buses which did not consume their own smoke have been dismissed by the magistrate at the South-West (London) Police Court.

LONDON-MADE Talbot cars have had three consecutive successes in recent competitions, namely, the gold medal for Frome's Hill climb, gold medal for non-stop London to Edinburgh, and 200 guinea cup for Reliability Trials in Ireland.

OWING to the increasing demand for Brouhot cars the Brouhot Motor Company of Great Britain, Ltd., have recently opened a branch at 92, Gloucester Road, Kensington, S.W., in conjunction with Milano Motors, Ltd. The head office of the company will, however, still remain at 25, Mortimer Street, London, W.

MR. JOHN CUMMING, of Hull, who purchased a "Brown" 12-14-h.p. four-cylinder car in November last, writes that he uses the vehicle every day and in all weathers, and has already run it over 2,000 miles. He reports that it can attain a speed of thirty-five miles per hour, and the petrol consumption is equal to twenty-five miles to the gallon.

MESSRS. VEZEY, carriage builders, of Long Acre, Bath, are repairers of motor-cars.

THE new edition of the Continental Tyre Co.'s handbook for motorists will be published next week.

MR. W. J. SPURGEON, who deals in motor accessories, has opened new premises in Womanbry Street, Cardiff.

AN exhibition will probably be held by the Automobile Association of Bengal, at Calcutta, in December next.

THE Climax Motor Co., Ltd., are considerably extending their factory in Coventry in view of next year's trade.

THE Broadstairs and St. Peter's Urban District Council is about to hire a steam motor-wagon for street-watering purposes.

THE Warwick Motor Garage Company at Bridge Foot, Warrington, are developing a large connection among motorists.

SPALDING'S Athletic Library continues to increase in size and interest, the latest additions dealing with cricket and lawn-tennis.

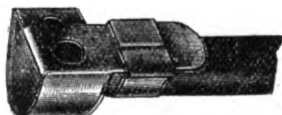
LOCAL papers have been recording the exploits of Mr. E. W. Preece, of Monmouth, in ascending Birdlip Hill, near Gloucester, on his 3½-h.p. Excelsior motor-cycle in good time.

MR. HASTINGS HOLFORD has opened an office for motor-car insurance at North End Chambers, Croydon, and has issued an attractive booklet dealing with various phases of insurance interesting to owners of cars.

THE Caledonian Tyre Repairing Company, of 52, St. Enoch Square, Glasgow, are repairing and retreading tyres for motorists in all parts of the country. They have received many testimonials as to the quality of their work.

OWING to the increased demand for Imperial tyres, the Imperial Tyre and Rubber Co., Ltd., have opened a West End office and depot at 228, Shaftesbury Avenue, W.C. A full range of Imperial tyres and non-skids will be stocked at this address, which is in a very accessible location for London motorists and the trade in general.

WE illustrate herewith the ingenious combined terminal end electrical nut which has lately been put on the market by Mr.



F. F. Nickells, of Eastcombe Terrace, Blackheath, S.E. As will be seen, it consists of a stirrup-shaped piece of metal in the ends of which holes are formed. Attached to either low or

high-tension wires, the ends of the electrical nut are simply squeezed together until the two holes coincide, when it can readily be placed in position on the accumulator terminal or the sparking plug, the nut automatically locking itself in place. By means of the device the examination or testing of a plug is but the work of a moment, while the ignition wires can be changed over to the spare accumulator in a minimum of time. It is claimed that the nut cannot be displaced by jolting and that it is self-cleaning. Mr. Nickells' latest departure is the adaptation of the idea to tyre inflators, one of his spring devices taking the place of the usual pump connection. Not only is the screwing on and off of the latter obviated, but the one device, which is instantly attached, can be used for any size of valve, from that of a cycle tyre to the largest motor-car tyre. The idea is as simple as it is ingenious.

THE interesting comparative trial between a 30-40-h.p. four-cylinder Martini car and a 30-h.p. six-cylinder Rolls-Royce, under the observation of the A.C.G.B.I., has now been concluded. The two cars were driven from London to Glasgow, then through the Scottish reliability trial, and back to London, in all over 1,600 miles. The Rolls-Royce won the match by 2,277 points to the Martini's 1,881 points, but it is fair to point out that the Martini lost 385 marks under the head of "reliability," owing to the pressure feed of the petrol failing, through a choked pipe, a purely accidental matter which might as easily have happened to its rival. Neither car had a stop caused by any peculiarity of a four or six-cylinder motor. The Martini, without the slight mechanical trouble, would have won, as it scored in hill-climbing, speed, and the important point of fuel consumption. The Rolls-Royce scored in changing gears on hills, reliability, silence, and absence of vibration.

GENERAL BOOTH will commence his third motor tour on July 28th from Inverness, concluding on the 29th August at Plymouth.

FOR the conveyance of mails from Eastbourne in the evening a motor-van was used for the first time on Monday evening in the place of the old two-horsed coach.

AT an inquest at Plymouth the jury have expressed the view "that the speed of a motor-car going through a town should not exceed five miles an hour."

AMONG those who used our columns last week for the sale of their motor-cars was Mrs. Augustine Birrell, the wife of the Minister for Education in the present Government.

MOTORISTS coming south from the North Wales district should beware of the traps in the Whitechurch locality, reference to which will be found in our "Police Traps" this week.

THE proprietors of the Hutchinson pneumatic tyres have taken additional premises at 13, Maddox Street, Regent Street, W., where motorists will find a good display of excellent tyres.

REPLYING to Mr. Money, M.P., on Tuesday, the Home Secretary assured the House of Commons that the speed of motor-buses in London is being watched by the Motor Car Commission.

DURING the course of our visit to Le Mans in connection with the Grand Prix race, we enjoyed a short run in company with Mr. H. Austin on one of the latest Austin cars, and were much struck with its quiet and easy running.

ON the occasion of the South Harting Hill Climb the West Sussex Motor Company, of Chichester, rendered useful service in garaging the cars the night before the event, as well as in supplying spare parts, etc., to several competitors.

MR. T. HOODYDONK has been promoted to the position of sales manager to Argyll Motors, Ltd., at Alexandria. Mr. Hoodydonk has represented the company amongst the agents for the past twelve months, and has many friends in the trade who will be glad to learn of his promotion. He will take up his new duties at Alexandria next week.

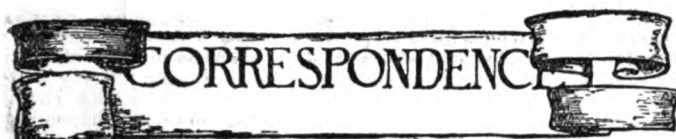
A MOTOR-CAR belonging to a Darwen doctor, and containing four people, ran down a steep embankment in Carrington Road, Flixton, on Saturday afternoon, into the Mersey, at a point where it is 5 ft. deep. Fortunately the passengers were rescued little the worse for their adventure. They went to an adjoining farm, where fresh clothes were obtained. The motor-car was not seriously damaged.

FROM Messrs. Mestre and Blatge, of Paris, we have received one of the most complete catalogues of motor-car parts and accessories that has so far come under our notice. The list runs to close upon 200 pages, and includes everything that the motorist or motor-car repairer is likely to require. We may add that Messrs. G. M. Monnet and Co., of 9-15, Oxford Street, London, W., have been appointed British agents for Messrs. Mestre and Blatge.

AT Manchester, Messrs. Humber, Ltd., have opened a new depot at 31, Blackfriars Street, which, on the invitation of Mr. F. C. Hunt, we inspected last week. The showroom is very elaborately fitted and capable of accommodating twenty-five motor-cars. A large workshop for all kinds of repairs occupies the basement. The Humber Company are to be congratulated on having secured such a well-appointed and commodious depot, which should do much to extend the reputation of the cars associated with their name.

IN a recent contest at a place not inappropriately named Dead Horse Hill, at Worcester, U.S.A., a Pope Tribune car outclassed many of its rivals, ascending a hill of steep ascent in quicker time than several other well-known vehicles. It was a Pope Tribune car of 14-h.p. which was third in point of speed in its class in the "Rest and be Thankful" hill climb on the fourth day of the Scottish Reliability Trial, and which had non-stop runs on each day in that event save the last, when engine stops of twenty-eight minutes spoiled an otherwise splendid record. In the table published in our report of the trial a N.S. has now been credited for the third day, where no report originally appeared in the preliminary official returns.





Letters to the Editor should be addressed to the offices,  
27-33, Charing Cross Road, W.C.]

### STEAM CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I read with interest a letter in the *M.C.J.* issue of the 23rd ult. relative to the hill-climbing powers of steam cars, but I think that the gradients mentioned must be somewhat overstated. A hill is referred to on a by-road near Dorking where the gradient is 1 in 3½ in one part. Will your correspondent state the name? I have heard of hills of 1 in 6 being called "1 in 3," and have found it difficult to convince a motorist that a 1 in 7 hill was not (as he believed) "1 in less than 5." The entrance to the Aldwych tram tunnel is 1 in 10, yet to stand by it and watch the trams drop down the incline I should easily have believed it to be 1 in 7 or 8. I confess, however, to scepticism that any 10-h.p. (even steam) car would romp up a grade nearly three times as severe at anything like fourteen miles an hour! I was once in a Clarkson omnibus that

that, had I left the car with him and accepted the cheque, it would not have been me. It certainly does look to me strange that, after he was so well satisfied with the car, the mere asking for actual cash instead of a cheque should have prevented anyone from proceeding with the transaction. May I strongly advise anyone who is thinking of selling their car not to part with it until they have the actual money in their possession? Nothing could be simpler than for a swindler to obtain possession of a car by handing over a cheque which might prove a worthless document. For obvious reasons I withhold all names in my case and I merely send this letter as a warning to others.—Yours truly,  
A YORKSHIRE MOTORIST.

### AN INSPECTION PIT DANGER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—An event occurred in our erecting shop which was only by a fluke prevented from being a fatal accident, and which points to the necessity of wide-spread caution in the use of petrol in confined spaces. One of our young men was cleaning out the inspection pit, and, after swabbing up the water and grease, he, without permission, got some petrol and washed the bottom and sides with it. He was overcome with the fumes and collapsed in the bottom of the pit, and had not one of my sons heard a peculiar noise, and gone to see what caused it, would undoubtedly have been choked, as he found him black in the face. My son jumped in at once and lifted the lad up, and with assistance got him into the fresh air; but, as many young men and boys are often working in pits



Manchester's Crippled Children leaving the Town Hall for an Automobile Outing. (See page 420.)

climbed a pitch 1 in 4·7, even restarting at the steepest part, and that was a somewhat exciting experience.—Yours truly,

ENGINEER.

### THE PRIVATE SALE OF CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I think perhaps a word of warning may be useful to those who are advertising their cars for sale. I recently inserted an advertisement, and a man whom I had never seen before came over from a neighbouring town and asked to see the car. I gave him every facility for inspecting it and a short trial run, and he offered me a very good price subject to his being satisfied after a run of about twenty miles, which was to take place on the following day but one. He told me that if I would take him to his native town and the car ran well on the journey he would give me a cheque and I might leave the car and all the accessories with him. I knew nothing of this proposed purchaser except that he stated he was a traveller and that his headquarters were at a very well known first-class hotel in the town where he wanted me to drive him to, so before going on the trial run I took the precaution of writing him what I considered a very civil letter telling him that, as a matter of business and because I did not know him personally, I should be glad if he would let me have either bank notes or a banker's draft instead of a cheque. I thought that, as a business man, he would immediately comply with this request and see the force of it, but, instead of that, I received a telegram saying that in consequence of my letter he had decided not to proceed further with the purchase. I have never heard a word from him since. I cannot say for certain

and do not realise that petrol vapour sinks to the bottom, and is about as unwholesome to breathe as carbonic acid gas, it cannot be too widely known what a dangerous practice it is to use petrol for cleaning in any confined space. Apart from the known danger from fire, there is also the danger of suffocation, and once anyone is overcome and unconscious they would very soon die, unless help arrived.—Yours truly,

C. S. DREWRY.

### CARE IN FILLING PETROL TANKS AT NIGHT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—A deplorable accident, which emphasizes anew the great danger involved in filling the petrol tank of a motor-car while the lamps are burning, occurred last week. The lamps of the car were already lighted, and an employee of the garage proceeded to fill the tank of the vehicle. When he had finished he inadvertently held the funnel close to one of the lamps; the vapours rising from the funnel immediately caught fire and the flames were communicated to the still open tank. A big column of flame shot up at the side of the car, and one of the passengers, who were already seated on the vehicle, was severely burned. This is not the first time that petrol has caught fire owing to the fact that the tank was being filled while the lamps were alight, and attention had repeatedly been called to the danger involved. It would appear, however, that little heed is given to such warnings, and I venture to suggest that all garage owners should consider it their first duty to issue rigid and repeated instructions to their assistants as to the precautions to be observed in handling petrol. In fact, if the subject of safety from petrol fires were taken up by some organisation of garage

owners, their combined experience would undoubtedly permit of some simple set of rules being formulated that could easily be applied, and, if followed, would practically exclude the possibility of accidents of this nature.—Yours truly,

W. JAMIESON.

### METHODS OF AGENTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you would insert in your interesting and widely-read journal the following as a warning to motorists who go to a well-known western resort. I arrived there on Thursday, and, after enquiring where I could get oil and petrol, was informed that Messrs. ——— could supply me. I ordered half gallon oil and asked that two tins of petrol might be sent up, and on enquiring of the firm was told that should I not use all the petrol they would refund me the amount of the difference. On Friday morning, when I came to fill up my tank, I only used  $1\frac{1}{2}$  tins or  $2\frac{1}{2}$  gallons, but the firm would not allow me anything back.

I had no opportunity of then settling the matter to my satisfaction as I could not wait, but I determined to let my fellow-motorists know of what I consider nothing more nor less than a "do." I have travelled all over England, and always have had allowance made of what petrol I did not use out of a tin.—Yours truly,

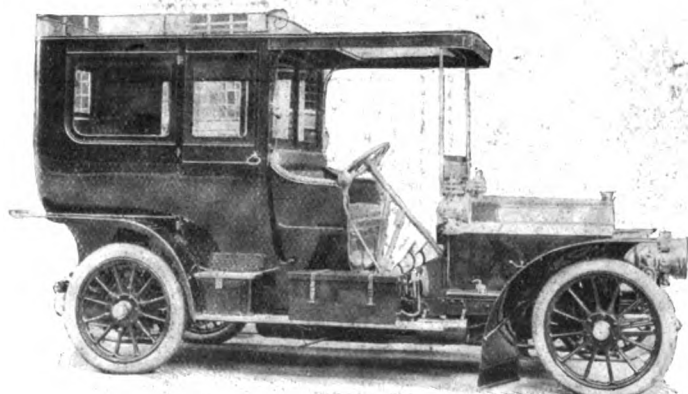
F. L. POWYS MAURIA.

### EXPERIENCES OF TYRES WANTED.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Will some of your readers give their experiences of Moseley's Perfect Tyres? I am putting these to a very severe test, so far with satisfaction, but I want to hear what others have to say.—Yours truly,

HENRY MOORE.



The 40-h.p. De Dietrich just supplied by Messrs. Jarrott and Letts to the Duke of Portland. The chassis has been fitted with a very luxurious limousine body, specially designed for the use of the Duke and Duchess.

### CHANGE-SPEED GEAR PROPORTIONS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The three speeds of my car are designed to give 9, 18, and 27 miles per hour respectively. In practice, however, I find the second speed of but little use, for when ascending a hill too steep to take on top speed without the engine knocking, I have almost invariably to drop to first. I should like to have your opinion, and also those of any readers of the *M.C.J.*, whether it would be an advantage to have the proportions of the second speed reduced so as to give, say, 14 or 15 miles per hour.—Yours truly,

R. CARNFORTH.

[We are afraid that our correspondent would not benefit much by lowering his second gear from 18 miles per hour to 14 or 15, as this amount would hardly be noticeable. No doubt if the gear were changed before the engine slowed down this would somewhat remedy matters. We find this to be the case with a 20-h.p. Darracq car. In climbing hills, if the engine is allowed to labour on top speed before the change on to second is made, we invariably have to drop to first, but if the change is made before the engine slows down we can climb without difficulty. We think in all probability that this may be the cause of the trouble.]

### SOLID TYRES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to W. J. A., I can most strongly recommend him to discard his pneumatic tyres in favour of solids. According to my experience he will find nine-tenths of his worries and expenses will instantly disappear. The difference in comfort of the car in running with solids on back wheels is scarcely perceptible, except on very rough roads,

where he will have to moderate his speed somewhat. To make a thorough success of the change, I should advise W. J. A. to have a new pair of back wheels of considerably larger diameter, and, unless his car is very well sprung, new and longer springs, at the same time reducing his chain drive to suit the new diameter of wheels. I rather doubt whether solids could be fitted to the present rims, but W. J. A. can soon ascertain this from any one of the firms advertising solid tyres in the *M.C.J.* For a car of his weight I should say 2 or  $2\frac{1}{4}$  in. tyres would be about the size.—Yours truly,

J. BRYANT.

### OPERATING A MOTOR SIGNAL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a small 8-h.p. De Dion car, and I have just purchased a set of motor tubes instead of the usual horn. I have tried to operate them with a pair of bellows to be worked by the feet; but this, I find, is not strong enough to blow the four tubes, but only two of them. Can you oblige me by telling me the best way to have them fitted to my car? I have been advised to use the exhaust, but I do not think this is quite practicable because of the fact that sometimes the engine is not running when one wishes to give notice of approach. Thanking you in anticipation.—Yours truly,

A. LUCAS.

[The motor tube could be arranged to be worked from a small fan working off the fly-wheel, similar to those used for cooling air-cooled motor-bicycle engines. This method should give better results than working off the exhaust, as this would not give sufficiently continuous pressure, being only a single-cylinder engine.]

### TESTING A MAGNETO.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In a recent issue you published a useful and interesting note with regard to the remagnetisation of weakened magnetos. As a simple amateur who has already obtained much help from the *M.C.J.*, I venture to ask if you will be kind enough to explain how one may judge when a magneto has become weakened, and how the machine may be tested as to whether it is generating the proper strength of current.—Yours truly,

T. J. BENTLEY.

[A reply to the query raised by our correspondent will be found elsewhere in the present issue under the heading "Current Topics."]

### MAGNETIC SPARKING PLUGS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—A year or two ago considerable interest was aroused by the placing upon the market of a system of ignition which involved the use of vibrating magnetic plugs operated from a battery and arranged to automatically rapidly interrupt the primary circuit and produce a succession of contact sparks within the cylinder, when the circuit was closed by means of a contact maker. It was, if I remember rightly, known as the Simplex, and was followed by several others differing only therefrom as regards the details. Such a system of ignition might be thought to possess important advantages, as it might be expected to combine, in a degree, the advantages of the usual methods of high and low tension ignition, and to be free from some of their disadvantages. As a matter of fact, very little has been heard, of late, of this apparently quite promising ignition system, and it may be inferred that, in the particular form in which it was applied, at least, it did not fulfil expectations. No doubt technical difficulties were encountered in the practical operation of the somewhat delicate vibrating mechanism which caused the make and break, exposed as it must necessarily be to a high temperature. It seems a pity, however, that the idea has not been further developed, for the doing away with the multiplicity of cams, push rods, springs, trip devices and moveable electrodes piercing the combustion chamber walls of low tension systems, and the more complicated high tension magneto method, and allowing the ignition current to interrupt itself and cause the contact spark by means of a simple mechanism compactly contained in a readily removable plug, is an attractive idea.—Yours truly,

J. SUTHERLAND.

THE AKONIA SYNDICATE's address is 120-122, Birkbeck Bank Chambers, London, W.C.

MOTOR TYRE REPAIRS.—A correspondent at Oban writes testifying to the good repair work done by the Acme Rubber and Tyre Company, of 343, St. Vincent Street, Glasgow. He sent them two covers to be repaired and retreaded according to their three months' guarantee, and to be fitted with "grooved treads." He received the covers back and has since run 2,000 miles or over, and they look as good almost as when new.

MOTOR CAR PARTS FOR JAPAN.—The Automobile Department of the Sorin Shokwai of 5, 3-Chome, Ginza, Tokyo, Japan, writes:—"We shall be glad if you will bring to the notice of manufacturers of automobile parts in your country that we are anxious to place an order for such goods, and would like them to post us their catalogues and illustrations, and also full particulars as to the net price, discount and freight charges to Japan."

## CLUBS AND ASSOCIATIONS.

### THE AERO CLUB.

A RACE under the Aero Club's International Federation Rules takes place at the Ranelagh Club, Barnes, S.W., to-day (Saturday). The balloons will be followed by motor-cars, and the Committee of the Ranelagh Club are offering a prize to members of that club and of the Ladies' Automobile Club for the first motorist to capture a balloon. The Aero Club of Belgium have sent an invitation to the Aero Club of the United Kingdom, asking them to compete in a competition to be held at the Parc du Cinquantenaire, Brussels, on July 22nd. This competition is a "Hare and Hounds," or Pursuit race.

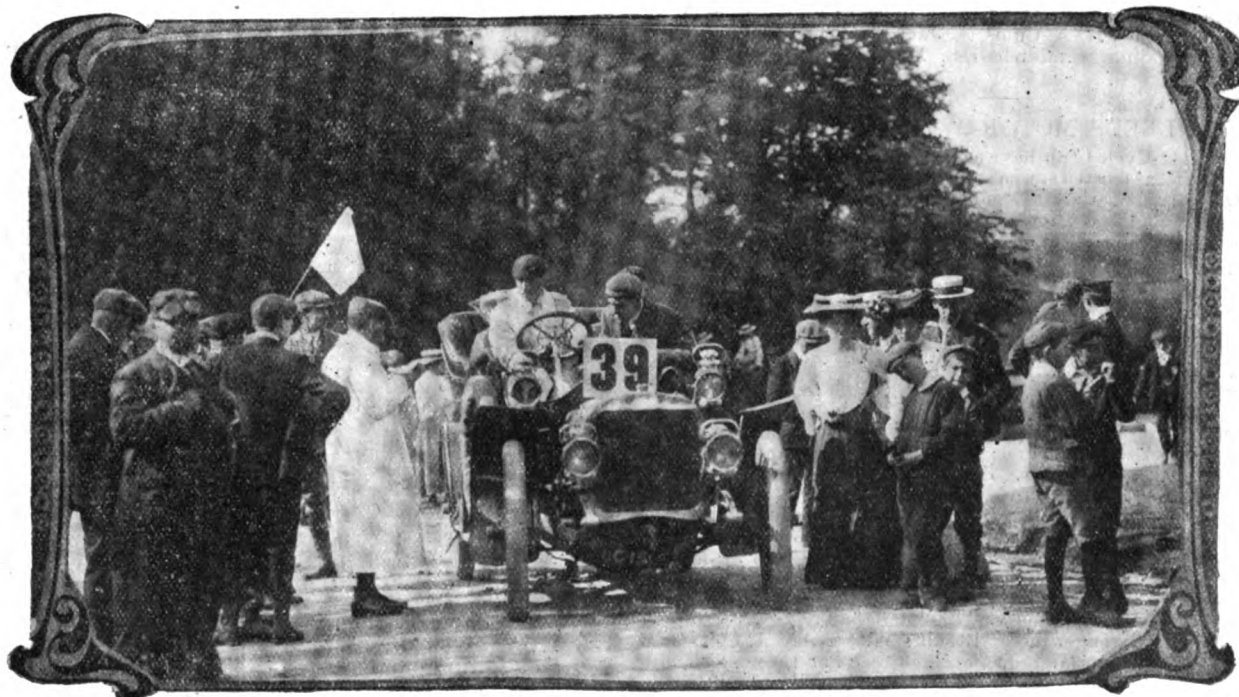
### THE NEW FOREST CLUB.

THE headquarters of the newly-formed New Forest and Bournemouth Automobile Club will be at the Balmer Lawn Hotel, Brockenhurst.

was to smash with the front wheel small balloons pegged down at intervals, time limit 1 minute, Mr. R. C. L. Powys-Lybbe (Mapledurham) on a 60-h.p. Mercedes, won in 27 2-5 sec.; Rev. J. W. Ouvry (Grazley), driving a 15-h.p. Darracq, being second in 39 sec. In a tilting at the ring contest, the time limit was a minute and a half, with a penalty of three seconds for each ring missed. Dr. W. B. Secretan (Reading), 6-h.p. Swift, was first with five rings in 58 sec., counting 61 sec. with one penalty; Mr. F. T. Ford (Kimbers), 24-h.p. Spyker, coming second with two rings in 50 2-5 sec. (equals 62 2-5 sec.) In a potato race six flower-pots were placed at different points along the 375 yard course, and competing drivers had to throw a potato into each, no stops being allowed, and the time limit being a minute and a half. Mr. E. B. Stephens (Taplow), 7-h.p. Panhard, proved most skilful with five successes in 62 3-5 sec., Mr. Walter L. Bourke (Maidenhead), 8 h.p. Cadillac, coming next with four successes in 61 sec. Mrs. Harrison subsequently distributed souvenir prizes to the winners.

### LINCOLNSHIRE.

THE Earl of Ancaster's picturesque park at Grimsthorpe was the scene of some interesting competitions on Saturday. The meeting was held under the auspices of the Lincolnshire A.C., and Dr. Gilpin, of Bourne, entertained the members to a picnic. The weather was delightfully fine, and the roads in splendid condition after the recent rain, so that cars travelled from all parts of the county. Upwards of 30 put in an appearance. The principal cars were, Capt. Newsum's (Lincoln)



The Aston Hill Climb.—Mr. J. E. Lound's 24-h.p. Beaufort Car at the Starting Point. (See page 413.)

Lord Montagu of Beaulieu is president, and it has been decided that the executive committee shall consist of eighteen members, a third of the number to retire annually. The following were appointed at the initial meeting of the organisation, with power to add to their number:—Col. Roberts Thomson, Dr. H. Simmons, Mr. H. E. Acklom, Mr. C. J. Haydon, and Dr. N. MacGillycuddy, of Bournemouth; Mr. Peyto Shrubbs and Dr. A. D. Pithie, of Lymington; Mr. H. G. Alexander, The Old Mansion, Boldre; Mr. Charles Braun, Sowley House, Beaulieu; Major Stuart Murray, New Milton; Mr. S. V. Coote, Burley Manor; Mr. Grant-Dalton, Brockenhurst; Mr. B. C. S. Pearce, Loperwood Manor, Totton; and Dr. Aldridge, Southampton. At a subsequent meeting of the Committee Mr. Peyto Shrubbs was elected chairman, Dr. H. Simmons, hon. treasurer, and Mr. Clement J. Haydon, of Westover Chambers, Bournemouth, hon. secretary.

### BERKSHIRE.

MR. and MRS. ROBERT C. H. HARRISON entertained members of the Berkshire Automobile Club at Shiplake Court, Henley-on-Thames, on Saturday, when a motor gymkhana was held in the park. The first event, a bending race, over a course of 440 yards, was won by Mr. W. Littleton (Streatley), with a 28-h.p. Daimler, in 1 min. 12 3-5 sec.; Major E. R. Peral (Hungerford), 10-h.p. De Dion, being second in 1 min. 14 2-5 sec. The next event was a passenger race, which was won by Mr. E. P. Stephens (Taplow), 7-h.p. Panhard, in 1 min. 48 sec., Mr. D. D. Coath (Holyport), being second in 2 min. 24 sec. Mr. Coath, who had occupied only 1 min. 5 sec. in the semi-final, lost his course, and had to return. In a bomb race, over a course of 375 yards, in which the object

30-h.p. Daimler; Mr. T. W. May's (Bourne), 15-h.p. De Dion; Major Cole's (Roxholm Hall), 16-h.p. Humber; Mr. Coombes' (Lincoln), four-cylinder Richard-Brasier; Major Goddard's 16-h.p. Clement Talbot; Dr. Husband's (Crowland), 16-h.p. Spyker; Mr. W. J. Newsum's 15-h.p. Panhard; Mr. Padley's (Market Rasen), 15-20-h.p. Humber; Mr. G. H. May's (Bourne), 12-h.p. Iden; the Rev. M. J. Wilkins' (Croft), 10-12-h.p. Argyll; and Mr. Bowler Gibson's (Bourne), 12-h.p. Richard-Brasier.

The competitors, of whom there were fourteen, had to specify before starting at what speed they intended to travel over the course (the nearest to their own speed to be the winner), and the spectators were asked to guess the pace at which the cars travelled. When the cards had been checked it was found that the driver's prize had been won by Dr. Miller, of Wrangle (who averaged his speed at 14½ miles per hour); the spectators' guessing prize was won by Miss Chapman.

### LADIES.

THE second of the Ladies' Automobile Club meets for the present season took place on Wednesday of last week, by invitation of Major and Mrs. H. C. Turnor, at Binfield Park, Bracknell, Berks. Twenty-five cars took part in the event. These made a most imposing array of many different makes. In all there were one hundred and eighty guests, among them being Mrs. Ainslie, Mrs. Ash, Colonel and Mrs. C. Bingham, Mr. and Mrs. Buttemer, Baron and Baroness Campbell von Laurentz, Captain and Mr. Carden, Mrs. Cross, Mrs. P. Dawson, Mrs. English, Mrs. Louis Fagan, Mrs. Friedlander, Lady Daldon Fitzgerald, Mrs. F. Foster, Miss Howes, Mr. Hartung, Lady Buchanan Jardine,

Mrs. Jardine of Jardine, Lady Alexander Kennedy, Mrs. Lesmoir Gordon, Mrs. H. S. C. Gordon, Sir W. and Lady Miller, Colonel and Mrs. Mead, Sir R. and Lady Wilmot, Mr. Mackenzie, Mrs. Malet, Miss Austin-Jackson, Mrs. Garden Nicol, Miss Orpen, Mrs. Ernest Rhodes, Mrs. Gordon Theed, Mrs. Arbuthnot, Mr. H. C. Lafone, Mr. and Mrs. Campbell Farrar, Mr. J. Simon, Lady Clementine Walsh and the club secretary, Miss d'Esterre-Hughes.

The next of the club meets will be, by invitation of Mrs. Walter, at Bear Wood, Wokingham, on Thursday, the 26th of July.

Sir David Salomons, who drove down with several other members of the Coaching Club to luncheon at the Ranelagh Club on Saturday, officiated as one of the judges at the automobile gymkhana that was held there in the afternoon. The competitors, twelve in number, were all members of the Ladies' Automobile Club. Mrs. T. B. Browne won both the ball race and the "police trap" race. Mrs. Manville was the winner of the bending race, while Mrs. Campbell Farrar was successful in both the crawling race and the tilting at the ring competition. There was also a competition for touring cars, in which the first prize for the general appearance of car and occupants was awarded to Mrs. Ernest Amesden, and the smartest car suitable for the park was adjudged to be Mrs. Harry Adams's 10-h.p. Adams-Hewitt carriage. The prizes were presented by the Duchess of Sutherland.

### BLACKHEATH.

ON Saturday, at the Knockholt Cricket Ground, a cricket match was played by the Blackheath Automobile Club against Mr. Walsley's eleven, the former team being composed as follows:—Messrs. A. W. Beadle, L. Beadle (capt.), H. A. Cunis, A. Jackson, Professor Lambert, F. Thorne, E. Thorne, junr., C. Marshall, S. Marshall, A. E. Toothill, and W. Waite.

### THE LEEDS MOTOR-CYCLE CLUB.

THE Leeds Motor-Cycle Club have a membership of 150, fifteen new members having been elected at a committee meeting on Friday last week. On July 21st they are holding a reliability competition, Leeds to Edinburgh and back, for a cup given by Mr. A. I. Greenwood, to become the absolute property of the winner. The second prize is a gold medal presented by Mr. H. Crowther.

### LEICESTERSHIRE.

THE Leicestershire Automobile Club held a motor-car gymkhana at Garendon Park on Saturday. The park was placed at the disposal of the club by Major E. de Lisle (High Sheriff of the county). The officials were:—Judges, Major Everard de Lisle and Dr. Burkitt; marshal, Mr. A. H. Faulkner; starter, Mr. Orson Wright; timekeeper, Mr. F. K. Ward; clerks of the course, Messrs. J. and R. Harding, C. T. King, R. S. Clifford, and T. W. Hodson; hon. secretary, Mr. A. McAlpin.

There were six events, the first being a glass of water race. Of eighteen competitors, C. P. Maltby was first and W. Bentley second.

The second event was the "Adam and Eve Race." Result: J. A. Doran 1, Captain Byron 2. In the obstacle race R. S. Clifford was first and second. He drove two cars, and after winning the first prize went on again and did the course in much quicker time than at first. Event No. 4 was a ladies' passenger race. Result: W. Bentley 1, Spencer Downing 2. The fifth event was a ladies' obstacle race, and the conditions were the same as in the other race, but the cars were driven by ladies. Result: Miss Lucy Hodson 1, Miss Lane 2. The result of the tilting at rings contest was Captain Byron 1, J. A. Doran 2.

Mrs. Everard de Lisle presented the prizes to the successful competitors. On the motion of Dr. Burkitt, seconded by Mr. E. G. Mawbey (President), a vote of thanks was given to Mrs. de Lisle for presenting the prizes, and to Mr. de Lisle for the use of the park.

### NORTH-EAST LANCASHIRE.

THE formal opening of the new club rooms which the North-East Lancashire Automobile Club have recently acquired in Blackburn has just taken place. Mr. William Birtwistle was in the chair. About fifty members were present at the opening, and afterwards a smoking concert was held. In the course of the evening Mr. Arthur Birtwistle gave some interesting reminiscences of the recent Herkomer competition in Germany, in which he took part, but was put out, when doing well, by an accident.

ENTRIES for the next quarterly trial of the Auto Cycle Club close on Wednesday next.

THE Leeds Motor Cycle Club will hold a ride from Leeds to Edinburgh and back on July 21st.

THE Automobile Club of Great Britain and Ireland have made a contribution of £200 to the Legal and Legislative Defence Fund of the Motor Union.

THE first open reliability run for motor-cycles in Scotland has been held by the Dunedin Motor Cycle Club, of Edinburgh. The course was one of 104 miles, and of nineteen starters eight finished in the minimum time.

## HILL CLIMBING CONTESTS.

### IRELAND.

THE Irish A.C. intend holding an open hill climb in the neighbourhood of Dublin on Saturday, the 4th August next, with the following classes:—

- CLASS A.—Cars, the chassis price of which does not exceed £200.
- CLASS B.—Cars, the chassis price of which does not exceed £350.
- CLASS C.—Cars, the chassis price of which does not exceed £500.
- CLASS D.—Cars, the chassis price of which does not exceed £800.
- CLASS E.—Cars exceeding £800.

Silver cups and silver medals will be given in each class.

### LEEDS.

The results of the hill climb held by the Leeds Motor Cycle Club in the Earl of Harewood's private grounds on June 23rd have now been worked out by the Auto-Cycle Club's formula as follows:—

		Figure of Merit.
1st (winner of Triumph Cup and Gold Medal), Mitchell,		
3½-h.p. Minerva	...	12
2nd, Ward, 3-h.p. Triumph	...	11.6
3rd, Steel, 3 h.p. Triumph	...	11.5
4th, Wrigley, 3½-h.p. N.S.U.	...	11.2
5th, Liversidge, 3½-h.p. Quadrant	...	11.18

Mr. Allison, of Castleford, on a 5½-h.p. G.B. obtained a certificate of merit for fastest time.

### SOUTHERN.

The Southern Motor Club held their series of hill-climbing contests (for members only) at Tilburstowe Hill, Godstone, on Saturday. The elements proved kind and favourable, and crowds were attracted from all parts, as in addition the Southern Counties Cycling Club held their annual events in the afternoon on the same hill. In the motor events some forty machines competed, and the chief event of the day was the tourist cars, for which there were twelve entries, Mr. H. Billing making fastest time on his 10-12-h.p. Humber; Mr. H. Jones on a 6-h.p. Wolseley was 22 seconds slower, and Mr. Philpot's 6-h.p. Siddeley was 6½ sec. slower than the Wolseley. Then came Mr. C. Pattison, 8-11-h.p. Panhard, 20 sec. slower than the Siddeley; Mr. Nixon, 6-h.p. Regal, 29 sec. slower than the Panhard; and Mr. Wall on a 6-8-h.p. Swift was 39 sec. slower than the Regal. Mr. C. Pattison proved an easy winner on handicap points, with Mr. Nixon second. In the Geared Tri-car Class Mr. Bert Pattison on his 14-16-h.p. two-cylinder Daneville proved an easy winner; Mr. T. H. Tessier in the single-gear Tri-car Class also proved victorious.

The motor-cycles brought forth a very large field, but in both events, viz., 85 by 85 and any-size engines, Mr. Davies was the winner on a 3-h.p. Davy. The times were taken by Mr. Burley and Mr. Allen Vickers. Mr. A. Clifford Earp was a visitor on a 35-40-h.p. Iris car and was timed up the hill.

### SOMERSET.

On Saturday the Somerset Automobile Club held a hill-climbing competition on Puritan Hill, Bridgwater, with the following results:—

Car.	Owner.	Marks Gained.
O. H. Bayldon	22-h.p. Minerva	82
C. E. Burnell	10-12-h.p. Argyll	72
R. B. Graves-Knafton	10-12-h.p. Argyll	71
W. A. Taylor	10-12-h.p. Humber	64
P. F. C. Elwes	24-30-h.p. Bridgwater	63
C. H. Daws	12-h.p. Wolseley	59
R. Orme	8-10-h.p. Humber	58
J. W. Aspinall	14-h.p. Minerva	57
F. Wills	12-h.p. Clement	52
O. H. Bayldon	5½-h.p. Baby Peugeot	46
A. Armitage	10-h.p. Forman	44
H. E. S. Viner	6-h.p. Pick	43
W. J. Hippisley	8-10-h.p. Humber	39

The hill is of considerable length and steepness. There were five classes, arranged according to the chassis price of the car, and some capital runs were witnessed. Excellent arrangements had been made by the Hill Climbing Committee, of which Mr. J. W. Aspinall, of Weston-super-Mare, was the hon. secretary. The other officials were:—Starter, Mr. S. Austin; marshals, Messrs. A. Armitage and Dr. Benson; timekeepers, Messrs. C. H. Daws, F. Wills, and J. W. Aspinall; clerk of the course, Mr. P. F. C. Elwes.

### ASTON HILL.

Splendid weather and the kindly feeling of Mr. Alfred de Rothschild enabled the Hertfordshire County Automobile Club to achieve a notable success with their hill climb on Saturday. This took place on Aston Hill and attracted a large number of well-known motorists. The hill climb is 1,290 yards in length, with an average gradient of 1 in 18, the steepest portion being 1 in 7. There were forty-five competitors and the fastest time was made by Mr. E. M. C. Instone on a 35-h.p. Daimler, with Continental tyres, a trophy being presented for this event. Mr. Coleman, on a White steamer, was the happy recipient of a silver cup. The member of the club unconnected with the trade who made the best handicap performance was Mr. W. F. Young, driving a 10-h.p. Alldays, and he carried off for the present year the handsome challenge cup presented to the club for this performance by Mr. E. T. Prvor.



The winner of the handicap for petrol-propelled vehicles was Mr. T. Thornycroft, who drove a 14-h.p. Thornycroft.

The most meritorious performance has not been allotted, for twelve cars came out with equal points. It has therefore been decided to hand the prize for this event to the second in the handicap for the petrol cars, namely, Messrs. Alldays and Onions, whose 10-h.p. Alldays was piloted by Mr. Huband. The medal for the third best handicap performance goes to Mr. H. Ramoisy, who was third in this event with a 14-h.p. Germain.

The officials of the day were:—Judge, Mr. C. McWhirter; clerks of the course, Messrs. W. G. James, N. Kenealy, E. T. Pryor; marshal at foot of hill, Mr. A. J. Salmon; marshal at top of hill, Mr. M. Arnold; chief signaller, Mr. H. L. Gibbs; clerk of the scales, Mr. E. Kenealy; clerk of results, Mr. C. Wheeler; assistant clerk of results, Mr. G. Ransley; timekeepers, Messrs. A. V. Ebbelwhite and F. Straight; secretary of meeting, Mr. T. Williams.

Of course the police all round about the district were pretty active—as we anticipated they would be in our last issue—and it was particularly hard luck on one competitor that a hay cart should get upon the course when he was ready to start. In all these performances the presence of the White steam car has lately been a source of public attraction, hence the regret that Mr. F. Coleman's time should have been spoiled by the movement of a vehicle which caused him to slow down when he had got into a very fast run towards the top of the hill.

The fastest times (all classes) were as follows:—

Order of Merit.	Car No.	Name of Car.	Driver.	Time in secs.	Positi'n. in Hndp.
27	7	18-h.p. Speedwell ...	R. Chandler	84 4.5	35
28	5	15-h.p. Chenard and Walcker.	B. Taylor	85 1.5	19
29	45	10-h.p. Alldays and Onions.	W. Alldays	95 1.5	10
30	15	14-h.p. Spyker ...	C. Machin	102 3.5	9
31	44	10-h.p. Alldays and Onions.	F. W. Huband	104 3.5	2
32	54	16-20-h.p. Rover ...	P. Graham	107 3.5	40
33	31	10 h.p. Adams Hewitt...	Regd. R. Smith	119 2.5	25
34	61	8-h.p. Maxwell ...	F. W. Peckham	130	34
35	57	10-12-h.p. Coventry Humber	V. Beveridge	131	12
36	48	12-h.p. Wilson Pilcher ...	E. Gascoine	141	21
37	33	6-h.p. Rover ...	J. Platts-Betts	142 4.5	5
38	9	8-h.p. Rover ...	R. L. Jefferson	146 3.5	15
39	24	10-h.p. Alldays ...	W. Frank Young	149 2.5	11
40	60	6-h.p. Wolseley ...	J. H. Wylie	163 4.5	36
41	6	18-h.p. Vauxhall...	R. Sely	198 4.5	42
42	37	8-h.p. De Dion Bouton ...	F. C. Fisher	219 2.5	14
43	3	8-h.p. Crypto ...	J. Whittall	228 4.5	29
44	26	9-h.p. M.M.C. ...	H. R. B. Hickman	299 4 5	41



The Birdlip Hill Climbing Competition.—A 10-12-h.p. Darracq at the Finishing Point.

FASTEST TIME (ALL CLASSES).					
Order of Merit.	Car No.	Name of Car.	Driver.	Time in sec.	Positi'n. in Hndp.
1	35	35-h.p. Daimler ...	E. M. C. Instone	4 1.5	18
2	46	35-h.p. Daimler ...	G. D. Powell	4 1.5	23
3	56	50-h.p. Napier ...	Miss D. Levitt	5	26
4	53	40-h.p. Darracq ...	S. Girling	5 3.5	28
5	27	60-h.p. Napier ...	C. Edge	6 1.5	4
6	19	30-40-h.p. Daimler ...	J. M. Gorham	14	16
7	29	30-h.p. Daimler ...	O. S. Thompson	14 1.5	17
8	12	18-h.p. White steamer ...	F. Coleman	14 1.5	—
9	40	20-32-h.p. Darracq ...	A. Lee Guinness	21 3.5	27
10	21	35-h.p. Pipe ...	Claude Watney	22	31
11	52	20-32-h.p. Darracq ...	S. Girling	27 4.5	32
12	58	36-h.p. Thornycroft ...	T. Thornycroft	30 2.5	30
13	25	30-40 h.p. Daimler ...	H. P. Fisher	33	33
14	10	35-h.p. Ariel Simplex ...	P. Lewis	34 4.5	39
15	47	30-35-h.p. Metallurgique	O. Cupper	68 4.5	20
16	16	25-30-h.p. Iris ...	F. R. S. Bircham	40 1.5	13
17	8	16-20-h.p. Rover ...	J. K. Starley	42 1.5	7
18	1	14-22-h.p. Germain ...	H. Ramoisy	48 2.5	3
19	39	24-h.p. Beaufort Princess	J. E. Lound	49 4.5	22
20	50	20-24-h.p. Clement-Talbot.	— Grogan	56 1.5	8
21	59	14-h.p. Thornycroft ...	T. Thornycroft	58	1
22	34	16-20-h.p. Beeston-Humber.	C. H. Cooper	66 1.5	38
23	62	16-20-h.p. Rover ...	E. W. Lewis	67 2.5	24
24	30	60-h.p. De Dietrich ...	C. Bianchi	71 1.5	44
25	41	35-h.p. Brooke ...	M. Brooke	77 4.5	43
26	49	12-16-h.p. Clement-Talbot	S. Kennedy	78 2.5	6
27	43	26-30-h.p. Simms-Welbeck.	D. McNeil	83 2.5	37

#### MEMBERS' HANDICAP.

1	24	10 h.p. Alldays ...	W. Frank Young	—	—
2	37	8-h.p. De Dion Bouton...	F. C. Fisher	—	—
3	26	9-h.p. M.M.C. ...	H. R. B. Hickman	—	—

#### BIRDLIP HILL.

About seven miles on the main road from Gloucester is the Birdlip Hill—a place of renown as among the worst on English roads, being stiff of ascent and of a sinuous twisting course throughout. On Saturday last the Bristol and Gloucestershire Automobile Club held a hill-climb there, the event attracting forty-nine entries, and the results being as follows:—

CLASS A.—For cars of a selling price not exceeding £300; 1, H. G. Norton, 10-12-h.p. Coventry Humber; 2, Rev. P. Cane-Moyle, 8-10-h.p. Coventry Humber; 3, E. Grindley, 8-10-h.p. Coventry Humber. Other competitors, placed according to the merit of their performance, were: A. S. Bartholomew, 8-10-h.p. Coventry Humber; W. J. Bridges, 8-h.p. Rover; H. E. Steel, 10-h.p. Adams Hewitt.

CLASS B.—For cars of selling price between £300 and £550:—1, H. G. Norton, 16-20-h.p. Beeston Humber; 2, W. Stayt, 16-20-h.p. Beeston Humber; 3, A. E. Johnson 14-18-h.p. Spyker; 4, E. N. Gwyther, 20-32-h.p. Darracq; 5, Capt. Tudor Owen, 12-16-h.p. Clement Talbot; 6, H. E. Steel, 15-h.p. Siddeley. In Class C, G. S. Davey, 30-40-h.p. Daimler, was first.

The handicap placings were as follows:—In Class A the first three were H. G. Norton, 10-12-h.p. Coventry Humber; A. Le Blond, 8-h.p. De Dion; W. J. Aubrey, 8-h.p. De Dion; and in Class B, Captain T. Owen, 12-16-h.p. Clement Talbot; H. G. Norton, 16-20-h.p. Beeston Humber; and E. A. Streatham, 10-12-h.p. Clement-Talbot.

ON Saturday last the staff of Messrs. Brown Bros. held their outing to Worthing, where a field for racing was prepared by Mr. Blaker, a local motor agent. Prizes were distributed by Mr. Ernest Brown.

## THE ROYAL AGRICULTURAL SHOW.

THE machinery section of the Royal Agricultural Show held at Derby last week comprised a representative collection of steam wagons and tractors, all the well-known makers being present. A newcomer in the field of steam wagon builders was Messrs. Robey and Co., Ltd., Lincoln, who had on view a five-ton vehicle fitted with a combination smoke tube and water tube boiler, and two-cylinder (simple) horizontal engine. Two speeds are provided, the transmission being by gearing on to a live axle. Other exhibitors of steam wagons included Messrs. Fodens, Ltd., Sandbach; Mann's Patent Steam Cart and Wagon Company, Leeds; the Yorkshire Patent Steam Wagon Company, Leeds; Messrs. Wm. Allchin, Ltd., Northampton; Messrs. Jesse Ellis and Co., Ltd., Maidstone; Messrs. E. S. Hindley and Sons, Bourton, Dorset; Messrs. Pratchitt Bros., Carlisle; the St. Pancras Iron Work Company, London; Messrs. Wallis and Stevens, Basingstoke; and Messrs. R. Garrett and Sons, Ltd., Leiston.

Steam tractors designed for use in accordance with the regulations under the Heavy Motor-Car Order were exhibited by Messrs. Aveling and Porter, Ltd., Rochester; Messrs. Ruston, Proctor and Company, Lincoln; Messrs. Wallis and Stevens; Messrs. Wm. Foster and Company, Lincoln; Messrs. R. Garrett and Sons, Ltd., Leiston; Messrs. Clayton and Shuttleworth, Lincoln; and Messrs. Chas. Burrell and Son, Thetford; Messrs. Robey and Company, Ltd., Lincoln; Messrs. J. and H. McLaren, Leeds.

A new 30-40 cwt. petrol lorry was displayed by Messrs. Horn, Littlewood and Company. The vehicle was fitted with an Aster engine, but in future a motor having twin cylinders 5 in. bore by



The Aston Hill Climb. Mr. S. Kennedy at the wheel of Mr. T. H. Woollen's 12-16 Clement-Talbot Car.

5 in. stroke, and developing 15-b.h.p. at 900 revolutions per minute, is to be employed. Three speeds are provided, the final drive being by roller side chains. The road-wheels are shod with Hopkinson's tyres—4 in. on the front and 3 in. twin on the back. Messrs. H. P. Saunderson and Co., of Bedford, exhibited a new model of their universal motor, with combination fittings. The machine is of 30-b.h.p., and is provided with three speeds and reverse. The new carburettor is arranged to work with either petrol, alcohol, or common oil as fuel. The motor may be used: (1) as a three-wheeled agricultural tractor, with all three wheels propelling, for hauling and driving machinery; (2) as an ordinary motor lorry to carry four tons; (3) as a fore carriage for attaching to and working binders, mowers, ploughs, and wagons. Messrs. Barford and Perkins, Peterborough, were present with their motor rollers, a new departure being the fitting of an engine designed to use paraffin as fuel in place of petrol. Messrs. Thos. Green and Son are also now making a motor roller on similar lines. Messrs. Jas. B. Petter and Sons, Ltd., Yeovil, exhibited a petroleum tractor. It is fitted with a 22-b.h.p. horizontal engine of the slow running type, using ordinary paraffin as fuel. The drive is by a roller chain on to the live axle, two speeds and a reverse being provided. The machine is designed to haul loads of from four to five tons. Motor lawn-mowers were exhibited by Messrs. Ransomes, Sims and Jeffries, Ipswich, Messrs. Alexander Shanks and Son, Ltd., Arbroath; and Messrs. Thos. Green and Son, Ltd., Leeds. Among miscellaneous exhibitors were Price's Patent Candle Company, Ltd., Battersea, and Messrs. W. H. Wilcox and Company, Ltd., London, S.E.; the latter's display included not only lubricating oils, but also pumps, lubricators, and many other automobile accessories.

## CHILDREN AND MOTORING.

PATHETIC, yet pleasant, was the impression gained by the observer in Albert Square, Manchester, on Saturday afternoon, where three or four hundred crippled children of the city were gathered for a ride in the eighty-four motor-cars placed at their service. The trip was organised by the Crippled Children's Aid Society, which has about 800 cripples under its care. The cars were found by members of the Manchester Automobile Club and the Manchester Motor Club. The presidents of these clubs—Mr. J. A. Morris and Mr. Sawley Brown—were present, and the procession was led by Mr. W. Hyde. The Lord Mayor and the Lady Mayoress were there to see the party off and wish them a happy day. The route taken was by Mount Street and Stretford Road, though Stretford, Sale, Brooklands, and Altrincham and Knutsford and Chelford to Worth's Farm at Siddington, where the Union Jack was flying as a sign of welcome. Here the children rested and played for two or three hours, and had tea and other refreshments at the cost of their friends the motorists. The return journey was by way of Alderley Edge and Wilmslow. The committee who carried out the arrangements were Mr. W. Hyde, Mr. Sawley Brown, Mr. C. B. Holmes, and Mr. W. Cotsworth (hon. secretary). Four medical men went with the trip to be ready to help in case of need.

## THE MOTOR-CYCLE RECORD.

ON the Canning Town track, H. Collier has made an attempt on the 100 miles motor-cycle record. He actually succeeded in beating all previous times from the fifty-fifth mile onward. Had he not lost five minutes from a puncture, he would have been well inside two hours for the 100 miles. The first mile was performed in 1 min. 20.2 sec., and 55 miles in 65 min. 29.1 sec., 8 min. 24.5 sec. ahead of Harry Martin's previous best. The 100 miles time was 2 hrs. 2 min. 19 sec., beating the old record by 19 min. 26 sec., also held by H. Martin. In two hours Collier rode 97 miles 1,640 yards, against Martin's 85 miles 1,680 yards, an increase of 11 miles 1,720 yards. Mr. A. V. Ebbelwhite was responsible for the time-keeping.

ON the same track the Essex Motor Club will hold a motor-cycle meet on the 14th inst., when the competitors will include Giuppone, the holder of the World Record for one hour—63 miles, and René Thomas, who successfully competed at the Crystal Palace last year for the M.C.J. Trophy.

## NEW COMPANIES REGISTERED.

F. GROOME, LTD.—Capital, £5,000. To take over the business of a motor engineer and garage proprietor carried on by Mr. F. Groome at Whalley, and to adopt an agreement between the said Mr. F. Groome and Mr. J. Simpson. Registered office, King Street, Whalley, Lancs.

DELAHAYE AND CO.—Capital, £165,000. To acquire the business of the Societe des Automobiles Delahaye carried on by Messrs. Leon Desmarais et Morane at 10, Rue du Banquier, Paris, and elsewhere. Registered office, 18, St. Helens Place, E.C.

SMALLWOOD'S MOTOR AND CYCLE COMPANY, LTD.—Capital, £7,000. To acquire the business carried on at 52, Corporation Road, Middlesbrough, and 13, Queen Street, Redcar, as Mr. J. Smallwood. Registered office, 52, Corporation Road, Middlesbrough.

BEESTON ACCUMULATOR SYNDICATE, LTD.—Capital £500. To adopt an agreement with Messrs. S. Halford and E. Shoals, and to carry on the business of electric storage battery or accumulator manufacturers, chargers of accumulators, electric engineers, motor and car makers, etc. Registered office, Post Office Square, Beeston, Notts.

IMPROVED MOTOR OMNIBUS COMPANY, LTD.—Capital, £100. Objects as indicated by the title. Registered office, 78, Hamilton House, Bishopsgate-street Without, E.C.

WHITWORTH VALE MOTOR OMNIBUS COMPANY, LTD.—Capital, £10,000. Objects: To carry on the business of motor-car and omnibus proprietors, carriers of passengers and goods, &c. Registered office, 446 Market Street, Whitworth, Lancs.

HALLEY'S INDUSTRIAL MOTORS, LTD., has been registered with a capital of £75,000 in £1 shares, of which 37,500 have just been offered for public subscription. The Glasgow Motor Lorry Company has been acquired in the purchase, and the services of Mr. G. H. Halley have been secured for seven years.

## THE CLEANLINESS OF NUMBER PLATES.

THE Motor Union successfully appealed before the Hertfordshire Quarter Sessions against the decision of the Stevenage Magistrates in convicting Valentine Hall, motor-car driver to Mr. C. D. Rose, M.P., for allowing his number plates to be rendered not easily distinguishable. The evidence for the prosecution was that the defendant went through Stevenage in a motor-car. He was stopped by a constable, who alleged that he was unable to distinguish the numbers either on the front or back number plates, because they were covered with mud. The defendant insisted on the constable taking him to the police station, where they saw the sergeant. After hearing evidence counsel for the appellant contended that the evidence of the sergeant and the constable was conflicting, and that the defendant had taken all steps reasonably practicable to prevent the plates becoming not easily distinguishable. It could not be said to be "reasonably practicable" to compel a motorist to get off dur-

ing such a short journey, thirty miles, to see whether his front and rear plates had been in any way splashed with mud, as they doubtless would be on a wet day. The Court allowed the appeal with costs.

### ROAD REPORTS.

**WALES.**—The instructions of the Roads Improvement Association, printed in Welsh, have been distributed among the workmen engaged by the Rhondda and Mountain Ash Urban Councils.

**CHESHIRE.**—The roads of several villages in Cheshire have lately been treated to a new dust-laying preparation introduced by Emulsifix Ltd., 6, South Street, Manchester. We shall be pleased to have the impressions of motorists as to its efficacy.

**DUNTON GREEN.**—The road through Dunton Green (Kent) is to be tarred at a cost of £60, half of which will be contributed by the Kent County Council, and the other moiety jointly by the A.C.G.B.I. and Motor Union and the parishioners of Otford.

**HILLINGDEN HEATH.**—The Middlesex County Council has tarred the road at Hillingden Heath, to the advantage of the residents in the locality.

**HEREFORD.**—Mr. Parker, the city surveyor of Hereford, is endeavouring to discover a means of abating the dust nuisance which shall be both effectual and cheap. In his experiments tar has played a most important part. He puts the cost of his latest efforts at one-third of a penny per yard super, and he expects to save this by the diminished cost of watering and scavenging by the end of the year.

**VALE OF TILBERTHWAIT.**—Dismay has been caused in and about the romantic Vale of Tilberthwaite, near Coniston, by the posting of a notification that certain roads in the locality are now closed to the public. These are in connection with some slate quarries and are really private, but, being much superior to the old township roads, the public use of them has been permitted for some years. Meanwhile the old public roads have been neglected and have become almost impassable, so that if the private roads are closed several small hamlets and remote cottages will be almost isolated. There is a disagreement between the quarry owners and the road authority—the Rural District Council of Ulverston—the former considering that the portions of the roads the public have used are not properly maintained. They have decided to close them by way of protest.

**STOCKTON.**—The road surveyor, Mr. W. Burton, to the Stockton Rural Council has been advised by some members of that body to use a stronger dressing of whinstone chips instead of road scrapings in that locality, but he is against the suggestion, because the fine whinstone dust floats in the air, and the whole matter is really one for national consideration.

**COWBRIDGE.**—A portion of the main street of Cowbridge has been treated with tar by the Town Council, who are fully prepared to similarly treat the whole of the streets of the town should the experiment prove a success.

### PUBLIC MOTOR SERVICES.

**KINGSTON.**—The New London and Suburban Omnibus Company have replaced their service of horse vehicles plying between Kingston and Richmond with motor-omnibuses.

At the Eggescliffe Parish Council, Mr. Lawrenson moved a resolution in favour of inviting the Stockton and Middlesbrough Tramway Company to consider the desirability of running motor-buses between Yarm and Stockton. The resolution was passed with only two dissentients.

**SOUTH COAST.**—On Monday an hourly service of motor-buses was commenced by the Brighton, Hove, and Preston United Omnibus Company, Ltd., between Kemp Town and Worthing.

**LICENSES** have been granted at Worthing for thirteen motor-omnibuses to ply for hire through the town.

The Police Committee of the London Court of Common Council is considering the question of the dropping of lubricating oil by motor-buses passing the City. The Kensington and Marylebone borough councils are also considering the "noise, vibration and smell of the motor-buses passing through their areas." Petitions on the subject are also being prepared by the executive of the "Quieter London Movement."

### MOTOR-CAR ACCIDENTS.

A SERIOUS motor-car accident has occurred in Junction Road, Ewhurst, Sussex, eight miles from Hastings. A car belonging to Messrs. Skinner, of Hastings, containing nine passengers, was overturned at Cripps Corner. The matron of Buchanan Hospital, Hastings, was killed, and four others were seriously injured.

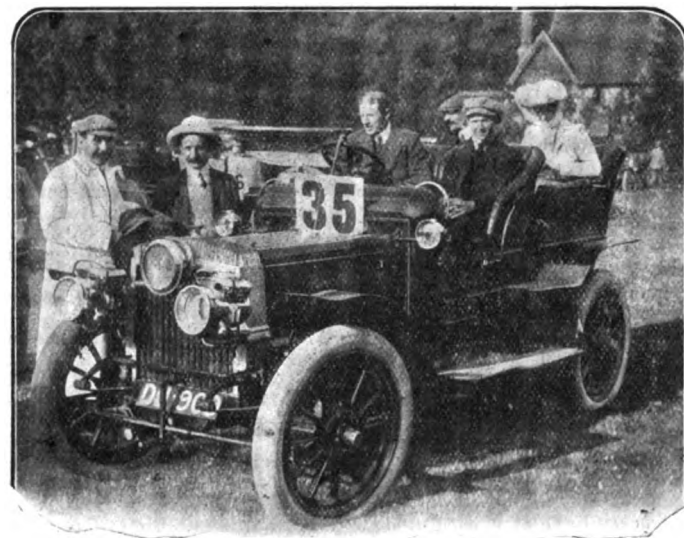
At the cross roads near Berwick, about eight miles from Eastbourne, a serious motor-car accident has occurred to Mr. Freeman-Thomas, the Liberal candidate for South-East Cornwall. He was proceeding home to Ratton, near Eastbourne, in his car, when coming along the road from Alfriston towards Berwick Station was another car with Major Edwards. The owner of this automobile is Mr. Cohn, of Alfriston, and a son-in-law of Mr. Horatio Bottomley, M.P. Unhappily the two cars, which were travelling in opposite directions, attempted to pass the cross-roads at the same moment, with the result that a violent collision occurred. The vehicle containing Major Edwards

was struck with such force as to throw it in the air and turn it completely over. Mr. Freeman-Thomas was also thrown from his car, and his face and head came into contact with the ground, causing severe bruises and slight concussion of the spine. Fortunately another motor-car drove up a few minutes later and Mr. Freeman-Thomas was conveyed to his residence. Major Edwards also had serious injuries and has been staying at Alfriston. Both the chauffeurs escaped without material injury, although each was thrown from his car.

A FATAL accident occurred at Plymouth on Saturday, a child being killed by a motor-car, the property of Lieutenant R. W. Cory, Royal Artillery. Lieutenant Cory, with Lieutenant Patrick R. Cohen, R.N., were being driven along Embankment Road, when two children ran in front of the car. Rose Emily Giles, aged five years, was struck on the head by one of the motor lamps and killed on the spot.

A CHILD named Louisa Brown was on Sunday morning knocked down by a motor-car as she was crossing Queen's Road, Wandsworth Road, (S.W.), after coming out of the Wesleyan Chapel close by. The child was picked up unconscious and conveyed to St. Thomas's Hospital, where she died on Sunday night from a fractured skull.

As a motor-car driven by Mr. Harry Turner, of Scholes, Cleckheaton, was passing through Wyke, near Bradford, a dog got in the way and became entangled with the steering gear, causing it to swerve. In its course the car knocked down Adam Crabtree and Richard Bishop. One man sustained severe concussion of the brain and other injuries, and is in a serious condition at home, whilst the other was removed to the infirmary, having dislocated his right shoulder and sustained bruises on the body.



The Aston Hill Climb.—Mr. E. M. C. Instone on the 35-h.p. Daimler on which he made the fastest time.

### APPEAL DISMISSED.

At the Winchester City Quarter Sessions the Recorder has heard the appeal of William R. Rivers, chauffeur to Sir George Cooper, of Hurley Park, against a conviction by the city justices for having, on April 14th, driven a motor-car in Upper Brook Street at a speed dangerous to the public, having regard to the circumstances of the case, in consequence of which the Bench fined him £2 and £2 16s. costs. For the appellant, Mr. J. A. Simon, M.P., contended that it was a physical impossibility for the car to have been travelling at the pace alleged. He pointed out discrepancies in the evidence given by witnesses before the Bench and at that court, and mentioned a difference of opinion among the magistrates below in arriving at a decision. The appellant stated that when turning the corner, at about six miles an hour, he saw a wagonette twelve yards away on the wrong side of the road. He immediately put on the brake, but, seeing the horse so near him, he took it off again, and tried to go across the road. Expert evidence was to the effect that the car, with its defective pump, could not go more than four miles an hour, and the Recorder, in giving judgment, said if the car had been stopped instantly the collision would not have occurred. He had the driver's statement that the brake would not act, and there was ample evidence that the driver drove the car at an unreasonable speed, and therefore the appeal would be dismissed with costs.

### MOTOR-CAR OUTING FOR CHILDREN.

MR. CHARLES SMITH, the hon. secretary of the North London A.C., is arranging a motor-car outing on the 19th inst. for the Fresh Air Fund for children. He invites motorists who will be kind enough to lend their cars for the purpose of giving the poor children a few happy hours to communicate with him at Avondale, Brownlow Road, New Southgate, N. The start will take place at 2 p.m. from the Shaftesbury Retreat, Loughton, Essex.

## CASES AGAINST MOTORISTS.

*[It must be understood that it would be impossible to report all the cases that are heard every week; we therefore endeavour to give only those which involve points of particular legal importance or of public interest.]*

AT the Marlborough Street, London, Police Court, Mr. Plowden dismissed a summons against Mr. Aristide Bleiner for driving a motor-car in a manner which was dangerous to the public, in Piccadilly Circus, on the 11th ult. Two policemen who were directing the traffic at the corners of Regent Street and Shaftesbury Avenue stated that the defendant coming down Regent Street passed on the right of the two islands near the fountain in Piccadilly Circus, and that there was a lot of traffic about at the time. After hearing the defendant, Mr. Plowden, the magistrate, stated that there had been a mistake somewhere, and as the police constables were thirty or fifty yards away respectively from the first island, he felt bound to accept the testimony of the defence, and that if it were not possible for the driver to follow the flow of traffic, and as he was placed in the position in which he was by the other traffic, he was at liberty to pass in the way he did, and that he did not see where the danger was, the summons would be dismissed. There was an attempt at applause at this decision, but was stopped by Mr. Plowden with a wave of the hand.

AT Stirling, Francis Davis, motor-car driver, has been found guilty of not stopping his car on Gargunnoch Road when signalled to do so by the driver of a horse and trap, and fined 20s. The owner of the car stated that the horse and man were playing the fool, and farmers held up their hands for motorists to stop when not required.

AT Middlewich, Douglas Gilmore, of Dorking, was summoned for failing to produce his licence when requested. A constable stated that the defendant drove a motor-cycle at an excessive speed near Middlewich on June 6, and only after half an hour's argument would he produce the licence. He was fined 40s. and costs, and his licence was suspended for a month.

Two months' imprisonment in the second division for manslaughter has been given to Albert Edward Carter, a chauffeur, at Hertford Assizes. While driving a motor-car through Markyate, near Dunstable, on April 30th, the prisoner ran into a horse and cart coming from a side road. Mr. Preston, an occupant of the motor-car, was thrown out and killed. The driver of the cart was so badly injured that he could not appear at the trial of the motor-car driver. Mr. Justice Ridley, in passing sentence, said the public must be protected, and a warning was necessary to motor drivers.

AT Steyning Petty Sessions, Alfred H. Cooling, chauffeur, was fined £10 and costs, £14 9s. 6d. in all, for driving a motor-car at a dangerous rate of speed between Brighton and Shoreham. Two other chauffeurs were similarly summoned, but failed to appear, and warrants were ordered to be issued.

MR. LOUIS SINCLAIR, ex-M.P., was summoned at Bow Street (London) Police Court on Monday for driving a motor-car in a manner dangerous to the public. The police evidence was that the defendant went on the wrong side of the refuge in driving from Holborn into Chancery Lane at a pace of eight miles an hour. Defendant, giving evidence on his own behalf, admitted that he drove on the wrong side of the refuge, but said he understood the motions of a constable to indicate that he might do so. Defendant was fined 40s. and 23s. costs.

IT was alleged at North London that George F. Carpenter, chauffeur to Mr. Arthur Roberts, had driven a motor-car along Balls Pond Road while intoxicated, and had knocked an old man down. Carpenter pleaded guilty. He had some trouble with the car, he said, and had a drink with two men who helped him. The magistrate remarked that it was bad enough for a man to get drunk when driving a horse, but motor-cars were a danger even in the hands of a sober man. One month, with hard labour.

AT High Wycombe, on Saturday, a prosecution was heard for excessive motoring through the main streets of that borough, the defendant being H. M. Grannett, of Nutford Place, Edgware Road, London. The speed given was equivalent to over twenty-eight miles an hour. Defendant said he drove the car for a doctor, and on the day in question there were fourteen gentlemen in the car. Fined £2 and 11s. costs. There have been no proceedings taken against motorists in the town for a considerable time, although Wycombe was one of the first places where action was taken to arrest the rapidity with which motorists travelled, the head constable in the first instance devising the plan of placing a scaffold-pole across the road to bring offenders to a standstill.

SOME heated passages-at-arms occurred at Guildford on Saturday, when a Maidenhead motorist was fined £10 for exceeding the legal limit, the police stating that he had covered one piece of road at the rate of sixty-nine miles an hour. The first instance occurred when the chairman (Sir Wm. Chance) suggested that the defendant should stand by the side of the dock. The solicitor for the defendant said this was quite unnecessary, and suggested he should leave the room. Then the solicitor went on to complain of the feeling against motorists, remarks denied by the chairman. After this the solicitor and chairman came into collision again, and finally the former, on a point of law, refused to show his client's licence.

FOUR cases of exceeding the legal limit on the Portsmouth Road have resulted in as many convictions.

AT the Lambeth Police Court, on Tuesday, three motorists were fined for driving at excessive speed.

## POLICE TRAPS.

POLICE traps are in operation between Hendon and Stanmore, Watford and King's Langley, Berkhamsted and Tring.

THERE is a measured furlong in the Clapham Road, S.W., which has lately produced several victims of police activity.

THE Southwick police trap is on the upper road to Shoreham not far from the cross roads.

TRAPPING is again proceeding merrily at Lancaster.

SO many complaints against the unfairness of the police trap at Todmills, near Carlisle, have recently been made that the magistrates resolved to make a personal inspection of the place.

TRAPS are fairly frequent on the Bodmin and Truro road as well as in several other Cornish districts, where police hostility seems to be conspicuous.

THERE is a trap on the Winchester-Basingstoke road, about a mile and a half before reaching the latter place.

MOTORISTS should be careful in the Newmarket district, where police activity against motorists has lately been pronounced.

SEVERAL motorists have been caught in the Southwick police trap.

THE Middlesbrough police are tracking motorists passing rapidly through the district by means of the telephone.

POLICE traps have been notified us in the Basingstoke district.

TRAPS are being frequently laid against motorists in the neighbourhood of Whitchurch. There is one between that town and Chester; another on the Whitchurch and Shrewsbury road, and a third between Nantwich and Acton.

## THE LIABILITY OF 'BUS DRIVERS.

FREDERICK JOHN MERRYWEATHER, of Upper Tooting, has been summoned by the Chelsea Borough Council, who sought to recover £4 17s. 1d., the amount of the damage to a lamp-post broken by him in the course of his employment as a motor-'bus driver at Fulham Road. It was stated that the defendant first collided with a van, and when getting clear of this he ran into a lamp-column, snapping it in two pieces. The defendant urged that the night was a bad one, and that he did not think he should pay. He had sent the bill to his employers. Mr. Curtis-Bennett said that all he could do was to make the order for the amount with 3s. costs.

## ALLEGED PERJURY BY A MOTOR-CYCLIST.

BEFORE Mr. Justice Lawrance, at the Essex Assizes at Chelmsford, Charles Edward Harris, road surveyor to the Essex County Council, and Stanley Church, house agent, of Purley, Surrey, surrendered to their bail on a charge of perjury. The case arose out of a summons which was issued against Mr. Harris for exceeding the speed limit with his motor-bicycle, to which was attached a trailer containing Mr. Church. The police had a motor trap in operation between Stansted and Cambridge, and on April 14th Mr. Harris was alleged to have passed the forty-second milestone, both in the morning and in the afternoon, going to and returning from Cambridge, and it was in respect of the afternoon that the alleged offence occurred. He was alleged to have passed the forty-second milestone at eleven o'clock in the morning. In the afternoon he passed again at 3.18, the thirty-sixth milestone being passed at 3.30, thus covering a distance of six miles in twelve minutes. Mr. Harris proved an alibi before the local magistrates, and the summons was dismissed, and the police, some weeks afterwards, charged him and Mr. Church with perjury. Both defendants maintained that they did not pass the spot mentioned until an hour and a half after the time alleged, both morning and afternoon. They said that they did not leave Stansted until between 12 and 1 o'clock, and that they did not leave Cambridge on the return journey until between 4 and 4.30, so that it was impossible for them to have passed the spot at the time alleged. Mr. Jones for the prosecution announced that there was a large number of witnesses prepared to support both sides, and in view of that he had talked the matter over with his learned friend, and they had decided to adopt the course that either one side or the other had made a mistake, which was recognised to be perfectly honest. Mr. Gill, K.C., for the defence, spoke to the same effect, and his Lordship having expressed concurrence with the course adopted, the jury found both defendants not guilty, and they were discharged.

## ASSAULT ON A MOTORIST.

MR. F. MOODY was driving in a motor-car to his home in West London, about midnight, on Monday, when in the Bethnal Green Road, E., his car was brought to a stop by the traffic. The application of the brakes caused the car to skid on the wet road towards a pony-cart in which Thomas Davidson was seated. The cart was not touched, but Davidson used abusive language towards the motorist and struck him a heavy blow on the jaw, knocking out one tooth and loosening three others. At the police-court, on Tuesday, Mr. Cluer said that a fine would not meet the justice of the case, and sentenced Davidson to fourteen days' hard labour. Notice of appeal was given and the defendant was released on bail.



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## COMMENTS.



SOCIETY has become so enamoured of the motor-car that the Court dress-makers, florists and others who bask in the prosperity of Society's *grandes dames* have been left lamenting. Many causes have made the season of 1906 a lean one, and beyond the fluctuation to which all periods must be liable is the changing fashion that is coming over social affairs. The motor-car is said to have enormously reduced the number of dresses necessary in order to go through the London season. Ladies enjoying the delights of the open-air on the motor-car do not have the opportunity of changing their frocks half-a-dozen times a day, and the motoring costume, though smart in appearance, does not offer so much opportunity for elaboration and decorative effect as does ordinary attire. Of course the ladies' tailor has benefited by the changing conditions, for the well-cut gowns for motoring and other outdoor functions require attention at his hands. But the altered fashions of the time are apparent even in more substantial matters than attire, and the representative of a leading firm of West End house agents and furnishers, who, by the way, have lately inaugurated a system of warehousing motor-cars for private owners, declares that the motor-car is in part responsible for the decadence of the town mansion, particularly those houses which were once let at from 500 to 1,000 guineas for the season. The people who were in the habit of taking such mansions now go to an hotel, entertain lavishly for a few days, and then return by motor-car to the country. The railway company is also a loser in first-class fares.

### A Standard Touring Body.

WITHIN the last few days a conference of representative automobilists and carriage-builders has been held under the aegis of the A.C.G.B.I. and the Coach-makers' Society with a view to discussing the points of a standard body for motor-cars intended for touring purposes. Complaints have been rife for some time as to the difficulty of defining such a body, and unpleasantness has been aroused in connection with some competitions owing to the varying forms this has taken in cars described as intended for public sale. We await with some interest the publication of the Automobile Club's statement as to what constitutes a standard touring body, and it is hoped that this will be issued in time enough for makers to conform to it in building cars for the race in the Isle of Man.

### The Tourist Race.

MATTERS in connection with the race for the Tourist Trophy in the Isle of Man are now being locally considered, and in the Tynwald Court a resolution has just been passed to enable the event to be held in September. Members of the House of Keys expressed strong repugnance to motor-cars practising on Sundays, and threatened to move the house to retire unless given an opportunity to discuss the grievance. The governor (Lord Raglan) avoided this constitutional deadlock by assuring objectors that he would exercise his authority in pre-

venting Sunday practising, and the Automobile Club would support him. Entrants for the contest should bear this in mind when making their arrangements, and do all they can to respect the local sentiment with regard to Sunday observance.

### Drivers.

MR. PERCY RICHARDSON has a long and varied knowledge of motorism, and his conclusions on the driver question, as set forth in our correspondence columns this week, will be found in accord with the experience of all practical motorists. Undoubtedly the phenomenally rapid extension of the movement has had much to do with the shortage of competent men. Opportunities for acquiring sound theoretical knowledge are growing, as well as the chances of gaining workshop experience, but the difficulties of acquiring the necessary confidence on the road are not so easily got over. This is undoubtedly the weak spot in the present position, and Mr. Richardson's suggestion deserves the earnest consideration of the trade.

### Canada.

VARIOUS opinions are expressed by different people with regard to the condition of the roads in Canada; and while an Englishman has lately returned from the Dominion with a poor idea of their suitability for motoring, an American who knows them well declares they are not nearly so rugged as they are reported. The scenes on another page of some incidents during a tour in a part of Canada on a White car will be of general interest to those lacking opportunities of American travel, and who, from force of circumstances, have to be content with explorations of the old country, many parts of which have only been discovered since the revival of the motor.

### Balloon Racing.

BALLOON racing is a novelty in this country, and of unique interest both to participants and spectators. There is no one to keep the course clear; no crowd to cry "foul" should one balloon get across the path of another; and nothing of the excitement of numbers to those engaged in the race. And yet the sport is intensely exciting to those up in the clouds. On Saturday there was a balloon race from Ranelagh to Ingatestone, near Chelmsford, and seven balloonists took part in the adventure, these being:—(1) Aero Club III. (50,000 ft. capacity), Mr. C. F. Pollock; (2) Dolce far Niente (45,000 ft.), Mr. Frank H. Butler; (3) Zenith (42,000 ft.), Professor Huntington; (4) Carnation (35,000 ft.), Mr. Griffith Brewer; (5) Venus (42,000 ft.), Mr. Moore-Brabazon; (6) Midget (17,500 ft.), the Hon. C. S. Rolls; (7) Enchantress (50,000 ft.), Mr. Leslie Bucknall. A start was made about 4.30 p.m., from the Ranelagh Club grounds, and, although all the competitors kept within sight of one another throughout the journey, none was successful in actually reaching his destination. Professor Huntington, Mr. Griffith Brewer, Mr. Moore-Brabazon, and the Hon. C. S. Rolls all descended at Stanford-le-Hope, and Mr. Leslie Bucknall came down on an elm tree three miles from Grays. There were no accidents, though one balloon had a narrow escape of

being entangled in some telegraph wires. Mr. Frank Butler, who descended at Ossett, nine and a half miles from Ingatestone, was adjudged the winner, and gained the gold cup presented by the "Evening News." Mr. Pollock won the twenty-guinea cup presented by the Ranelagh Club.

### The Royal Commission.

At length the Royal Commission on Motor Cars have considered their report, which may be presented to the House of Lords within the next few days. In anticipation of this publication the Hon. A. Stanley will introduce a Bill to provide for the establishment of a Highway Commission for England and Wales, and for the amendment of the laws relating to highways and bridges. The main features of the proposal are the creation of a central department for the purpose of assisting the local highway authorities, the construction of new main roads through the large urban districts, and the amendment of the law relating to the maintenance of bridges. Among motoring members of Parliament the Bill evokes universal support, and it is hoped that some progress may be made with it during the autumn session.



Mrs. Adams at the wheel of the 10-h.p. Adams-Hewitt Car, which secured the First Prize for Smart Appearance on the occasion of the Ladies' Automobile Club Gymkhana at Ranelagh on the 30th ult.

### New Converts.

THE motor-car is converting the converted, and about the middle of next month the President of the Baptist Union intends motoring to the churches of his denomination—small as well as large—in the counties of Bedford, Cambridge, Northampton, and Oxford. This is the first campaign definitely organised, as a part of the presidential activities, by any of the denominational organisations, if we except General Booth from the category. Another accession to the ranks of motorists is that of the ladies who attained prominence owing to their anxiety to secure the vote for themselves and their sex. Some of these, too, are combining the pleasures of motoring with platform campaigns in and around London—their car, with its legend, having been a conspicuous feature of London traffic during the past few days.

### The Rule of the Road.

ACCORDING to a Manchester lawyer who appeared in a case at Blackburn last week, when a pedestrian sued the owner of a carriage by which he was knocked down as he stepped off the pavement to board a tramcar, there are three rules of the road. He set them forth as follows:—The first is that when you are driving and you meet a vehicle coming in the

opposite direction, you keep to the near side; the second is, that when you pass a vehicle going in the same direction you pass to the right; the third is the rule which has been suggested by some judges, and has certainly been acted upon by a great many motorists and cyclists, that in passing a tramcar you keep on the near instead of the off side. There is also the rule that foot-passengers passing one another on the road must keep to the right, but judges have repeatedly held that carriages could pass pedestrians on either side.

### Motor Car Imports and Exports.

THAT the shrinkage in the imports of foreign motor-cars into this country which occurred in May last was due to the labour troubles in France and Italy is indicated by the returns for June, which show that, the strikes ended, the trade has once more resumed its normal condition. During last month no less than 530 cars, valued at £239,592, were imported into this country; parts were responsible for a further sum of £149,395, giving a combined total of £388,987, which compares with only £312,721 in June, 1905. As regards the imports during the first half of the current year, these have amounted to 3,217 cars, worth £1,299,262, and parts to the extent of £1,020,829, the aggregate of £2,310,081 contrasting with only £1,764,924 in the first six months of last year, or an increase of roundly £545,000. Turning now to the exports of British motor-cars and parts, these, during June, amounted to £48,552, an increase of £18,000. For the first six months of 1906 the shipments comprised 499 cars, valued at £175,238, and parts estimated at £128,870, the total of £304,108 representing an increase of £139,938.

### Kindly Thought.

THE Huddersfield branch of the Yorkshire Automobile Club has initiated two or three useful and pleasant movements associated with motorism, and its motor trips for nurses and hospital patients was the forerunner of the Children's Day that has become a feature of many club programmes. On Saturday last the members took a hundred patients and nurses from the local infirmary for a trip to the moors. More than thirty cars were placed at the disposal of the committee, Mr. E. Gordon Learoyd, hon. secretary, making all the arrangements with a studied plan of detail that enabled everything to go smoothly and without mishap—as may be gleaned from the further reference in our Club News.

### Technical Instruction.

AN interesting conference has just taken place between the committee of the Irish Automobile Club and the directors of the Pembroke Technical School, Ringsend, Dublin. For some time past this school has been leading the way in Ireland so far as automobile instruction is concerned, and the idea of the conference was to suggest some means of bringing students who had obtained proficiency in driving into contact with those likely to require their services. Sir Horace Plunket, whose official encouragement has been a feature in the development of the school, pointed out that its needs in the present state of progress were different to what they would be in future years. His opinion was that it would be wise to obtain the loan of some vehicles for practice that were really fit for the scrap. In the end it was decided to have a further conference with a view to formulating some scheme of instruction likely to meet the needs of the time.

### An Irish Conference.

ANOTHER interesting assembly at which the Irish Automobile Club has figured was that held last week at Clara, King's County, whither Mr. Lewis Goodbody had invited a number of members of the King's, Queen's, and West Meath County Councils, to confer with motorists as to the means of attracting a more continuous flow of English tourists to the

**Emerald Isle.** The fact that the Irish Club was invited shows that those interested in the popularisation of the country recognise the value of the motorist as a "paying guest." Sir William Goff pointed out that the first thing to be done was the improvement of the roads, and eulogised the work that Mr. Arthur Hackett, county surveyor of Tipperary, had done in the district under his jurisdiction. Undoubtedly there is not the same interference with motorists on the part of the Irish police that we experience in this country, and motorists would be welcome indeed. Mr. E. White (honorary secretary to the Irish Club) joined with his chairman (Sir William Goff) in emphasizing the advantage of a good road service in Ireland; and we would suggest that this should be the first consideration in order to attract motoring visitors from this country.

#### The Automobile Association.

THE Automobile Association, whose membership has recently been making rapid strides, took an opportunity of inviting the Press on Sunday last to an ocular demonstration of the working of its system of cyclist scouts. The party assembled at the residence of Colonel Bosworth (the chairman of the Association), at Cedars Court, Roehampton, among the cars

Association and for their presence that day. After a short interval the visitors started on the run back to town, a large number breaking the journey near Banstead to take advantage of Mr. Walter Gibbon's kind invitation to afternoon tea at his pleasant residence at Burgh Heath. Altogether the run was a great success, the event going through without a hitch, thanks to the energies of the secretary, Mr. Stenson Cooke, from whom we learn that a considerable extension of the Association's operations is in contemplation.

#### On Holiday Bent.

NEVER before has the automobile made such a bold appearance at sportive events as has been the case this year. No race meeting is now properly equipped unless it has its motor garage, and the crowd of fashionable folks who motored to Ascot this year was proof of the popularity of the car. During Henley week a motor-bus was run by the Great Western Railway Co. between Marlow and Henley, with such good results that this will probably be developed into a regular service in future years. All round the coast interesting developments are proceeding. From Portsmouth and Southampton motor char-a-banc trips to the New Forest are now a feature of

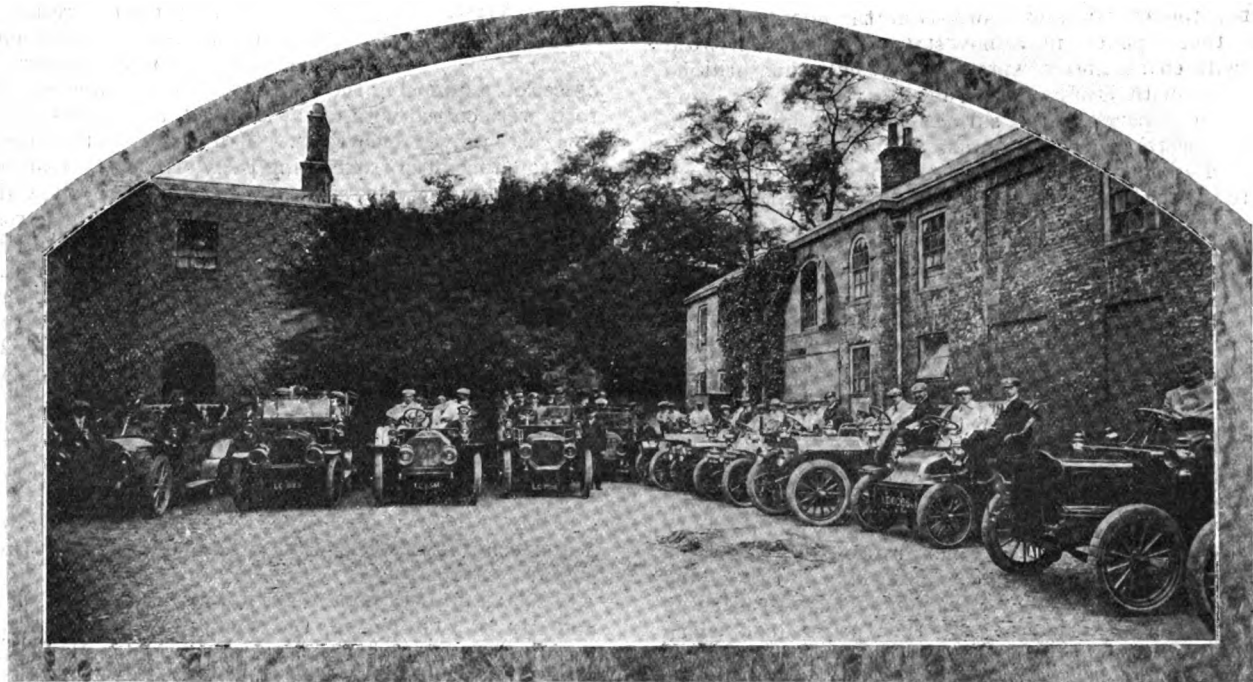


Photo by

The Automobile Association Press Run to Brighton.—The Party ready to Start from Cedars Court, Roehampton.

[Moys, Putney.]

lined up to convey the guests of the day being Colonel Bosworth's 18-24-h.p. Clement, Mr. Walter Gibbon's 50-h.p. Itala, Mr. Charles Jarrott's 40-h.p. Crossley, Earl Russell's 30-h.p. Daimler and 18-h.p. White steamer, Mr. J. Schlentheim's 25-h.p. Winton, Mr. Charles Temperley's 24-h.p. Isotta-Fraschini, Mr. Staplee Firth's 16-h.p. Orleans, Mr. Wilfrid Firth's 15-h.p. Panhard, Mr. H. E. Taylor's 18-h.p. Rochet-Schneider, Mr. Jairus Witherowd's 14-h.p. Renault, Mr. A. H. Adams 10-h.p. Adams-Hewitt, Mr. R. Dennis's 24-h.p. Dennis, and Mr. C. H. Watson's 24-40-h.p. Fiat. After the inevitable photograph was taken a start was made about 11 a.m. for Brighton, via Sutton, Reigate, and Crawley. We occupied a seat on the Fiat, and, needless to say, the run down was made without any untoward incident, albeit the dust was anything but pleasant. Having had to make a detour round Croydon to pick up a passenger, we were among the last to arrive at the Hotel Metropole, where about seventy-members of the Association and their guests, including several ladies, sat down to a well-served lunch. Speech-making was restricted to a minimum, Colonel Bosworth simply thanking the members of the Press for the support they had given the

daily delight, and everything is being done to further the scheme for a motor service between Lynmouth and Dulverton, Lord Fortescue having definitely offered to give the land for a new road, avoiding the narrow and dangerous point known as Barton Steep. Motor-cars have been conspicuous among the vehicles visiting Bude and other Cornish resorts, while nearly every town facing the English Channel has its fleet of motor-cars—to say nothing of motor-buses plying for hire.

#### Uniformity in Lighting.

CONFUSION between the regulations of central and local authorities has not frequently arisen in connection with automobile matters, but it would appear that there is need of a current of common-sense being sent through the country so far as the lighting of motor-cars is concerned. At Longton a motorist has been summoned for non-compliance with the local bye-law with regard to lights on motor-cars. According to the requirements of the local Council, two lights were wanted on the vehicle, whereas the Act of Parliament under which motor-cars

have their legal status requires but one. Undoubtedly, it was the intention of the Legislature that there should be uniformity in this matter of lighting; such intention can, however, easily be frustrated if local authorities are allowed to over-ride this reasonable point. In the case which has occurred at Longton a fine has been inflicted; but the magistrate has stated a case, and we should like to see the Motor Union look into the question so that the interests of motorists may be fully safeguarded.

#### The Prevention of Dust.

THAT the gentlemen associated with the local authorities throughout the country are bringing their expert knowledge to bear on the subject of the prevention of dust is one of the most satisfactory features of a somewhat clouded problem, and we are always pleased to hear from readers in districts where the difficulties of the situation have been assuaged either wholly or in part. During the early part of last year Mr. W. H. Maxwell, the borough surveyor of Tunbridge Wells, carried out some useful practical tests in the use of tar, treating about 10,000 square yards of main road surface with the liquid, which is the residue of oils used in the manufacture of the carburetted water gas as distinct from oil gas tar. The surface of the roadway was well swept and the liquid prepared on the site then applied in a hot state by means of hand water carts with coarse hose or spreader. It was then brushed into the surface with stiff-haired tar brushes, the process being repeated until the pores of the surface were well filled and an asphalt-like appearance was presented. Experience has proved the economy of application, and the good condition of the road thus prepared after many months' hard wear. Comparative tests with other materials have been made, but the enterprise of Mr. Maxwell in connection with this gas tar has amply justified his advocacy of the preparation to his local council.

#### Railway Rates.

A CORRESPONDENCE is now proceeding between the officials of the Railway Clearing House and the Engineering Section of the Manchester Chamber of Commerce with regard to the carriage of motor-cars to exhibitions—a matter of considerable moment to those interested in these essential means of publicity. At present it is the custom of the railway companies to allow motor-cars intended for display at exhibitions to be carried only one way at half the ordinary rates. This concession is of real advantage to the railway companies, for if the exhibition of the car is successful many others may be forwarded in the ordinary course of business. Another point upon which negotiations are proceeding is the rating of the "chassis," and the point as to its inclusion in the classification as machinery or as a finished car is of still wider interest. Here, again, the railway companies should recognise the likelihood of this traffic growing to important dimensions, and the wisdom of carrying it on reasonable terms, rather than force those engaged in the industry to take to the road.

#### For Old Soldiers.

MILITARY service has hitherto been regarded as a scarcely suitable training for the avocations of the civilian life into which the rank-and-file of the Army is thrown upon the completion of the years of engagement. But, now that the responsible authorities are endeavouring to devise a scheme for the preparation of soldiers on their return from the barracks to the home, it is expected that attention will be given to the utility of training them as motor-car and bus drivers. At Portsmouth something has already been done, and the experience there gained, together with the practical knowledge of men like Colonel Holden and Major Lloyd, should materially assist Mr. Haldane in encouraging men who show an aptitude for the work to become efficient drivers. There is likely to be a difficulty for some time to come in finding really suitable men for the public motor services which are being established in every direction. Time-expired soldiers

with a sense of discipline, a knowledge of motoring, and some experience with traffic, should be admirably adapted to the work.

#### The Police.

GRAVE disappointment exists in some of the home counties, notably Surrey and Hampshire, with regard to the neglect of the police to adequately patrol the districts, with the result that crimes against property and persons have lately grown in violence and number. These are the localities where police traps have been most prominent features of the landscape for some time, and where the officers of the law have most neglected their duties in looking after evil doers. Their activity in pursuing motorists has been most marked, in contradistinction to their neglect of the duties which were usually associated with the police. Policemen have been withdrawn from their legitimate work in order to watch the roads where honest men travel; meanwhile the criminal classes have been playing fast and loose with public and private interests.

#### A Surveyor's View.

SOME surprise will doubtless be expressed at the report of Mr. P. J. Sheldon, the county surveyor of Essex, to his Council on the result of experiments conducted by him on the old Roman road to Colchester, with the object of minimising the dust raised by motor-cars. Lengths of road were coated with tar at a cost of about £60 per mile, and this had proved efficacious. A drawback to the plan, however, was the difficulty of executing the work, the process being naturally a slow one, and as traffic could not be allowed over the tarred portions for a few days only one-half of a road can be done at a time. Mr. Sheldon, summing up, stated that the ultimate solution of the dust problem would lie rather in the improved construction of motor-cars and insistence on a moderate speed limit in urban and village areas, rather than in any radical change in the construction of roads. This latter conclusion cannot be put down to prejudice, coming, as it does, from one of the first officers of local authorities to adopt the motor-car in his work; but it is in opposition to the views of other competent surveyors.

THE Singer tri-car which Miss Muriel Hind drove in the Auto-Cycle Club's recent End-to-End run was fitted with a 9-h.p. engine.

"CARBURINE" motor spirit was used by Mr. J. B. Dunlop and Mr. S. T. Robinson, the winners of both the cups in the recent Irish Reliability Trials, and by Mr. McTaggart in his Irish End-to-End run, in which he beat the record with the Argyll car.

AN automobile cam shaft milling machine is one of the latest productions of Messrs. Webster and Bennett, Ltd., Coventry. It is a considerable improvement on the older type of machine, being more rigidly and substantially built, as well as having an increased speed from the point of view of output. For example, a cam shaft with eight average cams can be turned out from the solid in, approximately, one hour.

THE Middleton Pneumatic Hub Syndicate, Ltd., inform us that they have entered into an arrangement with the St. Helens Cable and Rubber Company, Ltd., for them to be the sole manufacturers of the pneumatic hub and to handle the wholesale trade. The retail trade will still be dealt with by the Middleton Syndicate. Considerable improvement has, we understand, recently been effected in the hub, rendering it both much more resilient and reducing the weight.

THE splendid performance of the 9-10-h.p. Swift car in the Scottish Reliability Trials is rapidly filling the works with orders. It was rather unfortunate that, owing to some minutes' stop for tyre trouble, the car had to take one hill much later than its proper time, and the wheels of the little car sunk in so badly at one point, where the road had been much cut up, that it caused just a momentary stop, the only mechanical stop throughout the whole trial.



## PRESSURE OR GRAVITY FEED FOR CARBURETTORS?

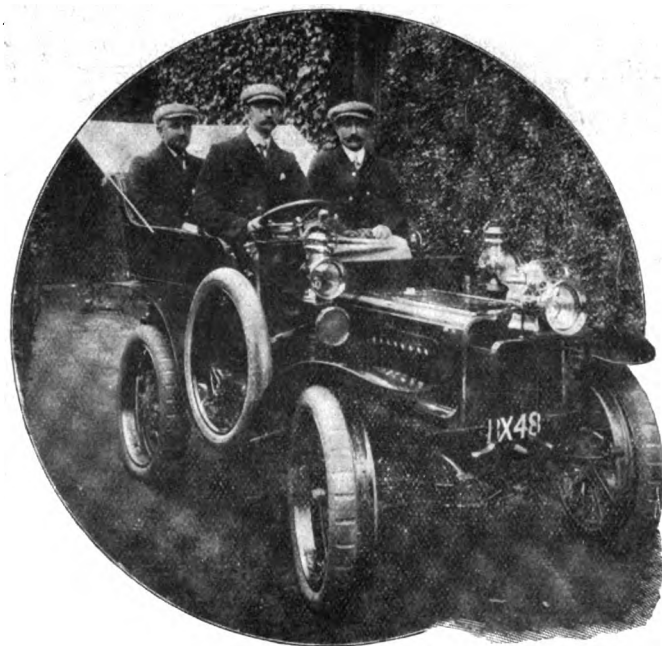
HERE are only four points that can be considered to have any reasonable weight in answering this question, and these are the following: 1, safety; 2, efficiency; 3, convenience; 4, cost.

1. *Safety*.—In order to cogitate this phase of the subject, we must analyse the matter by seeing what dangers are common to both, and in what manner one system may be immune from risks to which the other is liable. In connection with this, I have deemed it advisable to write to the very people who have this question most closely allied with their pecuniary interests; I allude to the insurance companies who take the risks in insuring motor vehicles of all kinds against fire. Their verdict is unanimous in considering pressure as being more open to danger than gravity. The letters before me are from the consulting engineers to the leading companies who undertake to insure motor-cars against being burnt, and the gist of their remarks is as follows:—"The pressure system is the more dangerous, if for no other reason than that if a pipe breaks or a connection gives way on the petrol side, the petrol issues with great force, and is generally propelled over a greater area than would be the case with the gravity feed. It must be conceded, we think, that greater pressures are used in the pressure system than are needed. Obviously, if no greater pressure were used than is actually necessary to do the work, then (as generally fitted to modern vehicles) there would be little to choose between the two systems." "My experience is that there is more risk in insuring a car when the petrol tank is under pressure from the exhaust than when the carburettor is merely fed by gravity. I consider that it would greatly minimise the risk if a tap were fitted on the supply pipe, between the tank and the carburettor, when the former is under pressure. Of course, I am aware that there are usually two taps to let the pressure escape when necessary, but when a fire breaks out on a car and the pressure is allowed to escape through one of these taps, more damage would most likely occur." Personally, I have not found this to be the case, having released the pressure and saved a blaze on several occasions.

The Chief Officer of the London Fire Brigade writes, *re* pressure feed:—"It was in vogue with the appliances that are fitted for burning oil fuel in connection with the paraffin tanks, but it was found most unsatisfactory on account of leakage." There is no doubt in my mind that, ignoring every other question but safety, the verdict must be given in favour of gravity, for the following reasons:—Suppose two tanks are full on two cars—one for pressure and the other for gravity feed—and that there is no pressure yet pumped in, nor any of the additional pipes and apparatus connected with same yet fitted. The conditions are then equal as regards safety; but, whereas the gravity tank is ready for work, the other one has to wait for supplementary fittings—copper pipes, taps, regulating pressure valve, pump, and pressure—before it can start work; and here, whilst we have not reduced any elements of danger, we have, on the other hand, added some. It is also open to question if a tank slung under the chassis is in as safe a position against accidental or malicious injury as it is if entirely protected by being enclosed in the body of the car under the seats.

The following point may, on the other hand, be urged in favour of pressure: the tank can be placed at the most remote point from where a fire is likely to originate, and from its most probable cause—flooding of carburettor; and, further, that, provided the pressure release tap is accessible, or the air pipe can be severed, or a hole punched in the top of the tank, the danger when a fire occurs can be averted. Whereas in a gravity tank, unless there is a tap conveniently at hand to be turned off, or someone with sufficient presence of mind to hammer the copper pipe flat, the flow of petrol must continue. Should the tank itself leak, the position of the pressure-fed one is safer, because it leaks straight on to the ground, whereas the gravity tank may leak a great deal and saturate some woodwork before it is discovered.

*Efficiency*.—Here we have to consider the duty of a tank, and in this case it is plainly to provide a smaller tank, commonly known as a float chamber, with a continual supply of petrol at a constant pressure. This is where those in favour of pressure feed claim the advantage. Neither the gravity nor pressure system is, however, perfect, for this reason, that in a pressure tank we have, we will assume, a constant pressure; but the weight of the liquid, roughly  $\frac{1}{2}$  lb. per square inch for each 12 inches in height, continually varies. The same applies to gravity tanks, except that the constant factor here is atmospheric pressure only. The least likely to vary is the gravity tank, because atmospheric pressure varies to a lesser degree than the artificial pressure of the fluctuating exhaust. The regulating valves are too much of a drawback occasionally, in pressure feed, to make it worth suggesting an automatic compensation for variations in height of liquid in tank. A pressure of 2 lb. per square inch should be ample to keep up a constant feed to the carburettor, but the gluey deposit round the blow-off valves, and the crass ignoramuses who delight in screwing them down hard, often treble the pressure indicated. Seeing that carburettors are adjusted and tested in the works by a certain determined pressure, it follows.



Mr. W. Thomas, of Llanelli, at the wheel of his 8-10-h.p. car, which successfully ran in the 110-mile Non-Stop Run from Swansea to Tenby and back, organised last week by the Welsh Automobile Club. It will be seen from the illustration that the ordinary tyres were taken off and in their place four Stepney Spare Wheels were fitted, on which the 110-mile Non-Stop Run was made, without any adjustment whatever.

that variations caused by different pressures altogether upset the calculations, with the result that over rich mixtures are supplied to the engines, and the petrol bills are augmented in proportion.

Apart from the variation in pressure, efficiency is dependent on reliability, and here undoubtedly gravity scores. Gravity is a law of nature, pressure by exhaust gases is a concoction of man. Unless a pipe is choked, which is a contingency open equally to both systems, gravity is absolutely certain. But pressure!

*Convenience*.—This point is open to argument. Pressure tanks slung under the frame render a chassis a complete unit, and bodies can be slipped on and off without disturbing pipes and tanks, and also for filling purposes the situation is convenient. To set against this we have the fact that gravity starts without pumping up, and the filler does not require unscrewing with a long spanner and doing up with the same each time.

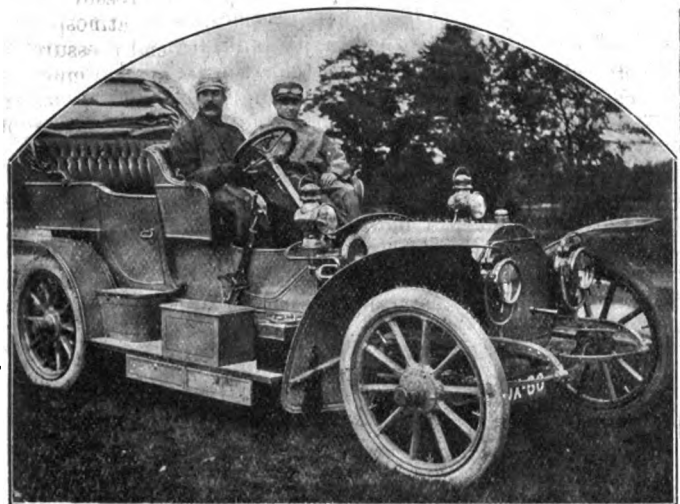
As regards cost, the pressure system is slightly more expensive.

A. E. S. C.

## CONTINENTAL NOTES.

## La Coupe du "Matin."

The rules of the automobile tour of France, promoted by "Le Matin," of Paris, have now been issued. The event, which will start on August 2nd next, will comprise a run of 3,750 miles, divided into daily stages of about 187½ miles. Altogether three classes will be arranged as follows:—(1) Wheels; (2) Fuel consumption; (3) Endurance. The first class is sub-divided



Mr. C. A. Cooke, of Abingdon Court, Kensington, at the wheel of his 16-22-h.p. Isotta-Fraschini Car.

into three categories—ordinary tyres, anti-skid bands, and spring wheels. Different size tyres will be allowed for cars of varying weight and power, and points awarded for the longest distances run without punctures and for the condition of the tyres at the end of the journey. For the fuel consumption section the competing cars will be classed according to their bore and stroke and total weight, and the winning list drawn up on the basis of petrol consumed per kilometre ton. The endurance class is divided into six classes, beginning with motor-cycles, and including tri-cars, small single-cylinder cars up to 110 mm. bore; two-cylinder cars up to 120 mm. bore, or four-cylinder up to 85 mm. bore; four-cylinder cars up to 105 mm. bore; and four-cylinder cars up to 140 mm. bore. The classification will be based on regularity and endurance, an average speed of 25 kilometres per hour being demanded of the first three classes, 30 kilos. for the fourth, 35 kilos. for the fifth, and 40 kilos. for the sixth. No itinerary is being published, the subsequent day's run only being made known to the competitors on the previous evening. Full particulars of the competition can be obtained from Le Commissaire General de la Coupe du "Matin," Paris.

## The Circuit des Ardennes.

Now that the Grand Prix is an event of the past, interest in Continental motoring circles is being centred on the Circuit des Ardennes, which is to be held on August 13th. The contest promises to be an exciting one, as, with the exception of the Renaults, all the big racing cars have been entered. Included in the list to date are four Panhards, three Darracqs, three Gregoires, four Mercedes, three De Dietrichs, a Gobron, a Corre, three Clement-Bayards, and four Brasiers. The race will comprise seven rounds of the Ardennes circuit, the total distance being about 375 miles.

## The French Touring Club.

On Sunday last the road between Paris and Versailles swarmed with traffic of all kinds, from the latest motor-bus down to the humble bicycle, all making their way to the famous Palace, where a monster demonstration was held to celebrate the 100,000th membership of the Touring Club de France. After a banquet there was a balloon chase, while, finally, as a special favour, the fountains played for the benefit of the visitors.

## The International Motor-Cycle Cup Race.

The annual contest for the International Motor-cycle Cup was held in South Bohemia on Sunday last, over a triangular course which took in the little towns and villages of Patzau, Cetoras, Kamen, Rothrecitz, and Horepnik. Some doubt exists as to the exact length of the circuit, one authority giving it as 62.4 kilometres, and another as 67.4 kilometres. As four laps had to be made, the total distance was thus either 156½ or 168½ miles. The route was an extremely hilly one, comprising a number of bad turns and dangerous descents. There were altogether ten competitors, as follows:—

Country.	Rider.	Machine.
Austria—Obruba	Vecka	Puch.
	Nikodem	Puch.
	Taveneaux	Gillet.
France—Taveneaux	Fauvet	Gillet.
	Lalanne	Gillet.
	C. R. Collier	7-h.p. Matchless.
England—C. R. Collier	H. A. Collier	7-h.p. Matchless.
	C. B. Franklin	7-h.p. J.A.P.
	Kirchheim	Progress.

The start took place at Smircky, near Patzau, at 10 a.m., in fine weather. Of the ten starters four retired in the first lap, these including Franklin, whose engine was damaged, and the three Frenchmen, one of whom, Lalanne, sustained a broken knee-cap. In the second circuit C. R. Collier was put out of the running with a damaged motor, while in the third round Vecka fell and broke his leg. The result of the race was as follows:—

Rider.	Machine.	Country.	Time.
			H. M. S.
Nikodem	Puch	Austria	3 13 45
Obruba	Puch	Austria	3 29 41
H. A. Collier	Matchless	England	3 39 53
Kirchheim	Progress	Germany	3 55 21



Nikodem on the Puch Machine on which he won the International Motor Cycle Cup Race.

## Miscellaneous Items.

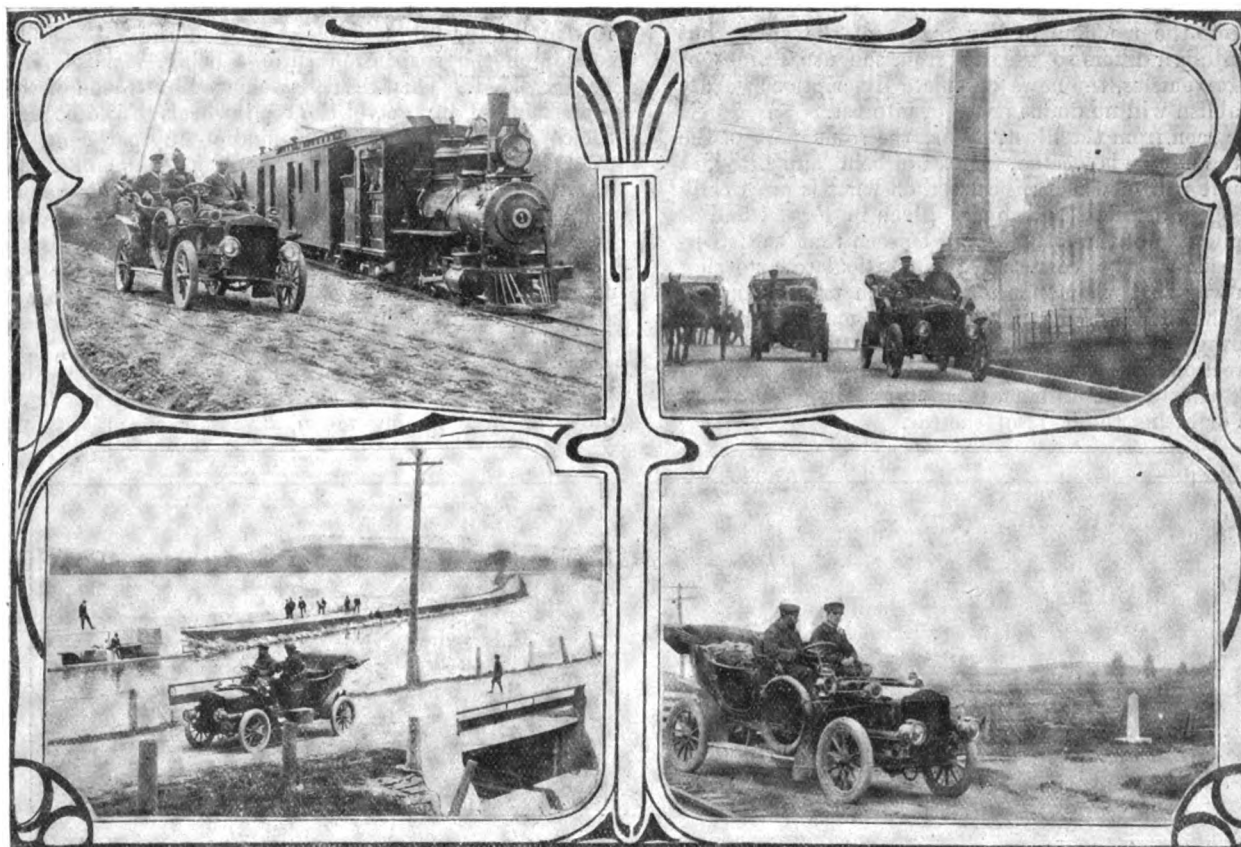
It is proposed to organise a reliability trial in Italy, entries for which will be reserved entirely for actual owners of cars, the trade being rigidly excluded.—Motor-buses are about to be introduced into Madrid.—The Touring Club Italiano of Milan has just issued the 1906 edition of its Handbook—a work that is almost indispensable to tourists in Italy.—Motor cycle carriers are about to be adopted by the postal authorities at Prague, Bohemia, for the collection of the mails.

## A TOUR IN CANADA.

ON Thursday the contest for the Glidden trophy commenced under the auspices of the American Automobile Association, whose annual tour has become one of the most popular events in the automobile world on the other side of the Atlantic. From Buffalo to Schenectady the route is practically the same as that traversed in the opposite direction by the St. Louis tourists in 1904. From Schenectady the motorists proceed by the most direct route to Saratoga, where the most interesting part of the tour commences.

Judge James B. Dill and Augustus Post, a sub-committee of the American Association's touring committee, recently completed a survey of the route from Saratoga to Bretton Woods in their White steam cars, attending to the thousand and one arrangements necessary for the comfort of the participants in the tour. From Saratoga the route lies *via* Glen's Falls,

the prevailing language. From Rouse's Point the road follows the west bank of the Richelieu River. At St. John commences the Chambly Canal, which the tourists will follow almost into Chambly. From Chambly the road bends westward to Longueuil, from which place the tourists will cross into Montreal either by ferry or by the great Victoria Bridge. There is an automobile club in Montreal and a Nelson monument. From Montreal to Quebec is a two-day trip, the road closely following the north bank of the St. Lawrence River. A night stop will be made at Three Rivers, half way between the two cities, and a vessel will be anchored to the quay in front of the Du Fresne Hotel to act as a floating hotel to supplement the somewhat limited accommodations on shore. While most of the road along the St. Lawrence is comparatively level, there are a few hills to be climbed when near Quebec, as the country there becomes somewhat more rugged. The last fifteen miles into Quebec is over a fine macadam road, and the tourists may see



Narrow Gauge Railway at Rangeley.  
The Richelieu River and Chambly Canal.

Nelson's Monument at Montreal.  
Monument Marking the Boundary between the United States and Canada.

## A WHITE STEAM CAR IN CANADA.

Warrensburg and Chestertown, following the Schroon Lake and Schroon River to Underwood, in the heart of the Adirondack Mountains, where the rugged peaks tower thousands of feet on either side. After a few miles in the mountains the tourists will reach Elizabethtown, which is seven miles from the railroad. There is a fine state road connecting the night's stopping place with the railroad station, and arrangements have been made for an automobile service connecting with the railroad at intervals of half an hour.

Thirty-five miles from Elizabethtown is the town of Champlain, where the road turns west to Rouse's Point, located a mile from the boundary line. At Rouse's Point it will be necessary to go through a few formalities necessary to entering Canada, the boundary monument between the Dominion and the States being shown in one of the accompanying photographs. As soon as the tourists cross the boundary line into the Province of Quebec they will find themselves in a country where French is

from the road the Plains of Abraham and the monument which marks the spot where General Wolfe died.

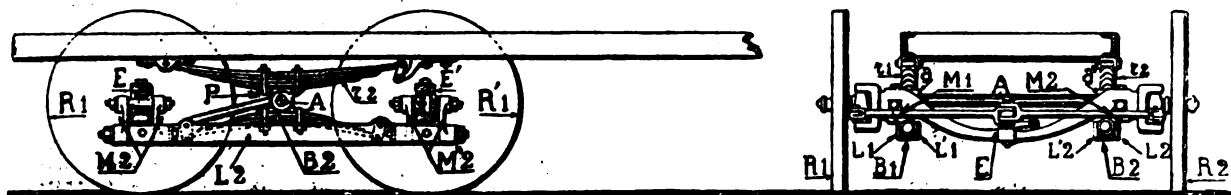
From Quebec the route leads toward home, the road being first to Rangeley, where its narrow gauge railway will be an object of interest. When the tourists leave Quebec they will cross over by ferry to Levis and then proceed over the old frontier road by way of St. Henri to the Chaudiere Valley. The road leads along the Chaudiere River through numerous quaint villages to the Jersey post office. From this point there is a climb over the "divide" which separates the waters flowing into the St. Lawrence River from those flowing into the Atlantic Ocean. The summit of the "divide" forms the boundary line between the Province of Quebec and the State of Maine, and the tourists will cross into the United States in front of the Line House, part of which is in one country and part in another.

The last day's run is through the woods by way of Phillips to Dixfield, making a total distance of 1,106 miles.

## THE ROBIN-JANVIER SIX-WHEEL MOTOR-VEHICLE.

AT the Paris motor-car exhibition three years ago much attention was attracted by the model of a six-wheel car exhibited by M. V. Janvier, of Rue d'Alesia, Paris, and made under the Robin-Janvier patents. Since that time the system has been developed into a practical form, and at the last Salon a 5-7 ton six-wheel lorry was exhibited. A brief refer

depends, of course on the balanced arms  $B^1, B^2$ , and on the total length of the latter, the outer ends of which are anchored in the longitudinal channel bars  $L_1, L'_1, L_2, L'_2$ , to which the axles are connected through special universally-jointed arms  $M_1, M'_1, M_2, M'_2$ . These connections form one of the special features of the arrangement, as they enable the two axles to be maintained equi-distant in the direction of travel, and at the same time render them absolutely independent of each other as regards any transverse or vertical displacement when passing over bumpy



Figs. 1 and 2.—Side and Front Elevation of Robin-Janvier Fore Carriage.

ence was made to the machine in our report of the show, but as the general design differs so greatly from the usual lines of industrial motor-vehicles, the more complete description we are now able to publish will no doubt prove of interest.

As will be seen from the illustrations, the front part of the car, in which the engine is located, instead of being supported, as usual, on a single pair of wheels, is carried on what is practically a four-wheel bogey, details of which are given in Figs. 1 and 2. From an examination of the latter it will be seen that the steering spindle of each wheel is connected to an articulated steering gear in such a way that when deflected they each take the necessary angle for the curve which it is intended to make in turning the car, rendering the steering very easy either in a backward or forward direction. Not only so, but the connections are also such that each wheel is free to mount an obstacle without affecting the others or lifting the body of the car.

roads, all lateral destructive shocks on the axles and abnormal torsion on the suspension springs being, it is claimed, in this way avoided. This result is achieved by reason of the fact that the raising of any one of the road wheels of the bogey only lifts the corresponding end of the spindle A 50 per cent. of the distance, while the movement on the central line of the chassis at its intersection with the centre of the spindle is reduced to 25 per cent. Furthermore, should both axles be raised from the ground an equal distance, only half the movement is transmitted to the spindle or to the chassis, a result which M. Janvier informs us enables them to successfully run the lorry on iron or rubber tyres with less shock to the machinery than is experienced in four-wheel wagons fitted with solid rubber tyres. Apart from the freedom from damaging shocks and the easy steering, M. Janvier also claims that the arrangement prevents skidding, and allows of corners being taken at a fair speed without danger,

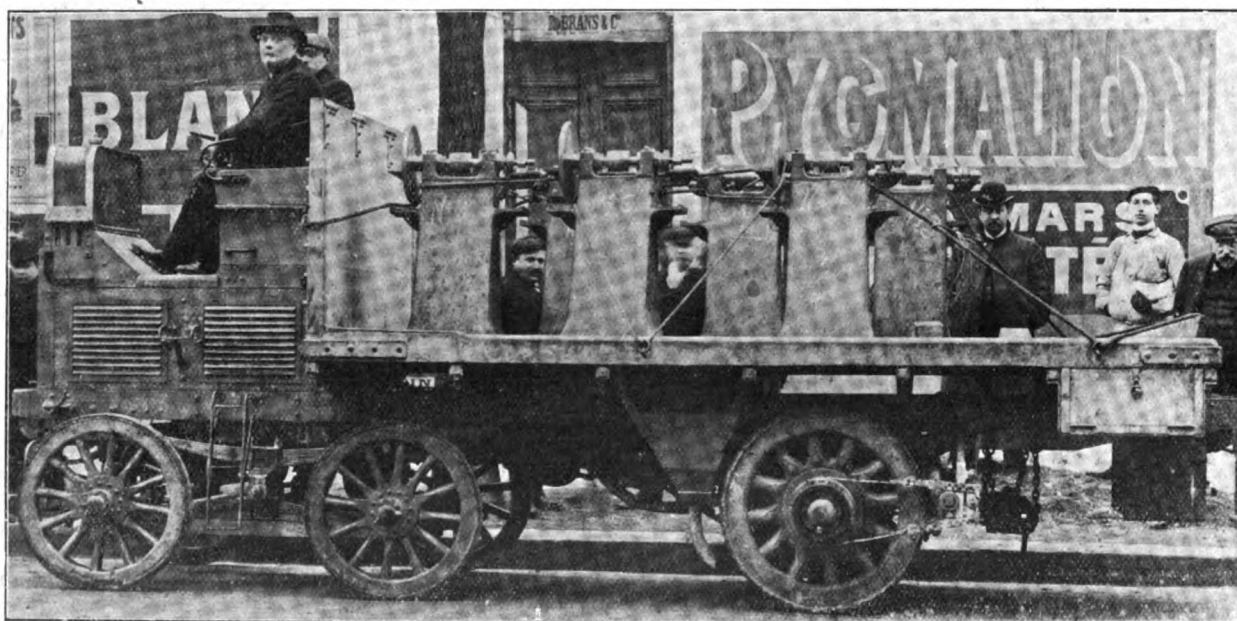


Fig. 3.—General View of Robin-Janvier Six Wheel Lorry.

The road wheels  $R_1, R'_1, R_2, R'_2$  are mounted on axles  $E, E'$ , the latter being entirely independent from each other. Centrally between the two, and transversely to the frame, is a spindle A, which supports the front end of the chassis by the intermediary of the two semi-elliptical springs  $r^1, r^2$ . The latter are connected to the spindle A by special arched-shaped pieces P. Exactly below each of these, and mounted loosely on the spindle A, are balanced arms made up in such a way as to be exactly similar to inverted semi-elliptical springs. The distance between the two axles  $E, E'$

owing to there being four points of support, which form an indeformable quadrilateral block.

Some general particulars of the vehicle illustrated in Fig. 3, and which has been built to the order of a large flour-milling concern in Austria, may now be given. It is designed to carry loads of 5 tons up gradients of 1 in 8½, and 7 tons up inclines of 1 in 10, at speeds of from 7½ to 9 miles per hour. The main frame is of channel steel construction, the front end, beyond which no part of the mechanism, not even the starting handle,



projects, being of very strong construction in order to act as a buffer in case of accident. The motive power is furnished by a four-cylinder vertical engine of 24-30-h.p., designed to use either petrol or alcohol as fuel; it is located under the driver's seat, the latter being so arranged that it can be readily removed to give access to the various parts. The ignition is by low tension magneto, and a half-compression device is provided to facilitate starting. The normal speed of the motor is 850 revolutions per minute, but it can be run at any rate from 250 to 1,000 revolutions. The power is transmitted through a leather-faced cone clutch to a gear-box giving three speeds forward and a reverse. Between the change-speed gear and the differential shaft is introduced a reducing gear-box somewhat on the lines of that dealt with in our recent description of the 1906 Richard-Brasier cars, and by means of which a further three speeds can be obtained, giving a total of six, when travelling in a very hilly district. The final drive from the differential shaft to the rear road-wheels is through side chains of the silent type. As regards brakes, a pedal actuates double contracting shoes on drums connected with the sprockets on the differential shaft, while, as will be observed from Fig. 3, the front faces of the hubs of the hind wheels are extended to form drums, on which, by means of a hand lever, a wire cable is coiled, the winding of the latter on the hub giving a powerful braking effect. The front wheels are 850 mm. diameter, shod with iron tyres 90 mm. wide, those at the rear being 950 mm. by 180 mm. The length of the wagon platform is 13 ft. 6 in., and the track 4 ft. 11 in. The weight of the chassis is about 4 tons, or complete with lorry platform  $4\frac{1}{2}$  tons.

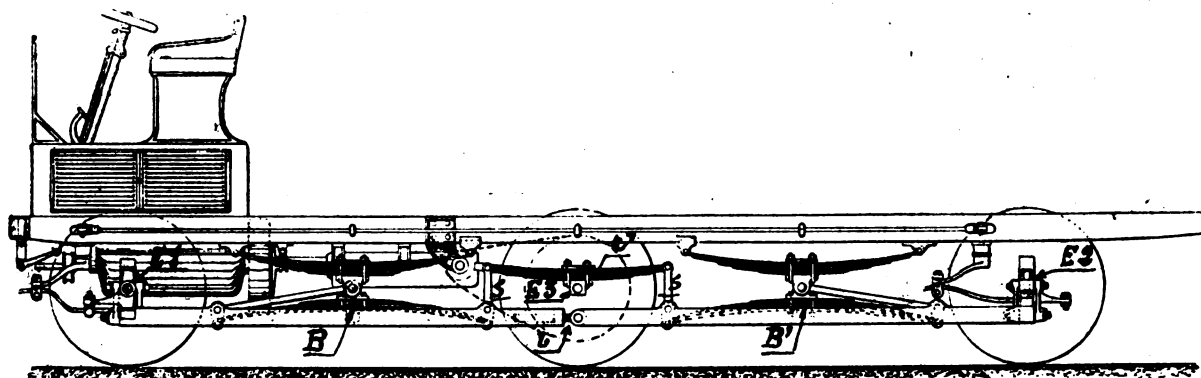


Fig. 4.—Elevation of Chassis of Robin-Janvier Six Wheel Omnibus.

M. Janvier is also applying the system to motor-omnibuses, but, while the principle remains the same, the arrangement adopted, shown in Fig. 4, differs from that of the lorry. The front and rear pair of road wheels all act as steerers, while the driving is done by the central pair. The action is similar to that which would take place were the chassis mounted on two four-wheel bogeys, suitable connections S enabling the axle E3 of the middle wheels to act the part of the rear and front axles in the front and hind bogies respectively. It is claimed for this design that not only is the load distributed over six wheels in place of the usual four, but that, allowing the chassis is somewhat longer than that of the usual motor-'bus, the vehicle can, owing to the front and rear wheels all assisting in the steering, be turned in a smaller circle than four-wheel machines.

THE employees of the Wolseley Tool and Motor Car Company have recently had their annual outing. Those employed at Adderley Park, Birmingham, to the number of 700, journeyed by special train to Blackpool. The employees at Crayford, numbering 1,000, were conveyed by special train to Hastings.

THE Corporate Property Committee of the Scarborough Corporation recommend that in future the charges for motor-cars crossing the Valley Bridge should be for each person in any motor-car, exclusive of the driver,  $\frac{1}{2}$ d., and for each motor-car, including driver, 1d. It has also been decided to write to the N.E.R. Company asking them to give instructions that their motor char-a-bancs should not pass over the Valley Bridge.

## THE MOTOR UNION MEET AT BATH.

THE sound of the horn and the dust of the roads will be heard and seen respectively next week-end in the town of Bath, where an inter-club meet will be held in connection with the general meeting of the Motor Union in the West of England. An interesting programme has been arranged, the Marquis of Bath having extended, through the Somersetshire Automobile Club, an invitation to visit Longleat. Longleat is seventeen miles distant from Bath, and the house, with its grounds, forms one of the most attractive places in the country for an inter-club meet. There is a hill very suitable for a hill-climb, and it has been arranged that in the course of the afternoon there shall be an invitation hill-climbing contest. The Mayor and Corporation of Bath intend giving a civic welcome to the Union, and the old Roman Bath and other points of interest will be specially thrown open to members of the Union on Saturday the 21st inst. In the evening a dinner will be held at the Pulteney Hotel, and those who intend to be present are invited to communicate with the hon. secretary of the Somerset A.C., Mr. A. Armitage, at Haygrass, Taunton.

Tramcar and omnibus combine to render the natural beauties about Bath accessible to the visitor with a few pence to distinguish him from the pedestrian without. The Bath Electric Tramways, Ltd., is responsible for both enterprises, having been one of the first tramcar authorities to recognise the value of the motor-omnibus as a feeder to its older form of public service; and it is significant of the value of the newer method

of locomotion that whereas the steepest gradient up which the tram travels is 1 in 10, the motor-'bus carries passengers up to Lansdown, a steep place with a rise of 1 in 7. There is a great deal of pleasure traffic by tramcar up to Coombe Downs and through the Avon Valley. The regular motor-'bus service extends as far as Box, Corsham, Chippenham, Bradford-on-Avon, Trowbridge, Devizes, &c., while special 'buses are always run to suit the convenience of parties of not less than twenty passengers. On the 28th ult. the daily service was extended to Frome, a journey occupying about an hour and a half. During the early days of July a circular trip via Corston, Marksbury and Chewton Mendip to Wells and Glastonbury, returning via Shepton Mallet and Radstock, was run, as well as a special trip via Bristol to Weston-super-Mare, while on Thursday last the longest motor-'bus excursion which had hitherto set forth from Bath was made to Stonehenge.

Motorists have always been welcome in the ancient city, the Corporation of which was among the earliest to employ a motor vehicle for ordinary service, a Wallis and Steevens tractor being used for the haulage of road material. The town possesses several good garages and repair shops, and those who participate in next week's important gathering may reasonably anticipate spending a pleasant time.

WE hear from several motor body builders that the landaulet-limousine is just now the fashionable type of motor-car body in the West End.

## SOME CURRENT TOPICS.

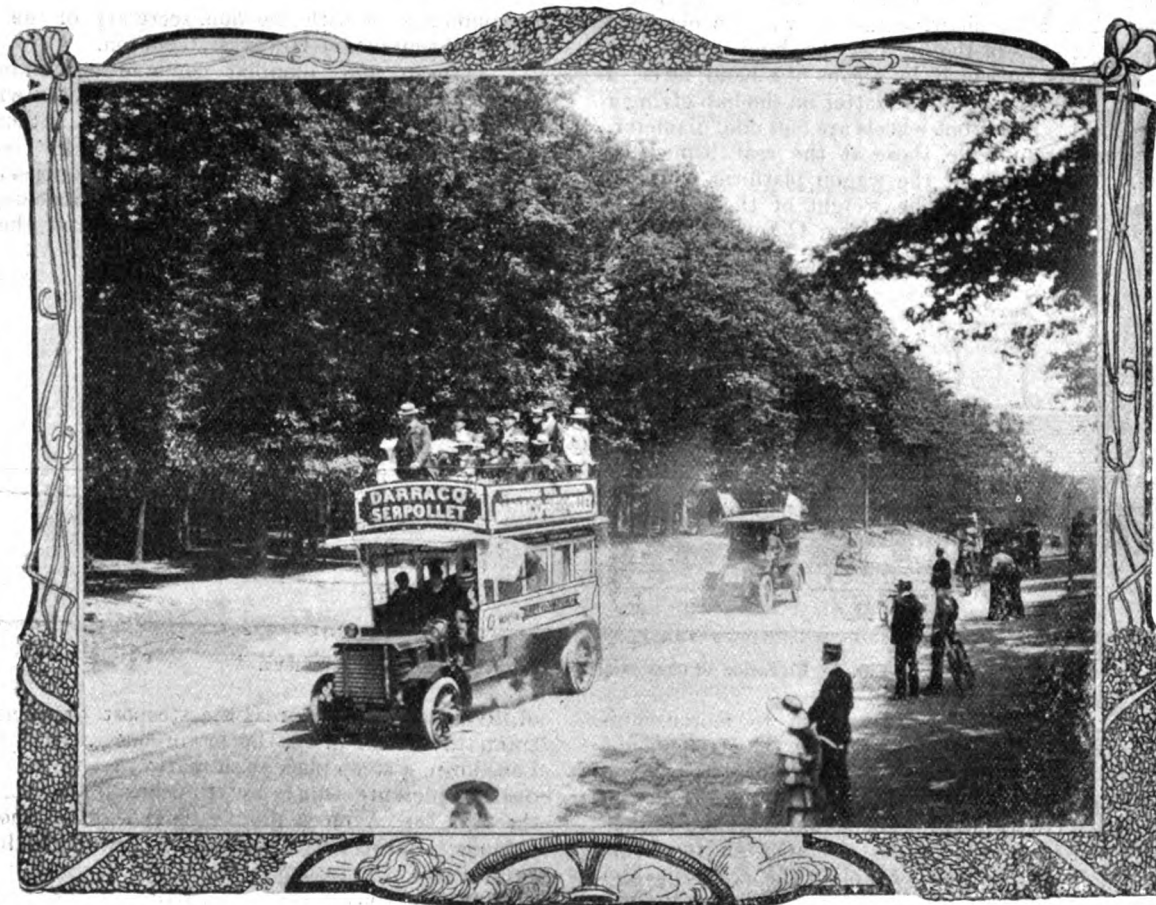
### Pressure or Gravity Feed for Carburettors?

Elsewhere in the present issue will be found an article under the above heading which will no doubt be read with considerable interest. The question raised is one of more than passing importance, especially now that such a great development is taking place in the adoption of motor-vehicles for public service and commercial purposes. Since tube ignition and its external flame was superseded by the electrical method, reports of cars being burnt up have, fortunately, been few and far between; the records of the motor insurance companies, however, show that damage to motor vehicles by fire is still occurring, and it is therefore well worth discussing whether the danger in this

holes at the creases if allowed to remain too long in the same position. As regards spare outer covers, these should never be carried on the car unless protected by a dust and water-proof covering. To allow rain and dirt to get at them means that the fabric will be rotted before it is used. If the tyres are stored away in the garage or at home they should be suitably wrapped to keep the damp and dust from them, and should be stored not only in a dark room but in one that is dry and has an even temperature of from 60 to 70 degrees F.

### Increasing the Efficiency of Petrol.

Many efforts have been made in recent years to increase the efficiency of petroleum spirit as the fuel for internal combustion engines, and at one time it looked as if picric acid would come into extensive use as an enriching medium. Latterly, however, little has been heard of it, owing no doubt to its tendency to separate out from the petrol and also to its corrosive action. A new product having a similar object has recently been



The Touring Club of France's Celebrations—Motor Vehicles en route from Paris to Versailles. (See page 428)

respect is increased in the case of cars fitted with a pressure-fed petrol supply, as compared to those in which the spirit flows to the carburettor by gravity alone.

### The Care of Spare Tubes and Covers.

Many motorists cause themselves unnecessary expense by the spoiling of spare inner tubes and outer covers as a result of neglect in caring for them until they are ready to be used. The only safe way to carry spare inner tubes is to roll each one up separately, taking care to see that the valve stem is left on the outside of the roll, and then put them each into a separate bag well provided with French chalk. Each bag should then be so stored away that it will not rub against the other or against any tools, otherwise the tubes will be chafed and damaged if they do. Many users are careless enough to carry inner tubes in their tool boxes, where they are chafed by the tools and rotted by the oil. After a tube has been carried a few weeks it is well to take it out of the bag and refold it, as it is likely to fall in

brought to our notice by Mr. Howard S. Fulton, of Chicago, who has sent us a sample of "No-Ko-Rode," which, when added to motor spirit, is claimed to prevent the corrosion of sparking plugs, increase the power, steady the machine, lessen the wear and tear of engine, decrease the smoke and odour and effect a great saving in petrol. Mr. Fulton, in describing the action of No-Ko-Rode, explains that, in all petroleum distillates, such as petrol, there is a certain segregation which causes the lighter fractions to be consumed first. As the contents of the petrol tank are used, they directly increase in gravity, decreasing in their affinity for combination with air, and become a more concentrated solution of the lower fractions and lubricating properties. By adding the new product to the spirit, the constituents of the latter are converted into a homogeneous mixture of a constant gravity, the result of which is a complete combustion of the fuel and consequent economy in consumption. We intend to submit the new preparation to a careful test at an early date, and hope to refer to it again in a subsequent issue.

MR. RADFORD COOKE is advocating the formation of a Society of Alcohol Research.

FIVE 18-h.p. White steam chassis have been shipped by Mr. Frederic Coleman to Holland. These have been purchased by the Dutch Government, and will be despatched to Java, where they will be employed in carrying the mails.

SIR CHARLES ROSS, of Quebec, Canada, has just acquired a 10-h.p. Star car from the Star Motor Agency, Ltd.

A MOTOR-CAR figured in a chase after some poachers in Leicestershire on Monday morning, and was successful in assisting the police to effect their capture.

FROM the "Era" office a challenge cup value 40 gs., for an automobile handicap among cars belonging to members of the dramatic profession, is being offered for competition.

THE Scotland Yard authorities are searching for a motor-car which has knocked down a cyclist near Hassocks, and apparently made off without ascertaining the injury caused.

A SPECIAL 60-h.p. Mass racer, which is stated to have attained a speed of 120 miles per hour in its trials in France, has, we hear, been entered for the speed trials to be held at Saltburn-on-Sea to-day (Saturday).

MR. MOORE, of Preston Street, Brighton, is driving an Argyll car fitted with Moseley tyres through the south, making a trip of about seventy miles each day. He proposes to continue his run until the tyres have been completely worn out, in order to ascertain their length of life.

THE A.C.G.B.I. is inviting owners of motor-cars to lend cars to take the members of the International Parliamentary Union to the Crystal Palace on the afternoon of the 26th inst. About 300 vehicles will be required, and offers of help should be addressed to the Secretary of the Club, 119, Piccadilly, W.

IN connection with the Orpington and District Horse, Dog, and Poultry Show a cup value £10 will be presented by the A.C.G.B.I. for the touring motor-car having the best appearance. The entries of private owners are being invited, and forms can be obtained on application to Mr. G. M. Kenyon, hon. sec. Kent A.C., Wycliffe Lodge, Bromley Park, Bromley.

FROM Messrs. Bransom, Kent, and Co., of Great Eastern Street, E.C., comes a copy of their new catalogue of motor accessories, which affords some idea of the comprehensive nature of their stock. Everything that a motorist is likely to require in this direction is included in the list, which extends to over a hundred pages, and will prove a useful book of reference.

WE learn that the style of the firm manufacturing the Armadale cars has now been altered from Toboggan Motors, Ltd., to Armadale Motors, Ltd. For some time past it has been apparent to the directors that the title of "Toboggan" was unsuitable. They have therefore, by special resolution of the company and sanction of the Board of Trade, made the alteration. The company is now installed in its new works at Trinity Road, Wandsworth Common, S.W.

THE Sun gas dry system of acetylene generation has now been applied to the purposes of the motor-car, securing cleanliness in the manufacture and combustion of the gas, which is absolutely pure. The light can be turned down and left burning for any length of time without any carbon deposit accumulating on the burners. The apparatus, as supplied by the Sun Gas Co., Ltd., of 15, Tothill Street, Westminster, comprises a generator, gas bag, and burner. The generator consists of two compartments, the lower one for soda and the upper one for carbide. Pressure upon a knob at the top secures the passage of a supply of carbide to the soda, with which it is thoroughly mixed. As the gas generates it passes to the gas bag—the size recommended holding one foot of gas, sufficient to supply one burner for four hours. The system ensures cleanliness and purity of light, the disadvantages associated with water being entirely absent. The residue, which is such an odorous feature of the wet process of acetylene generation, is by this dry process left in the form of a powder, which can easily be shaken out of the generator without any objectionable effect.

## HERE AND THERE.

THERE are twenty premises in Brighton licensed for the storing of motor spirit.

HIS GRACE THE DUKE OF MARLBOROUGH last week drove to the National Fire Brigade Camp, near Guildford, in the

20-h.p. Dennis landaulet belonging to Mr. Ferdinand Smallpiece, J.P., the Mayor of Guildford.

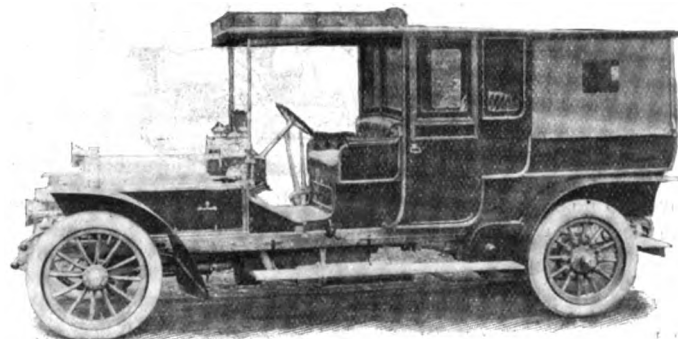
Mr. G. H. WAIT, of Leicester, has just supplied a 24-h.p. Spyker car to Sir Edmund Verney.

ARCHDEACON HODGES, himself a motorist, has told a diocesan conference at Ely that every bishop ought to have a motor-car.

THE next run for the Aga Khan challenge cups for motor-cars will take place on the 30th inst. It will be over a course of 142 miles, to Satara and back to Poona.

MESSRS. HAMPTONS, of Pall Mall, S.W., are now making a feature of warehousing the motor-cars of private owners at their depository in Queen's Road, Battersea Park.

THE illustration herewith depicts a 32-h.p. Siddeley car recently supplied by the Wolseley Co. to Mr. Andrew Carnegie. The vehicle is intended for station work to carry visitors and their luggage, and a special brougham-wagonette body has been built for this purpose by Messrs. Mulliners, of Birmingham. The seating capacity is for one passenger at the side of the driver, three in the brougham, and two or three on each side of the wagonette. The seats are made in sections of 2 ft. 6 in. and 1 ft. 6 in., so that baggage can be put in and leave a seat behind for a servant on each side. The back end is also hinged



at the sides, and opens in two halves from the centre, thus leaving the entire width for admitting luggage. A canopy extends from the brougham top to cover the rear seats, and removable curtains are fitted to the sides and back with transparent mica windows. The car, which is finished in natural wood and varnished, is geared to do a top speed of twenty-two miles an hour.

THE F. W. Peckham Syndicate, Ltd., have issued a coloured poster of their well-known car, and it may be interesting to note that the 8-h.p. Maxwell car in the Scottish Trials was the identical vehicle which a few days before completed the journey from London to Edinburgh and back under the auspices of the Motor-Cycle Club.

WE have tried a sample bottle of "Silesto" solution, which is being placed on the market by Messrs. James Williams and Company, 1, Great Hampton Street, Birmingham. It not only brightens silver and nickel-plate but by repeated applications actually leaves a small deposit of silver on the article polished, thereby ensuring the durability of everything so treated.

CALLING in at the depot of the Lancaster Motor Garage the other day, we saw a number of Mass cars ready for despatch to customers. Lieut. Ledgard, R.N., has acquired a 24-30-h.p. vehicle similar to the one which competed in the recent Scottish trials; Mr. H. J. Pinnock, of Henley, has taken delivery of a 16-20-h.p.; while among recent purchasers of the 14-h.p. Mass cars are Mr. H. Clinton Baker, of Bayfordbury, Herts; Mr. C. Vivian Dudley, of London Colney, St. Albans; and Mr. A. Masser, of Leeds.

MR. L. W. K. LANEN, of the Hague, has been appointed agent for Argyl cars in Holland.

A NEW showcard in four colours has just been issued by Messrs. J. B. Brooks and Co., Ltd., of Great Charles Street, Birmingham.

MESSRS. GALL AND INGLIS have issued a strip contour map of the Highland road from Edinburgh or Glasgow to Inverness which will be of service to motorists going north. Uniform with this is a similar map of London to Malvern by way of Cheltenham or Worcester. Accuracy and good printing are characteristic of each.

EALING is one of the most flourishing of our London suburbs, and the existence of several concerns in the district well able to assist local motorists, may be regarded as evidence of local prosperity. Opposite the South Ealing Station is the South Ealing Motor Co., with its garage and repair establishment, and we shall be pleased to have the addresses of other efficient repairers in the district.

THE question of the standardisation of lamp fittings, with particular reference to gas-lamp fittings for head lights, has been considered by the Tyre and Accessories Section of the Society of Motor Manufacturers, and it has been resolved to recommend for adoption as standard sizes for the fork brackets 6 in., 7½ in., and 8½ in. respectively between centres, the fork ends to be 13-32 in. at base of taper in the former case and ½ in. in the two other cases.

THE "Pneu-Cure" winged plaster, a sample of which has just reached us from Messrs. Brown Bros., should undoubtedly prove a great boon to motorists. These plasters, which are manufactured in cycle and motor sizes, enable the fabric of the



cover to be repaired without difficulty, and at very little cost, they being so prepared that they stick immediately. The wings of the plaster fit between the rim and the tyre, and hold it securely in its place.

WHEN in Scotland on the occasion of the recent Trials we learned that Messrs. Peter Lee and Sons, of Glasgow, are meeting with an increasing demand for their "Mobilene" motor oils and greases. The firm are pioneers in this branch across the Border and claim to have furnished supplies to the first car in Scotland. In addition to lubricants, Messrs. Lee also devote attention to the supply of petrol, being the wholesale distributors for "Shell" motor spirit.

THE negotiations which were taken up a considerable time ago between the Scottish Automobile Club and the Glasgow Corporation with respect to the regulations governing the use of carriage drives in the public parks have had a satisfactory determination, and bye-laws have now been framed according to motor-vehicles the same rights as other vehicles. The suggestion was that the former should be excluded during a considerable portion of the day.

WE learn that, owing to the steadily increasing business, the Turner's Motor Manufacturing Company, Ltd., is being reconstructed, a new company under the same title having been registered with a nominal capital of £50,000. Considerable extensions are now being made to the works, and it is intended to devote considerable attention to the manufacture of vehicles suitable for commercial purposes. A light steam chassis to carry a load of two tons has already been designed, and a number are in course of construction, the first chassis made having proved extremely satisfactory on its road trials. The directors of the new company will consist of Mr. James Stone Dumbell, Major Charles Leveson-Gower, Mr. Percy L. Jepson, and Mr. J. Burns Dumbell, the latter being the managing director. No shares will be offered to the public, the requisite capital having been subscribed privately.

WE learn from Messrs. Ducros Mercedes, Ltd., that Prince Hatzfeldt has just taken delivery of a Mercedes 70-h.p. 1906 car.

MAJOR T. McNALTY, the chief of the Army Mechanical Transport, has placed an order with the Arrol-Johnston Agency, Ltd., London, for one of the new 12-15-h.p. Arrol-Johnston cars.

A CAPITAL pamphlet on the tyre question has been published by the Palmer Tyre, Ltd., in which is comprised a lucidly written and clearly illustrated account of their well-known motor tyre.

FROM Messrs. Friwell, Ltd., comes a copy of their 1906 catalogue of motor accessories. The list is clearly printed, and its exhaustive nature may be gauged from the fact that it extends to 100 pages.

THE withdrawal of the steamer from Glasgow to Millport having dislocated the delivery of the newspapers, one of the Glasgow morning journals is now being taken by train to Fairlie and thence by motor-boat to the Cumbraes.

IT is complained by the Works Committee of the Kensington Borough Council that large numbers of public street lamps are from time to time knocked down or damaged by motor and other vehicles. Owing to the difficulty experienced in recovering compensation due to the lack of information as to the offending vehicles, the committee recommend that a reward of 5s. be offered for information upon which proceedings can be taken for the recovery of damages.

MR. HENRY ADAMS informs us that, owing to the increase in business, he has transferred under royalty to his son, Mr. G. T. Adams, and Mr. F. R. Bonamy Price, his business as manufacturer of the Adams patent motor jacks and motor-car elevators, which will be carried on as usual at 30, Monson Colonnade, and also at 16, Newton Road, Tunbridge Wells, under the style of Messrs. Adams, Price and Co.

MESSRS. PARKE, DAVIS AND Co., 111, Queen Victoria Street, E.C., are bringing out a new liquid soap under the trade name of Ethol. This is specially prepared for the use of motorists, the presence of certain ingredients of a costly and effective nature giving it particular value for cleansing purposes. It is said to have a remarkable affinity for grease of every kind, combining with it, rendering it fluid, and thus capable of being rinsed off the skin. The need of a short and simple method of removing stains has been increasingly felt since motoring has become the pastime of thousands. The little interruptions which occasionally occur involve the engineer of the party in a close acquaintance with oil and with a peculiarly adhesive compound of ground metal, road dust, and grease, which possesses remarkable distributive properties. Motorists have often sought to get rid of such dirt by means of petrol, but this agent quickly evaporates, redepositing the grease. Avoiding such features, Ethol promises to be a "boon and a blessing" to motorists.

DUST is a serious matter to the man in the street; it is of equal concern to the man in the car, whose clothes are often ruined by the dust thrown up by vehicles other than his own. Now the "Witch" Dust Extractor Co., of Temple Row, Birmingham, comes at the opportune time to clean the dust-filled clothing of the motorist with an apparatus designed to extract every particle of dust from clothing, upholstery, rugs, etc. Experience has proved the inefficiency of mere brushing or beating the clothes, for the dust has been driven into the fabric; hence the value of the vacuum system of cleansing adapted by this company to the needs of the motorist. The outfit comprises the extractor, a length of metallic tubing, an upholstery nozzle and a length of brass tubing. It is easily operated by the feet, acting upon clothing, coats, dresses, rugs, cushions, etc., with a quality of result otherwise impossible. The dust, instead of being scattered about the apartment in which the cleaning takes place, is drawn into the machine, and the device should be regarded as an essential fitment in modern garages and in hotels where car owners assemble. In fact, in these latter places it should be adopted without delay, affording opportunities of assisting clients otherwise impossible. Its general adaptability should also make the "Witch" extractor popular with private motorists for their own use.



## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
27-33, Charing Cross Road, W.C.]

### HILL CLIMBING COMPETITIONS.

TO THE EDITOR OF *The Motor-Car Journal*

SIR,—I have read with considerable interest the correspondence criticising the hill-climbing formula used in connection with the various hill climbs which are being held in various parts of the country. Personally, I am somewhat surprised that the Racing Committee of the Automobile Club have not taken this matter in hand and made it impossible for open competitions to be run other than under a proper formula of the A.C.G.B.I.

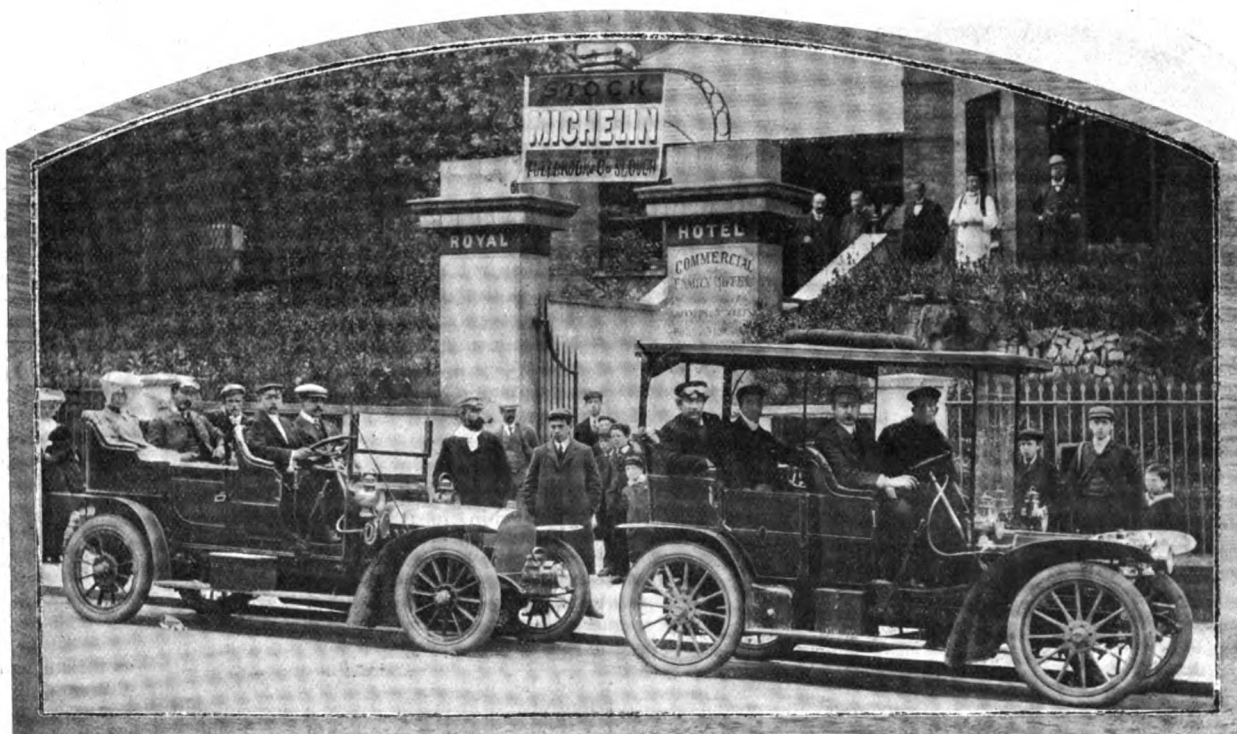
Leaving this question aside, however, I think there is a much broader issue at stake, viz., as to the value of these hill climbs. In the first instance they were organised with the idea of stimulating

courses, there will be some manufacturers who will not scruple to avail themselves of the "maker's amateur;" in fact, such unsavoury individuals exist to-day in the motor industry, but with a strong ruling body this abuse would be dealt with very effectively.—Yours truly,  
CHARLES JARROTT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Now that the hill climbing season is in full swing I think great benefit would be conferred on all interested in motoring, whether from a private or trade point of view, if you could open your valuable columns to a discussion on the subject "Are hill climbs—as at present organized—useful, and what modifications, if any, in their organization are desirable?" What does the public think? What do the manufacturers think? These are two interesting questions, though the former is, or should be, much the more important.

The view which the motoring public takes of hill climbs is very important to the manufacturer, as on this depends the value to him of the satisfactory running of his car in competitions of the kind. Although from a sporting point of view the manufacturer, as well as the private owner, doubtless likes his car to do him credit, the amount of importance which his prospective customers attach to his success is the principal point with the former. The present haphazard manner in which the power of the various makes of cars is listed by the manufac-



Messrs. Ernest and Albert Brown on their 20-22-h.p. Brown Cars at Slough.

interest between the members of the various clubs and obtaining publicity as to the capabilities of motor-cars in climbing hills. This time, however, has now passed; the sporting side of the whole question has entirely disappeared and these so-called "sporting contests" have now developed into nothing more or less than trade demonstrations. The result is that every subterfuge possible is adopted by the various manufacturers interested to enter machines which have either been specially built or specially faked up for the purpose of winning the event. Therefore, any results obtained are valueless from the point of view of educating the public as to the respective merits of the various makes, and we have recently had instances of how an honest manufacturer entering a *bona fide* standard machine is handicapped by the latitude allowed to other manufacturers to enter vehicles of special construction.

I am of opinion that these various events, if carried out on sporting lines, can do a great amount of good, but I certainly think the various provincial clubs should take steps to see that the events are not taken advantage of by manufacturers who, solely for commercial purposes, take part. If every club agreed that no members directly or indirectly connected with the trade should take part in any of these events, and that every member so taking part should reside within a twenty-mile radius of the head-quarters of the club, and should also be a *bona fide* owner of the car driven by him in such event, and be prepared to submit to the organising committee, if necessary, proof of such ownership, a very undesirable element in connection with these various trials would be eliminated and the sporting character of each event retained. Of

turers has an important bearing on the subject. Then, again, the various formulæ employed by the different bodies who organize the hill climbs are very confusing and are apt to lead to anomalous results.

The opinions of your readers would be very valuable, and many suggestions would, no doubt, be forthcoming with regard to the points briefly referred to above. As one commercially interested, I should read with great interest the opinions of your correspondents, and as the subject is of great importance, and one which can be looked at from so many points of view, I trust you will allow the question to be discussed in your columns.—Yours truly,

L. M. SEABROOKE.

### A NOVEL DESIGN OF PETROL MOTOR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Like S. J. S. in the *M.C.J.* of June 30th, I am working on a novel design of petrol engine. The main point is the perfect balance. I have eight cylinders mounted on two discs or face plates; each disc carries four cylinders facing each other at the rim. One piston reciprocates between two cylinders, something like the double-cylinder gas-engine, but in the centre of piston I have a roller fitted looking towards the centre. This roller runs in a switchback groove in a cover, and as the pistons are driven out—getting pressure alternately at each end—they give the discs on which the cylinders are mounted a rotary motion round the fixed disc. The reciprocation of the pistons does

not alter the balance of the motors, as the move is in the line of the main shaft and not from the centre. The valve gear is very simple and is on the principle of Corliss valve; there are very few working parts and the motor is a flywheel in itself. I should be glad to hear what some of your readers think of the design of the engine.—Yours truly,

S. H. E.

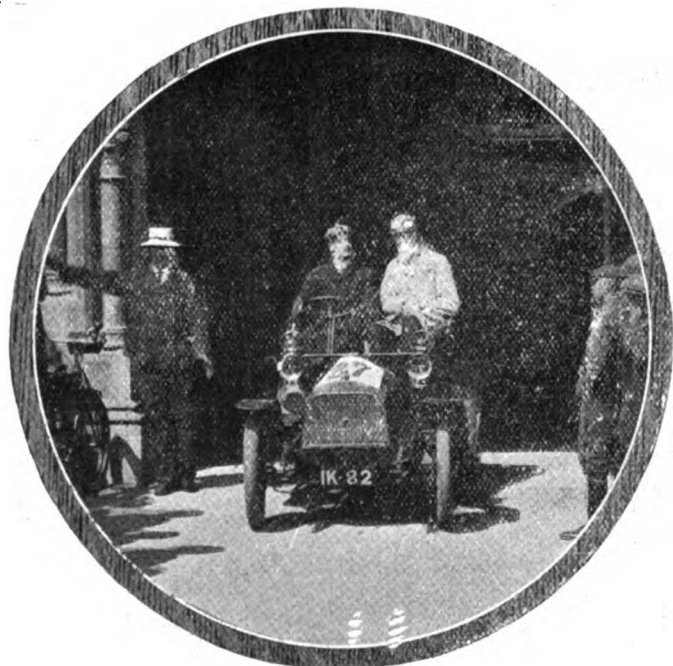
### EXPERIENCES WITH TYRES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to Mr. Henry Moore in your last week's journal, re experiences of the Moseley tyres, I have driven on the Moseley Perfect tyres over the whole course of the Scottish Reliability Trials, and am delighted with them; they are certainly the easiest running and the most reliable tyres I have ever used, and also keep the coolest when running at fairly high speed. On my return to Lancashire, after having driven them quite 2,000 miles on my six-cylinder Belsize car, they hardly show any perceptible wear, and I consider that punctures are no longer serious troubles of the road, when your tyre can be taken off and put on again in eleven minutes.—Yours truly,

ESTAM

(MRS) ED. A. RILEY.



Mr. J. E. Mills' 8-h.p. Clement-Talbot Car, which gained highest marks in the Open Class B in the recent Irish Reliability Trials. The Vehicle made an absolutely Non-stop Run and went through the Trials without a single adjustment of any description—a noteworthy performance in view of the fact that it has been run for business and pleasure 10,000 miles during the last ten months, and was entered in the Trials without any preparation whatever.

### DRIVERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I wish to take the liberty of approaching the above subject in your columns, with a view, if possible, of a thorough discussion being brought about, in order to ascertain whether something can be done to overcome the difficulty experienced in securing good drivers for cars. I have now for a number of years been in the position of having to supply drivers both for the cars I have been selling, and also for friends, for other makes, and in a good many cases it has been a very difficult matter to secure really good men.

In the first place, whilst there are hundreds of drivers who cannot obtain employment, in the second place, there are hundreds of owners of cars who cannot secure competent, capable and trustworthy men to look after and drive their cars. The two factors, I think, that have been largely responsible for this unsatisfactory state are, in the first case, the rapid growth of automobilism, which has allowed insufficient time for men to be properly trained and get the necessary experience to qualify themselves, and, in the second case, the "schools of motoring" that have sprung up in recent years.

In discussing the first factor, I think it is patent to all those interested in automobilism that, although it is a fairly simple matter to learn the rudiments of the car and driving, it naturally takes a considerable time for one to thoroughly master the same in every detail. In consequence, owing to the sport and industry being so very young, and its growth so very rapid, there has not been time for numbers of men to acquire the necessary experience.

Upon the second point I have taken the trouble recently to carefully study the methods of instruction given by several well-known establishments created for this purpose. I must say I was very pleased indeed to find in several cases that instruction was being given in a very thorough manner, and also, in comparing the replies of students who had attended, with the examiner's questions, a very large percentage showed an extremely good theoretical knowledge not only of the construction of cars in very great detail, but also what I consider to be of equal, if not greater importance, the principles of the functions governing the successful running of the same. This has led me to believe that there is now growing in the country a generation of drivers that will in time be exceptionally competent, and be the means of improving and assuring the more general success of motor vehicles.

To qualify this statement, it is a known fact that whilst cars of numerous makes are working regularly and satisfactorily, there are other cars of the same makes which are not so successful owing to their not being looked after and driven properly.

Unfortunately, however, there is one impediment to this result, namely, that whilst drivers are able to be initiated and instructed in the work of looking after and driving cars, they are prevented from reaping the result of their knowledge owing to the lack of actual road driving experience. The reason for this is perfectly clear. The schools of motoring are run for commercial reasons, and for a certain sum they can afford to give only a limited amount of tuition, and, as a rule, the students who attend these schools can only afford to pay the fees for perhaps one month's instruction, or, at the outside, two months'. During this short period, by diligent study, they are able to acquire a general knowledge of the subject, and perhaps a little practical experience in actually looking after and driving a car. At the end of this their funds are exhausted, and they anticipate it will be an easy matter to get positions as drivers of cars; but, on attempting to do this, they are naturally met with the question as to the length of experience they have had in driving motor-cars, and when they have to admit this has only been short, the would-be employer naturally does not feel inclined to trust his valuable car in the hands of such a driver, as he is fully aware that, even if he has sufficient confidence in the man's knowledge of the car, he has not the confidence to risk being driven by a man with such a slight experience of actual driving.

In consequence, there are hundreds of men who have passed very satisfactorily through, say, a month or two months' instruction, and have a very good knowledge of cars, but before they can be considered as qualified drivers, and before they can be relied upon to relieve the present difficult situation, they must have more actual road experience. It is with a view, if possible, of coming to some solution to overcome this difficulty that I now bring the matter before your readers.

At the moment one suggestion appears to me worth consideration, and that is the establishment of a garage where men could get the necessary experience. As, however, the men would probably be unable to pay anything for this additional instruction, and as is all probability there would be great difficulties in making the garage itself pay, it appears to me that it would either have to be supported by the clubs and trade societies representing automobilists, or by other charitable means. As the matter equally affects both the private users of cars and the manufacturers and agents, a scheme might be developed which both these sections of automobilism would support.

There are, no doubt, numbers of wealthy motorists who perhaps would be willing to subscribe either their old cars, or send contributions, whilst the trade can also help in a similar manner. At the same time, something might be done so that the establishment itself could be made to earn something to assist it to be self-supporting.

Of course, I fully recognise the difficulties of the question, and I have made the suggestion merely with a view of inviting others to assist, if possible, in devising some scheme that would satisfactorily solve the "driver" question. The garage could either be under independent management, or perhaps it would be advisable to put it under the control of one of the recognised "instruction" establishments.

I trust you will pardon my having taken up so much of your valuable space on this subject, but it is one that I feel is of extreme importance, and the sooner something is done to encourage the production of properly trained and qualified men to drive and look after motor-cars, the better it will be for automobilism generally.

This letter is written not with any idea of the disparagement of those institutions or of manufacturers and agents who lay themselves out to instruct drivers, but rather to consider the question in its broader details.—Yours truly,

PERCY RICHARDSON.

### THE RURAL POLICE AND MOTOR INIQUITIES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—That the rural policemen are too ready to make the most of the slightest mishap to the motorist has been forcibly brought home to me in a case which the Tonbridge police thought it proper to bring against the chauffeur who was driving my car. It shows to what an absurd length these country policemen will go.

I went into Kent with my motor-car for the week end three weeks ago, starting with the number plates on the back and front all right, and was not aware, until I reached my destination, fifty miles from London, that the back number plate had 'dropped off' through the wire which

attached it snapping. When I returned to town on the Monday evening I had a visit from a policeman in the suburb where I reside, informing me that my number plate had been picked up and was lying at the Marlborough Mews Police Station, where I could call and get it. The London police were perfectly satisfied when it was explained to them that the number plate had dropped off accidentally. There I thought the matter would end, but, to my astonishment, on the following Saturday, over a week after the occurrence, a policeman from Tonbridge called upon me saying that it had been reported to them by one of their policemen that I went along the road leading to Pembury without a number plate on the back of the car. I told the policeman that, immediately the discovery was made by us that the plate was gone, we had a temporary one fixed, and the London policeman being quite satisfied with the explanation, I did not see there was any necessity for further interference. However, the driver received a summons, and at Tonbridge was fined 10s. and 13s. 4d. costs. I attended the court, as I was anxious that the driver's licence, which had never been endorsed (although he has driven for several years), should not be disturbed with such a trifle, the driver being a highly respectable young man. The magistrates, however, did endorse the licence.

Before our case came on the cases preceding it were really so trifling that my general impression of these Tonbridge policemen was that they simply made cases out of anything they could in order to justify their existence. Of course, as regards motor-cars from London, it gives them an opportunity of a nice little holiday to town at the motorist's expense. A flagrant instance of this was that of a driver whose back lamp went out. Even one of the policemen said that the lamp was lit when the car left Tonbridge Hall, but that fifty yards or so from there a policeman saw the light go out and did not draw the driver's attention to it, but took the number of the car instead; and, to the driver's astonishment, a week afterwards a summons came for him to appear at Tonbridge in the same way our man had. Surely it was the duty of the policeman, on seeing the lamp go out, to call the driver's attention to it without making a case of it. I think there might be some alteration in the law of conducting police affairs of this kind, to do so by correspondence instead of piling on expenses by sending policemen all the way from the country up to London to deliver the summons, as well as involving the necessity of a motorist appearing so far away from his place of residence. In my case I should have thought the fact of the London police being satisfied with my explanation would have been sufficient for the Tonbridge magistrates; but no, and the whole thing seems a perfect farce.—Yours truly,

J. G. BARNETT.

### SOLID TYRES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to "W. J. A.'s" letter in the *M.C.J.* of the 30th ult., re solid tyres, perhaps my testimony may be of service to him. During more than 5½ years I have been using a 5-h.p. Wolseley car in medical practice. I have tried both pneumatic tyres and solid tyres, and I find that solids on the back wheels and pneumatics on the front give satisfaction. I once tried solids fitted to the Michelin rims, but this was not a success. Now I have Reilloc solids with the maker's rims; these tyres I have had in use for about a year, and they show but little damage. I find solids much more economical than pneumatics, and one is freed from puncture troubles so far as the driving wheels are concerned.

Before having solids fitted it is very essential to make sure that the car and mechanism will bear the extra vibration. Perhaps the makers of the car would be the best judges of this. Although my car is a Wolseley, it is one of the older, and I believe stronger types, and it takes solids satisfactorily in every way. Whatever tyres are chosen, I would recommend that a proper understanding be arrived at as to guarantee. Some makers give a guarantee with their tyres; others do not.—Yours truly,

T. W. AIRD.

### CLEANING RADIATORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to Mr. J. Tribe's query in the *M.C.J.* of the 23rd ult., if it is grease that his radiators are furred up with, my advice to him is: when he brings his car in from a run let him drain all the water out while it is hot and let the car stand until next morning, when it will be fairly dry inside the water system. Then let him disconnect the radiator pipes and cork them up and fill up the radiator with petrol, and, better still, take them off if he can, so as to be able to turn them over and over to make the petrol flow inside. Of course he could fill up the whole system if he likes, but I never find this necessary; the petrol will dissolve out all the fur which will come out and leave the radiators quite clean inside.

In my opinion any lime deposit from the water never adheres to the inside of radiator pipes hard, as it is prevented from doing so by the grease which finds its way in from the pump lubricator, so that by washing out with petrol one is always able to get them perfectly clean inside. I need hardly mention that if Mr. Tribe fills up his whole water system as I suggest with petrol he must not dream of starting up his engine while the petrol is there, as it would be very dangerous.—Yours truly,

T. W. N. QUINN.

### RESTRICTION OF TRADE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Among the many points which motor-car agents will probably have to discuss at no distant date is that of exhibitions. Being now practically compelled by the manufacturers to engage to take a much larger number of cars than formerly, I recently decided to apply for space on my own account at one of the shows in London, and, to my surprise, I find that I shall be prevented from doing so, owing to the makers having signed a bond to only exhibit their cars at the November show. While granting that a manufacturer has a perfect right to please himself as to which show he will and will not exhibit at, I do not think he should at the same time take upon himself the right of preventing an agent from exhibiting where he chooses. To my mind such limitations are in restriction of trade, and I should be glad to have the views of other agents on the matter.—Yours truly,

A LONDON AGENT.

### EXCESSIVE PETROL CONSUMPTION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a 6-h.p. De Dion car, 1905 pattern, and I find the consumption of petrol very great; I cannot get more than twenty miles out of a gallon. I should feel obliged if you could give me the reason of this. I notice that the exhaust valve gets red hot and about every three weeks requires grinding in. I have tried regulating the carburettor, but with no effect whatever.—Yours truly,

W. H. M.

[The introduction of an extra inlet for air in this instance may be an advantage. It should be located between the carburettor and engine. These air valves are stocked by almost all motor accessory dealers, and



A Snapshot taken on the occasion of the recent Fancy Dress Parade and Carnival at York in aid of the local charity institutions. At the wheel of the 10-12-h.p. Clement-Carlin the background is Mr. R. Scaife, of York.

require but little fitting. The overheating of the exhaust valve may be due to a throttled exhaust, or it is possible that the cam is worn, and not giving the valve a correct lift. It would be as well if this were given attention.]

### A COMMUTATOR QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you could advise me whether I should put oil in my commutator, as I have been told I ought to. My car is a 16-20-h.p. four-cylinder, with high tension ignition and six volt accumulators and trembler coil. If I run it without oil, I find it chips off little pieces of platinum, but if I put oil in, I seem to get better results. If there is any other way that would be better, I should be obliged for the information.—Yours truly,

L. R. HASSELL.

[The use of oil in the contact breaker is in most cases a great advantage providing that it is made oil-tight, so as to hold a fair quantity. The oil used must be very thin, otherwise it will cause misfiring owing to the contact not being good. The use of oil has the advantage also of keeping the contacts clean, as they are continually being washed, as it were, at every revolution of the commutator. In the ordinary way the contacts get covered with oil, and after a short run become dirty and usually cause a deal of trouble.]

THE ELECTROPHONE.—Replying to several correspondents, the address of Messrs. Gauthier and Co., the agents for the electrophone described in the *M.C.J.* of the 30th ult., is 60, Great Marlborough St., London, W.

## CLUBS AND ASSOCIATIONS.

### NORTH LONDON.

THE fifth outing of the season took place on Saturday, when the run was to the Saracen's Head Hotel, at Dunstable. Favoured with delightful weather, the members arrived about 5 o'clock. After partaking of an *à la carte* tea, Competition No. 1, the lady passenger race, was then held in a quiet country road near the downs. The winner was the hon. sec., who handled his car with great skill. The following are the names and times of the first three competitors:—

		Min.	Sec.
Charles Smith	... 12-h.p. Darracq	... 1	32.5
Max Graddon	... 15-h.p. Panhard	... 1	52.5
Charles Lendrum	... 10-12-h.p. Darracq	... 1	84.5

Starter, F. Horton. Timekeeper, J. T. Barber.

Amongst the members present were Mr. and Mrs. Burney, Mr. and Mrs. Vincent, Mr. Lamb, Mr. Pattison, Mr. Knott, Mr. Smith, Mr. B. Smith, Misses Hampton, Miss Holton, Mr. and Mrs. Carter, Mr. and Mrs. Horton, Misses Horton, Mr. and Mrs. Max Graddon, Mr. and Mrs. Lendrum, Mr. Speight, Mr. Graddon, jun., and Mr. Barber.

8 h. 39 min. 10 sec.; Mr. A. Westmacott's St. Helena, 9 h. 21 min. 45 sec.; Mr. J. Stirling's Eola, 12 h. 50 min. 17 sec.; Mr. S. F. Edge's Napier Major, 13 h. 54 min. 10 sec.; Mr. G. Savory's Teddington, 15 h. 26 min. 37 sec.; Mr. F. C. Blake's Tomoye, 17 h. 56 min. 15 sec.

The first vessel to arrive at Cowes was the Joan, which put in at noon on Sunday, and thus secured the prize for the first boat home. St. Helena arrived soon after 2 p.m. and won the gold medal for boats using heavy oil. Napier Major arrived at 3.30 p.m. It was nearly six o'clock when Teddington finished. Eola was reported seen off Divers Lightship. Firefly finished her separate officially-observed run soon after seven o'clock.

### HUDDERSFIELD.

ON Saturday thirty cars belonging to members of the Huddersfield branch of the Yorkshire A.C. took a large party from the Huddersfield Infirmary to the Moorlands for tea. Seventy of the patients bore traces of their sufferings, but the care of the nurses enabled the drive to be enjoyed without mishap. Those who lent the cars were Mr. Arthur Dawson, Mr. Jos. Hopkinson, Mr. H. Broadbent, Mr. Roberts, Dr. Porritt, Mr. Geo. Hirst, Mr. James Walker, Mr. Charles Sykes, J.P., Mr. J. H. Howarth, Mr. Alex. Mallinson (two cars), Mr. J. Hobson, Mr. H. Roebuck, Mr. W. H. Sutcliffe, Mr. W. Blamires, Mr. Horace Martin, Mr. H. Walker, Mr. A. Hirst, Mr. Eli Sutcliffe, Mr. W. Singleton, Mr. J. L. Crowther, Dr. Edwards, Mr. Norman Shaw, Mr. F. McGrath, Messrs. Netherwood Brothers (three cars, including the repairing motor-van), Mr. J. W. Lawton, Mr. E. Lawton, Mr. Charles Mitchell, Mr. Cliffe, Mr. E. Gordon Learoyd, and Mr. Albert Whiteley.



Assembling on Ragpath Hill.

THE NORTH-EASTERN AUTOMOBILE ASSOCIATION'S HILL CLIMB NEAR LANCHESTER.

Mr. G. S. Barwick's 30-h.p. Daimler making the fastest time of the day.

### BLACKHEATH AND KENT.

The "At Home" on Saturday last given by the Chairman of the Kent Automobile Club and Mrs. Firth to the members of the Blackheath Automobile Club to meet the members of the Kent Automobile Club at their residence, Cromer House, Gravesend, proved enjoyable in every way. Tea and refreshments were served in the grounds to the strains of an excellent string band, the day being delightfully fine, and Mr. and Mrs. Firth were most assiduous in their attention to the guests.

Unfortunately, the hot weather resulted in many members and officers being out of town and unable to be present. Amongst the Blackheath members able to accept the kind invitation were Dr. Hugh Davies, Messrs. Arthur Jackson, T. Marshall, Ronald Mumford, Septimus Nickells and Palmer. Of the Kent members there were present Mr. and Mrs. Austin, Mr. A. Booth Hearn, Mr. and Mrs. Killick, Mr. H. M. Killick, Mr. Cobham, Mr. and Mrs. Gardner, Mr. C. B. Gardner, Mr. and Mrs. Baily, Mr. Keetley, Mr. Ayles, Mr. and Mrs. McFarland, and the Hon. Sec. and Mrs. Kenyon.

### BRITISH MOTOR-BOAT.

ON Saturday seven motor-boats started from Gravesend in the race to Cowes promoted by the British Motor Boat Club. The scratch boat, Firefly (Mr. T. Thornycroft), did not start in the race, owing to not complying with the rule as to freeboard, but it was arranged with the committee that she should start two hours after the race on an officially-observed run to Cowes. The rating of Mr. I. M. Waterhouse's Lady Kate was not ascertained. The time allowances of the other boats are as follow:—Mr. E. H. Clift's Joan,

In the evening a motor ride was given to twenty-two other nurses and servants and members of the staff who were not able to accompany the party in the afternoon. Reference to the gentleman responsible for the successful organisation of the event is made in our Comments on another page.

### NORTH-EAST LANCASHIRE.

THE fine residence of Stanley Grange, Samlesbury, looked at its best when the members of the North-East Lancashire Automobile Club assembled there on Wednesday of last week at the kind invitation of Mrs. Crook. The party was confined to the members of the N.E.L.A. Club and Mrs. Crook's friends. A marquee had been erected on one of the beautiful lawns, and to the strains of a band the happy, though perhaps somewhat, judging from the state of the roads, dust begrimed motorists availed themselves to the full of Mrs. Crook's hospitality. A feature of the meet was the presence of three new steam cars. All told, there were about thirty-five cars present, about a dozen being from Accrington.

### YORKSHIRE.

THE trials which take place to-day (Saturday) at Saltburn bid fair to be the most successful competition the Yorkshire Automobile Club has yet promoted.

The chairman, hon. secretary and some of the committee drove to Saltburn on Saturday last and had a final meeting with the local committee, when all detail matters were settled. The entries total ninety-seven, among them being a 100-h.p. De Dietrich car which com-



peted in the recent Grand Prix, a 100-h.p. Darracq, and a 60-h.p. Mass.

To those driving to Saltburn from the south we would point out that the road from Thirsk through Stokesley and Gainsbro' to Saltburn, while of excellent surface, consists of numerous turns and bends, some of which are exceedingly acute, so that great care is necessary in driving on the part of strangers to the district.

### MOTOR CYCLING CLUB.

ON Saturday the Motor Cycling Club held a 200 miles non-stop competition at Redbourn for the S. H. Fry prize, there being thirteen starters. Only eight of these—Messrs. Baddeley, S. G. Frost, Harwood, March, Mursell, Shuter, Spicer and Sproston—completed half the distance, and in the end Messrs. Frost and Harwood survived. An attempt to decide the contest on a five mile course in the locality was frustrated by the police, but later in the day, on a road nearer London, Mr. S. Frost was adjudged the winner of the competition on a speed judging test.

### DERBY.

TO-DAY (Saturday), the Derby and District Automobile Club is holding a gymkhana at Burton-on-Trent, and members of the Midland clubs will be admitted with their cars on production of their Motor Union ticket. Members of the Leicester, Nottingham, Midland, Wolverhampton, Coventry and Northampton clubs have been invited to participate in the events.

### KENT.

THE second gymkhana held by this club took place at the Maidstone Athletic Ground and was well attended. The following were the events and winners of same:—

Slow Race.—1st, Mr. W. E. Brewerton, 6-h.p. De Dion; 2nd, Mr. H. Gardner, 32-48-h.p. Siddeley.

Victoria Cross Race.—1st, Mr. E. B. Gardner, 40-h.p. Mercedes; 2nd, Mr. T. H. Nash, 16-h.p. Unic (Georges-Richard).

Obstacle Race.—1st, Mr. W. E. Brewerton, 6-h.p. De Dion; 2nd, Mr. A. Batchelor, 15-h.p. Darracq.

Academy Stakes.—In this event a lady had to correctly name an animal drawn by the competitor, who then started his car and raced to the winning post, an event which caused a deal of amusement. The winner of the prize was Miss Birchell, who guessed for Mr. R. C. Morgan.

The last event, Musical Chairs, was the event of the afternoon, the prizes being awarded to the two last left in. Winners: 1st, Miss Queenie Arless, driven by Mr. E. B. Gardner; 2nd, Miss Birchell, driven by Mr. R. C. Morgan.

The Motor Union Medal was awarded to Mr. E. B. Gardner.

The thanks of the club are due to Mr. J. W. Orde, Mr. W. Willis and Mr. Ballin Hinde, who kindly acted as judges, and Mr. G. T. Langridge, who acted as starter.

A 10-12-h.p. two-cylinder Whitlock-Aster was declared winner of the Edinburgh Motoring Club Hill Climb recently held at Sautra Hill. The car was driven by Mr. J. F. Duthie, of Edinburgh.

## HILL CLIMBING CONTESTS.

### LEWISHAM.

THE motor-cycle hill climb organised by the Lewisham A.C. on Saturday was a great success. The timed placings were as follows: those in the first two classes being subject to an examination of Mr. Brice's machine by the judges:—

CLASS 1.—1, R. M. Brice, 3½-h.p. Brown; 2, W. W. Genn, 3½-h.p. Minerva; 3, O. C. Godfrey, two-cylinder 4-h.p. Werner.

CLASS 2.—1, R. M. Brice, 3½-h.p. Brown; 2, W. H. Wells, two-cylinder 5-h.p. Vindec Special; 3, S. Brown, two-cylinder Lurquin Coudert.

CLASS 3.—Tri-cars: 1, B. Pattison, two-cylinder 16-h.p. Daneville; 2, J. Buckingham, 10-h.p. Lagenda; 3, B. Holland, two-cylinder 9-h.p. Singer.

### NORTH-EASTERN ASSOCIATION.

The second annual hill-climbing competition of the North-Eastern Automobile Association was held at Ragpath Side, near Lanchester, on Saturday, July 7th, commencing at 3 p.m. Sixteen motor-bicycles, two tri-cars, and forty-three motor-cars were entered, but only about thirty-five competitors actually took part in the event.

The hill is about the worst in the North of England, the gradient rising 233 feet in a distance of half a mile. The road runs up the side of a bare hill, which thus provides an excellent view for the spectators, a very large number of whom—probably over 1,500—had assembled to watch the event. The surface of the hill is usually much damaged by the winter weather and heavy traffic, but was greatly improved by means of the steam-roller and a staff of road-men, kindly sent for the purpose by Mr. W. Cummings, surveyor to the Lanchester District Council. The steepest portion of the gradient is about 60 feet of 1 in 4½, this portion coming very near the top.

The organisation was in the hands of Dr. McHaffie, of South Shields, the hon. secretary of the Hill-climbing Committee; Mr. J. E. Hodgkin, of Darlington, hon. secretary of the association; Mr. J. D. Piercey Taylor-Smith, of Lanchester, and several other local gentlemen.

The results of the competition are as follows:—

CLASS 1.—Motor-bicycles, capacity not exceeding 5 litres: 1, Mr. J. R. Moore, 3½-h.p. Dene; 2, Mr. E. J. Tiffin, 3½-h.p. Minerva; 3, Mr. M. Palmer, 3½-h.p. Dene.

CLASS 2.—Capacity exceeding 5 litres: 1, Mr. W. E. Galloway, 5-h.p. Vindec Special; 2, Mr. C. B. Grimshaw, 6-h.p. Grimshaw; 3, Mr. W. E. R. Jackson, 5-h.p. Rex.

CLASS 3.—Tri-cars: 1, Mr. J. W. Lucas, 6-h.p. Quadrant.

CLASS 4.—Capacity not exceeding 1.3 litres: 1, Mr. R. T. Cook, 8-h.p. Alldays.

CLASS 5.—Capacity not exceeding 2 litres: 1, Co-operative Wholesale Society, Newcastle, 10-h.p. Alldays.

CLASS 7.—Capacity not exceeding 3 litres: 1, Captain H. H. Paynter, 12-16-h.p. Wilson-Pilcher; 2, Mr. Slaney, 12-16-h.p. Wilson-Pilcher.

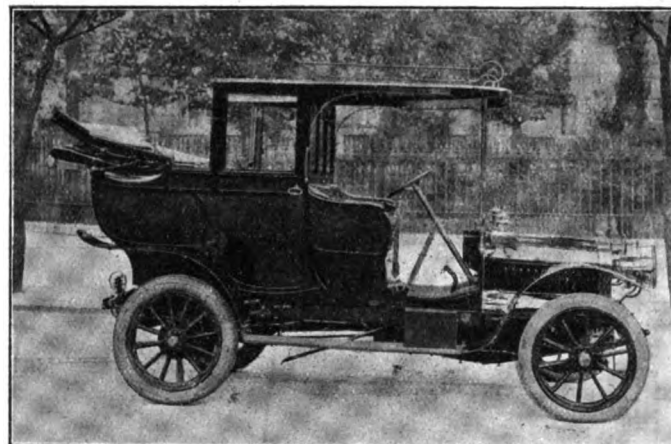
CLASS 8.—Capacity not exceeding 4 litres: 1, Mr. W. E. Galloway, 8-h.p. Stanley Steamer; 2, Mr. H. E. Galloway, 8-h.p. Stanley Steamer; 3, Mr. F. Turvey, 15-h.p. Darracq.

CLASS 9.—Capacity not exceeding 5 litres: 1, Mr. R. Rigbye, six-cylinder 30-40-h.p. Humber; 2, Mr. C. B. Grimshaw, 40-h.p. Napier.

CLASS 10.—Capacity not exceeding 6 litres: 1, Sanderson and Sanderson, 20-h.p. Daimler.

CLASS 11.—Capacity exceeding 6 litres: 1, Mr. G. S. Barwick, 30-h.p. Daimler; 2, Mr. A. E. George, 32-h.p. Siddeley; 3, Mr. E. W. Leather, 40-h.p. Fiat; 4, Mr. Rowland Hodge, 40-h.p. Delaunay-Belleville.

The fastest speed on the hill was made by Mr. G. S. Barwick's 30-h.p. Daimler, its time being 18.2.5 seconds better than the next



The Metallurgique 16-20-h.p. Landulet-Limousine recently supplied to Mr. Ernest de la Rue, of Lower Hare Park, Newmarket. The vehicle seats four inside comfortably, two fold-up seats being provided.

car in its class and 7.3-5 seconds better than the 5-h.p. Vindec Special bicycle which made the second best time on the hill.

The detailed results were as follows:—

Order on Time.	No. of Entri.	Class.	Rated H.P.	Calculated H.P.	Make.	Cylinders.	Entrant.	Seconds above fastest Time.	Handicap Marks.
1	54	11	30	36.5	Daimler	4	G. S. Barwick	0	242
2	43	8	8	—	Stanley Steam	12	W. E. Galloway	13.2.5	—
3	56	11	32	38	Siddeley	4	A. E. George	18.2.5	—
4	61	11	40	—	Fiat	4	E. W. Leather	26.8.5	98
							Sanderson and	27.3.5	127
5	53	10	28	28	Daimler	4	Sanderson	—	—
6	51	10	28	31.7	Armstrong	4	W. G. Wilson	44.2.5	100
7	55	11	40	37	Delaunay-B.	4	R. Hodge	45.2.5	110
8	48	9	30-40	30.5	Humber	6	R. Rigbye	45.3.5	103
9	46	9	40	30.5	Napier	6	C. B. Grimshaw	46.2.5	111
10	45	9	18-24	26	Wilson-P.	6	C. F. Englebach	57.2.5	100
11	47	9	16-20	21½	Humber	4	E. E. Spencer	63.1.5	102
12	59	8	8	—	Stanley	2	H. E. Galloway	65.3.5	—
13	21	5	10	9.3	Alldays	2	Co-Op. Wholesale Society, Ltd.	86.2.5	122
14	33	7	12-16	17.4	Wilson-P.	4	Capt. H. Paynter	92.2.5	104
15	35	7	12-16	17.4	Wilson-P.	4	G. H. Slaney	98.2.5	98
16	44	8	15	16.4	Darracq	4	F. Turvey	109.2.5	82
MOTOR CYCLES.									
1	13	2	—	5	Vindec Special	2	W. E. Galloway	0	78
2	14	2	—	5	Grimshaw	2	C. B. Grimshaw	1	—
3	11	2	—	5	Rex	2	W. E. R. Jackson	5.1.5	76
4	16	2	—	4½	Minerva	2	E. J. Tiffin	7.1.5	—
5	12	2	—	5½	N.S.U.	2	V. Corbett	14.3.5	72
6	4	1	—	3½	Dene	1	J. R. Moore	16.3.5	1.3
7	3	1	—	2½	Minerva	1	E. J. Tiffin	18.4.5	102
8	15	2	—	5	Antoine	2	J. W. Lucas	—	—
9	1	1	—	3½	Dene	1	M. Palmer	39	88

The large number of spectators made the keeping of the course

a very difficult matter, but the committee were greatly helped by a staff of police under the charge of Superintendent Murphy, of Consett.

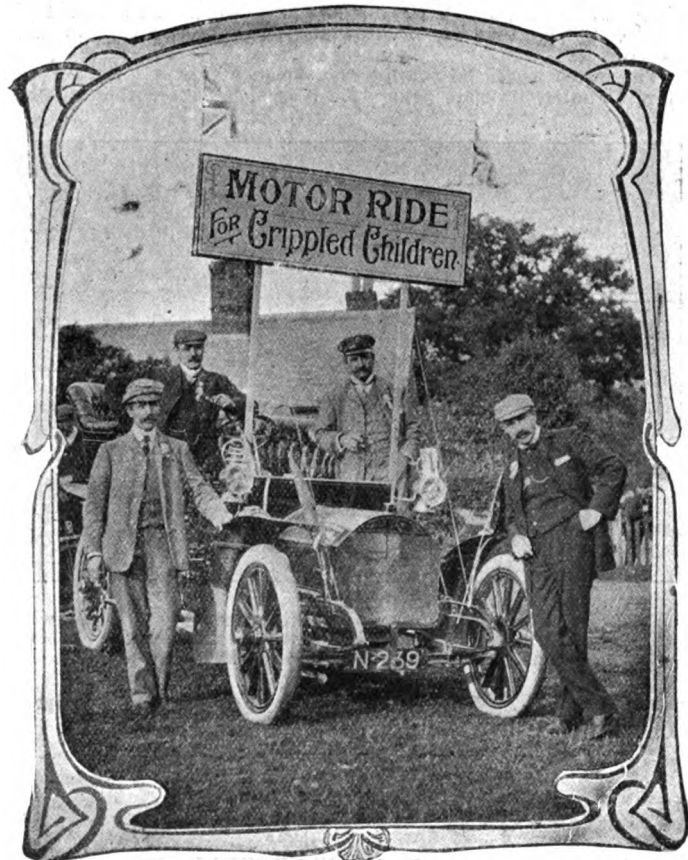
The two handicaps for motor-bicycles and cars respectively will be decided on formula, and the results made known during the course of the week.

**WENLOCK HILL.**—The Marchand car made its public debut in open competition in England on Saturday, at the open hill climb organised by the Wolverhampton Automobile Club at Much Wenlock. The Marchand entered by the Premier Motor Company was a 20-24-h.p. touring car, and was driven by Tamagni, making the fastest time of all competitors.

### ROAD REPORTS.

**ESSEX.**—A proposal before the Essex County Council that danger signals for motorists should be placed where required has been withdrawn. The total mileage of made roads in the county of Essex is 793.

**CUCKFIELD.**—The tarred road experiment at Cuckfield is proving a great success. The experimental portion has had two months' hard wear, with heavy motor and traction engine traffic. The cost works out at 1½d. a square yard, it is calculated to last a twelvemonth, and is found to be such a preservative of the road surface that a considerable period will be added to the life of a road without repair. The secret of



The Organisers of the Manchester Crippled Children's Outing. Messrs. W. Hyde, J.P., and Sawley Brown are in the Car; Messrs. C. B. Holmes (Hon. Treasurer) and William Cotsworth (Hon. Secretary) are standing.

the success of the Cuckfield experiment is a sound road, well swept of dust, and the tar applied hot, and covered with sand to prevent it lifting until thoroughly set.

**WESTMORLAND.**—An inquiry into the application of the Westmorland County Council to the Local Government Board for the issue of a regulation prohibiting the driving of motor-cars on the road known as Low Hill, Leasgill, in the parish of Heversham, was held on Wednesday.

**STIRLING.**—Mr. Alexander Stuart, the Commissioner appointed to hold a public inquiry into the application by the Stirling County Council for regulations under the Motor Car Act, has fixed Friday, July 20th, as the date of the inquiry, which will be held at the County Buildings, Stirling. The County Council aim at prohibiting the driving of motor-cars on certain roads in the county, and restricting the speed of motor-cars to ten miles per hour on certain other roads.

**NEW MALDEN.**—Lady Charles Beresford, having offered to defray the cost of laying dust-preventing material opposite her residence, Coombe Cottage, Mr. T. B. Simmonds, the surveyor, has been authorised by the district council to purchase a ton and a half of calcium chloride for the purpose.

### THE VANDERBILT CUP RACE.

THE 1906 Vanderbilt Cup race, which will take place on October 6th, promises to be an interesting event. Fifteen entries have been received for the American team, and an eliminating contest will be held on September 22nd. It is announced that France will be represented by Clement (Clement-Bayard), F. Shepherd or Le Blon (Hotchkiss), Heath (Panhard), Duray (De Dietrich), and Hemery (Darracq); Germany by Jenatzy, Mariaux, and Foxhall Keene, all driving Mercedes cars; Italy by Lancia, Nazzaro, and Weilchott on Fiats, and Cagno and Fabry on Italas, and England by two Napiers.

### MOTOR-CYCLE UNION.

THE second of the season's speed trials of the Dublin Centre Motor-Cycle Union took place on Saturday at Portmarnock.

The One Mile Novice Handicap was won by B. Dumphy, 2½-h.p. Minerva, 5 sec.

In the final heat of the One Mile Members' Handicap the order was:—H. Quinn, 3-h.p. Triumph, 1; D. O. B. Gill, 2-h.p. Minerva, 2; J. G. Drury, 3-h.p. Triumph, 3; B. Dumphy, 2½-h.p. Minerva, 4; C. G. H. Lewis, 2½-h.p. F.N., 5.

Only three competitors finished the Seven Miles Members' Handicap, viz.:—A. G. H. Lewis, 2½-h.p. F.N.; B. Dumphy, 2½-h.p. Minerva; H. Quinn, 3-h.p. Triumph.

The third reliability run of the Dublin centre of the Motor-Cycle Union of Ireland for the Canning Cup took place on Monday. The four who successfully got through the two former trials left Inchicore at 11.15 a.m. as follows:—W. H. Meredith, 2-h.p. Triumph; R. E. Price, 2½-h.p. F.N.; T. W. Murphy, 3-h.p. Singer; and H. Mooney, 2½-h.p. F.N. Meredith and Price scored equal marks.

### NEW COMPANY REGISTERED.

**ELSWORTH MOTOR COMPANY.**—This company has been registered with a capital of £5,000 to take over the business of a manufacturer of and dealer in motor-cars and lorries carried on by Mr. A. Elsworth, at Dudley Hill, Bradford.

### CHAUFFEUR'S APPEAL.

At the Surrey Quarter Sessions at Kingston, Thomas Carpenter, chauffeur to Mr. Sydney Van Den Bergh, appealed against a conviction and a sentence of a month's imprisonment in the second division for driving a motor-car on the highway at a speed dangerous to the public. Mr. Daldy, who appeared on behalf of the justices who tried the case, said defendant was travelling at the rate of 37½ miles an hour. Police-constable Knight, of the Surrey Constabulary, said he tried to stop the car and stepped into the road and held up his hand. The appellant stopped some distance away, but started again. Witness held up both hands and called out "Stop." The appellant still came on, however, and as he approached witness he shouted "Get out of the way, or I'll be over you." Witness jumped to the side just in time, or the car would certainly have knocked him down. Mr. George Elliott, who appeared for the appellant, said he admitted the speed, but he urged that the sentence of imprisonment should be mitigated. The Chairman said the magistrates were unanimous that it was a serious offence, and there was a strong feeling that the appeal should be dismissed and the sentence of imprisonment confirmed. But they were willing to make this alteration, that instead of imprisonment there should be a fine of £50, the appellant's licence to be suspended for one year.

### STONE THROWING AT MOTORISTS.

A BOY has been charged at Penarth with throwing stones to the danger of motorists. Mr. F. C. Shackell, solicitor, Cardiff, who prosecuted, said the lad was throwing at a motorist. The practice was becoming prevalent, and very few drivers escaped some sort of injury on this account. Defendant was fined 1s.

### AN APPEAL ALLOWED.

LAST week we briefly mentioned an appeal which came on for hearing at the Winchester Sessions on the 3rd inst. Thomas Tisington, a driver in the employ of the Isle of Wight Express Motor Syndicate, Ltd., was convicted before the Court of Summary Jurisdiction at Ryde, Isle of Wight, on the 12th day of June, 1906, for that he did on the 1st day of May last unlawfully use on a certain public highway a certain heavy motor-car not constructed on the principle of consuming its own smoke, contrary to the provisions of Section 30 of the Highways and Locomotives Amendment Act, 1878. The only evidence called for the prosecution was a police constable, who stated that he saw smoke emitting from the motor-car for about a minute. The defence was that the motor-omnibus, being constructed on the latest principle and to consume its own smoke, was by Section 1 of the Locomotives on Highways Act, 1896, taken out of the operation of Section 30 of the Locomotives on Highways (Amendment) Act, 1878. The grounds of appeal were

that the conviction was bad, being against the weight of evidence, and that no evidence was called by the complainant to prove that the omnibus was not constructed to consume its own smoke. Mr. E. B. Charles and Mr. H. J. H. Brodrick, instructed by Messrs. Amory-Parkes and Co., appeared for the appellant, and Dr. Emmanuel and Mr. Temple Cook appeared for the police. The appeal was supported by the Motor Union. After a somewhat lengthy argument the appeal was allowed, but without costs.

### CASES AGAINST MOTORISTS.

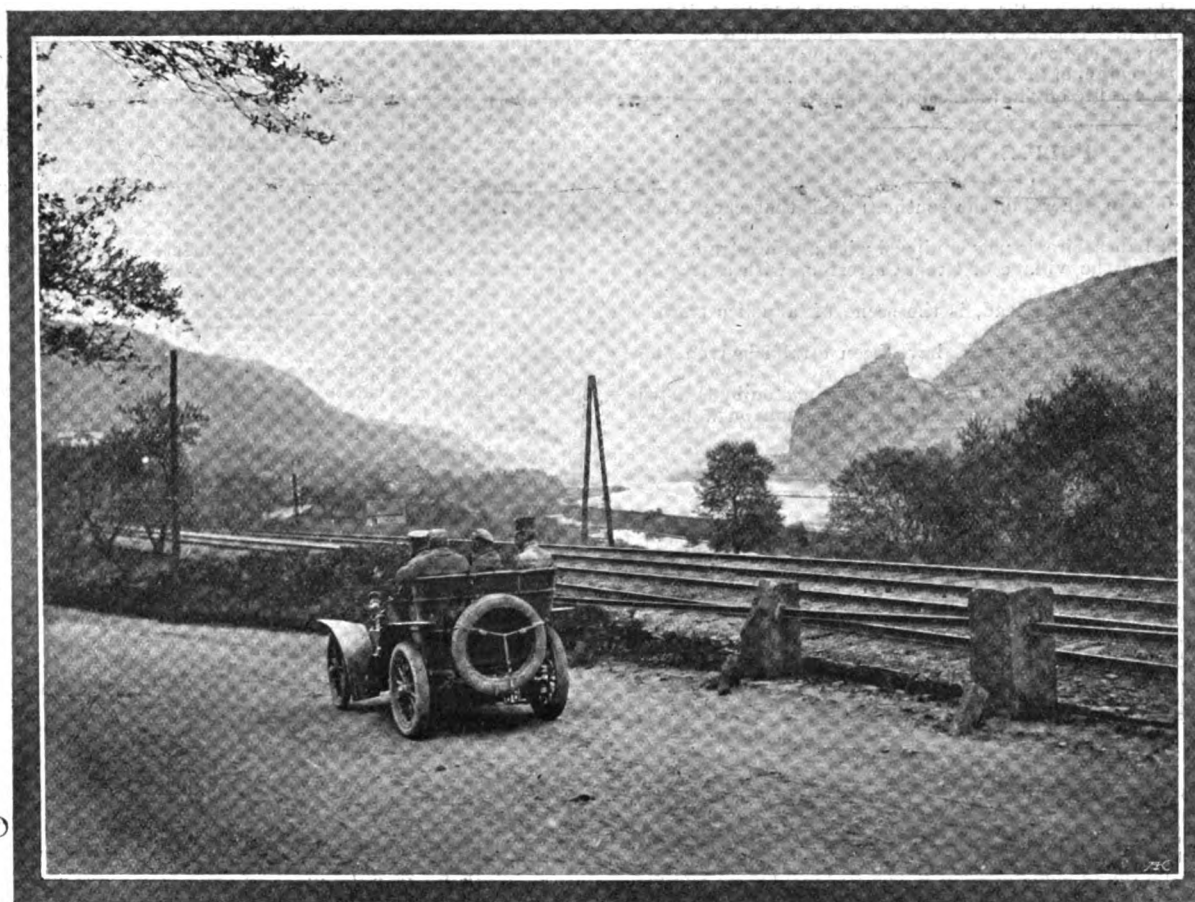
*[It must be understood that it would be impossible to report all the cases that are heard every week; we therefore endeavour to give only those which involve points of particular legal importance or of public interest.]*

IN inflicting a fine upon a well-known London motor trader at the Marylebone Police Court, the other day, Mr. Denman, the magistrate, remarked that at one time motor drivers complained bitterly that they were convicted of exceeding the limit on the mere opinion of the police

and also £1 4s. costs for not producing his licence when requested by the police. Dr. William Crowl, of Lower Berkeley Street, while he admitted travelling at thirty-two miles an hour, said he was motoring to Eastbourne to see a sister who was dangerously ill. Fined £4 and costs. Four other defendants were fined £4 each and costs; two others being mulcted in less severe fines for similar offences, viz., exceeding the legal limit.

AT Mortlake the Earl of Portarlington, of Emo Park, Queen's County, Ireland, has been fined £3 and costs for exceeding the speed limit of ten miles an hour in Richmond Park.

AT Derby William Paddon, of Beeston, was summoned for driving a motor-car at a speed exceeding twenty miles an hour at Sawley on the 11th June, also for driving at a speed dangerous to the public. Mr. Marcus Astle, J.P., of Draycott, said that about four o'clock on the day named he was passing through Long Eaton in his motor-car. As he came by Trent College he noticed another car coming up behind. Witness told his driver to increase the speed a little. This he did, but the other car came alongside his car, and he then looked at his speed indicator, which showed that his car was travelling at twenty miles an hour. The road at this point narrowed, and Mr. Astle told his man



Touring in Bohemia.—The Road, the River and the Rail.

*[Allgemeine Automobil Zeitung.]*

as to the speed at which they had travelled, and, as a result of the great influence they brought to bear, a clause was inserted in a Bill providing that they should not be summoned upon such evidence. The police were consequently provided with stop-watches, but still the motor-drivers were not content, and when it was shown by these watches that they had exceeded the limit, they asked that their own opinion should be accepted in preference to the scientific evidence of the watches.

ERNEST CHEAL, of Crawley, was summoned at Horsham for allowing a motor-car to stand for an unreasonable space of time unattended in the High Street, Ifield, on June 30th. P.S. Bristow said the car was left for twenty-five minutes in the centre of the main London road. There was much traffic at the time, and numbers of cars had to turn off their course owing to the obstruction. Defendant said there was ample space all round the car for the traffic. The car was in the centre of the Square, a very wide thoroughfare, and could not have been an obstruction. The case was dismissed on payment of costs, 5s.

AT the Oxted Police-court, on Tuesday, the Hon. Cyril Ward was one of the defendants summoned for motoring at Langham Cross-roads, Godstone, at thirty miles an hour. He was fined £4 and 13s. 6d. costs,

to pull up. As the defendant passed he shouted to him, but he took no notice. Witness and his man were completely smothered with the dust that the defendant's car caused. At the time the cars were abreast there was a man on the road, and had Mr. Astle's driver not pulled up this man would certainly have been knocked down and probably killed. The defendant admitted exceeding the speed limit, but denied that he was driving dangerously. He did not want to have the unpleasantness of the dust caused by Mr. Astle's car, and no doubt Mr. Astle did not want his. The end was that it was a neck-and-neck race. The Bench convicted the defendant for exceeding the speed limit, and Superintendent Avey then withdrew the other summons. A fine of £5 and costs was imposed.

MR. JUSTICE PHILLIMORE and Mr. Justice Relf have given their decision in the case of Constantine Mortimer, who was fined £10 at Barnet on a charge of exceeding the speed allowed for motors, and then taken to Pentonville Prison in default. Affidavits were put in showing that the magistrates ascertained that there were no goods on which to levy. The Court now found that the accused was in lawful custody, the conviction and warrant being right in form. It was intimated by counsel that the fine would now be paid.

### MOTOR-CAR ACCIDENTS.

THE Southwark coroner has held an inquest on James Mills, whose death resulted from injuries sustained through being run over by a motor-omnibus belonging to the Star Omnibus Company. A verdict of "Accidental death" was returned, and the driver was exonerated from blame.

A COLLISION occurred at the corner of Station Road and South Street, Bishop Stortford, between Dr. Hartley's car and another from West Ham. Both were damaged, but fortunately none of the occupants were injured.

EARLY on Saturday morning the motor mail van from Epping to Bishop Stortford skidded on the road at Harlow Common Hill. It struck a telegraph post and was considerably damaged.

MR. J. E. BUSH has held an inquest at the Sussex County Hospital, Brighton, touching the death of John Sames, which occurred at the institution. Alexander Staig stated that on the previous Sunday he was riding his bicycle from London to Brighton, and about twenty minutes to one he was passing through Bolney Cross, riding behind a motor-car going in the same direction. He had been hanging on to the car, but at the time of the accident he was pedalling up hill. Coming to a curve on the right hand side of the road to Brighton, he was about a yard behind the car. He saw the motor-cycle on which deceased was riding come round the corner. It caught him, and they both went down together, the motor-cyclist sustaining fatal injuries. After hearing evidence, the jury returned a verdict of "Accidental death."

BETWEEN seven and eight o'clock the other evening a small girl was knocked down at the corner of Southwark Bridge Road and Great Suffolk Street, S.E., by a motor fire engine and seriously injured.

### POLICE TRAPS.

TRAPPING is now so general on the southern roads that care must be constantly exercised.

CLITHEROE, in Lancashire, is now equipped with a police trap.

NEAR Oakham is the village of Great Casterton, with a trap in frequent operation.

FITZJOHN'S Avenue, Hampstead, is the scene of a police trap a furlong in length.

POLICE traps, three miles in length, have been established on the Wrexham Road, Chester.

POLICE traps at Washington, Southwick, and Kingston-by-Sea led to the appearance of six motorists at the Shoreham Sessions on Monday. Fines aggregating £35 and costs were inflicted.

### MOTOR-CAR ROBBERY.

AT the West Kent Quarter Sessions at Maidstone, John Campbell, an engineer, and John Rose, a fitter, both residing at Brixton, were indicted for breaking and entering a private garage at Beckenham and stealing a motor-car valued at £500, the property of Mr. Arthur Hordern, of Scott's Lane, Shortlands; and Robert Knights, a motor engineer, of Chelmsford, was indicted for feloniously receiving the chassis of the car, well knowing it to have been stolen. Campbell was sentenced to twelve months' hard labour, Rose to six months' hard labour, and Knights to three months in the second division.

### PUBLIC MOTOR SERVICES.

THE popularity of the motor-cars plying for hire between Stirling and Bridge of Allan has led to the licensing of two additional cars.

A RECOMMENDATION of the Works Council of the Willesden District Council asking the Commissioner of Police to take action against motor-buses racing in Edgware Road has been withdrawn on several members of the Council deprecating any interference at present.

A SERVICE of "Vanguard" motor-omnibuses is being started from Kensal Rise to Marble Arch and the City.

A MEETING of local residents interested in securing a motor-bus service between Fraserburgh and New Aberdour, N.B., has just been held, at which £600 was promised.

A RECOMMENDATION of the Brighton Watch Committee that motor-buses should be allowed to run along Marine Parade has been withdrawn at the invitation of the Council.

YEADON.—The result of the poll on the motor-bus question at Yeaton (Yorks) is as follows:—In favour of the District Council promoting a bill in Parliament to obtain powers to purchase and work motor-buses, 478; against, 902; majority against the proposal, 424. The papers returned numbered 1,499, of which 119 were blank.

MANCHESTER.—The Manchester Watch Committee has granted the Manchester District Motor Omnibus Company a licence to run through certain streets in the city, but the interests of the municipal tramway undertaking have been thoroughly safeguarded. In the southern suburbs the company has been less successful. Representatives of the authorities of Altrincham, Bowden and Hale, at a joint meeting, agreed to recommend their respective Councils to refuse licences in their districts. Alderley Edge is adopting the same course.

HALIFAX.—A deputation has been before the Halifax Tramways Committee to urge the provision of motor-buses or a better tram service

outside the town. In reply it was pointed out that the present power did not include such modern means of locomotion.

BRIGHTON.—The Brighton, Hove and Preston United Omnibus Company, Ltd., propose to extend as far as Worthing the route of the two motor-buses recently placed on the road between Kemp Town and Portlads.

### A TRAILER CASE.

At the Bromley (Kent) Petty Sessions, Clifton Shepherd, Carshalton, was summoned that he, being in charge of a motor vehicle with a trailer, did fail to carry upon the latter a person competent to apply the brake. He admitted the offence, and said he was ignorant of the law. Defendant was fined 20s. and 8s. costs.

### MOTOR-BUS ACCIDENT.

DR. DANFORD THOMAS last week, at Paddington, held an inquest on William Tongue, who died on the previous Friday in St. Mary's Hospital from injuries received by falling from a motor-omnibus in Edgware Road, W., on Wednesday. The Rev. Alfred Littlehales, of Wantage, was also severely injured and at present lies in St. Mary's Hospital in a serious condition. Henry Moore, a tailor, deposed that on Wednesday last, while in Edgware Road, he saw a Vanguard motor-omnibus coming towards him from Maida Vale at a pace of about seven or eight miles an hour, while close by there was a Pioneer motor-omnibus going in an opposite direction. They came into collision, and Tongue and another passenger were thrown into the roadway. Charles Stebbings, driver of the Vanguard motor-omnibus, said that he had to come well out into the roadway to avoid a water-cart. He had no knowledge that anything had happened until he was stopped. The Coroner: Did you know you had two passengers too many on the top and that they were not seated?—No. But you know now there was a collision and that two passengers were thrown from the top of the omnibus into the roadway?—Yes, but I did not know it at the time. The jury returned a verdict of accidental death. They censured the conductor for carrying more than the authorised number of passengers and recommended the company to raise the height of the back rail.

### ROUTES TO PARIS.

Now that the touring season is in full swing the following table of distances of the various routes to Paris may be of interest:—

HAVRE TO PARIS.			
Havre to Rouen	82 kilometres	51½ miles.	
Rouen to Mantes	79 "	49½ "	
Mantes to Paris	48 "	30 "	
	209 kilometres	130¾ miles.	
DIEPPE TO PARIS.			
Dieppe to Rouen	60 kilometres	37½ miles.	
Rouen to Mantes	79 "	49½ "	
Mantes to Paris	48 "	30 "	
	187 kilometres	117 miles.	
BOULOGNE TO PARIS.			
Boulogne to Abbeville	81 kilometres	50½ miles.	
Abbeville to Beauvais	85 "	53 "	
Beauvais to Paris	86 "	54 "	
	252 kilometres	157½ miles.	
CALAIS TO PARIS.			
Calais to Boulogne	33 kilometres	20½ miles.	
Boulogne to Abbeville	81 "	50½ "	
Abbeville to Beauvais	85 "	53 "	
Beauvais to Paris	86 "	54 "	
	285 kilometres	178 miles.	

### BRITISH IMPORTS OF FOREIGN MOTOR-CARS.

MONTH by month we publish the value of the imports of foreign motor-cars and parts into this country. It is only possible, however, to give the aggregate importation, no information being available as to the countries from whence the goods are shipped. We are now, however, able to give, in the appended table, these particulars as regards the imports during the past two years:—

	1905.			1904.		
	No. of Cars.	Value of Cars. £	Value of Parts. £	No. of Cars.	Value of Cars. £	Value of Parts. £
Germany	278	98,100	128,069	174	64,408	1,242
Holland	108	49,710	7,540	72	20,254	5,055
Belgium	573	293,242	67,881	433	201,115	19,272
France	4,093	1,859,807	711,987	4,112	1,655,969	304,788
United States	559	132,954	13,593	568	123,940	11,849
Other countries	11	4,689	51	19	4,685	1,363
Totals	5,622	2,438,002	929,131	5,378	2,080,371	343,569
Total imports of cars and parts		£3,367,123			£2,423,940	



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## COMMENTS.



**M**OTORISTS are assembling in the ancient city of Bath to-day (Saturday), and Sir A. Acland Hood, Bart., M.P., a vice-president of the Motor Union, as well as one of the leading public men of the county of Somersetshire, will preside at the dinner of the largest automobile organisation in the country. We have already outlined the programme of the proceedings, and drawn attention to some of the prominent features of locomotion in that city; motorists may, however, be interested to know of the opportunity they will have of seeing the preserved remains of the Roman baths to which the town owes its foundation and celebrity. Its literary associations are equally notable, and in St. James's Square is the house where Dickens, Forster, Maclise and Southey received the hospitality of Landor. Burke, Chesterfield, Mrs. Thrale, Mrs. Siddons, Southey and Byron are other names associated with this classic city. With the aid of their cars the motorists will be able to visit Cheddar, with its wonderful cliffs, the cathedral city of Wells, Clifton, with its Suspension Bridge, and the delightful resort of Clevedon, with its memories of the friend of Tennyson—Arthur Hallam—while Corsham Court and Bowood will be within distance, as well as the Marquis of Bath's seat at Longleat, where the hill-climbing contest will take place.

### At Last.

Two mournful utterances with regard to the future of the horse have been heard this week—both from experts whose pessimistic views are entitled to recognition. In the House of Lords the Duke of Portland took part in a discussion on Horse Breeding, and alluded to what he regarded as a fact, viz., the disastrous effect which the coming of the motor-car had had on horse breeding generally. As chairman of the Royal Veterinary College, Sir Nigel Kingscote has spoken in an equally dolorous vein, regretting that fewer young men were coming forward as students. They were, he said, turning their attention to motor engineering—a wise course on their part.

### Municipal Work.

Few men have had such practical experience of motor vehicles for municipal work as Mr. J. A. Brodie, the City Engineer of Liverpool, whose paper on the subject at the recent annual meeting of the Incorporated Association of Municipal and County Engineers in London was a notable contribution to the literature of the subject. He rightly emphasised the value of the trials which were held in Liverpool in 1898 and the succeeding years, and also of the enterprise of the Corporation of that city in being the first to adopt motor vehicles. That was a 4-ton steam vehicle which won the gold medal. It was delivered to Mr. Brodie's department in January, 1899, and is still—after an interval of seven years—at work. This should be a reply to the Cardiff people, whose experience with motor vehicles does not seem to have been an inexpensive one. Summing up his experience, Mr. Brodie believes that the medium-weight petrol wagon on rubber-tyred wheels and the

light tractor will be found specially serviceable. The three automobile fire engines in use in his city have proved their economy, one machine taking the place of three vehicles and three pairs of horses. In concluding his paper, the City engineer of Liverpool urged younger members of the Association to acquire a practical knowledge of the motor-car wherever possible, as without that it will be difficult for those responsible for the maintenance of the roads to thoroughly understand the modifications which the automobile requires in connection with road surfaces.

### The Brighton Road.

MANY volumes have been written on the Brighton road, and its legends and history are familiar to most southerners who journey thereon. Mr. C. G. Harper's new book on the subject, however, fills a niche of its own—albeit only a small one, no larger than the waistcoat pocket for which it is intended. The dimensions of the book are  $2\frac{1}{4}$  by  $3\frac{1}{4}$  by  $\frac{1}{8}$  inch. There are more than 300 pages, some nicely illustrated, others well written, descriptive of the scenes on the way. Interesting glimpses of history occur here and there, such as the story of Reigate and the Parcel Post service. In 1883 Parliament and the Post Office made an agreement with the railway companies to give them 55 per cent. of the postage for their share of the carrying. For four years the London and Brighton Parcel Post was conveyed by rail, and then a four-horsed van was put on the road in June, 1887. A steam motor-van was used as an experiment in the winter of 1897-8 between London and Redhill, to relieve the Brighton mail. That was shortly afterwards discontinued, and it was not till June of last year that the horsed mail performed its last journey, being superseded by the petrol motor mail van. Extended reference is made by Mr. Harper to Hand Cross—a settlement of forty or fifty houses situated where several roads meet. The hamlet is within the extensive Slaugham parish and derives its position from the fact that it is on the junction of several routes. The "Red Lion" is of greater attraction than all other buildings at Hand Cross, and has assumed a melancholy interest owing to the recent motor-bus accident. It stood there in receipt of coaching custom through all the roystering days of the Regency as it stands now, prosperous at the hands of another age of wheels. This miniature book on the Brighton road has an excellent map, and is published by Messrs. Anthony, Treherne and Co., Ltd.

### The Motor-Bus Accident.

THE accident which happened near Handcross on Thursday of last week was the most serious disaster that has yet occurred in connection with automobilism, and suggests a doubt as to whether motor-buses should, in the present stage of development, be utilised for journeys in country districts where roads of an undulating character have to be encountered. A Vanguard bus had been hired for the day by a party of tradesmen from Orpington and St. Mary Cray for a run to Brighton. There were thirty-six passengers, including the driver and conductor, and all went well until arriving at the hill at Handcross. When the greater decline was reached, or, perhaps, just before, the driver is said to have put his foot on

the brake, but found that it would not act. The omnibus gained considerably in speed, and he endeavoured to put in the reverse. The whole mechanism seems, however, to have been thrown out of order. An old oak tree on the right-hand side was struck, and the roof over the driver and the projecting part on that side were torn away. The car bounded to the other side of the road, and then, with a crash, rebounded. Nine of the passengers were killed outright, one has since died, and twenty-six were injured.

#### "Motor-Bus Perils."

THE accident has given the cue to the lay Press to take up the subject of "Motor-bus perils," and during the last few days considerable space has been devoted to the subject, and especially to letters from various correspondents airing their different grievances. In fact, quite an outcry has sprung up against these vehicles, the charges ranging from their noise and dangerous speed to their effect on the value of property. Even in Parliament the accident has been the cause of bringing the motor-bus into discussion, Sir E. Sassoon having inquired whether the Home Secretary had considered the expediency, in the interests of public safety, of suspending all existing licences for motor-buses pending the establishment of a more rigid and effectual system of inspection than that which now obtained of the brakes and other safety appliances. Mr. Gladstone (the Home Secretary) in replying, declined to suspend the issue of



The 18-22-h.p. Sanderson-Aster Landaulet supplied to Dr. Drummond, of Newcastle-on-Tyne.

licences, he stating that there was no evidence to prove that the recent accident was attributable to defective or unsuitable brakes or steering gear. He, however, assured the House that the whole question of motor-buses is receiving most serious attention, both on the part of the police authorities and the President of the Local Government Board. The views of Sir Edward R. Henry, the Commissioner of the Metropolitan Police, on the matter have also been made known by the publication of a letter written under his direction by Mr. G. H. Edwards to the Kensington Borough Council, in which it is pointed out "that the regulations he has prepared provide against undue noise and vibration, though it may prove difficult to fix a standard of what shall or shall not be deemed undue noise or vibration. Many omnibuses offending in this respect have been warned off the streets, and similar action might have been taken against many more, had he not realised that some latitude should be allowed, as this industry, in which a large amount of capital has been invested, and which no doubt meets a public requirement, is still in an imperfect stage of its development." Finally, the Commissioner has issued a letter or manifesto to the omnibus companies which have motor-buses plying in the streets. He points out to them that "complaints are now received daily that the maximum speed limit is habitually exceeded, that drivers over-lubricate, regardless of the grave inconvenience caused to

other users of the streets by the noxious fumes resulting from this cause. That there is much justification for these complaints the Commissioner is bound to admit, and he feels that the weight of public opinion now requires that he should exercise more stringently his powers of control over public carriages. He trusts, therefore, that you will see that all necessary steps are taken as the need arises to remedy such defects as those described in the omnibuses belonging to your association, since it would be with much regret that the Commissioner would find himself compelled to intervene." The outcry that has arisen—not so much against the motor-bus in itself as against certain undesirable features they have brought in their train—is a serious one, and it behoves those interested both in their construction and operation to take prompt measures to abate the nuisances complained of, otherwise we are afraid that restrictions and limitations will be introduced that may seriously interfere with the development of motor traffic in the future.

#### The Cause of the Accident.

VARIOUS theories have been advanced as to the cause of the Handcross accident, but the one that is receiving most credence is that "the cardan shaft broke, and after that all the transmission went to pieces." The vehicle was one of the ordinary Vanguard double-deck buses, as used on the various routes in the Metropolis; the chassis is of the Milnes-Daimler type, in which the power is conveyed from the gear-box through a universally-jointed or cardan shaft and bevel gearing to a differential shaft parallel to and slightly forward of the rear axle. On the ends of the differential shaft are fixed small spur wheels, which mesh with internally-cut toothed rings bolted to the rear road wheels. In view of the tendency of the passengers to crowd on the top, consequently increasing the difficulty of steering, especially down hill, owing to the great momentum, we do not consider double-deck buses—of whatever make be the chassis—suitable for the conveyance of picnic parties on country roads. We are, however, in this particular case, inclined to agree with the view that the broken cardan shaft was the primary cause of the accident, especially having regard to the fact that, although a failure of this portion of the transmission is not a common occurrence, it has been experienced before, one occasion being, strangely enough, directly in front of the offices of the *M.C.J.* The accident is by far the worst which has taken place in this country since the Motor Car Emancipation Act came into force, and it is to be hoped that its very serious consequences will cause all motor-omnibus builders, both at home and abroad, to closely review their designs, with the view of preventing any recurrence of the melancholy event. The matter of transmission in particular is certainly one that requires attention, there being many who hold the opinion that the chain drive is much more reliable for bus work than the cardan shaft system.

#### Better Late than Never.

WE learn that the Norfolk County Council Technical Instruction Committee have commenced an interesting experiment. A van has been equipped with farriery appliances, and it will pass from village to village, accompanied by a lecturer, who will give demonstrations in horse-shoeing. The practical operations will be varied with lectures on the structure of the horse's hoof and on other subjects incidental to farriery. To be really up-to-date a motor-van should be employed on this somewhat antiquated kind of mission.

#### The Saltburn Meet.

ELSEWHERE we refer to the racing on the sands at Saltburn, organised by the Yorkshire Automobile Club. A change which took place in the programme seems to need some explanation. Last year the proprietors of the "Sheffield Telegraph" offered to the Yorkshire A.C. a silver cup of the value of £50 for competition at the Filey speed trials, in a competition

which should be open to every make and kind of touring car irrespective of the method of propulsion, whether steam, petrol, or electricity. The trophy was accepted, and with it, presumably, the conditions. The Filey meet found no such class as had been stipulated, and the "Sheffield Telegraph" trophy was placed in one from which steam cars were definitely barred. This neglect on the part of the club to observe the stipulated conditions was the cause of correspondence. It was anticipated that in this year's meet no such oversight would obtain. Nevertheless, exactly the same difficulty has arisen, the conditions governing the trophy were ignored, and it was found necessary to withdraw the cup. In consequence of the protests lodged by the proprietors of the "Sheffield Telegraph," Mr. Hepper, chairman of the Yorkshire Automobile Club, went to Sheffield some little time ago, and was then informed that there was no desire to upset the arrangements which had been made for Saturday's meeting, but it was desirable that a guarantee should be forthcoming that for next

propelled, and it was their repeated disinclination to carry out those conditions which resulted in the substitution of another trophy at Saturday's meet.

"If at First,"  
etc.

BRUCE's tenacity of purpose seems to have been demonstrated at the last meeting of the District Council of Caerleon. Upon that illustrious authority are men who do not regard the motor-car with fervour or favour. They sought to apply for a limitation of the speed of cars passing through the place to seven miles per hour—two miles above the limit suggested by the Plymouth people in a recent issue. But the clerk was wiser than the Council, and he advised them not to adopt any resolution of that kind. They displayed a certain amount of reason in giving heed to such good words, but then a Mr. Williams proposed that a new road be constructed to divert the motor traffic from the main street. But that was not likely

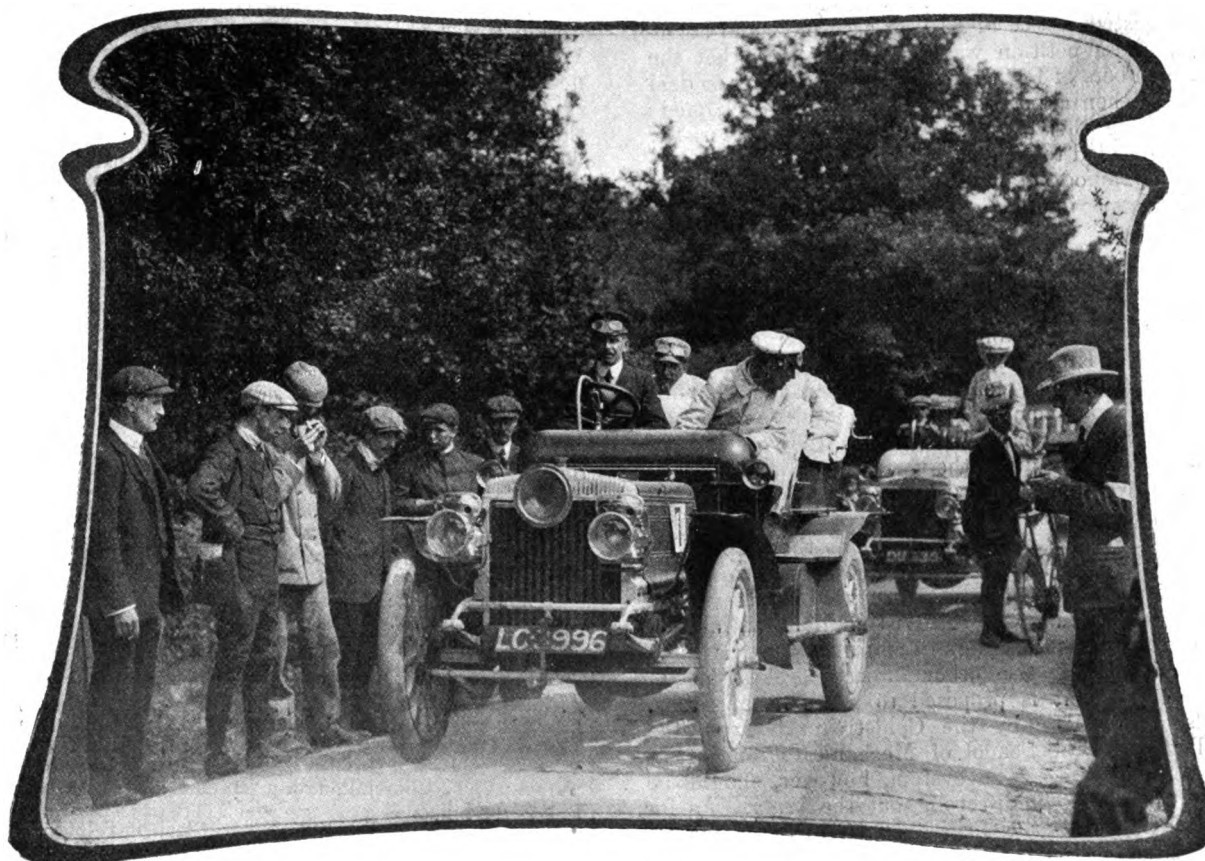


Photo by

The "Henry Edmunds" Trophy. Mr. Paul Brodtmann starting on his 30-40-h.p. Daimler.

[Argent Archer.

year and years to come the original conditions should be respected. On his return home Mr. Hepper wrote stating that, as chairman of the club, he was quite unable to give any such guarantee as had been requested, and that, if it was insisted upon, the club would have no option but to return the trophy to the donors.

#### The Steam Car in Competition.

MR. C. D. LENG, the editor of our Sheffield contemporary, is an enthusiastic motorist, owning both steam and petrol cars, and he will probably offer the cup to some other automobile club willing to comply with his suggestion of a contest open to steam or petrol vehicles. Certainly it seems difficult to understand why, having accepted the trophy, the Yorkshire Club did not comply with the conditions imposed by the donor. It was the expressed wish that the "Sheffield Telegraph" cup should be competed for by any kind and make of car, however

to have the approval of the economist—it was defeated. Others threaten that the last has not been heard of the matter, and so strong are their words that we advise motorists going that way to proceed at a tortoise-like pace.

#### Vindictive Folly.

THE idea of mulcting motorists in heavy fines for merely driving upon the road excels in vindictive folly the convictions that are so frequently taking place on southern roads. After travelling at an alleged speed of, say, twenty-five miles an hour, motorists may well complain of the law's harsh exactions; but to suggest that no motor-car is to be upon the road at all until its owner has paid £20 to the revenue is a piece of fatuous nonsense, scarcely worthy even of the first degree in local government, and certainly not in accord with the high tribute paid by Mr. Chamberlain recently to those who are our rulers and administrators in parochial and municipal

matters. By the way, Mr. Chamberlain, whose dislike of exercise seems to be a characteristic feature, enjoyed his motor trip on his seventieth birthday, and it was appropriate that no fewer than eighty motor-cars should have followed his course through the city of his adoption.

#### A Tax of £20.

SEEING that the first provincial meet of the Automobile Club was to Chester, we had hoped the motor education of the city and district was fairly complete. But there are localities in Cheshire that have yet to be trained to an appreciation of the automobile, and the wayward suggestions of certain authorities therein serve to indicate the need that exists for further propaganda efforts. A large number of cars journey through Chester every day, and 500 were counted passing through one of the suburbs, Tarvin, a Sunday or two ago. Hence the complaints that arose at the Tarvin Rural District Council on Saturday when the chairman thought the chief cause of the dust was owing to the body of the motor-cars being so low. If they were raised three feet there would not be one half the dust. The surveyor suggested a tax of £10 for each indicated horsepower on a car, and a petition was read suggesting that the support of local members of Parliament should be sought to deal with the problem, when a member of the Council exclaimed: "It is no use asking their support, they are all motorists." Ultimately it was decided to support a petition from Hawarden, which recommended, among other things, that the tax should be £20 per car and the maximum speed twelve miles an hour.

#### For Ex-Soldiers.

As was anticipated by us last week, the report of the committee appointed to consider the best means of aiding soldiers and sailors on their discharge from the King's service to obtain civil employment makes mention of motor driving as one of the avenues of employment. This is specifically mentioned by Sir Edward Ward's Committee as one of the vocations in which he should be trained during the period of military service. Some part of the expense of instruction should be borne, the Committee propose, by the men themselves; but in each command an adequate sum should be placed at the disposal of the officers of the regiment to defray the cost so far as might be required. It is noted that in some branches of the service a beginning has already been made. At Eastney Barracks instruction is given to marines and soldiers in motor-driving, farriery, electric wiring, and one or two other subjects. The course is optional at present, but it is proposed to make it obligatory. Steps have also been taken by the Coldstream Guards, the Ordnance College, and the School of Mechanical Transport at Aldershot to form classes. The system, however, should be introduced, the Committee hold, throughout the Army. As for the possible reluctance of the British soldier to perceive its advantages, it is suggested that lecturers should be engaged to visit each military centre two or three times a year, with a view to bringing clearly before the men, by popular and descriptive methods, the possibilities of a future career in civil life. In the case of the motor-car, little incitement of this kind will probably be needed.

#### Dust as Insecticide.

UNDER the troubles and opposition they have to bear motorists might be excused a vein of pessimism. It is gratifying, however, to find encouragement in news that comes from Somersetshire—in which county the next provincial meeting of the Motor Union will be held. Farmers in the apple-growing districts of Somersetshire, famous for its cider, have noticed a remarkable freedom from blight in orchards bordering the high roads. Investigation has shown that this immunity is due to the action of dust raised by passing vehicles, that of motor-cars having naturally the greatest range. The dust has a destructive effect precisely analogous to that of insect powder.

## RACING AT SALTBURN.

MOTOR racing on the sands is popular at Portmarnock, and has succeeded at Skegness. But for the curiosity of the crowd it would have been possible at Filey last year; had there been sufficient entries the motorists of the Fen country would have raced along the sands at Mablethorpe to-day (Saturday). So far, however, Saltburn has provided the most suitable stretch of sands for such sport, so far as this country is concerned, and as the course remained firm throughout the race meeting last Saturday, a really fine afternoon's racing was witnessed by the crowds who journeyed thither from all parts of East Cleveland, as well as elsewhere. More than 200 motor-cars entered the town on the 13th inst., and estimates of the number of visitors present on Saturday vary from 30,000 to 40,000.

The event was organised by the Yorkshire Automobile Club, with the assistance of the Marquis of Zetland, who is lord of the manor, and the local authorities, who rejoiced to find that the crowd that was attracted proved a record in the annals of the pretty little town on the coast. To keep the course clear Major Bower, the Chief Constable of the North Riding, drafted 120 officers and men into Saltburn, and the organisation was as nearly perfect in that respect as could be.

Mr. C. P. Wilson, of Leeds, was the hon. secretary for the meeting and also clerk of the scales; and the chief officials were as follows:—Judges, Messrs. J. Constantine, W. Penrose-Green, E. Gordon Learoyd, G. Scoby-Smith, Dr. Crossley Wright; marshal-in-chief, Mr. E. H. Hepper; assistant-marshals, Messrs. A. Exley, L. Hey, A. W. Dougill, E. Faiers, H. A. Jones, A. E. Masser, H. Tomlinson; timekeepers, Messrs. A. Fattorini, J. Hyland, J. E. Rhodes, J. A. Walker; and starter, Mr. J. Brogden. The handicapping was performed by the Committee of the Yorkshire Club, who also acted as clerks of the course, in conjunction with the Saltburn committee.

Acting wisely, the committee arranged that the small cars were to run up, and thus the crowd was gradually prepared for the flights of speeds with which they were regaled later in the day. The results are appended:—

Event A.—A closed competition for "Whiteman" trophy for single-cylinder touring cars up to 6-h.p., carrying two passengers; above 6-h.p., carrying four passengers. Not to exceed 8-h.p.

Heat 1: 1, Guy Barrett, 6-h.p. De Dion; 2, A. L. Rhodes, 6-h.p. De Dion; 3, W. Ashford, 8-h.p. Cadillac; 4, W. W. Stainthorpe, 6-h.p. De Dion. Heat 2: 1, Alf. Masser, 6-h.p. De Dion; 2, F. Burr, 8-h.p. Darracq; 3, W. Robertshaw, 8-h.p. Cadillac.

Final: 1, Guy Barrett, 6-h.p. De Dion; 2, Alf. Masser, 6-h.p. De Dion. Masser, the holder, was easily defeated.

Event B.—A closed competition for cars up to 12-h.p. Heat 1: 1, A. Rawlinson, 10-h.p. Darracq; 2, S. Downing, 10-h.p. Alldays; 3, F. Burr, 10-h.p. Humber. Heat 2: 1, T. H. Woollen, 10-h.p. Clement-Talbot; 2, C. McAdams, 10-h.p. Humber; 3, Alf. Masser, 10-h.p. Mass; 4, R. Winn, 10-h.p. Humber. Heat 3: 1, J. Hepworth, 12-h.p. Clement-Talbot; 2, F. Churchill, 12-h.p. Hallamshire; 3, Miss L. B. Starkey, 12-h.p. Arroll.

Final: 1, T. H. Woollen, 12-h.p. Clement-Talbot; 2, J. Hepworth, 12-h.p. Clement-Talbot; 3, A. Rawlinson, 10-h.p. Darracq. The drivers of the three winning cars were Messrs. G. Day, J. Mortimer and S. Girling respectively.

Event C was the Rowland Winn Cup, and was a closed competition for touring cars up to 16-h.p. Heat 1: 1, C. Leather, 16-h.p. Humber; 2, P. Fawcett, 16-h.p. Fraschini; 3, T. Mitchell, 15-h.p. Panhard. Heat 2: 1, N. F. Bayliss, 16-h.p. Sunbeam; 2, C. McAdams, 10-h.p. Humber. Heat 3: 1, R. Winn, 16-h.p. Humber; 2, A. Huntley-Walker, 15-h.p. Darracq. Heat 4: 1, P. Graham, 16-h.p. Humber; 2, F. Burr, 16-h.p. Humber; 3, A. Elsworth, 14-h.p. Spyker.

Final: 1, R. Winn, 16-h.p. Humber; 2, P. Graham, 16-h.p. Rover; 3, C. Leather, 16-h.p. Humber; 4, N. F. Bayliss, 10-h.p. Sunbeam. The previous holder of the trophy was Mr. A. Huntley-Walker.

Event D was for cars up to 24-h.p., and was divided into two classes, those up to 12-h.p. being put into the first division, and the winners meeting on handicap terms. There were three heats in each section, the semi-finals finishing as follows:—Up to 12-h.p.: 1, T. H. Woollen, 12-h.p. Clement-Talbot; 2, J. Hepworth, 12-h.p. Clement-Talbot; 3, A. Masser, 10-h.p. Mass. Up to 24-h.p.: 1, E. H. Leather, 24-h.p. Fiat; 2, S. S. Dixon, 20-h.p. Darracq; 3, W. R. Ledgard, 24-h.p. Mass. The final proved a hard tussle between the Fiat and Clement-Talbot, the former winning by eighty yards.

Event E, for cars up to 30-h.p., was for the H. R. Kirk Trophy, which Mr. A. Farnell had previously won twice in succession, and of which he now secured possession on his 30-h.p. Daimler, which beat Mr. W. J. Wright's 30-h.p. Darracq.



Event F was open only to members of the Cleveland branch of the Yorkshire A.C. The result was:—1, G. Scoby-Smith, 16-h.p. Humber; 2, W. S. Dickie, 10-h.p. Humber; 3, F. T. Shaw, 10-h.p. Talbot.

Event G, a closed competition for touring cars carrying full complement of passengers, the chassis price of which does not exceed £350, brought a field of seven cars, the final result being:—1, P. Graham, 16-h.p. Rover; 2, C. Wade, 16-h.p. Rover; 3, A. Masser, 10-h.p. Mass.

Event H was for cars costing not more than £600, and produced nine starters, the final three being:—1, W. J. Wright, 30-h.p. Darracq; 2, S. S. Dixon, 20-h.p. Darracq; 3, P. Graham, 16-h.p. Rover.

Event I, for steam cars, lacked excitement, but Mr. W. Ashford, on his 14-h.p. Stanley, attained a speed equal to 54 m.p.h., and was awarded a gold medal.

Event J, for touring cars not exceeding £800, resulted in a battle royal between Mr. A. Farnell, on his 30-h.p. Daimler, and Mr. C. Sangster, on his 30-h.p. Ariel, that being the final order of performance.

Steadily had the excitement grown throughout the day, the racing becoming faster with each event, and the crowd, with the Yorkshireman's love of sport, eagerly anticipated the final event for racing cars for the Saltburn Trophy. The course was over a distance of one kilometre, as were all the previous events, and each car was allowed three runs with a flying start. There were three entries:—Mr. W. J. Wright's 100-h.p. Darracq, driven by the entrant; Mr. Charles Jarrott's 100-h.p. De Dietrich, driven by W. Sorel; and Mr. W. J. Masser's 70-h.p. Mass.

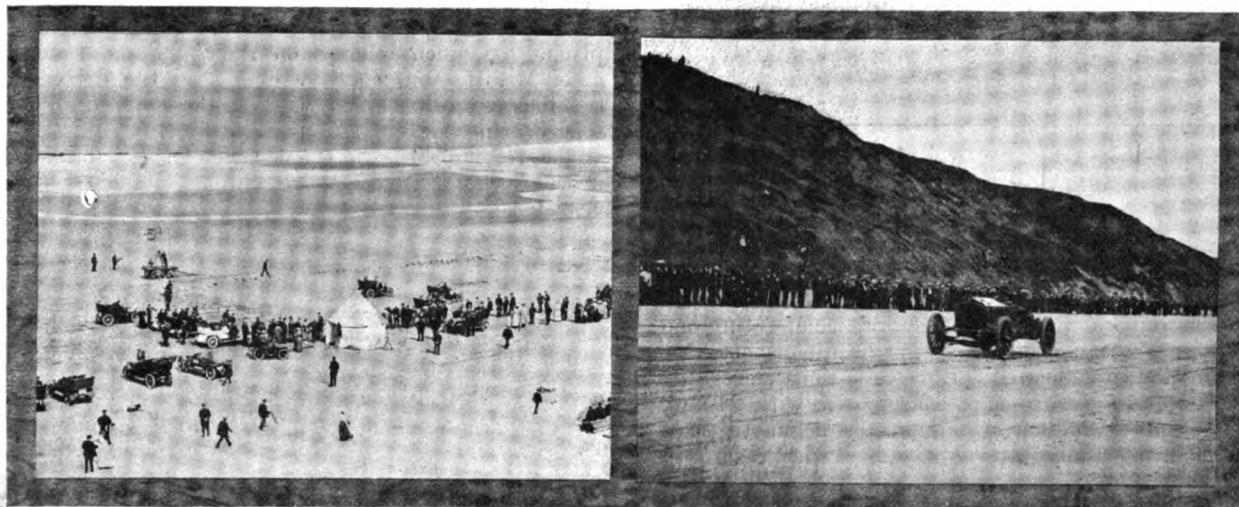
The times of the cars were as follows:—

- 1.—W. J. Wright, 100-h.p. Darracq, 23 1-5 sec.
- 2.—W. Sorel, 100-h.p. De Dietrich, 24 3-5 sec.
- 3.—W. J. Masser, 70-h.p. Mass, 36 sec.

## THE OSTEND AUTOMOBILE MEETING.

THE annual automobile meeting at Ostend opened on the 13th inst. with the weighing-in of the competing vehicles and an elegance contest, a noteworthy feature being the presence of several English competitors. Saturday the 14th inst. was devoted to a series of speed trials for racers and tourists, the flying kilometre taking place in the morning and the standing mile tests in the afternoon on the Snaeskerke-Ostend road. The honours of the day fell to Mr. Lee Guinness, who, on the 200-h.p. eight-cylinder Darracq he recently purchased, established a new world's record for the flying kilometre, covering the distance in 19 sec., equal to a speed of no less than 118.3 miles per hour. The previous record, 20  $\frac{2}{3}$  sec., was made by Hemery on the same car on the Arles-Salon road, in France, on December 30th last. Mr. Guinness's time for the standing mile was 45  $\frac{2}{3}$  sec. In the light racer category, Mr. Huntley Walker on a 100-h.p. Darracq covered the flying kilometre in 26  $\frac{2}{3}$  sec. (equal to 85.3 miles per hour), and the standing mile in 1 min. 35  $\frac{1}{3}$  sec. The touring cars were classified on a price basis, the best two results in each section being as follows:—

Class.	Name.	Car.	Time.	Average speed in miles per hour.
Under £230	1. Cayzele ..	Sizaire-Naudin ..	56 2-5 sec. ..	39.8
£230 to £280	2. Evenopol ..	Pope-Toledo ..	1 min. 11 1-5 sec. ..	31.7
£280 to £360	1. Perpero ..	Germain Chainless ..	40 1-5 sec. ..	55.9
£360	2. Servais ..	Germain Chainless ..	40 2-5 sec. ..	55.8



View of Starting Point.

The 100-h.p. De Dietrich driven by M. Sorel at full speed.

### RACING ON THE SANDS AT SALTBURN.

There is no reason why the Saltburn meeting should not become an annual event, the sands being so well adapted for the purpose of motor racing. The town is a modern residential watering place, with pure air and beautiful surroundings. The view from Saltburn towards Huntcliffe Sear and to Loftus is made interesting by the richly-wooded spurs of the Cleveland hills, while looking southward is Skelton village, with the Castle that is said to be the oldest inhabited house in England. The gardens of Saltburn are, however, its natural charm, these being situated in the glen of Skelton Burn; a recess so sheltered that vegetation flourishes with almost tropical luxuriance. All these things considered, and with sands so well adapted for the purpose, lead to the hope that the Saltburn meet may become an annual fixture of the Yorkshire Automobile Club.

THE Coventry Chain Company, Ltd., have issued a new catalogue of their motor chains, in which an illustrated account of their manufacture is a prominent feature. Hints on the manipulation of chains and on chain lubrication are given, and a list of sizes and their suitability for various types of cars is an interesting section.

£360 to £480	1. Sabbe ..	Minerva ..	43 2-5 sec. ..	52.4
£480 to £600	2. Wilford ..	Minerva ..	45 3-5 sec. ..	49.3
£600 to £800	1. Huntley Walker ..	Darracq ..	36 2-5 sec. ..	61.8
£800 to £900	2. Pilette ..	Pipe ..	43 4-5 sec. ..	51.3
£900 to £1,000	1. Gaste ..	Radia ..	36 4-5 sec. ..	61
£1,000 to £1,500	2. Macar ..	Rochet-Schneider ..	39 2-5 sec. ..	57.1
Over £1,500	1. Kloet ..	Pipe ..	33 1-5 sec. ..	67.7
	2. Wilhelm ..	Metallurgique ..	37 2-5 sec. ..	67.3
	1. Jochems ..	Mercedes ..	34 sec. ..	66.1
	2. Grigg ..	Daimler ..	36 2-5 sec. ..	61.8

In the standing mile trials for touring cars the best time was made by Grigg (Daimler), his time being 1 min. 9 4-5 sec.

An excursion to Bruges formed the programme on Sunday, while Monday was devoted to a series of five kilometre speed trials from a standing start on the Nieuport-Snaeskerke road for both racers and tourists. Mr. Lee Guinness again made the best time of the day, he covering the five kilometres on his 200-h.p. Darracq in 2 min. 6 4-5 sec. (equal to 87  $\frac{1}{2}$  miles per hour), as against 2 min. 24 3-5 sec. by M. Laverigne on a Mors. In the touring section M. Perpero, on a Germain Chainless, made the best time (3 min. 29 1-5 sec.) in the under £360 class, Mr. Huntley Walker's Darracq (3 min. 22 1-5 sec.) in the under £600 category, and Baron de Caters' Itala (2 min. 58 3-5 sec.) in the over £1,000 class.

## SOME CURRENT TOPICS.

### The Horse Power of Motor-Cars.

One of the most burning topics of the hour in automobile circles is that of the great variation in the horse-power ratings of the petrol motors of different manufacturers. For many years past the *M.C.J.* has frequently brought the subject forward, with the idea of arriving at some uniform basis on which to estimate the horse-power of different engines, but so far it has been impossible to discover a method acceptable to all makers;



M. Ramoisy on the 14-22-h.p. Germain Chainless Car he drove in the Aston Hill Climb. (See page 456.)

while from more than one quarter we received hints that it were best to leave the matter alone, and to let the question work out its own salvation. Far from this having proved to be the case, the variations in the different makers' estimates would seem to be growing wider and wider. In fact, the practice of rating one motor as of 20-h.p. while another of the same dimensions, and designed to run under practically the same conditions as regards speed, compression, and other factors, is credited with 24-h.p., has come to be so prevalent that motorists have begun to place little or no reliance on any catalogue figures with regard to petrol engine horse power. The somewhat paradoxical results of the recent hill-climbing competitions have once again brought the matter to the front, and although various suggestions are being made to arrive at a solution of the problem, it remains to be seen whether any definite result will be arrived at, especially in view of the many different methods of determining horse power which are being brought forward.

### A German Solution.

In connection with this matter it may be useful to refer to a solution which is being adopted in Germany. The new system of taxes on motor-cars in that country is based on a scale which varies in accordance with the horse power of the vehicle, and in order to decide on a uniform method of ascertaining this the Verein Deutscher Motorfahrzeug Industrieller or German Motor Manufacturers Union lately held a meeting, at which the representatives of about thirty motor-car builders, including all the leading firms in the country, were present. After much deliberation a formula was agreed upon and adopted by which the horse-power developed, not by the engine, but at the road wheels of the car, could be uniformly estimated. The formula is as follows:—

$$N = 0.3 \times i \times d^2 \times s,$$

where  $N$  = horse power,  $i$  the number of cylinders,  $d$  the diameter of the cylinder in centimetres, and  $s$  the stroke in metres. The mixing up of centimetres and metres is, in our opinion, rather confusing, and we consider an improvement would be effected if the formula were altered to

$$N = \frac{3 \times i \times d^2 \times s}{10000}$$

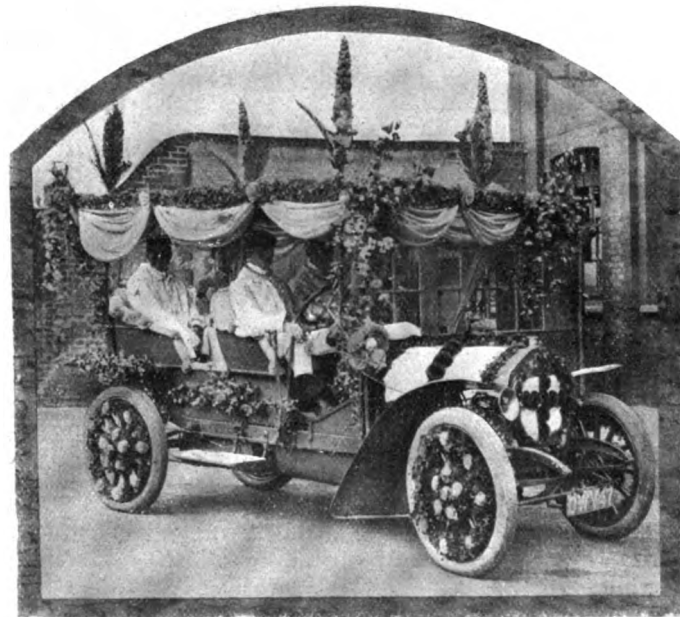
in which the letters have the same value as in the first formula with the exception of  $s$ , which, like  $d$ , now represents centimetres.

### Opinions Invited.

In arriving at this solution the German manufacturers have worked on the basis of a piston pressure of 3.8 kilogs. per sq. centimetre, equal to 54 lbs. per sq. inch, and a normal engine speed of 900 revs. per min. The formula has been submitted to the German Treasury authorities, and is, we hear, likely to be adopted as the standard for the whole of Germany. The figures obtained from it represent, as we have pointed out, the power developed at the road wheels of the car, and are naturally considerably less than those given as the capacity of the engine. No doubt opinions will differ as to the value of the German formula, because, for one reason, it presumes an equality of efficiency for the different systems of transmission; but, as it is the first serious attempt to introduce some degree of uniformity in the horse-power rating of petrol cars, it is worthy of the serious consideration of British manufacturers, whose views on the same we shall be glad to receive.

### Driving on the Brake.

Of the many letters that have appeared in the daily press during the past week with regard to motor-bus traffic, one of the best is that from Mr. H. M. Hobson, of the firm of that name which holds the British agency for Decauville cars. This gentleman considers, and we think rightly so, that "The cause of many accidents to motor-vehicles lies in the fact of drivers placing too much reliance on their brakes. I do not think," adds Mr. Hobson, "I have ever seen the driver of a motor-omnibus reduce his speed without the application of either his foot or side brakes, and the speed at which they rush into traffic, relying solely on the efficiency of their brakes, is nothing short of criminal." Everyone who has closely watched or even



The 115-h.p. Siddeley Car which took part in the recent Cottage Hospital Demonstration at Bexley Heath. The car was the chief feature in the procession, and was admired by everyone.

travelled on the vehicles cannot help having been struck with the same thought, and a little reflection will show that, apart from the danger involved, the wear and tear on the mechanism is greatly increased and the life of the buses correspondingly reduced. With the view of bringing about a reform in this respect, Mr. Hobson suggests that "Several road-inspectors with a long experience should be appointed, and when they see the drivers using their cars improperly—more especially I refer to rushing into traffic and hastily applying the brakes—they should report them, and, upon repetition of the offence, have them discharged."

THE Daimler Motor Company have recently received orders for cars from Lord Norfolk and Lord Scarsdale.

At the Lincolnshire Agricultural Society's show at Gainsborough this week a piece of ground was made available for the garage of motor-cars belonging to members of the county automobile club.

THE Town Council of Paisley is applying for a ten-mile limit for motor-cars passing through the town.

MESSRS. CROSSLEY AND PARRY, who have premises at 68, George Street, Oldham, have established a motor garage at Jackson Pit, in the same town.

ON Sunday a party of the chief sub-editors of the London newspapers visited Bisley camp, making the journey from town in a score of motor-cars placed at their disposal by various owners through the Automobile Club.

MESSRS. ALFRED HERBERT, LTD., of Coventry, have issued a catalogue of their machine tools in the Italian language for distribution at the Milan Exhibition. They also send a copy of the second edition of their 1906 catalogue of modern capstan lathes and other standard tools.

THE office staff and heads of the department of the new Arrol-Johnston Car Company, Ltd., of Underwood, Paisley, held their annual picnic on the 7th inst., when about eighty ladies and gentlemen motored by Greenock, Inverkip, Largs, and Lochwinnoch to Kilmalcolm, where lunch was served, and

## HERE AND THERE.

It has been resolved to wind up the Kandy (Ceylon) Motor Syndicate at an early date, as the concern is not paying and the expenses are heavy.

New by-laws for regulating the public traffic at Durban,

Natal, provide that the speed of motor-cars within the borough shall not exceed twelve miles an hour, and empower the police to arrest any offender.

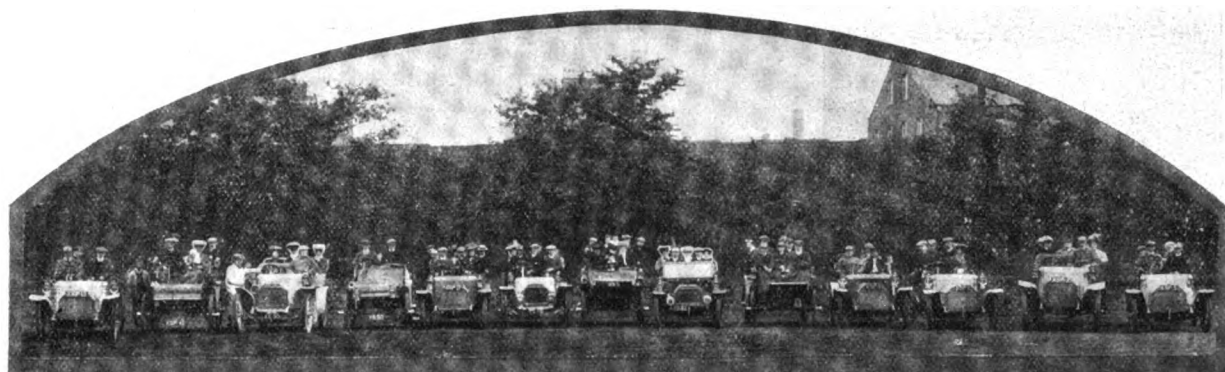
AN order has been placed by Lord Newlands with the Daimler Motor Company for one of their 30-h.p. cars fitted with a limousine body of the Marlboro' type.

EARL RUSSELL, at Guildford, where he has twice been fined for exceeding the motor speed limit, summoned a cabman who had obstructed the main London road. The man was fined £1.

THE value of the motor-car has been demonstrated in elections in rural districts; it was also seen in the election of the sheriffs for the City of London, one candidate having thirty cars at his disposal.

IN addition to their other well-known department, Messrs. D. Doyle, Ltd., have opened a new and extensive garage and repair department at 13, West Street, Shaftesbury Avenue, W.C., under the personal supervision of Mr. Doyle.

THE Standard Motor Agency, Ltd., of Albany Street, Regent's Park, N.W., has taken up the sole agency of the industrial motor vehicles built by Messrs. Horn, Littlewood and Co., Gainsborough, for London and the South of England.



A Group of Arrol-Johnston Cars at Kilmalcolm.

several hours were enjoyably spent. The greatest interest was evinced on the way at the large turnout of cars. Mr. John S. Napier, the managing director of the firm, was one of the party.

A MOTOR-CAR struck Professor H. A. Ward while he was walking to the station at Buffalo, U.S.A., to take a train to his summer house on Thursday last week. He died within two hours. The late Professor was one of the most distinguished mineralogists and geologists and was a Fellow of many London scientific societies.

SKEGNESS has lately come much to the fore, and the races on the sands last year did much to make the town popular with motorists. Messrs. Ensor and Ball, a local firm, have brought out an excellent pictorial guide which should do much to attract visitors to Skegness as well as prove an appreciated souvenir for those who have finished their stay.

AN important process for the repairing of aluminium cases is now being successfully applied by Mr. Robert W. Coan, of 219, Goswell Road, London, E.C., who, after long and careful experiments, has been able to discover a method by which he can effectively and economically repair cracked or broken aluminium castings. Hitherto cases slightly cracked or broken have been put on the scrap heap and considered as of no value, but Mr. Coan is able to deal with these of any size and can effectively "cure" large holes in a few days. This will result in a large saving to all who have hitherto been unable to get such work done, not to mention the loss of time that frequently takes place when such replacements are ordered from the Continent.

LAST year the Lincolnshire Automobile Club held a series of successful motor races on the seashore at Mablethorpe, which were to be repeated to-day (Saturday). Owing, however, to only twelve entries being received up to Monday, the committee have decided to abandon the races.

At Clarence Barracks, Portsmouth, recently, a class composed of N.C.O.'s and men of both services desirous of becoming motor-car drivers was examined by the Examiners of the A.C.G.B.I. for the purpose of awarding the club's driving certificate to those successfully passing the various tests.

A FEATURE of recent trials has been the successes of the Siddeley and Wolseley cars. In the Scottish Reliability Trials both the 15-h.p. and 25-h.p. Siddeleys made non-stop runs. In the South Australian trials a 6-h.p. Wolseley was successful. In the Land's End to John o' Groat's motor-cycle run an 8-h.p. Wolseley carried the officials through without trouble from start to finish, and a 6-h.p. Siddeley climbed the hill at Loch Striven head.

IN view of the great development of the Argyll Company's business it is interesting to note that there are still several very early specimens of the Argyll car on the road, doing good service. Mr. James Kirk, Glasgow, makes constant use of a little Argyll which he purchased at the Glasgow International Exhibition of 1901, and Mr. F. G. Drew, of Gloucester, still has one of the cars built by the firm in 1900. All the parts are in good condition.

THE A.C.G.B.I. has now 3,000 members.

MR. ROLAND BARRAN, M.P., has lately acquired a 30-40-h.p. Belsize landaulet.

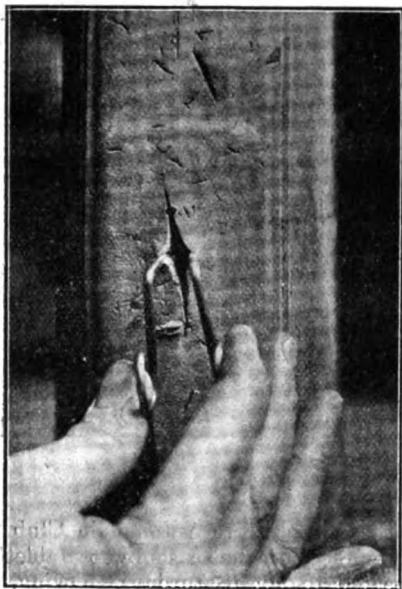
THE Ulster Motor Works have a well-equipped garage and workshop at 52, Donegall Street, Belfast.

THE Critchley-Norris Motor Company have secured an order for two 40-h.p. 'bus chassis for Messrs. F. Groome, Ltd., Whalley, near Blackburn.

GARAGE accommodation for a dozen cars is placed at the disposal of motorists visiting Peterborough by the Montgomery Motor Company, Limited.

THE Daimler Motor Co. (1904), Ltd., announce that, in accordance with their previous custom, the Coventry works will be closed down from Saturday, August 4th, to Monday, August 13th.

FROM Dr. H. Stanley Ballance, of Weston-super-Mare, we have received a sample of a little instrument he has devised and patented to facilitate the work of cleaning and filling up cuts and gashes in the outer covers of tyres with any of the well-known stoppings. The tyre cut stretcher, as it is known, consists of a spring steel tool somewhat on the lines of a pair of wire sugar tongs, but with two downwardly-turned pointed ends. These are pressed together and forced into the cut or gash of the tyre. The tool is then turned a quarter way round



and released, when its points spring apart and hold the gash open, so that it can be easily cleaned out and filled right from the bottom with the solution or other material used. Dr. Ballance writes:—"I may say that I have myself used one of these 'stretchers' for nearly a year, and although I received my car in December, 1904, and have driven some thousands of miles, my tyres are still in excellent condition." The little tool, which will also be found useful in removing small stones from tyre cuts, is being put on the market by Mr. J. P. Curtis, manufacturing ironmonger, Weston-super-Mare.

THE story placarded about London by an evening paper last week as to repairs being necessary in Westminster Abbey, owing to the damage done to the structure by the vibration caused by motor traffic, has been denied by Canon Duckworth.

MOTORISTS contemplating Continental touring will be interested in an illustrated description of a journey through France and North Italy to Venice, written by one who recently enjoyed the trip on an Itala car. This can be obtained from the London agency, 89, Wigmore Street, W.

"SONGS of the Car, with De Omnibus Rhymes," is the title of a little volume of poetry by Mr. F. J. Cox, which is embellished with some illustrations by Mr. Howard Somerville, and published by Mr. Francis Griffiths. Many of the verses are extremely tuneful, and the poetry reaches a high level.

MR. E. J. PHILPOT has opened a motor garage at 34, St. George's Street, Canterbury.

THE Lancashire Steam Motor Company, Ltd., of Leyland, have just supplied a 4-ton steam wagon to the Crown Agents for the East African Protectorate.

COLONEL JOHN JACOB ASTOR is said to be the largest individual owner of motor-cars in New York, he having registered thirty-one vehicles, of which four have been cancelled.

MESSRS. WILSON AND STOCKALL, the well-known ambulance builders, of Bury, have just secured an order for two motor-ambulances of the Brougham pattern from the Belfast Corporation.

SEVERAL motor agents have enlarged their facilities for dealing with motorists this season, among them being Mr. T. E. Hollings, of Heysham Road, Morecambe, and Mr. J. Gray, London Road, Hatfield.

MR. W. WILLIAMS, motor agent, of Plymouth, recently took delivery of a 10-h.p. Alldays and Onions car at Birmingham, and ran it without a hitch to its new owner, Dr. Hamilton, of Plymouth, at an average speed of eighteen miles all the way.

AT the last meeting of the Gloucestershire Standing Joint Committee exception was taken to the police keeping the main road from Bristol to Gloucester and Tewkesbury free for the recent Land's End to John o' Groat's motor trial; but the chairman, in reply, pointed out that it was usual for the police on such occasions to exercise a kind of "grandmotherly" protection over the public.

IN presiding at the International Congress of Architects which met in London on Tuesday, the Duke of Argyll said that it might be surmised that with their noisy streets, motor-omnibuses, and traction engines they might have to go back in their domestic architecture to the Roman Courts. He was sure that the only place where one could have a peaceful hour's sleep at the present moment was in the inside of a quadrilateral fortress.

FINDING the present very extensive works in Kimberley Road, Kilburn, too small, Messrs. Panhard and Levassor have secured a site of over 2½ acres in the Uxbridge Road, between Shepherd's Bush and Acton, the distance from the West End being about the same as the present works. Operations are already in full swing on the erection of a model factory, which will be provided with every facility for quick execution of repairs. The machinery and appliances will be of the latest type, and all requirements in connection with motor-car repairs, general engineering, etc., will be provided.

FRISWELL (1906), LTD., is before the public just now, with a capital of £150,000, of which 50,000 preference shares and 50,000 ordinary shares are being offered for subscription. The directors are Messrs. H. D. L. McDougall (chairman), W. S. Matterson, Guy Lewin (manager), and Charles Friswell (managing director). The company has been formed for the purpose of acquiring, as a going concern, the business of motor-car auctioneers and agents, and dealers in cars, motor clothing, and accessories, carried on by Friswell, Ltd. It will also acquire the sole agencies for the Peugeot and Westinghouse cars. The net profits for 1904 and 1905 were over £17,000, and the turnover for the present year has shown a satisfactory expansion. Mr. Charles Friswell has agreed to remain as managing director until June 30th, 1909.

AT a meeting on Saturday of the Cheshire Police Committee Colonel Hammersley, the chief constable, submitted a return showing the number and result of prosecutions under the Motor Car Act. The prosecutions in 1905 were as follows:—For driving recklessly, &c., 57 summoned, 52 convicted; for exceeding the speed limit (twenty miles per hour), 48 convicted and one dismissed; driving without licence, &c., 14 convicted; not having proper lights, &c., 51 convicted and seven dismissed; other offences, three convicted; total 181. The return for the quarter ending March 31st last showed that there had been 28 prosecutions, three cases being dismissed, one withdrawn, and fine or costs paid in the others. The total of last year's fines was £292.



## CONTINENTAL NOTES.

### The Scheveningen Automobile Week.

The popular Dutch seaside resort—Scheveningen—was last week the scene of an automobile fete. The meeting opened with a banquet on the 9th inst. The following day was devoted to a series of kilometre speed contests from a standing start and a flying finish. In the racing section the best times were:—Motor-cycles, M. Olieslagers, 6-h.p. Minerva, 50 sec.; cars from 400 to 650 kilos., Mr. Huntley Walker, 80-h.p. Darracq, 41 1-5 sec.; and cars under 1,000 kilos., Mr. Lee Guinness, 200-h.p. Darracq, 33 2-5 sec., this being claimed to be a new world's record. On Wednesday, the 11th inst., a driving contest and a gymkhana was held, and on the 12th a flower fete and procession of illuminated cars took place.

### A Projected Touring Car Trial in France.

Prior to the opening of the Paris Salon in December next it is contemplated holding a tourist car long-distance reliability run from Paris to Nice (or Biarritz) and back.

### A Touring Motor Bicycle Race.

The Motorcycle Club de Rheims is organising a 220 kilometre race for touring motor-bicycles for the 22nd inst. The event will take place over a 44 kilometre circuit in the neigh-

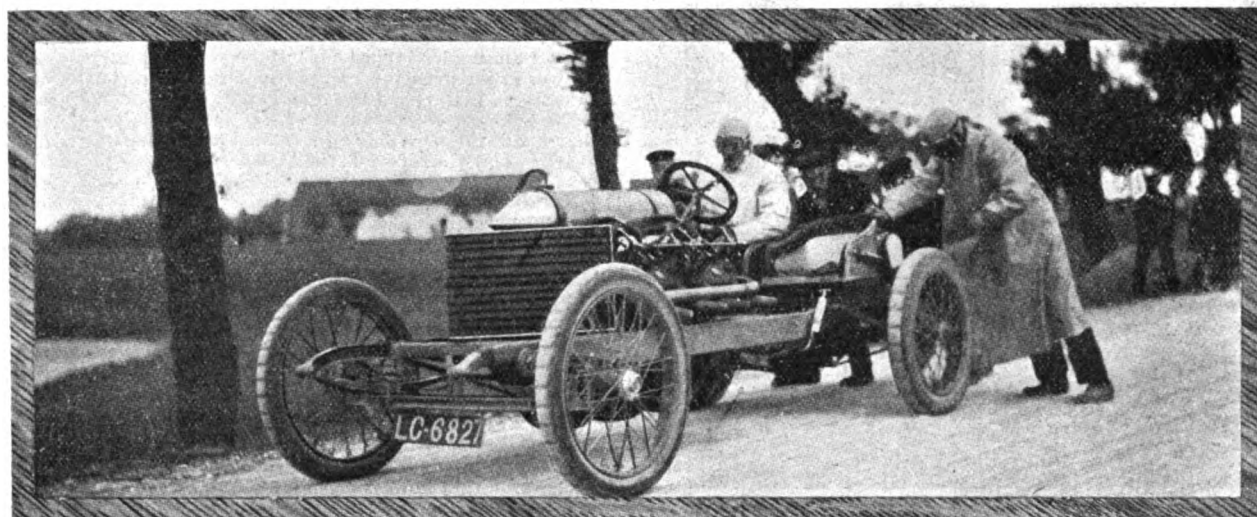
7), Frankfurt a. M. 5. It is prohibited by the police to drive with open exhaust pipe within the town limits of Frankfurt a. M. 6. In the Forsthausstrasse (the main road leading through the woods to Darmstadt-Heidelberg) the maximum speed must not exceed 15 kilometres, equal to about 9 miles. 7. All cars must carry at night two good lamps in front, and one small one in the rear to light up the police number. 8. Persons under the age of eighteen years are prohibited from driving automobiles. The secretary of the F.A.C., Taunusstrasse 1, telephone 1,187, will be pleased to give further information."

### The Dust Nuisance.

With the view of minimising the dust nuisance the Automobile Club de Namur-Luxemburg has issued a notice to its members urging them to arrange the outlets from the silencers of their cars in a horizontal plane instead of vertical. The Chambre Syndicale de l'Industrie Automobile Belge is also making a similar recommendation to manufacturers.

### Touring in Germany.

The German Minister of Finance has issued an ordinance permitting refund of the import duty paid on motor-cars temporarily introduced into Germany to be made even when the cars leave the country by a different Custom house from that at which they entered.



Mr. Lee Guinness on his 200-h.p. Darracq, on which he has just established a new World's Record at Ostend. (See page 447).

bourhood of Rheims, the start taking place at Wez-Thuisy at 5.30 a.m.

### A Useful Notice.

The Frankfort Automobile Club has recently drawn up a circular in three languages—German, English, and French, giving some useful hints and instructions to motorists touring in that district of Germany, and has had a copy of the same posted up in all the principal hotels and garages in Frankfort-am-Main. An abstract of the English notice is appended:—"In the interest of tourists we beg herewith to draw attention to the following police regulations and to kindly request observance of same. 1. In Germany vehicles travelling in the opposite direction must be passed on the right-hand side; those travelling in the same direction must be passed on the left-hand side, except tramcars, which must be passed on the right-hand side. At the stopping places for tramcars speed must be considerably reduced. 2. In the streets of Frankfort the maximum speed for automobiles must not exceed that of a trotting-horse (equal to about 9 miles per hour) and at street crossings this speed must be reduced. 3. All drivers of automobiles must have in their possession a permit from the police authorities. 4. All automobiles must bear a police-number. Details regarding points 3 and 4 can be obtained of Messrs. Seiffermann and Uhl, Kronprinzenstr.

### Miscellaneous Items.

A Commission has been appointed in France to report on the question of the transport of the wounded in time of war by motor-cars.—The annual hill-climbing competition up Mount Ventoux, organised by the Automobile Club Vaclusien, is to be held on September 15th and 16th next.—Owing to difficulties with the authorities in regard to the keeping clear of the Susa-Mont Cenis Road, the Turin Automobile Club cancelled its annual hill-climbing competition, which was to have been held on Sunday last. The Florence Club has also indefinitely postponed the contest for the Consuma cup originally fixed for Sunday next.—So far nine cars—three each Pipe, Metallurgique and Minerva—have been entered for the Liedekerke Cup race, which is to be held on August 18th by the Belgian Automobile Club.—Messrs. Mutel and Co., of Paris, are now making two sizes of six-cylinder engines, 35-h.p. and 50-h.p.—It is announced that the industrial motor vehicle and motor-boat annexe at the next Automobile Salon, in Paris, will be located on the Esplanade des Invalides, instead of in the Serres de la Ville, as hitherto.—No less than seventy-five entries have been received for the Belgian touring contest known as the "Criterium," which is to be held from the 20th to the 26th inst.

## CORRESPONDENCE

Letters to the Editor should be addressed to the offices,  
27-33, Charing Cross Road, W.C.]

### PRESSURE OR GRAVITY FEED.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have read the article on page 427 of the *M.C.J.* of the 14th inst., and may say that I have had very extensive experience with both systems of fuel feed. Taking the heads in your article, my experience leads me to the following conclusions:—

1. Safety.—If the main petrol supply pipe is fractured from a pressure-fed tank, the moment sufficient petrol has escaped to equalise the pressure inside the tank with that of the atmosphere, no further petrol will escape—that is to say, in other words, the leakage from a pressure fed tank is limited; while, on the other hand, should a supply pipe of a gravity tank fracture there is nothing to prevent the whole tank emptying. I have had a car burnt up from this cause. Further, it is an invariable custom to fit gravity tanks underneath the driver's seat, where any danger from fire is immensely increased owing to the proximity of the engine and exhaust pipes, whereas pressure tanks are invariably fitted at



One of the latest Baby Friswell Cars climbing a temporary gradient of 1 in 3 with four passengers up. The vehicle is fitted with a 6-h.p. De Dion Engine.

the extreme back end of the chassis underneath, where leaking petrol drops straight on to the road, and is therefore practically harmless.

2. Efficiency.—To any practical motorist who has extensively used both systems in very hilly country there can be no two opinions about the matter. Watch the difference between a gravity-fed car and a pressure fed vehicle going up such a hill as Porlock, or the hills out of Lynmouth and Ilfracombe, and hundreds of other hills one could name. I have seen many a gravity-fed car have to turn round and go up backwards.

3. Convenience.—The fact that a gravity tank takes up all the room under the driver's seat is sufficient inconvenience to make any touring motorist a permanent believer in the pressure system, the tanks for which are tucked away out of sight underneath the chassis.

4. Cost.—The difference in fitting the two systems is so insignificant as to require no comment.—Yours truly,

J. E. HUTTON.

### REFLECTIONS FROM GLASS SCREENS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In a case recently reported, the magistrate concluded that it was "dangerous to drive with a glass screen." I have found much difficulty in driving at night from the fact that lights behind the car are reflected in the screen, and appear like lights to be avoided ahead. I would suggest that the difficulty might be conquered by tilting the screen backwards or forwards from its present vertical position.

If tilted forward, and if the car carried a reading lamp in the roof, the light from this might still cause trouble. Tilted backward, the

glass would simply reflect to the eyes of the driver the darker part of the back of the car or the passengers therein, and the slight tilt of the glass would not interfere with the driver's clear view ahead.—Yours truly,

THEODORE F. S. TINNE.

### DRIVERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As a driver and anxious to fulfil all the conditions expected of same, I can quite appreciate Mr. Percy Richardson's letter on the above subject. As he rightly says, owing to the rapid growth of automobilism, and drivers not having had sufficient road experience, owners do not care to trust such men with a valuable car. Also his suggestion of a garage for giving greater experience on the road, is one that should call forth the appreciation of everyone interested in automobilism and every right-thinking driver would welcome it as a godsend. I also suggest that, having qualified instructors, it could be made self-supporting either by letting cars for hire or repairing parts of cars, such as tyres, accumulators, &c. I know from my own experience that I have been unable to obtain a berth owing to the facts Mr. Richardson mentions, and I daresay there are a great number in a like predicament. I would also suggest that men on being suited with a berth should also contribute a reasonable amount to help others over the stile, and only men with good references from previous employment be allowed to avail themselves of the advantages offered.—Yours truly,

G. G. SEARLE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As an old subscriber, will you allow me a small space in your valuable *Journal* to reply to Mr. Percy Richardson's letter? To quote his sentence, "In the first place, whilst there are hundreds of drivers wanting places."

I personally have had several years' practical experience in the trade, first as a "mechanic," then as a driver, but when I seek employment I am invariably asked, "Have you been in private service?" I answer in the negative, and particulars, out of courtesy, I suppose, are taken, and if I apply I am told I shall be considered with others. If I write I do not get an answer. Far be it from my thoughts to suggest that I am the best man that has applied, but in a few cases I have heard casually afterwards that a man has obtained the berth who has been in service before, and his experience (?) as a mechanic (?) and driver (?) is limited to a few months. Probably the man having been in service before outweighs with his employer the extent of his experience. I think in my humble opinion that the foregoing gives a sufficient answer to both points raised. I, at least, and probably others as well, am compelled to think that the would-be employer is to blame if "his motoring costs him more." Experience first, service afterwards, should be the motto for employers.—Yours truly,

CHAUFFEUR-MECHANIC.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We have read with much interest a letter from Mr. Percy Richardson appearing in your issue of 14th inst., in connection with a scheme for the production of experienced drivers. We think with Mr. Richardson that however sound a ground work a man may have in the knowledge of a motor-car, it is barely possible for him to obtain in one month sufficient experience to make him a thoroughly reliable chauffeur. The suggestion made by Mr. Richardson is particularly well timed, for there can be no doubt that many owners have a difficulty in obtaining drivers whom they care—whether rightly or wrongly it is not for us to say—to trust.

This difficulty could undoubtedly be obviated by the establishment of a central school where learners could get the six months' training which would give them the necessary road experience and which would entitle them to be considered competent and trustworthy drivers. The conduct of this scheme as a commercial enterprise presents almost insuperable difficulties, and without some outside aid its success is impossible of achievement.—Yours truly,

B. W. MILLAR.

### RESTRICTION OF TRADE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The letter from a London agent in your last issue opens up a question of importance beyond the ordinary interest of newspaper correspondence, for it affects the development of the industry more than is at once apparent. Beyond that, it refers to a policy which cannot be maintained now that motorism has outgrown the swaddling clothes of the early advocates and is becoming one of the recognised British industries. Like your correspondent, I am interested in the 'selling side of automobilism'; but before fixing up my agencies I intend to take care that my legitimate interests are not hemmed in by conditions which can only harass the sale of cars in the future. Makers now insist that those to whom they give agencies shall take many more cars during the season than was the case a year or two ago. That is only the result of the great increase of business, and is a perfectly justifiable proceeding. But surely the increased number of cars now to be taken by the agent should be accompanied by perfect freedom to dispose of

them how, when and where he will. The "London Agent" who has opened discussion finds that he must not adopt certain means of publicity which have—and this should not be forgotten—been the best educators of the public in the past. Surely this is a ridiculous position. It is certainly one that I do not intend to be placed in.

I propose, and would advise others who may be revising their business arrangements, to insist that if I guarantee to sell cars I shall not be restricted as to the methods by which I will obtain customers and give the vehicles display before the public. If all agents were similarly disposed to safeguard their interests these attempts at restriction of trade would quickly be silenced.—Yours truly,

A FREE AND FAIR TRADER.

### THE HELE-SHAW CLUTCH.

TO THE EDITOR OF *The Motor-Car Journal*.

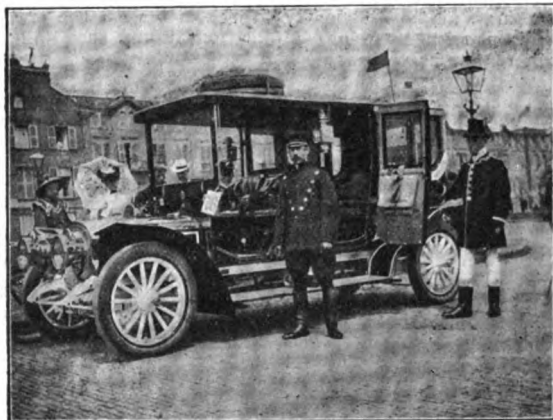
SIR,—The writer will be very much obliged if any of your readers would give him their experiences with the Hele-Shaw clutch. Whether there has been any trouble with it, and if so, what trouble, and what remedies have been employed. Also, does anyone know whether the Hele-Shaw clutch and the Argyll friction clutch are the same; if there is any difference, the writer would be glad to know what it is.—Yours truly,

HERBERT SMITH.

### CASES AGAINST MOTORISTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The summary of motorist convictions recently sent round the Press by the Highways Protection League "as a matter of public



Two of the Competitors in the Touring Body Competition.  
THE SCHEVENINGEN AUTOMOBILE WEEK. (See page 451.)

in every respect and devoid of the "faking" suggested. The 12-16-h.p. car which stands first of all petrol cars in the order of merit for South Harting hill climb is my own private property and has been driven upwards of 5,000 miles this season. It is geared to do forty-five miles per hour on the top speed at 1,500 revolutions per minute, the bevel gearing being 18 by 60. It is fitted with a full Roi-des-Belges five-seated body, and fittings for Cape cart road, and has no silencer cutout. If Mr. Jarrott has any specific cases in his mind, why not state them, in the best interests of the sport and industry?—Yours truly,

T. H. WOOLLEN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The formulæ at present adopted by various clubs are misleading and constitute a mischievous compromise for general satisfaction. For instance, the 18-24-h.p. Marchand which made such an excellent performance at the Wolverhampton A.C. contest, climbing the hill in fastest time by some 20 sec., is relegated in the handicap to the sixth place. It is not so much the adoption of the handicap formulæ with which we find fault as the erroneous inference drawn by the lay mind. If any specific formula be adopted, the published result should be accompanied with some indication of the car's performance in point of time, so that the public may see at a glance the position of each individual car as regards its actual performance. Trusting this most important matter will have the consideration it deserves.—Yours truly,

WILLIAM PILKINGTON, JUN.

### CARS FOR MEN OF MODERATE MEANS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I shall be very much obliged if one of your experienced readers can tell me of a really quite reliable place where a small car, costing



(De Auto.

interest" proves nothing. We want figures of a more comparative nature, namely, the total number of motor-cars in actual use during the month of June, and an idea of the aggregate mileage covered, which will enable "fair-minded" people to form an opinion of the relative dangers of horse driven and self-propelled traffic.

Even if 357 proceedings did result in 324 convictions, it must be remembered that in the matter of alleged offences against the speed limit (numbering 227) motorists rarely trouble to defend a summons. It costs more to win than to lose. On the principle that the police cannot lie and never make mistakes, the odds in favour of their version are appallingly heavy, and whenever their evidence is torn to shreds and flagrant errors are proved up to the hilt, all the justice awarded a motorist is a grudging benefit of the doubt and the privilege of paying the expenses of his defence.—Yours truly,

STENSON COOKE.

### HILL CLIMBING COMPETITIONS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the discussion on the above subject I have suggested to the Competitions Committee of the A.C.G.B.I. that they might meet a deputation of say three of the most successful competitors in this year's hill climbs, three unsuccessful competitors, and three members of the Society of Motor Manufacturers and Traders, with a view to deciding upon a formula for next year's competitions.

With regard to Mr. Jarrott's remarks that "every subterfuge possible is adopted by the various manufacturers interested to enter machines which have either been specially built or specially faked up for the purpose of winning the event," they are unjust in the majority of cases. I say this as a former hon. official of the Club and as a present season competitor. May I say that the Clement-Talbot cars which have done so well in the numerous hill climbs entered for, are all standard cars

under £100, can be purchased. I have had a long series of second-hand cars, each reported either shop-soiled, used a few times, or "sold on account of illness of owner!" Each one has after a few weeks shaken itself into inefficiency or developed one of the countless ailments well-worn cars are heir to. I do not know whether to get a 100-guinea Rover, or if it is possible to get a bigger car that has *bona fide* done very little work and can be depended on for running some hundred miles without constant visits to a shop. Solid tyres not objected to.—Yours truly,

WORRIED MOTORIST.

### EXHAUST ODOURS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am glad to see, from a recent issue of the *M.C.J.*, that the Motor Union is taking action with regard to the uses of exhaust cut outs. I venture to submit, however, that the whole question of exhaust is one that requires careful consideration on the part of motor manufacturers. The exhaust gases from a petrol motor possess a characteristic odour more or less unpleasant to the sense of smell. Every passing car leaves behind it a trail of these gases, which are wafted into the nostrils of pedestrians, and the dislike of the automobile on the part of the general public is at least aggravated by this effect. As long as motor vehicles are not much more numerous than at present, the objection to exhaust gases may not be of much weight, but it can hardly be doubted that when, say, every second vehicle in city traffic is motor propelled, the odours from the exhaust will present a serious problem. The causes of the characteristic odour of petrol motor exhaust have never been thoroughly investigated. The odour is entirely different from that of the products of combustion of a petrol burner, as used on steam cars, and is also rather different from that of carbon monoxide, the compound produced when a hydrocarbon is burned with

an insufficient supply of air. These are the two oxides of carbon which are produced in ordinary combustion, but their presence in the exhaust does not explain the peculiar smell of the gases. In connection with this matter, it may be of interest to mention that a new oxide of carbon has recently been discovered, the molecules of which consist of three atoms of carbon and two of oxygen. This compound can be produced in the laboratory by a somewhat involved process. Is it not possible that it is produced in the cylinder of a petrol engine when the charge is too rich. It has a penetrating odour and burns with a smoky flame.

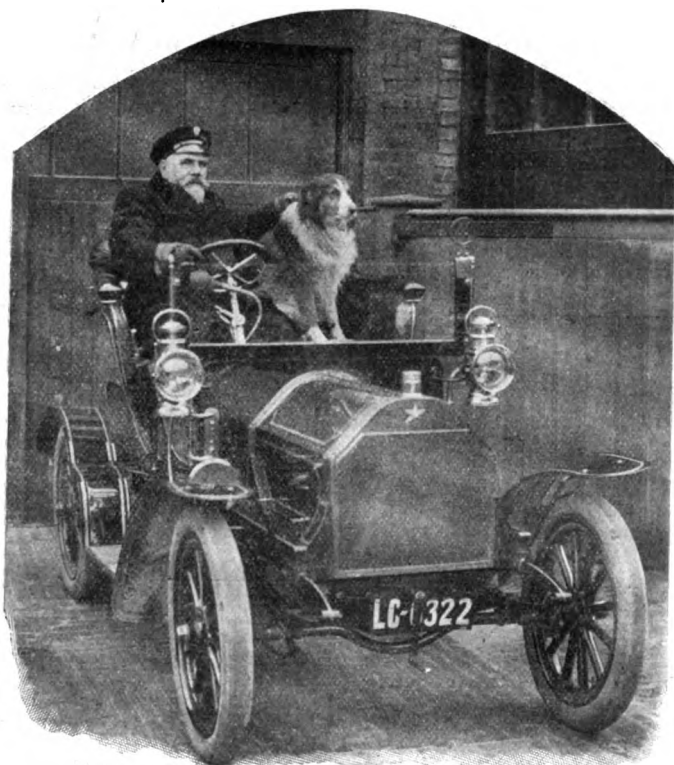
Mention has frequently been made of preparations which, when added to petrol or oil, would obviate the smell from the exhaust. Only the other week I saw a reference to a new one called "Carfume" in the *M.C.J.* Although I have not yet tried the latter, the efficacy of any such compounds is much to be doubted, and in any case they are merely attempts to mitigate an evil, and not to remove it.—Yours truly,

G. W. SIMPSON.

### EXPERIENCES WITH TYRES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to Mr. Moore, *re* experience of tyres, I have driven a set of Moseley's Perfect tyres 2,300 miles to date, and I am very pleased with the behaviour of them. I have not had to touch the front



Sir Alfred M. Watkin, a Director of the South Eastern and Chatham Railway, on his 10-h.p. Star Car.

tyres at all and the back ones have only been blown up after punctures, of which I have had three. They appear to have worn very well and look like doing a lot of work yet, and the ease of riding with these tyres is quite exceptional.—Yours truly,

HUMPHREY BENNETT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to Mr. Moore's inquiry, I have had a set of these in use on my 12-16-h.p. Armstrong-Whitworth which have run about 4,000 miles. The weight of my car is 2,600 lbs. and the size of tyre 32 by 5. I am glad to say that up to 3,800 miles I did not have a puncture, and I was then able to find out for myself the easy detachability and replace the inner tube and pump up again in about a quarter of an hour.—Yours truly,

C. PROCHOWNICK.

### TESTING MAGNETOS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice in the *M.C.J.* of the 7th inst. an instructive article on testing magnetos, and also a letter from a correspondent asking how this should be done. There is one way by which it is possible to tell quickly which often saves a lot of time and trouble, that is by, noticing the colour or quality of the spark. A magneto when in proper order

will give a rich blue flaming spark, but if a magneto is weak the spark that is visible then will be "pinky red" in colour, and this is a sure sign that the magnets require to be remagnetised. The first Simms Bosch low-tension magneto I fitted in 1899 is running to-day, and giving as good a spark and starting as easily as the day it was put on.—Yours truly,

G. H. WAIT.

### PRESSURE OR GRAVITY FEED FOR CARBURETTORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the article on this subject in the last number of the *M.C.J.*, I should like to know what objection there is to having the petrol tank in any convenient position and pump up the petrol from it into a quite small reservoir, from which it should fall by gravity into the carburettor. The pump would have to raise constantly the largest quantity of petrol ever required for use, and the surplus would return to the petrol tank by an overflow pipe. Thus the flow into the carburettor would be from a reservoir with a constant head of fluid, which in itself would be an advantage.

It appears to me that this arrangement would give all the advantages of position obtained by the use of pressure feed, the advantages of safety secured by gravity feed, with very little extra cost beyond the gravity feed arrangement alone.—Yours truly,

A. G.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was very much interested in the article on this subject in the last issue of the *M.C.J.*, and I cannot help thinking that all the complication of the pressure feed is hardly warranted by the end attained, particularly as the same result—a constant head upon the petrol—can be obtained in a more simple manner. Indeed, many manufacturers attain sufficiently good results with the simple gravity feed without refinements or complications of any sort, and carry their tanks where they are as much out of danger as any part of a car can be. Petrol tanks which are under pressure must have absolutely tight filling caps, or there will be an escape of inflammable vapours, and the check valve which allows the entrance of the pressure is a source of possible trouble. Such a valve sometimes leaks or sticks, and should it fail to work properly, an interruption of the petrol supply might be the result. It seems dubious engineering to use special apparatus for securing the necessary head of motor spirit, which apparatus is subject to several causes of derangement, when gravity, an absolutely constant and dependable force, is always acting.—Yours truly,

W. PLAYER.

### INSPECTION PIT DANGERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the articles in the *M.C.J.* of the 7th inst. headed inspection pit dangers, may I be allowed to draw attention to what I saw exhibited at the recent Motor Car Show at the Agricultural Hall, the motor-car elevator, which was explained to me by the patentees and manufacturers, Messrs. Adams and Co., Tunbridge Wells? A car was drawn up two inclined steel channels to the required height, which readily allowed inspection of any part of the under side of the car in daylight, thus avoiding any necessity for a light, and making it impossible for the fumes of escaping petrol to collect. It is, indeed, just the thing, in my opinion, to prevent such accidents as those explained in your paper, and I certainly think that while such capital appliances are on the market it is the employers' own fault if further explosions occur in their pits which are dug out of the ground.—Yours truly,

G. T. ASTON.

### MOTOR-OMNIBUS IMPROVEMENTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was glad to see from a recent issue of the *M.C.J.* that you are urging those responsible for the increasing number of motor-buses in London to adopt a uniform height for the steps from the ground. I am afraid I must plead guilty to being one of those who jump off before the vehicle stops; but after one or two nasty shakes, owing to the varying height of the step complained of, I am now very chary of alighting from a motor-bus until it is almost at a standstill. Another point to which I think attention might also be usefully given is uniformity in the position of the hand rail which passengers grip as they mount and descend from motor-buses, the position of these rails also showing considerable variation. Finally, I would like to suggest that the mudguards of the rear wheels should be carried back as far as the step, in order to prevent mud being splashed, in wet weather, on to ascending and descending passengers.—Yours truly,

S. W. HUDSON.

SMALL CAR EXPERIENCES.—"Sunlight" writes:—"Would any of your readers who are owners of 1906 8-h.p. single-cylinder Peugeotts kindly give their opinion and experiences of same, what the best speed would be, and how much the average; also as regards silence and hill-climbing?"



## HILL CLIMBING CONTESTS.

## LEWISHAM A.C.

AFTER the performance of the "Brown" motor-bicycle, with R.M. Brice up, at the Lewisham Automobile Club's hill climb up Westerham Hill on July 7th, in which it won both motor-cycling events, some of the riders of other makes of machines requested an official inspection of the machine. The bicycle was then sealed, and the inspection by two judges has now taken place, with the result that they have testified from actual measurements that the bore is 82 mm. and the stroke 88.5 mm. and that the engine is in accordance with standard construction.

## HE "HENRY EDMUNDS" TROPHY.

ON Saturday the third race for the "Henry Edmunds" hill-climbing challenge trophy took place in Blackdown Park, Fernhurst, Sussex, by permission of Mr. F. S. Philipson-Stow, J.P. This trophy was presented by Mr. Henry Edmunds in 1902, the details of the competition being left entirely in the hands of the A.C.G.B.I., and the trophy always remaining on the Club premises. The trophy was won for the first time at Castlewellan, Ireland, in July, 1903, by Mr. E. Campbell Muir. Last year the trophy was won by a 30-h.p. Daimler, entered by the Rev. F. A. Potts, and driven by Mr. C. Grinham.

There have been some disputes over the exact gradients of the hill, but the most recent survey gives acclivities of one in seven for the first half-mile; one in 4½ for a short piece which includes the dangerous curve where several mishaps have occurred, and one in eleven for the remainder of the distance. The road had been very carefully prepared by Mr. Stow's estate staff for Saturday's competition, and nature had assisted in perfecting its condition. Though larger than last year, the entry included only eighteen cars, and of these seven did not arrive. Those competing were, in accordance with the rules, of a recognized tourist type, carrying four passengers, including the driver. Each had to make three runs. There was very little worthy of note in the ascents, and nothing of a serious nature marred the pleasure of the afternoon.

The results were as follows, Mr. Barwick having the best time in each run:—

	Marks.
1. Mr. G. S. Barwick, 30-40-h.p. Daimler ...	647
2. Rev. F. A. Potts (holder), 30-h.p. Daimler ...	626
3. Mr. E. Manville, 30-40-h.p. Daimler ...	616
4. Mr. P. Brodtmann, 30-40-h.p. Daimler ...	601
5. Mrs. Herbert Lloyd, 30-h.p. Daimler ...	570
6. Mr. J. E. Hutton, 40-h.p. Berliet ...	530
7. Mr. Cecil Edge, 45-h.p. Napier ...	507
8. Mr. H. P. MacConnell, 24-h.p. Rapid ...	499
9. Mr. T. C. Pullinger, 30-40-h.p. Humber ...	428
10. Mr. P. A. Wilkins, 28-36-h.p. Daimler ...	338
11. Mr. F. Coleman, White Steam Car ...	—

Mr. C. Grinham drove the second car and was 21 sec. behind the winner. Mr. G. Barwick's Daimler was fitted with Continental tyres. The 3rd, 4th, 5th, 6th, 7th, 8th, and 10th cars to follow were also shod with Continentals.

Col. H. C. L. Holden was chairman of the Competitions Committee as well as judge, the starter being Major F. Lindsay Lloyd, R.E., with Mr. Mervyn O'Gorman as head marshal and Mr. J. W. Orde secretary of the meeting. Subsequently the competitors were entertained by Mr. and Mrs. Philipson-Stow, for whom cheers were heartily raised upon Colonel Holden's proposition. Replying, Mr. Stow said that when he first became enchanted by motoring he realised that it was one of those things which, when once taken up, could hardly be left alone. He had never relinquished interest in automobilism, and was convinced that the manufacture of motor-cars and cycles would become one of the largest industries in the world.

## WOLVERHAMPTON.

THE results of the hill-climbing competition recently promoted by the Wolverhampton Automobile Club have now been officially supplied for publication. The climb was at Harley Bank, Wenlock Edge, and the course is about one and a quarter miles long, with a varying gradient, which in places is 1 in 7.

Thirty-one cars had been entered for the open competition, and of these twenty-four weighed in. For the club competition there were eighteen entries, and twelve weighed in. Mr. S. R. Rhodes was the judge, and official timekeepers were present. In the club handicap the first prize winner holds the Star trophy, value £25, and the president's prize; in the open handicap the first prize consists of one-half the net entrance fees, and the winner holds the Wolf trophy, value £10 10s. Mr. C. H. Evans won both events. Results:—

Position.	Competitor.	Car.	Figures.
1.	C. H. Evans ...	25-30-h.p. Austin ...	1'15
2.	Eustace Watson ...	16-20-h.p. Argyll ...	1'22
3.	R. H. Dawes Lamb ...	10-h.p. Humber ...	1'28
4.	Birmingham Motor Car Company.	16-20-h.p. Argyll ...	1'32
5.	Tom Thornycroft ...	14-h.p. Thornycroft ...	1'32
6.	Premier Motor Co. ...	20-24-h.p. Marchand ...	1'34
7.	John Marston ...	16-20-h.p. Sunbeam ...	1'34
8.	W. Ledger ...	24-h.p. Mass ...	1'34
9.	T. C. Pullinger ...	16-20-h.p. Humber-Beeston ...	1'36
10.	E. Lisle, jun. ...	6-h.p. Star ...	1'38
11.	H. F. Bayliss ...	16-20-h.p. Sunbeam ...	1'38
12.	H. James Yates ...	25-30-h.p. Austin ...	1'40

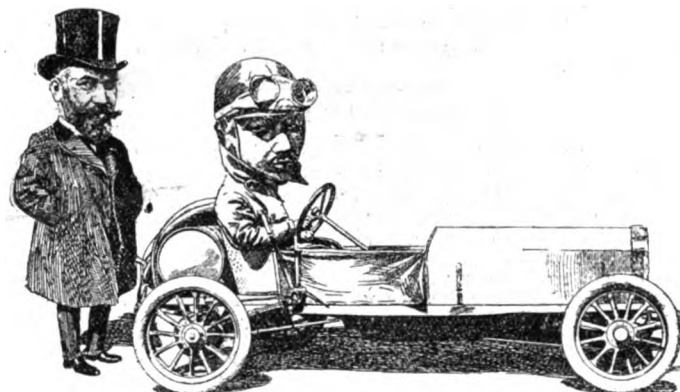
Position.	Competitor.	Car.	Figures.
13.	T. Cureton ...	25-h.p. Sunbeam ...	1'44
14.	Hugh Thursby ...	10-h.p. Alldays ...	1'49
15.	T. Cureton ...	16-20-h.p. Sunbeam ...	1'53
16.	J. Lisle ...	14-h.p. Star ...	1'54
17.	G. F. Heath ...	15-h.p. Darraq ...	1'55
18.	F. W. Bayliss ...	20-h.p. Wolseley ...	1'60
19.	E. Lisle, sen. ...	7-h.p. Star ...	1'67
20.	Birmingham Motor Car Company	16-20-h.p. Sunbeam ...	1'68
21.	W. Owen ...	16-20-h.p. Sunbeam ...	1'70
22.	T. T. Mills ...	10-12-h.p. Sunbeam ...	1'82
23.	J. Lisle ...	10-h.p. Star ...	1'87
24.	T. G. Gatis ...	10-h.p. Enfield ...	2'90

## CLUB HANDICAP.

1.	G. H. Evans ...	25-30-h.p. Austin ...	1'16
2.	F. W. Bayliss ...	20-h.p. Wolseley ...	1'430
3.	John Marston ...	16-20-h.p. Sunbeam ...	1'431
4.	E. R. Bayliss ...	10-h.p. Panhard ...	1'44
5.	J. Lisle ...	14-h.p. Star ...	1'46
6.	T. Cureton ...	16-20-h.p. Sunbeam ...	1'52
7.	E. Lisle, jun. ...	6-h.p. Star ...	1'63
8.	W. G. Owen ...	16-20-h.p. Sunbeam ...	1'76
9.	E. Lisle, sen. ...	7-h.p. Star ...	1'79
10.	F. C. Bishop ...	12-14-h.p. Sunbeam ...	1'800
11.	W. H. Evans ...	12-16-h.p. Lanchester ...	1'84
12.	T. T. Mills ...	10-12-h.p. Sunbeam ...	1'87

## CAWKWELL.

CONSIDERABLE interest was taken in the hill climb, on Thursday of last week, at Cawkwell, in the heart of the Lincolnshire Wold. An effort was made to arrive at a fair handicap, and a formula similar to that of the Frome's hill climb was used. The hill is 966 yards long, with



MM. Clement Pere et Fils.  
(From a Caricature in *Le Chauffeur*.)

a total rise of 234 feet and an average of about 1 in 11½, some portion being 1 in 6.

Military flag signallers kept up communication from end to end, and generally the arrangements, as superintended by Mr. Godfrey Lowe, (Lincolnshire Club), were very good. Mr. C. B. Robson, a well-known farmer, though not a motorist, entertained the motorists at Cawkwell House.

The results were as follows:—

Name.	Car and advertised h.p.	H.p. as per formula.	Weight in lbs.	Time. M. S.	Marks.
1. Dr. Stitt Thompson ...	8-h.p. De Dion ...	5'15	1,580	3 17	64
2. Rev. M. C. Wilkins ...	10-12-h.p. Argyll ...	9'22	2,436	3 1	69
3. G. E. Sanders ...	44-h.p. De Dion ...	3'64	862	3 4	70
4. W. O. Chapman ...	8-h.p. De Dion ...	5'15	1,596	3 48	73
5. R. M. Wright ...	10-12-h.p. Humber ...	16'33	2,206	2 1	80
6. Rev. T. Stoodley ...	10-h.p. De Lion ...	8'35	1,764	2 58	81
7. W. B. Jevons ...	10-12-h.p. Humber ...	16'38	2,268	2 6	81
8. Major Goddard ...	16-h.p. Clement-Talbot ...	16'70	2,464	2 15	91
9. Major J. A. Cole ...	16-20-h.p. Humber ...	20'59	2,576	1 55	919
10. A. A. Padley ...	16-20-h.p. Humber ...	20'59	2,772	2 5	92
11. T. W. Swaby ...	15-h.p. Darraq ...	16'70	2,482	2 19	93
12. Dr. de Beauvais ...	9-h.p. Oldsmobile ...	8'33	2,100	4 2	95
13. Dr. W. J. Gilpin ...	12-h.p. Richard Brasier ...	10'22	1,778	2 51	98
14. B. Gibson ...	10-12-h.p. Richard Brasier ...	11 17	1,883	2 47	99
15. C. Holland ...	10-h.p. Alldays ...	9'37	1,619	2 55	1'00
16. Dr. Sharp ...	12-h.p. Richardson ...	11'31	2,016	3 10	1'06
17. G. Garnett ...	8-h.p. M.M.C. ...	5'15	1,218	4 15	1'07
18. W. J. Newsum ...	15-h.p. Panhard ...	16'70	2,786	3 4	1'102
19. W. B. Parish ...	6-h.p. Rover ...	4'66	1,071	4 15	1'109
20. Col. J. S. Ruston ...	30-40-h.p. Daimler ...	36'29	3,036	1 33	1'12
21. J. G. Cook ...	16-20-h.p. Argyll ...	16'70	2,548	3 1	1'14
22. F. M. Mundy ...	24-h.p. Barriquand and Marre ...	25'81	3,052	2 22	1'20
23. P. Wright ...	10-12-h.p. Humber ...	16'33	2,044	2 38	1'26
24. Dr. W. Jagger ...	9-h.p. Cadillac ...	8'33	1,650	4 3	1'28
25. W. A. Tomlinson ...	10-12-h.p. Humber ...	16'33	2,200	3 0	1'33
26. C. E. Newton ...	10-12-h.p. Humber ...	16'33	2,205	3 17	1'45
27. W. S. Foster ...	24-h.p. Georges-Richard ...	22'34	2,317	1 50	1'60

## BIRDLIP.

THE official results, based upon the handicap calculations in the Birdlip Hill climb of the Bristol and Gloucestershire A.C., reported in our issue of the 7th, have now been made known. The gold medal in Class A is awarded to Mr. Aubrey Le Blond's 8-h.p. De Dion; the silver medal to Mr. W. J. Bridge's 8-h.p. Rover. In Class B, Mr. E. A. Stretton's 10-12-h.p. Clement-Talbot obtains the gold medal, the silver medal going to Captain Tudor Owen's 12-16-h.p. Clement-Talbot. Mr. F. J. Tucker's 28-36-h.p. Daimler is placed first in Class C; Mr. E. H. Atchley's 30-40-h.p. Daimler second. These receive the gold and silver medals respectively, whilst Mr. J. S. Davey's 30-40-h.p. Daimler has been awarded the silver cup for the fastest time.

## ASTON HILL.

OWING to a clerical error the 14-22-h.p. Germain cars which were entered in this competition of the Hertfordshire County A.C. were described as having a bore of 93 mm., whereas the actual bore is 92 mm. This was not noticed until after the official results were issued, and Capt. Masui immediately wrote to the secretary of the Hertfordshire A.C., informing him that some mistake had been made. He replied stating that the error must have emanated in the entrant's office, adding "This is to be regretted, as upon my working out the 92 mm. bore and 110 stroke, it would have placed you first in the handicap." The secretary of the County Club, Mr. T. Williams, accompanied by two experts from the A.C.G.B.I., have since called at the Germain garage at Westminster, and after a thorough examination, taking the engine to pieces, satisfied themselves that a mistake had been made, and that the bore was only 92 mm., the stroke being 110.

## SOUTH-HARTING.

THE order of merit at the South Harting Hill Climb, after revision by the handicapper, Mr. Worby Beaumont, shows that the first three cars in each class are as follows:—

CLASS A.—1, 10-h.p. Stanley; 2, 10-h.p. Alldays; 3, 10-h.p. Alldays.

CLASS B.—1, 12-16-h.p. Clement-Talbot; 2, 12-16-h.p. Talbot; 3, 14-h.p. Thornycroft.

CLASS C.—1, 28-h.p. Pire; 2, 30-h.p. Daimler; 3, 22-h.p. Berliet.

CLASS D.—1, 60-h.p. Napier; 2, 30-40-h.p. Peugeot; 3, 30-40-h.p. Peugeot.

## MOTOR-CYCLE RACING

THE first race meeting promoted by the Essex Motor Club was held at Canning Town on Saturday, in the presence of a large gathering of onlookers. A capital programme of events had been arranged, but the enjoyment of the proceedings was marred by a serious accident to René Thomas, the French champion motor-cyclist, whilst competing in the one hour record race. There were seven starters for this event, and the men had got well under way and were travelling at a terrific speed, when Thomas, in attempting to pass the leader at the bend, was noticed to swerve. Then the back tyre slipped from the rim of his machine, and despite his efforts to keep a straight course preparatory to stopping, he ran direct into the railings at the top of the bank, striking them with great force. He rolled over and over with his motor-cycle down the bank on to the track, and fortunately reached the grass just before the next competitor passed. When attended to, it was found that his right leg was broken in two places, and he had also sustained a severe wound on the head. He was subsequently conveyed to the West Ham Hospital. The race was won by H. V. Collier (on a Matchless), who rode 46 miles 533 yards, J. Perkins (Crownfield) being second. No other competitor finished. The other races resulted as follows:—

Five Miles Tourist Handicap.—Final heat: W. W. Genn (Eland), 10 sec. start, 1; S. Webb (Quadrant), 60, 2; F. W. Appletree (Rex), 25, 3. Won by 80 yards. Time, 7 min. 52 1-5 sec.

Five Miles Handicap for Racing Machines.—Final heat: J. Perkins (Crownfield), scratch, 1; W. Hodgkinson (J.A.P.), scratch, 2; W. W. Genn (Eland), 5 sec. start, 3. Time, 6 min. 24 1-5 sec.

G. Barnes v. Five Miles Flying Start Record.—Barnes rode the distance in 4 min. 58 3-5 sec. In the second lap his frame broke, but he continued to the end, beating C. R. Collier's time of 5 min. 28 1-5 sec. Collier had ridden the distance from a standing start in 5 min. 12 sec.

The matches between Thomas and Perkins and Barnes and Anzani and the ten miles record attempt by G. Barnes were abandoned in consequence of the accident.

## TRAMCAR v. MOTOR-BUS.

A VANGUARD motor-omnibus was crossing the tramway lines in the New Kent Road, near the Elephant and Castle, on Sunday evening, having just started for Cricklewood, when it was run into by one of the electric tramcars, which struck it near the conductor's platform. There were about twenty passengers in the motor-omnibus, and these were thrown from side to side in the vehicle, several of them being hurt so much that they had to be conveyed to Guy's Hospital. They were there treated, and most of them were then able to go to their homes. The motor-omnibus was disabled, but the electric tramcar was so little damaged that it was able to continue on its journey. Some passengers of the Vanguard were attended to by local medical men who were quickly summoned to the spot. The driver had a very narrow escape, but was only slightly injured. The conductor had his collar-bone dislocated and was badly bruised.

## CLUBS AND ASSOCIATIONS.

## WELSH.

A MOST successful non-stop run was held on the 4th inst. by the Welsh Automobile Club from the headquarters, the Tenby Hotel, Swansea, to Tenby and back, a distance of 110 miles, the route being *via* Pontardulais, Crosshands, Porthryd, and Carmarthen. There were twenty-two entries, the cars ranging from 30-h.p. four-cylinder to 8-h.p. single-cylinder. The committee's awards were made on Thursday of last week and show that the following obtained absolute non-stop certificates:—Mr. H. J. Thomas's 10-h.p. two-cylinder Argyll, Mr. A. Williamson's 10-h.p. two-cylinder Enfield, Mr. S. L. Gregor's 10-h.p. two-cylinder Darracq, Mr. B. W. Valentine's 14-h.p. four-cylinder Clement Talbot, Messrs. P. and M. Player's 12-h.p. two-cylinder Wolseley, Mr. H. F. Taylor's 10-12-h.p. two-cylinder Richardson, Mrs. T. Penrose Thomas's 18-22-h.p. four-cylinder Daimler, Mr. W. Thomas's 8-10-h.p. two-cylinder Lacoste, Mr. J. S. Brown's 15 22-h.p. 4-cylinder Darracq, Mr. George Ace's 16-20-h.p. four-cylinder Beeston Humber.

The remainder finished well (only one car being a few minutes behind the time limit) but were disqualified for minor adjustments. The cars did splendid running and made excellent time over a somewhat difficult course which was admirably policed throughout. Tenby, being a control, was flagged in and out of the town, the whole of the arrangements being admirable, owing to the indefatigable efforts of the trial secretary, Mr. C. H. Harvey, to whom the club is much indebted for the success of the run. Mr. A. J. Moffat acted as timekeeper and chief observer.

The Club are now arranging motor-cycle reliability trials, which bid fair to be equally successful. The Welsh Club is growing apace, new members being elected at almost every meeting. A deal of useful work has been done and the financial position is strong.

There will be a joint meet of the Club with the South Wales and Monmouthshire Club at Porthcawl on July 28th, the Esplanade Hotel being the appointed headquarters.

## DERBY.

ON Saturday a motor gymkhana event, under the auspices of the Derby and District Automobile Club, took place at Trent Bridge, Burton-on-Trent.

The meeting was arranged in aid of the Mayor of Burton's Distress Fund, and was under the patronage of the Mayor of Burton (Mr. T. E. Lowe), the Mayor of Derby (Mr. E. T. Ann), Hon. Geo. Allsopp, Mr. Wm. Bass, Mr. S. R. Evershed, Mr. John Gretton, Mr. R. Hutton, Major R. E. Ratcliffe, Mr. C. J. Stewart, Messrs. H. Mead Taylor, R. Thornehill, C. H. Trip, R. B. Wragg, and others.

The competitors and their cars were as follows:—

Mr. R. Sutton Clifford, jun. ...	12-h.p. Richard-Brasier.
Mr. Cyril Smith ...	8-h.p. Rover.
Mr. G. B. Fletcher ...	9-h.p. Mohawk.
Mr. H. G. W. Dawson ...	7-8-h.p. Swift.
Mr. H. Jefferson ...	8-10-h.p. Humber.
Mr. C. J. Allin ...	8-10-h.p. Humber.
Mr. Francis A. Bolton ...	34-45-h.p. Daimler.
Mr. Joseph Hill ...	24-h.p. Ryknield.
Major R. F. Ratcliffe ...	35-h.p. Daimler.
Mr. M. Ross-Browne ...	22-28-h.p. Richard-Brasier.
Mr. R. W. Sale ...	74-h.p. Wolseley.
Mr. E. P. Maltby ...	16-h.p. Richard-Brasier.
Mr. L. P. Mell ...	15-h.p. Darracq.
Mr. C. T. Leech ...	18-22-h.p. Daimler.
Mr. B. Sadler ...	8-h.p. De Dion.
Mr. A. E. Kirton ...	8-h.p. Motor-cycle.
Mr. C. A. Newton ...	8-10-h.p. Humber.
Mr. G. F. Heath ...	10-h.p. Darracq.
Mr. F. Smith ...	16-h.p. Rover.

The prize-winners were:—

Skilful Driving Competition.—First, R. Sutton Clifford, junr.; second, M. Ross-Browne; third, G. F. Heath.

Tortoise Race.—First, M. Ross-Browne; second, R. W. Sale.

Potato Race.—First, M. Ross-Browne; second, Major R. F. Ratcliffe; third, F. Smith. Mr. Ross-Browne by going very slowly managed to get all his potatoes in and just beat Major Ratcliffe, who relied more on his speed than in placing the potatoes and thus incurred penalties.

Tilting at the Ring and Pig-sticking.—First, C. J. Allin, 1 min. 11 2-5 sec.; second, C. T. Leech, 1 min. 38 2-5 sec.; third, F. Smith, 1 min. 39 2-5 sec.

Speed-judging Competition.—A definite speed of fifteen miles per hour was decided upon, the winner being the driver who went round the course at the nearest pace to this. The course was just a quarter of a mile round and should thus take exactly one minute. Each car carried an observer, so that the competitors relied on their judgment only.

First, C. Smith, 1 min. 1-5 sec.; second, G. F. Reading, 1 min. 2-5 sec., and G. B. Fletcher, 59 sec.

The second place being a tie was run off and resulted in Mr. Fletcher qualifying for second place in 1 min. 3 1-5 sec., beating Mr. Reading, who on this occasion took 55 2-5 sec.

Speed Judging Competition for Spectators.—Major R. F. Ratcliffe drove once round the course, and the spectators were invited to write on tickets their estimate of the speed per hour, the winner being Mr. T. Thomas, whose estimate of 22 miles 1,000 yards per hour was practically correct, the exact pace being 22½ miles per hour.

Musical Chairs, for Ladies.—As the competition proceeded the excitement increased, and reached its height when in the last round but one Miss Heath and Miss G. Hutton tied. This was run off, and resulted in Miss Hutton narrowly defeating Miss Heath. The final fell to Miss Dora Smith, driven by her brother, Mr. Cyril Smith.

Immediately after the close of the competitions, which lasted until 7.30, the prizes were distributed by the Mayoress, Miss Lowe. Mr. F. A. Bolton, J.P., a vice-president of the club, in a short speech, on behalf of the club, thanked the Mayor and Mayoress and Major R. E. Ratcliffe for their attendance and support, and congratulated them and the officers of the club on the success which had attended their efforts. The Mayor briefly responded.

A spacious grand stand had been erected and there were numerous tents for the convenience of the spectators, including a large marquee in

Muriel Thompson (18-h.p. Siddeley), of the Kensington A.C. Dr. Thompson (6-h.p. De-Dion), Herts County Automobile Club, was second.

Turk's Head Competition.—Mr. F. R. S. Bircham (24-h.p. Iris), of the Hertfordshire A.C.

Lady Passenger Race.—The event for four-seated cars was also won by Mr. Bircham, who scored a narrow victory from Mr. Dobson (10-12-h.p. Humber), of the Kensington, after giving a time allowance.

The Passenger Race for two-seaters was a most exciting event, Mr. F. R. Hodson (8-10-h.p. Humber), Herts A.C., winning by a yard, while inches only separated second and third.

Balloon Tournament.—In this event toy balloons were pegged down in two parallel lines, and the competitors had to endeavour to burst them on alternate sides with the back wheel of the car. This naturally required very skilful driving, as was evidenced by the small number burst in the required manner. Dr. A. Lestock Reid (7-h.p. Panhard) of the Herts. A.C., was the winner, bursting three balloons.

Musical Chairs.—In the end it was found almost impossible to decide between the lady passengers on the cars driven by Messrs. Webster (15-h.p. Mora) and Colliver (12-h.p. De Dion) both members of the Herts. Club. The judges decided to award prizes to each.

At the conclusion of the programme the prizes were presented to the successful competitors by Mrs. McWhirter, the wife of the chairman of the Herts. County Automobile Club.

The officials conducting the meeting were: Judges, Messrs. E.



Col. J. S. Ruston on his 30-40-h.p. Daimler, in the Cawkwell Hill Climb.

which tea was very kindly provided for the members and their friends by Major R. F. Ratcliffe, whose generosity in this respect was greatly appreciated. The whole of the arrangements reflected the greatest credit on Mr. L. P. Mell, the Burton representative on the Committee of the club; Mr. C. J. Allin (hon. sec.), and Mr. C. T. Leech (hon. treasurer), who must have been highly gratified at the result of their labours.

The officials were:—Referee, His Worship the Mayor of Burton (Mr. T. E. Lowe); judge, Major R. F. Ratcliffe, M.P.; timekeeper, Mr. J. Auber, M.C.A.A.A.; clerks of the course, C. J. Allin, R. Sutton Clifford, jun., J. Fitchett, P. E. Joule, W. H. Jones, C. T. Leech, L. P. Mell, A. R. Wheeler, C. H. Yeates.

The next meeting of the club takes place on the 28th inst., being a competition for the possession of the club's handsome challenge cup.

#### HERTFORDSHIRE AND KENSINGTON.

On Saturday last a joint gymkhana of the Hertfordshire County Automobile Club and the Kensington Automobile Club was held at The Grove, Watford, the seat of the Earl of Clarendon, the president of the former club. In the splendid old deer park a very large concourse of spectators watched with the keenest interest the six events on the programme. Over sixty cars were on the ground besides many tri-cars, motor-cycles and carriages. The events were as follows:—

Starting, Stopping, and Bending Race.—This was won by Miss

Shrapnell Smith and W. Whittall; marshals, Messrs. W. Edmunds, R. Mainwaring Finley and E. Webster; timekeeper, Mr. C. Wheeler; starter, Mr. A. J. Salmon. Mr. T. Williams, hon. sec. of the Herts. County Automobile Club, was secretary of the meeting, while Mr. J. H. Reeves represented the Kensington Automobile Club.

#### LEICESTER.

On Saturday eighty crippled children from Leicester were taken in twenty-five motor-cars lent by members of the local Automobile Club to Radcliffe Hall, where they were entertained by Mr. and Mrs. Robert Walker. After tea Mr. Groves expressed the thanks of the Leicester Cripples' Guild to Mr. and Mrs. Ralph Walker and to the members of the club who had so kindly lent their cars. Mr. Ralph Walker, in reply, said the pleasure was his and his wife's, and he hoped they would spend a happy day. After tea a lorry was brought round and twenty cripples found a place thereon, who were conveyed to the river, where a new surprise awaited them, Mr. Kenneth Walker being in readiness to take them a trip up the river in his motor launch. On their return another twenty were waiting, till all who were thus inclined had had an opportunity of satisfying their aspirations.

Among those who kindly lent cars were the following:—Mr. E. G. Mawbey (president of the Leicestershire Automobile Club), Mr. H. R. Harding, Mr. T. C. King, Mr. A. H. Faulkner, Capt. Byron (two cars), Mr. J. A. Doran, Mr. C. Bennion (two cars), Mr. H. A. Hamshaw, Mr. G. H. Wait, Mr. Alfred Corah, Mr. J. A. Harper, Mr. W. H. Warburton

Major Martin, Dr. Pemberton Peake, Mr. P. L. Baker, Mr. J. Marsden, Mr. W. Bentley, Mr. T. C. Clarke, Mr. J. H. Sutton, Mr. Merton Dawburn, and Dr. Patrick. Valuable help was rendered by Mr. A. Groves (president of the Cripples' Guild), Dr. McAllister-Hewlings, Mr. J. G. McAlpin, Mr. W. Noble, and Mr. A. McAlpin (hon. secretary of the Leicestershire Automobile Club).

### NORTH-EAST LANCASHIRE.

THE North-East Lancashire Automobile Club's postponed hill-climb contest has been fixed for Wednesday, the 25th inst. The venue is Rivington, a hill with a gradient of one in ten, and exactly a kilometre in length. Rivington is best reached *via* Blackburn, Feniscowles and Chorley, and is near Horwich.

### MOTOR CYCLE UNION TRIALS.

THE annual 400 miles reliability test promoted by the northern section of the Motor Cycle Union of Ireland took place on Friday and Saturday last. The course was, first day Belfast to Dublin and back; second day, Belfast to Londonderry, going by the coach road as far as Coleraine, going inland to Derry, and returning to Belfast from Coleraine to and through Ballymoney, Ballymena, Antrim, to Coramoney, where the course ended a few miles outside Belfast.

Over thirty entries had been received for the event, but only eleven faced the starter as under:—

H. Ferguson ...	...	Minerva ...	...	Belfast
R. M. Bryce ...	...	Brown ...	...	London
J. S. Gorrett ...	...	Rex ...	...	Belfast
J. Stewart ...	...	Triumph ...	...	Belfast
A. Bullock ...	...	J.A.P. ...	...	Belfast
R. W. Ireton ...	...	F.N. ...	...	Belfast
F. Hulbert ...	...	Triumph ...	...	Coventry
A. A. Dixon ...	...	Bradbury ...	...	Edinburgh
E. Nelson ...	...	Rex ...	...	Cardiff
J. B. Porte ...	...	Brown ...	...	Belfast
A. D. Blake ...	...	Coventry Eagle ...	...	Lorne

Owing to the rain of the previous night and the miserable outlook at the time of starting, 7 a.m. on Friday morning, several of the competitors decided to stand down at the last moment. Out of the eleven starters eight reached Tolka Bridge control, Messrs. Bryce, Hulbert, Stewart and Ferguson being first to arrive.

Messrs. Bryce, Hulbert, Stewart, Ireton, Ferguson, Gorrett and Nelson started on the second day's test at 7 a.m. on Saturday. Bryce retired at Larne through the steering post breaking away. Gorrett did not reach the turning point, and the following five finished at the Crown and Shamrock Inn, Coramoney: F. Hulbert, H. Ferguson, J. Stewart, R. W. Ireton, C. Nelson. Hulbert was placed first, gaining full points, Stewart being second and Ferguson third. Both Ireton and Nelson covered the course, but, being outside schedule, lost marks. The prize awarded for the best performance by a member of the Motor Union goes to R. W. Ireton.

### ESSEX.

THE members of the above club met at Heybridge on Saturday last, when they were the guests of Mr. E. E. Bentall, at his residence, The Towers, Heybridge (near Maldon). Luncheon was served in a large marquee erected in the very charming grounds to a party numbering nearly eighty members and friends, including the Mayor of Maldon and the chairman of the club, Mr. Burnett Tabrum. Appropriate speeches were made, after which a gymkhana was held in an enclosure kindly lent by the host.

The following entries were obtained, viz.:—Mr. Burnett Tabrum, J.P., Sir C. B. Locock, Bart., Mr. E. H. Renton, Col. Davies, J.P., Messrs. A. A. Knight, R. Page, F. C. Hill, Cayley, Miller, Curtis, Wharton, E. E. Bentall, Jones, James, B. Pash, Lindus Forge.

The programme consisted of five events, the winners of which were as follows, viz.:—

- Obstacle Race.—Mr. F. Lindus Forge, 14-h.p. Star.
- Ladies Passenger Race.—Sir C. B. Locock, Bart., 16-h.p. Fiat.
- Glass of Water Race.—Mr. E. E. Bentall, 16-h.p. Richard-Brasier.
- Needle and Thread Race.—Mr. F. C. Hill, 30-h.p. Wolseley.
- Musical Chairs.—Miss Dunn on Mr. Pash's 18-h.p. Mors car.

The silver medal given by the Motor Union was awarded to Mr. Forge, the hon. secretary of the club.

### SOMERSET.

By the invitation of Mr. and Mrs. Jackston-Barstow, a meet of the Somerset Automobile Club has been held in the picturesque grounds of The Lodge, Weston-super-Mare. Among the many motorists who took part were Messrs. R. B. Graves-Knyfion, J.P., H. A. Gliddon, Wallace Taylor, C. H. Dawe, and Dr. H. S. Ballance (Weston-super-Mare), J. Clark (Street), Orme (Ston Easton), W. J. Hippisley (Wells), Young (Bristol), T. M. Reed (Bridgwater), J. Amesbury (Huntspill), S. B. Alway (Bridgwater), Dr. T. W. S. Morgan (Timsbury), W. Yatman (Winscombe), F. J. Tucker (Keynsham), R. Y. Foley (Bridgwater), W. A. Woodley (Taunton), A. H. Bolton (Herefordshire Automobile Club), Tully (Shepton Mallet), J. W. Aspinall, and A. Armitage (Taunton), the hon. secretary of the club. During the afternoon an interesting series of gymkhana events were contested for valuable prizes, presented by Mr. and Mrs. Barstow, the results being as follows:—"S" Race, Dr. H. S.

Ballance (Weston-super-Mare). Potato Race, 1, Mr. A. W. Taylor (Weston-super-Mare); 2, Mr. Orme (Ston Easton). Bending Race, Mr. J. W. Aspinall. Gretna Green Race, 1, Mr. Tucker (Keynsham); 2, Mr. Young (Bristol). Tortoise Race, 1, Dr. Ballance; 2, Mr. Amesbury (Huntspill); 3, Mr. Tucker (Keynsham). The prizes were distributed by Mrs. Barstow, and subsequently Mr. Armitage heartily expressed the thanks of the members to Mr. and Mrs. Barstow for their hospitality.

### KENT.

ON Saturday Mr. and Mrs. T. H. Nash entertained the members of the club to a strawberry tea at their residence at St. Pauls Cray, when a large number of members and friends were present, amongst whom were Dr. Firth (chairman), Mrs. Firth, Mr. and Mrs. J. S. Darwin and Miss Darwin, Mr. and Mrs. Fraser, Mr. and Mrs. Wyllie, Dr. Tennyson-Smith, Mr. and Mrs. Waddington, Mr. and Mrs. Batchelor, Mr. and Mrs. Killik, Mr. Hall, Mr. Spencer, Mr. and Mrs. Gardner, Mrs. Kenyon and the hon. sec.

### CARDIFF.

A SPEED judging competition, open to members of the Cardiff Motor Club, was held on Wednesday. The course was from the first milestone beyond Ely to the sixth beyond Cowbridge, turning there and finishing at the milestone before re-entering Cowbridge—a total distance of twenty miles. Each competitor upon arrival at the starting point selected a sealed envelope, which contained instructions as to the speed at which he must travel. The winner was the competitor who adhered most closely to the rate of speed named in this letter of instructions.

The committee intend to enter a team for the M.C.C. team competition to be held at Daventry on Saturday, August 25th.

### IRISH.

ON Saturday the 4th prox. the Irish Automobile Club will hold a hill climbing competition at Ballinaslaught Hill, near Newtownmountkennedy, Co. Wicklow. There will be five classifications of cars, and the meeting is open to all owners of petrol and steam vehicles. Entries should be made to the secretary of the Irish Club at 34, Dawson Street, Dublin, up to the 27th inst., at the fee of one guinea for members of the club and three guineas for non-members. They will be received at double fees up to August 1st, after which date no entries will be accepted. The distance to be covered is little over a mile, and the meeting promises to be a successful one.

### MOTOR YACHT CLUB.

THE Motor Yacht Club is making a new departure in instituting a series of long distance trials to test the capacity of motor vessels to run continuously for long periods or over long distances without involuntary stops, as well as to ascertain fuel consumption, speed, &c. These will not in any sense replace the annual reliability trials, but will doubtless be appreciated by those desirous of quickly obtaining authoritative declarations as to the value of the performances of their boats.

### THROWING CAPS AT CARS.

AT the Leominster Borough Police Court last week, before the Mayor (Mr. G. Page), Mr. J. Page, and Mr. T. Smith, William Beavan, a lad nine years of age, was summoned by Mr. J. T. Hereford, of Sifton Court, Mordiford, for wantonly throwing a cap at a motor-car at Broadwood, on the 20th June. Mr. A. J. Corner, who appeared for the prosecution, said that at first sight the case might appear of little importance, but looking at the facts it would be seen to be most important. Mr. Hereford was a pioneer of motoring in the county, and took proceedings because he was anxious that the facts of the case should be known and act as a deterrent to other boys and persons. If the case was adjourned he could call evidence to show that this boy had been in the habit of doing this kind of thing, and especially of bowling an iron hoop across the road before vehicles, a practice which might cause a terrible accident.

The Mayor, addressing the boy, said that, in view of the fact that this was his first offence and that of his age, the Bench thought the justice of the case would be met on that occasion if they dismissed him, but he would point out to him the seriousness of the offence he had committed, and warn him and other boys against the danger of throwing things at vehicles. Happily there was no accident in this case, but his action of throwing his cap at the car might have been a serious thing. If they dismissed the present case, he must tell him that if he or other boys came up again for such an offence the case would be treated more seriously.

### THE SPEED OF MOTOR-BUSES.

A POLICE TRAP in the Waterloo Road, S.E., led to the appearance at the Tower Court on Saturday of several drivers of motor-omnibuses and electric tramway cars on summonses for driving at excessive speed. Two constables were provided with stop-watches and placed at the ends of a measured furlong. Eight miles per hour was the prescribed limit of speed, but the defendants were alleged to have travelled at between fifteen and sixteen miles an hour. The defendants were each fined 10s. including costs.

The magistrate remarked that electric cars and motor-omnibuses



were heavy vehicles, and were likely to cause great damage when driven at excessive speed, but the defendants were poor men, and therefore he had put the penalties much lower than was usual with owners and drivers of private motor-cars. If, however, the offence were repeated, the penalties would be largely increased. One of the defendants pleaded that motor-omnibus drivers were not provided with speed indicators. The magistrate said he sympathised with the men, and hoped their employers would remedy the deficiency. At the same time, a skilled driver ought to know from experience what pace he was going at.

### PUBLIC MOTOR SERVICE.

**PADDINGTON.**—The general purposes committee of the borough council do not approve of the proposal that the L.C.C. should seek parliamentary powers to run motor-omnibuses as feeders to their tramway system generally.

### ROAD REPORTS.

**COST OF MAINTENANCE.**—In the Municipal Engineering Section of the Sanitary Congress held at Bristol last week, Mr. Fletcher, county surveyor of Dorset, stated that the cost of maintenance of their main roads had been doubled owing to the introduction of motor traffic. Either they must have more financial help from Government or the latter must take the main roads under their control.

**LLANDUDNO.**—The Town Council of Llandudno have decided on applying for a speed limit of ten miles for motors in certain parts of the town.

**WOODBRIDGE.**—Great success is reported to have rewarded experiments in dust prevention on roads at Woodbridge, Suffolk, where a solution of 1 cwt. of calcium chloride to 100 gallons of water was distributed by means of ordinary watering carts.

**MACCLESFIELD.**—As an experiment in the prevention of dust, the Macclesfield Highways Committee have decided to coat several lengths of road in the borough with tar.

**PERTSHIRE.**—The expenditure on the Perthshire roads last year was £8,667, and at the meeting of the Central District Committee of the County Council, the chairman, Mr. R. Gardiner, has been suggesting that the Scottish councils should petition the Government to give additional grants towards the upkeep of the roads.

**SITTINGBOURNE.**—A dust laying preparation has been laid on the road from Station Street to West Street, Sittingbourne.

### THE TOURIST TROPHY RACE.

CAR bodies entered in the International Tourist Trophy race will be required to be comfortably seated for driver and three passengers facing forwards, two in front side by side and two behind side by side; the top of the back of the back seats to be not less than 33 in. from the top of the chassis measured vertically from the highest point of the chassis above the ground behind the dashboard; and shall give, for every two seats, not less than 44 in., measured from outside to outside of the body at the top of the cushion level. This measurement shall be taken along the front of the seats. The platform behind the dashboard shall not be less than 7 ft. 6 in. long, nor less than 32 in. wide, and the body shall cover this area. The body of the car shall be easily removable by undoing not more than six bolts or hinges, and this removal of the body shall not entail disconnecting any part of the ignition apparatus, lubricator connections, fuel pipe work, the fixings of any tank, or any pipe connection to the tank.

### NEW COMPANIES REGISTERED.

**THE PLYMOUTH AUTOMOBILE ENGINEERING COMPANY.**—Capital, £5,000. To acquire the business carried on by Mr. R. F. Davis, at 21, Buckwell Street, Plymouth, and elsewhere, as R. F. Davis, automobile engineer. 21, Buckwell Street, Plymouth.

**MOTOR OMNIBUS MANUFACTURERS.**—Capital, £100. First directors: Messrs. W. W. Challis and M. Townsend.

**TURNER'S MOTOR MANUFACTURING COMPANY.**—Capital, £50,000 (£1). To take over the business formerly carried on by Turner's Motor Manufacturing Company, Ltd. (in liquidation), at Lever Street, Wolverhampton, and to adopt an agreement with the said old company and Mr. W. V. Vale. First directors: Messrs. C. Leveson-Gower (secretary), J. S. Dumbell (chairman), J. B. Dumbell (managing director), and P. St. L. Jepson. Lever Street, Wolverhampton.

**THE AUTOMATIC SPEED GEAR SYNDICATE.**—Capital, £2,000. No initial public issue.

**INDUSTRIAL ENGINEERING AND MOTOR COMPANY, LTD.**—Capital, £50,000.

**WEST YORKSHIRE DARRACQ AGENCY, LTD.**—Capital, £50,000. To carry on the business of motor-car agents, manufacturers and dealers, &c.

**WILKINSON TYRE AND TREAD COMPANY.**—£500. To acquire the business carried on by Mr. C. H. Wilkinson, at Huddersfield, as the Wilkinson Tyre and Tread Company, &c.

### CASES AGAINST MOTORISTS.

*[It must be understood that it would be impossible to report all the cases that are heard every week; we therefore endeavour to give only those which involve points of particular legal importance or of public interest.]*

**IN Haddington Sheriff Court,** before Sheriff Macleod, Mr. Andrew Fletcher of Saltoun was charged with driving his car at twenty-six miles an hour, and also with having failed to stop on being signalled to do so by a constable holding up his hand. Evidence showed that the timing of the car had taken place over only a quarter mile of road by two policemen who had only one stop watch between them, and both were at one end of the quarter mile watching the car coming straight on. The evidence for the defence was that the lifting of the officer's hand, which the police held was a signal to stop, had been regarded by Mr. Fletcher as a salute in passing. His Lordship, in summing up, indicated that more exactitude was necessary in timing a car over so short a distance as a quarter of a mile. He found that respondent had shown that he had not been previously convicted under the Motor Car Act, and that consequently the charge on the first count fell. Had it been otherwise he would have been prepared to hold the count not proven. On the second count, he found that the police had failed to bring home to respondent a knowledge of their desire for him to stop, and, therefore, the verdict on this count would be one of not guilty.

**AT Odiham (Hants)** the Earl of Craven, of Mayfair, has been fined £4 and costs for exceeding the speed limit in a motor-car, at Elvetham.

**LORD MONTAGU OF BEAULIEU** has been summoned at Slough Divisional Sessions for driving a motor-car at an excessive speed. Sergeant Pearce said his lordship drove his car at thirty-eight miles an hour. Lord Montagu said he was driving at nothing like that speed, but the Bench imposed a fine of £2, and costs. There was a second summons



The above illustration depicts the delivery van just supplied by Argyll Motors, Limited, to Price's Candle Company. The engine is a two-cylinder 10-12-h.p., and solid tyres are fitted to the driving wheels.

against Lord Montagu for failing to produce his licence on demand. His Lordship changed his coat and left the licence in the garment he took off. This summons was dismissed on payment of the costs.

**AT Kingston,** Frank A. Short, chauffeur to a Cabinet Minister, whose name did not transpire, was summoned for driving at a speed equivalent to thirty-two miles an hour at Cobham on July 2. Police-sergeant Lucas said a gentleman in the car, who was a member of the Government, remarked that he was in a great hurry, and wanted to get to London soon. It was early in the morning, and the road was clear of traffic at the time. Defendant said the gentleman held a privilege pass, which Superintendent Marks said was granted by the Commissioner of Police, but only entitled the holder to precedence over other traffic. The Chairman: You must pay a fine of £1 and 10s. costs.

**AT the Wokingham County Bench,** T. Stansfield, of 120, Oxford Road, Reading, was summoned for driving a motor-car to the danger of the public, at Finchampstead, on June 3rd. Witnesses gave evidence of the car colliding with a cyclist, and ultimately the Chairman (Mr. Hankey) said the Bench thought the evidence was so conflicting that they felt obliged to dismiss the case. They thought the course taken by the police was quite justified. The defendant must pay the costs of the first hearing (when the case was adjourned at his request).

**GEORGE BALFOUR,** motor-car driver, 33, Westfield Road, Edinburgh, has been charged in Edinburgh Sheriff Court, before Sheriff Maconochie and a jury, with culpable homicide, in that on May 31 he ran down a girl two years of age, and did kill her. After hearing several witnesses the Sheriff interposed and suggested that the Fiscal had not a case. Mr. Renton, Fiscal, said that was his feeling. His Lordship then, addressing the jury, said their duty was a mere formality—to return a verdict of not guilty. To entitle them to return a verdict of culpable homicide it was not enough to prove that the child was killed; they

must prove that the accused person was in fault in what he did. There was no suggestion that the man in this case was driving too fast. There was only a suggestion that he was not keeping a proper lookout. He thought the Fiscal was justified in withdrawing the charge. The jury then returned a formal verdict of not guilty, and the accused was discharged.

Mr. JOHN PHILLIPS, of Windsor, was summoned before the Beaconsfield magistrates on Monday, July 16th, for an alleged offence of exceeding twenty miles an hour (namely twenty-eight miles an hour) at the London road, near Beaconsfield, on June 24th last. Mr. Staplee Firth appeared for the defence, and the Bench dismissed the case. This is said to be the first motor summons that has been dismissed by the Beaconsfield Bench.

### POLICE TRAPS.

A TRAP is in operation at the village just by Norman Cross Hotel. THERE are police traps between Dickleburgh and Scole; Acle and Yarmouth (old road); the second and fourth milestones on the Norwich to Dereham Road; the fourth and sixth milestones, Norwich to Blofield Road, and between the fifth and seventh milestones from Norwich to Cromer.

A POLICE trap in the Waterloo Road is one of the innovations in the Metropolitan police administration.

ON the London road, at Maidstone, is a measured distance of 220 yards.

A QUARTER mile police trap is in fairly constant operation at Stalham, Norfolk.

### MOTOR-CAR ACCIDENTS.

A MOTOR-CAR bearing a London number, journeying from Braemar to Blairgowrie, overturned at the Devil's Elbow, the passengers sustaining severe injuries. They were removed to the Spittal of Glenshee Hotel, where medical attention was given.

THE coroner for the Rape of Hastings has concluded his inquiry into the death of Annie Ransford, who was killed in a motor accident at Cripps Corner, as reported in our issue of the 7th inst. W. C. Sharpe, the driver of the vehicle, which was a 10-h.p. Daimler, was a witness, and said he was told to take a party of nine passengers to Hawkhurst. Some distance north of Sedlescombe, and 1½ miles from the scene of the accident, he stopped the car to pick up an air cap which had fallen from the engine. It was bent and would not fit, so he took it into the car. This cap regulated the supply of air to the engine, and was not material to its running. As he started down the hill where the fatality occurred, he first applied the hand brake, and then the foot brake slightly, both acting effectively. He also shut off the engine, so that the car "free-wheeled" down the hill. There was a slight swaying at first, and later it became more violent. He applied the brakes, and they were acting efficiently, but suddenly the steering-gear locked and the car completely overturned. He could not account for the locking of the steering-gear. He had previously driven the car, but it was not his regular machine. He was not aware how many passengers it was licensed to carry, and was never told. A licence handed to the coroner provided for a load of nine passengers in the car, and he (Mr. Sheppard) remarked that this was a point for the local authorities. Mr. Wild, for Messrs. Skinner and Co., the owners of the car, however, said that there was no offence as it was a private contract. The driver added that his fastest speed was twelve miles per hour, but at the time of the accident it was only eight miles per hour. William Rootes, motor engineer, of Hawkhurst, deposed to examining the car on July 3rd. The foot brake appeared to be perfect, and as the result of a test he found that it would hold the two wheels of the car anywhere. The steering gear was perfect, with the exception of ordinary wear and tear, and every bolt and nut was properly secured. The hand brake was not right. It "held" on the left hind wheel only, and that very slightly, and this was caused by the fact that the "compensation rod" was "rusted up solid." The foot brake, however, was completely adequate. The jury were twenty minutes considering their verdict. Eventually they returned a unanimous verdict that deceased died from injuries sustained by the overturning of a motor-car. They exonerated the driver from blame, and censured Messrs. Skinner and Co., the owners of the car, as they considered that the hand brake was not in proper working order when the car left their establishment. Mr. E. E. Wild said he publicly protested against the rider, Messrs. Skinner and Co. having been censured without their evidence, which was offered, being heard.

At the Westminster Coroner's Court on Monday there was an inquiry by Mr. Troutbeck into the circumstances of the death of William Iveys, of Maddox Street, W., who was killed in a collision between a motor brougham and a hansom cab early on the morning of Friday week last. The driver of the motor brougham, Malcolm Henry Stein, was present in custody of a warder, being under remand from the police-court. After hearing evidence the jury returned a verdict of "Manslaughter" against Stein, who was committed for trial on the coroner's warrant.

WHILE a steam motor-lorry was attempting to descend the steep hill known as Crown Hill, Croydon, the brakes failed to act, and it dashed into a pair-horse brewer's van. The driver was thrown off his dickey and the horses were knocked down. The driver escaped serious injury, but one of the horses had to be destroyed.

As a funeral cortege was about to enter the lych-gate of St. Paul's

Church, Wokingham, a motor-car, coming along the Reading road, ran into it. Mrs. Willatts, an old lady, stepped forward to prevent the coffin and bearers being run down, but was herself knocked down and run over, and sustained grave injuries, which proved fatal.

ON Tuesday night a boy, crossing the road near St. Mary's station, Whitechapel, was knocked down by a motor-car. He was taken to London Hospital in a dying condition.

A MOTOR-CAR proceeding from Twyford Avenue, Acton, into Uxbridge Road, on Tuesday afternoon, dashed into a perambulator which two children were pushing across the road. The children were both badly injured.

### CLAIMS AGAINST MOTORISTS.

THE Court of Appeal has dismissed the appeal of Mr. F. W. Baily from the verdict and judgment given in the trial before Mr. Justice Bigham and a special jury, of the action brought by Mrs. Harriet Norton, widow of Mr. W. H. Norton, for damages for the loss of her husband. Mr. Norton, while cycling near Anerley, was killed by the defendant's motor-car. A coroner's jury found that he met with his death through misadventure, but the claim of the widow was based on the alleged negligent manner in which the defendant's motor-car was being driven. The defendant denied negligence, and pleaded contributory negligence. The jury found for the plaintiff, and awarded her £1,500 damages. The Lord Chancellor, in giving the judgment of the Court, said it seemed to him that the defendant was very much to blame in the whole business from beginning to end, and he desired to say with reference to the defence of contributory negligence that when people were driving either motor-cars or any other kind of vehicle on a public highway it was their duty to remember that deaf people, blind people, nervous people, children, and decrepit old people were quite as much entitled to the use of the highway as they were, and if anyone thought proper so to drive that there was a chance of very serious consequences through a mistake of judgment or misadventure being made by the driver they would have to pay for it in damages.

### APPEAL ALLOWED.

THE Motor Union has again been successful in an appeal they made against the conviction of one of their members by the Belvoir magistrates. Mr. Latham, of Nottingham, was summoned and fined £10 and costs for driving to the danger of the public, and the Motor Union, feeling that the conviction was against the weight of evidence, decided to carry the case to appeal, in which they were assisted by the Notts Automobile Club. The appeal has now been heard at the Leicestershire Quarter Sessions. Mr. Moresby White appeared for the appellant. The evidence showed that Mr. Latham was travelling along the main road between Melton Mowbray and Grantham when he encountered a drove of cattle. The farmer who was in charge of the latter stated that the car was travelling at the rate of thirty to thirty-five miles an hour and that it dashed into the cattle, breaking a leg of one of the steers. Two carters also stated that the car was going too fast, but the evidence of a schoolmaster who was cycling at the spot was to the effect that the speed of the car was only at the rate of twelve miles an hour. This witness also stated that he heard the toot of the motor for some distance before the accident happened, and that the driver never made an attempt to clear the cattle out of the way, as they were scattered all over the road. This evidence was corroborated by the appellant and his wife, and by another gentleman who was in the car at the time. Appellant added that he put on slow speed and one of the animals apparently got trapped in a wheel of the car. The Bench allowed the appeal without costs.

MESSRS. FLEMING AND Co., who are associated with up-to-date tyre repair methods, have removed from Banner Street to 361, City Road, E.C. They have addressed to the Clerk of the Works, St. Paul's Cathedral, a proposal to polish the cross, ball and dome of the Cathedral with their "One Minute" liquid metal polish, which is claimed to give a lasting lustre with the minimum of labour and time.

### TO CORRESPONDENTS.

*All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.*

*The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.*

*The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.*

# THE Motor-Car Journal.

[VOL. VIII.]

LONDON, SATURDAY, JULY 28, 1906.

[No. 386]

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## AN IMPUDENT SUGGESTION.

27, Chancery Lane, London, W.C.,  
July 19th, 1906.

To *Motor-Car Journal*,

Charing Cross Road, W.C.

Dear Sirs,—Mr. Rose, the agent for La Milo, has informed me that you have declined to insert the photograph which he offered you of Miss Montague in her Humber car. I hope therefore that you will be able to reconsider this and make use of the same, as I am putting forward the *M.C.J.* for inclusion in the Humber advertising scheme for next year, and as this is supported by Mr. Johnson, the London manager, there is every likelihood of this going through, and anything like this will, as you will understand, greatly facilitate matters. Perhaps, therefore, you can communicate with Mr. Rose and arrange to get this.

Yours faithfully,

R. T. LANG.  
p.p. B. G.

Replying to the foregoing letter, the proprietors of *The Motor-Car Journal* have intimated to Mr. Lang their surprise at such a suggestion being made to a newspaper of repute.

## COMMENTS.

### A New Competition.

BATH was full of motor-cars on Saturday, and the populace expressed critical delight at the presence of so many specimens of fashionable vehicles. But the proceedings of most interest to motorists were those which took place in the Guildhall, where the General Committee of the Motor Union held solemn assembly. From many points of view the matter of chief concern in the deliberations related to the measures to be taken to assuage the dust nuisance. It was agreed to draw up a scheme for a competition for the best mechanical appliance for the distribution of tar on the roads as a surface coating to combat the dust. The A.C.G.B.I. is to be invited to join with the Union in the matter, and a serious trial of machines should ensue. Such a contest is to be welcomed not only because of its really practical character, but as demonstrating to opponents of motorism the willingness of motorists to initiate and co-operate in any schemes which may render the work they are doing for the country less irksome to dwellers along the highways.

### The Scottish Trials.

THE work necessary to the completion of the report of the reliability trial organised by the Scottish Automobile Club (Western Section) has proved much more laborious than was anticipated, but it is hoped that the report will be available for inclusion in our issue of next week. It is naturally being anxiously awaited—by the public as well as by competitors.

### Privileged Persons.

MOTORISTS subject to the pains and penalties attached to the ownership of cars will probably not be pleased to learn that Cabinet Ministers are said to be exempt from the operation of the Motor Car Act, and that members of Embassies can easily outstrip its enactments. As reported on another page, an Act dating from 1708 has enabled the American Ambassador to escape the legal consequences of speedy travel. Had he been an ordinary person nothing less than a fine of £10 and costs would have assuaged the judicial anger with wrongdoers. The case was a close parallel to the Gurney matter, which occurred in Massachusetts about two years ago. Mr. Gurney, a secretary of the British Embassy, was fined £5 by a local magistrate for exceeding the speed limit in a motor-car, and another £5 for refusing to plead on the ground that he was protected by international law. The magistrate refused to recognise the bearing of international law, and the matter became the subject of diplomatic correspondence. Eventually the fines were remitted and apologies were exchanged, the American State Department, the Governor of Massachusetts, the local magistrate, and the deputy-sheriff who made the arrest all apologising to Mr. Gurney, and Mr. Gurney apologising for having broken the local regulations. That officials of embassies should have special privileges of this kind is anomalous, more especially as they may—we do not say they have—take advantage of the protection thus afforded to travel at speeds which the motorist liable to prosecution would not dare to attain.

### A Complaint from a Motorist.

IN our Correspondence columns Sir John Shiffner, whose interest in motoring is assured by his ownership of cars, gives a specific instance of inconsiderate driving of a vehicle which, we are sure, will be deprecated by all whose have regard to the future of automobilism. In narrow roads, where corners are plentiful and traffic may be about, it is the duty of motorists to drive with particular caution, and when they are called upon to stop, as was the case in this instance, the ordinary courtesy of the road should not be forgotten. Without entering into the merits of this particular incident we would point out to the public that the great majority of motorists are anxious to preserve good terms with everybody, and just as anxious to free the road from the few inconsiderate motorists as are pedestrians and drivers of horses.

### No Longer a Plaything.

A FEW years ago the motor-car was derided as the "plaything of the rich," and there were people ready to denounce it as the sport of idlers or a mere pastime. To-day the motor-bus is assailed by the residents in quiet streets as a noisy, demonstrative kind of vehicle that threatens to "murder sleep" and annoy everyone who happens not to live in a *cul de sac*. It is the utilitarian motor-vehicle that is now the

butt of letter writers, and the *bête noir* of councillors. Sir Theodore Martin can write at leisure against motor-buses, but the man anxious to get to business, and who saves twenty-five minutes in the journey from Putney to the Bank, is scarcely likely to appraise his objections at their real value. The truth is that the motor-bus meets a public want; it is only a question of time ere it is met in a quiet, reasonable, and proper manner.

#### Fleeing from the Noise of the Streets.

MEANWHILE it is interesting to learn that Sir Theodore Martin, having initiated the public discussion on what the papers are describing as the Motor Omnibus Nuisance, has made his customary annual visit to Llangollen—an event that, according to the “Llangollen Advertiser,” is more noteworthy this year than usual, because of the “exceptional reasons that have accelerated his periodical journey to Wales.” Sir Theodore “could endure the noise and smell and vibration of my Onslow Square house no longer,” and so provides our contemporary with a theme that sends the editorial mind into a state approaching the rhapsodical. “It is easily understandable that the environment of his beautiful home on the banks of the Dee, where every association and surrounding tends to the cultivation



Touring in Ireland.—On the Road to Castlebellingham, co. Louth.

Photo by]

[Mr. E. White.

of repose under the most ideal conditions, should prove a delightful haven of refuge from the hurry, the bustle, and the turmoil caused by those who, disregarding so many of the amenities that tend to make urban life endurable, create a condition of things that is a menace to mental peace and physical safety.” But surely it is not heroic to flee from the world of progress, as did the mystics of the Middle Ages. Cannot the famous litterateur stay and incite engineers and others to improve their inventions along the lines of an inodorous quietude?

#### An Indignation Meeting.

WHEN the typical Englishman is dissatisfied with any new developments, or wants to give vent to his feelings with regard to anything in general, the usual way is to hold an indignation meeting and pass resolutions—more or less to the point. This course has naturally been pursued with regard to motor-buses, and a great meeting of the tradesmen in business at Kilburn has been held to consider “the grave and growing menace to local trade caused by motor-omnibuses now running in the High Road, Kilburn.” One speaker propounded as a remedy for the difficulties of life in that part of the world that

motor-buses should not be allowed to follow each other in quick succession; other orators spoke of nerves and noise, sound and smell, and generally indulged in an alliterative flow of words which seemed vague and indefinite. We are afraid that shopkeepers must continue their denunciation until, with the advent of the perfect bus, they realise that the object of their present aversion is a blessing in disguise.

#### The Lords and Motor-Buses.

IN the serene atmosphere of the House of Lords the merits and demerits of the motor-bus have been discussed by noblemen with various qualifications for speaking on the subject. The Marquis of Granby, who initiated the discussion, declared that he did not use the vehicles, “as they never topped for him to get on”; Earl Beauchamp confessed that he frequently used motor-buses, finding them very comfortable and convenient. Apparently the noise of the vehicles was the quality which found most disfavour in the eyes of their lordships, but the difficulty of legislating on that point was set forth by Lord Ellenborough, who said that if it were constituted an offence for a motor-bus to make a noise it would be necessary to provide constables with instruments for measuring sound, because, as soon as a police officer had given his evidence that the noise was very loud some half-deaf old man would come forward and say that it was merely a pleasant hum, which sent him to sleep. Fortunately, Lord Montagu of Beaulieu was able to speak as one having authority, and to assure the House that all the complaints made in respect of smoke, smell, speed and dust were in process of removal.

#### Metropolitan Motorists.

THE formation of an automobile club for the Norwood district of London recalls a complaint which found vent last winter at the dinner of the Southern Motor Club, when regret was expressed at the lack of organisation among the hundreds of motorists in the Metropolitan area. The A.C.G.B.I. is a national asset of the movement and does not specially represent London motorists. But now that clubs are being formed in the various divisions of the Metropolis there is hope that, ere long, a Metropolitan gathering may be arranged on somewhat similar lines to the inter-club meets at Buxton and elsewhere. The Kensington Club has already made itself known to that of Hertfordshire, which, with the North London Club, looks after the social delights of motorists in that direction. The Essex Club represents another important section, and the South London organisation is even more comprehensive, its sphere of influence being, of course, south of the Thames. These, with the Blackheath Club, constitute the nucleus of a great meet of Metropolitan motorists, which would bring home to the people of London the growing greatness of the automobile movement.

#### Speed at Brighton.

*Et tu, Brighton.* Brighton, which has always been so friendly to motorists, welcoming them to its hotels with ready-money hospitality, and even incurring the expense of a legal suit that they might race along the Marine Parade, is now to be invited to declare that within the limits of the borough no motor-bus, motor-car, or any other form of automobile, is to be permitted to travel at a speed of more than eight miles an hour. Councillor Black has given notice that he will move such a resolution at the next meeting of the Town Council, and should it be carried, an appeal for a Local Government Board order of restriction would follow. Is this course necessary? We ask the question because the local hotel proprietors have, in the past, suffered much from the vindictive action of the local authorities, and the police on the road from London to Brighton. They do not want to be further injured by the isolation which might probably follow any ill-advised limitation of the rights and privileges of motorists visiting the town.



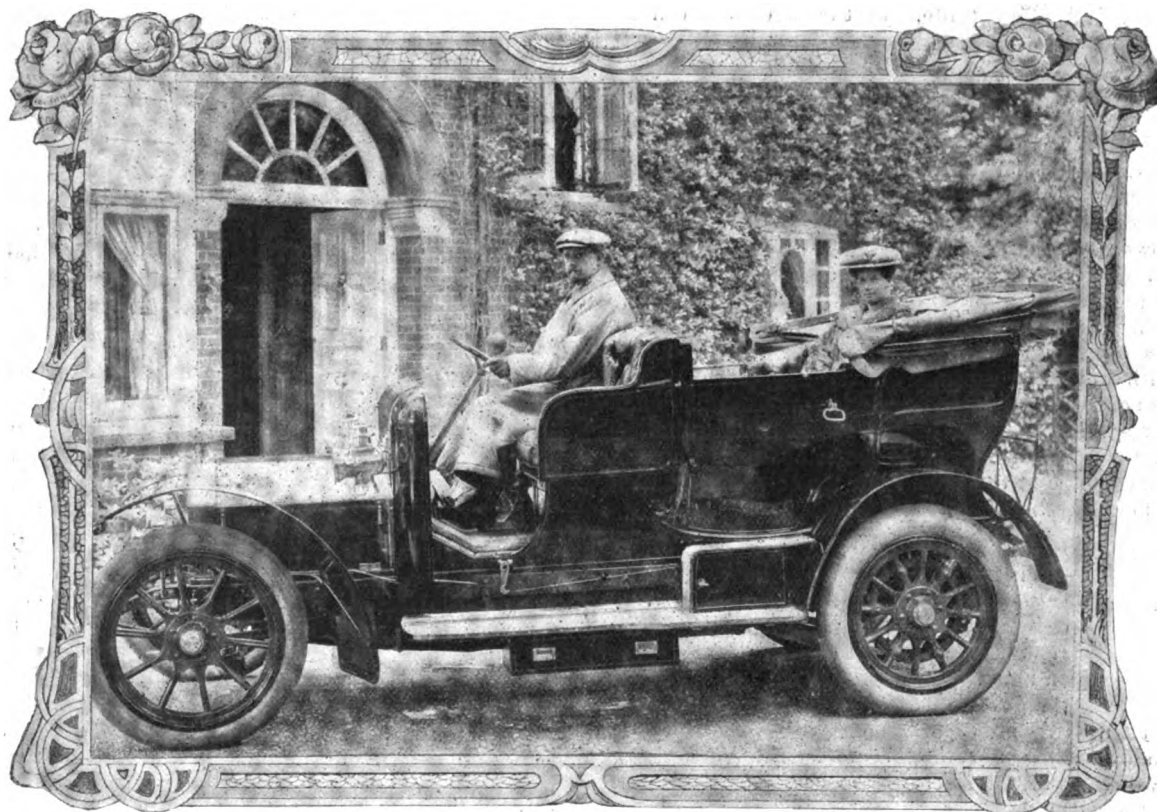
### Educational Work.

IN their report to the Motor Union meeting the joint committee of that body and the A.C.G.B.I. give a useful resumé of the work done in the preparation of the motorists' case for the Royal Commission, and rightly paid a tribute to the work of Mr. Rees Jeffreys in connection with securing the evidence and witnesses. Incidentally the occasion was made the opportunity for much educational and propaganda work, which has proved of value in lessening the feeling against motorists in many parts of the country. The circulation of the letter signed by 200 J.P.'s pointing out the failure of the police traps as a serviceable device in securing the public safety was a useful piece of work, as was also the testimony of the medical men. It remains now for individual motorists to continue the good work by considerate conduct when on the public roads.

trials by preventing cars taking part in any such trials from entering or taking part in any competition organised by or held under the auspices of the Club."

### Motorists v. Fruit and Fish.

WHEN motor-cars travel on imperfectly constructed roads their drivers are held up to opprobrium by market gardeners as the destroyers of their fruits, and by cattle-raisers as the poisoners of their flocks and herds. By a process of inductive reasoning Mr. Gardner, of the Farnham Rural District Council, has arrived at the conclusion that their destructiveness does not end there, but that they are responsible for the poisoning of fish in the rivers and other enormities too deep for words. Dust is on the roads, and the motor-cars raise it from the surface; then it becomes irritating and annoying to other people. To



Mr. and Mrs. Percy Barlow on their new 20-h.p. Brotherhood Car.

Mr. Barlow, who is a Justice of the Peace for Middlesex, and member of Parliament for Bedford, is an enthusiastic motorist. He has owned several cars during the last 34 years, his present stud consisting of his new Brotherhood, a Star Landaulet, and a Wolseley.

### Unofficial Trials.

So many unofficial trials of motor-cars, performing various kinds of creditable feats, have lately been reported in that section of the Press designated as "lay" or "general" at automobile dinners, that the A.C.G.B.I. Committee has seen well to adopt a resolution on the subject. At the last meeting attention was drawn to certain unofficial trials which had taken place, and the Committee unanimously agreed that it was unfair to those manufacturers who loyally supported the Club in its endeavours to have all such trials properly observed, for the safeguarding of the public interest, that extensive advertisement should be given to trials where recognised observers were not present. Captain Skeffington-Smyth thereupon moved, Earl Russell seconded, and it was unanimously resolved, "That the attention of those responsible for such unofficial trials be drawn to the following resolution, previously passed by the Committee, to the effect that, having in view the best interests of the public, and having an organisation for the express purpose of checking trials, the Club is taking action to discourage any unofficial

obviate this dust-laying preparations are applied, but these, mixing with the dust, are churned up from the roads, and the tar which forms a constituent element poisons the fish in the streams to which the dust ultimately falls. Such is the process of reasoning which has been luminously demonstrated at Farnham. Apparently the hand of every class of person is to be incited against the motorist; but to attempt to raise the ire of the quiet and patient angler, who is threatened with the loss of his sport, is one of the latest pieces of bucolic impertinence, against which we may well protest.

### An Automobile Museum.

FACETIOUS persons have suggested that a skeleton of a London 'bus horse might be obtained for preservation in the Natural History Museum ere the species becomes extinct. There is an element of humour in the notion—nothing more. A more practical and realisable suggestion is that for an automobile museum, a contribution to which has just been made by Mr. J. H. Knight, who has offered his 1895 car to the A.C.G.B.I.

towards the formation of an historical museum. This offer has been accepted, and it will be stored until a suitable opportunity for display presents itself. It has been proposed that, should it be found impossible to arrange for a special museum for the purpose, some part of the building at South Kensington might be devoted to the purpose. Ere it is too late the matter might well be taken up by the central authorities of the movement and the Government persuaded to recognise the importance of adequately housing any collection showing the progress of road locomotion which private enterprise may gather together.

#### An Australian Reliability Trial.

THE premier automobile event of Australia, the Dunlop Reliability Contest, is to be held this year on Victorian roads. The two previous successful contests were held over the Melbourne-Sydney route, but the wretched condition of the main trunk road between the two capitals renders a change desirable. The forthcoming contest is to be in no way a race, for the speed averages set are well within the powers of the cars in their respective classes. The contest will be held from November 12th to 17th inclusive. The route selected for the trial totals a distance of 1,007 miles, and is one that will appeal to all motorists, as it practically embraces some of the finest roads and scenery in Victoria. The classification of cars will be as follows:—Class A, single-cylinder cars; Class B, multi-cylinder cars, with a cylinder capacity of not more than 130 cubic inches (equivalent approximately to 13-h.p.); Class C, multi-cylinder cars, with a cylinder capacity of not more than 200 cubic inches (approximately 20-h.p.); and Class D, multi-cylinder cars, with a cylinder capacity of over 200 cubic inches (approximately over 20-h.p.) In most particulars the rules and conditions will be similar to those of the recent Scottish Reliability Trial, and a motor-cycle section of the competition may be held over the same course at the same time if sufficient promise of support from motor-cyclists is forthcoming.

#### Motor Picnics

THE motorist who can suggest some new form of entertainment for the delectation of organised motorists will render a service unto all his tribe. The Indian file style of run has had its day; the gymkhana is now at the zenith of its popularity. What next? The innovation of the Motor Cycling Club, with its motor picnics, is something for which we may be grateful, as affording a variant likely to interest motorists and give pleasure to their friends.

#### Inquiry at Stirling.

DANGER signals and symbols of the restriction of motor-car speed to ten miles an hour are prominent features of the Scottish landscape. They are likely to be even more frequent in Stirlingshire if the County Council of Stirling is allowed to have its own way. The General Superintendent to the Local Government Board of Scotland has been holding an inquiry into their application for prohibition of motor-cars on certain roads and restriction of speed on others. Mr. Ballantyne, road surveyor for the eastern district of the county, said he found no necessity to prohibit traffic on any of the roads in his district, having regard to what had been done after the inquiries in Perthshire and Ayrshire. A number of villages, such as Skinflats, Airth, Carronshore, Carron, Stenhousemuir, and Larbert, were scheduled for restriction of speed. There had been immunity from accident in the district, but it was desirable there should be a specific speed limit. Dr. D. R. Cox, road surveyor, central district, spoke to the nature of four roads on which it was proposed to prohibit motor-car traffic. These were the Millhall Road, Cowie Road, Northend Road, in the village of Cambusbarron, and Kippin Road from the station to the village. The closing of these roads was necessary both in the interests of motorists themselves and of the public, and although

no accidents had so far occurred on these roads, it was largely due to the vigilance of the public. Mr. Paul, road surveyor of the western district, deposed to the nature and condition of the roads which it was proposed to close in his district, the principal being the Rowardennan road from the Pass of Balmaha to the inn at Rowardennan. The District Committee had also scheduled all the villages for the lower rate of speed. Several witnesses were examined for the automobile clubs, their evidence being that there was no necessity for the closing of the roads or of imposing a speed limit, Section 1 of the Act being a sufficient protection of the public against reckless driving.

#### The Delivery of Cars.

PITY the woes of the prospective Parliamentary motorist. Just before Christmas last Colonel Lockwood, M.P., ordered a motor-car of French make; delivery was promised for the month of April. The last of that month went by and then the gallant colonel was assured possession in the "merry month of May." But "I have never received it," pleads the patient and long-suffering legislator, "and I am now told I shall certainly receive it in July. I have very little hope." In his tiresome period of waiting Col. Lockwood may console himself with the reflection that he is not alone in his plight. The tale of backward deliveries is almost universal; and, despite the great works that have lately been put up in this country, the demand remains unsatisfied. Those firms that can "supply from stock" are in a decided advantage this season.

THE South Indian Motor Union, of which Mr. F. E. Hooper, 2nd Line Beach, Madras, is the secretary, will hold a 400-mile reliability trial in December next.

FROM the Adams Manufacturing Company, Ltd., we have received a copy of the latest edition of the catalogue of Adams-Hewitt cars. The list has been considerably augmented and revised, and contains many new illustrations, amongst which is that of the new four-seated tonneau car.

AMONG the little novelties which Messrs. G. T. Riches and Company have lately put on the market is a compression gauge. The device, which is fitted with an adaptor enabling it to be screwed into the sparking plug hole, is arranged to indicate pressures from 30 up to 150 lbs. per square inch.

THE second volume of Mr. Worby Beaumont's monumental work on motor-vehicles and motors has been published by Messrs. Constable and Co. The plan adopted in this comprehensive review of automobilism is well known, and the whole work is likely to long remain the standard book of reference on the technical aspect of automobilism.

FROM the Electric Ignition Company, Ltd., of Sparkbrook, Birmingham, we have received a copy of the new catalogue of the E.I.C. "Ignitalities." The list is very complete, extending as it does to about fifty pages. Full particulars are given of the various ignition specialties of the company, including the well-known E.I.C. sparking plugs, induction coils, accumulators, charging sets, switches, contact breakers, high tension distributors, &c.

MESSRS. J. AND R. OLDFIELD, of Warwick Street, Birmingham, have issued an effective brochure giving the opinions of users of their "Dependence" rear lamp, which has the advantage of possessing a simple means by which the driver can satisfy himself that the lamp is in order, a brilliant ray of light being projected on the off-side of the car. There is no danger of the reservoir becoming detached, while experience has shown the immunity of the device from the effects of vibration.

THE Hull City Garage, Ltd., has opened a garage at the city end of Beverley Road, with accommodation for seventy cars and ample facilities for the repair of vehicles and storage of petrol, &c. Mr. C. T. Wade is the managing director of the new garage, with Mr. H. D. Smith as works manager. Col. Dibb, J.P., the chairman of the undertaking, presiding at the opening ceremony—the Mayor declared the garage open—said that police traps afforded no protection to the public, a view generally held by motorists, but not so common among J.P.'s.

## The Motor Union at Bath.

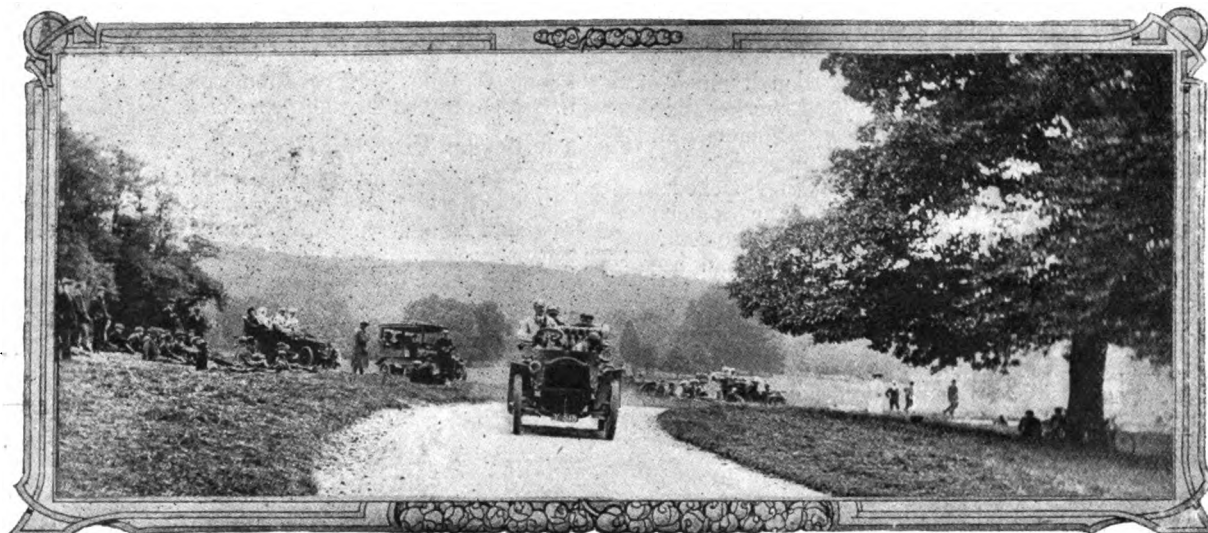


THE meeting of the Motor Union was held on Saturday at the Guildhall, Bath, with the Hon. A. Stanley, M.P., in the chair, supported by Earl Russell, Messrs. L. de Rothschild, Staner and Siddeley (A.C.G.B.I.); Messrs. Granville Kenyon (Kent), Charles Hardy (Notts), J. A. Morris (Manchester), Alan McAlfin (Leicester), J. C. Reeves (Kensington), Charles McWhirter and N. B. Kenealy (Hertfordshire), Arthur Dale (Bristol and Gloucestershire), Shrapnell Smith and Douglas Mackenzie (Motor Van and Wagon and Omnibus Users' Association), Frank Briggs (South Devon), Scrace Dickins (Sussex), J. Thompson Willows (South Wales), W. L. Lorkin and T. W. Maynard (Southern Motor Club), C. Rippon (Oxford), Ballin Hinde (Midland), A. Armitage (Somerset), Robinson Smith (Bucks), Captain Owen (Sonning), T. W. Staplee Firth, solicitor to the Union, and the secretary, Mr. W. Rees Jeffreys.

One of the first matters for discussion related to the dust question, and it was decided to hold a competition for the best mechanical appliance for the distribution of tar on the roads. Two prosecutions were ordered to be undertaken, one against the driver of a gig for an alleged assault on a motorist, com-

of the Commission's report, but the committee think that one further useful service could be discharged by them before they cease to exist. The report, whether in the main favourable or unfavourable to automobilists, will require careful examination and review. The committee therefore propose, upon the issue of the Commission's report, to prepare a pamphlet examining its proposals for general circulation. In that pamphlet they will include some of the evidence that they have collected, so that that document itself will state the case for automobilism, and will be in such a form that it is hoped that it will be of great value to the discussion which will take place in Parliament and the country when the Government introduces the next Motor Car Bill.

Early in the afternoon the cars left Bath for Longleat, where, by the invitation of the Marquis of Bath, a hill-climbing competition, organised by the Somerset Automobile Club, took place. Every car had to be of the tourist type, and had to carry its full complement of passengers of an average weight of 140 lb. No cars that had competed in an open racing competition in the years 1903-1906 were eligible. Details of the contest appear on page 476.



The Longleat Hill Climb. A competitor rounding the sharp bend on the course.

mitted near Ashford, Kent, and the other against a driver of a four-horse wagonette for obstruction at Epping. A number of applications for legal assistance were considered, and grants aggregating to over £120 were made. It was also resolved to pay the expenses of a test case which had been heard in Staffordshire, as to whether motor-cars are subject to local lighting by-laws, as well as the special lighting regulations laid down in the Acts and Orders governing motor-cars. The committee instructed the insurance committee to bring up a scheme for the insurance of the motor-cars of members. It was reported that the New Forest and Bournemouth A.C. had joined the Union, the membership of which includes 65 clubs and an aggregate strength of 12,500.

The report of the Joint Committee of the Automobile Club and the Union to collect evidence for the Royal Commission on motor-car traffic was presented, in which a record of its work was given, together with some references to the position in and out of Parliament. The present Parliament is far more sympathetic to automobilism than the last, and the members, as a body, appreciate to a greater degree the great advantages to the country of the encouragement of the power vehicle. The labours of the joint committee which was appointed to collect evidence for the Royal Commission technically end with the publication

In the evening a dinner was held at the Pulteney Hotel, Bath. After the loyal toasts, the Chairman (Sir A. A. Hood, M.P.) proposed "The Motor Union of Great Britain and Ireland," and as a Somerset man gave the members a hearty welcome to the county. From various causes, and partly owing to the enterprise of people abroad, the English makers did not get off first for the motor-car building trade, but our countrymen were making up that lost ground rapidly. Speaking as one who lived in, perhaps, not a typical motoring county, but a very difficult one, he thought the great thing they had to aim at in this part of the world was not speed only, but reliability, economy in the use of petrol, &c., and hill-climbing. He had had some experience, and he preferred a reliable car that would take him up a hill to a very swift car which was not so certain. Without wishing to touch upon politics, Sir Alexander said that in the recent election friends in the Motor Union provided him with sixty-five cars. They had many difficulties to deal with in this country with regard to motor-car traffic—everybody wanted a good road to drive upon, everybody who lived by the roads wanted a dustless road. It was fairly easy where they had a rich and dense population to get local help to make the roads dustless and smooth, but in the interests of the motor-car industry and of motor-cars he did not think it was a wise policy

to ask ratepayers to spend more money on the roads. In rural districts rates were fairly high now. But we wanted well-made roads, and he did not think the present system of making them was efficient or economical. As regards dust, they must leave it to the ingenuity of manufacturers to prevent motor-cars from scattering dust.

The Hon. Arthur Stanley, M.P., responded. Commenting upon the great change that had taken place in the attitude of the House of Commons towards motor-cars, the speaker said he believed it was due to increased education—in other words, to members having found out their value at the last election. As to the Chairman's remarks about roads, he might remind him that last year he introduced the Roads Bill, which embodied the principles Sir Alexander advocated. He believed it was perfectly possible, without increasing the rates or taxes, by an improved system of administration by a central department, to make the roads equal to the traffic now put upon them. Those gatherings at various provincial centres were of the utmost value not only to motorists but to all other people concerned, and it was good for those centres, for it enabled them to see a hundred or so cars coming into a town and going back without causing a single accident.

Mr. J. A. Morris, Chairman of the Manchester Automobile Club, gave the toast of "The Somerset Club," and spoke in high terms of the secretary, Mr. Armitage, and the committee, to whom the thanks of the Union were due for the successful way in which that day's proceedings had been arranged. The Somerset Club had a membership of 120, which was very good considering that it was a youthful club of two years' standing.

Mr. A. Armitage, in returning thanks, attributed much of the success of the day to the committee, who had worked hard and willingly with him. They were very slow in Somerset and always about 100 years behind the times, and he wished there had been more members to meet them, but what they lacked in quantity they, of course, made up in quality. The Somerset Club was a young and thriving club; they had a large county but a small population. Since the Motor Car Act had been passed he believed he was correct in saying that they had not had a single police trap set in Somerset. The Chief Constable and all his subordinate officers in the constabulary, as those who had toured in the county would agree, never failed to show the greatest courtesy, and the same remark could be applied to the police in the city of Bath.

Mr. W. Rees Jeffreys, the secretary of the Motor Union, proposed "The Marquis of Bath, the Mayor and Corporation of Bath," and his worship, in reply, regretted the absence of the Marquis of Bath, and thanked the Motor Union for visiting the city and showing the inhabitants that it was possible to have motor-cars absolutely noiseless and also with an absence of smell. What they saw most of in Bath were the motor-buses. The remaining toast, that of "The Visitors," was submitted to Mr. R. A. Sanders, Mr. G. T. Langridge responding.

MIDLAND motorists interested in the associations of Dr. Johnson with Lichfield will appreciate a booklet issued under the auspices of the local Tradesmen's Association by Mr. E. J. Burrow, of Cheltenham. There are many beautiful drives and walks in the locality, among others to the Beaudesert, the seat of the Marquis of Anglesey, and to Drayton Manor, the home of the great Sir Robert Peel.

AN interesting new model has just been brought out by Argyll Motors, Ltd., in the shape of a combination touring car and delivery van. Although the design is quite new, the company have already received several orders and a large number of inquiries, which go to show that such a vehicle is much needed amongst the mercantile community, who can use the van for business purposes and the open car for pleasure. The work of conversion from one form to the other occupies only a minute or two, the removable portion being secured by four bolts. Either as a van or as a car the vehicle is complete in every way, nothing having been sacrificed in making it convertible.

## CONTINENTAL NOTES.

### Motor Speed in Munich.

The police authorities of Munich have issued a warning that severe measures will be taken against motorists who drive at excessive speed through the streets of the town to the danger of ordinary traffic. The owners of cars caught travelling at a speed exceeding ten miles per hour are to be punished with imprisonment.

### The International Motor Cycle Cup Race.

The English delegates, supported by those of France, have entered a protest against the Austrian riders in the International motor-cycle cup race, on the ground that they were followed round the course by riders with spare parts, in direct contravention of the rules which provided for repairing and replenishing stations. The matter has been referred to Baron de Crawhez for independent arbitration, and until his decision is made known the official result is being held in abeyance.

### The Ostend Automobile Week.

The automobile meeting at Ostend was brought to a close on the 17th inst. by a trial of touring cars over what is known as the Littoral circuit, which takes in Blankenberghe, Bruges, St. Andre, Westkerke, and Snaeskerke, and which had to be covered six times, giving a total of 250 miles. Twenty-seven cars took part in the event; the best time (4 hours 45 min.) was made by Mr. Lee Guinness on a 60-h.p. Mercedes. The T'Serclaes Cup, offered to the car making the fastest aggregate time in the kilometre, mile, and five kilometres speed contest, was awarded to Mr. A. D. Grigg, who drove a 35-h.p. Daimler.

### The Belgian Criterium.

The 1,000-kilometre reliability trial for touring cars, known as Le Criterium, and held under the auspices of the Belgian, Spa, and Namur and Luxembourg automobile clubs, started on Saturday last. The competitors are divided into three classes, the first of which will be subdivided into six categories as follows:—

Class I. Category	Max. total Piston Area.	Equivalent Bore.		Mean Speed to be attained.
		cyls.	Max. Bore mm.	
1	cm <sup>2</sup> . 113,097	1	120	20
2	226,194	2	120	25
3	283,530	4	95	30
4	346,360	4	105	30
5	490,876	4	125	30
6	615,753	4	140	30

The competitors in Categories 3 to 6, in addition to the five days' tour outlined below, will be required to take part in a 500 kilometre race on the Circuit de la Meuse, while for those in Categories 1 and 2 there will be a hill climb at Spa on the 27th inst. Class II. is for cars entering for the five days' tour and the hill climb but not the race, while Class III. is for competitors willing to enter the five days' tour, but covering the same at any speed they choose, the only obligation being that they submit to official control when starting and on arrival at their destination. No less than 76 entries had been received. Of these 47 were duly weighed in on Friday last week, they comprising the following makes:—Aries, Darracq, Pipe, Fiat, Gobron, Miesusset, Ruhl, Metallurgique, Locomotrice, Vivinus, N.A.G., Germain, Vulpes, Hurtu, Benz, Mors, Martini, Imperia and De Cosmo. The first day's run was from Spa to Nimegen, a distance of 186 kilometres, M. Kinet, on a Pipe, being the first to be despatched at 8.30 a.m., the others following at minute intervals. On Sunday, the 22nd inst., the journey was continued to Cologne, 170 kilometres, 44 of the competitors safely reaching the cathedral city. Luxemburg, a distance of 210 kilometres, was the destination on Monday; Rheims, 226 kilometres, on Tuesday; and Dinant, 150 kilometres, on Wednesday.



### A Bavarian Touring Contest.

The Bavarian Automobile Club is organising a reliability trial for touring cars to be held on August 17th, 18th and 19th. On the first day the run is from Nuremburg and back, *via* Kissingen, a distance of 312 kilometres; on the second, from Nuremburg and back *via* Regensburg, 223 kilometres, while on the third day there will be a floral fete.

### The Florio Cup Race.

The Sporting Committee of the Italian Automobile Club has decided that the Florio Cup race, to be run off on the Brescia Circuit on September 2nd, shall consist of twelve laps, giving a total of 732 kilometres (457½ miles). Elaborate preparations are being made for the event, and it is expected that there will be over forty competitors, including all the principal makers of France and Italy. As we go to press we learn that the race has been suspended owing to the refusal of the Italian Minister of War to supply the troops necessary for guarding the course.

### The Boulogne Automobile Meeting.

An automobile meeting took place at Boulogne-sur-Mer last week, under the auspices of the Boulogne section of the Automobile Club du Nord. A gymkhana was held on the 19th inst., when the first prize was won by M. C. de St. André on a 35-h.p.

on a 100-h.p. Darracq, and Cecil Edge, on a 90-h.p. Napier. The former won easily in 17 3-5 sec., as against the latter's 35 3-5 sec.

### The German Motor Volunteer Corps.

About fifty members of the German Volunteer Corps will, it is expected, take part in the military manoeuvres to be held in Silesia in the autumn.

### Public Services in Germany.

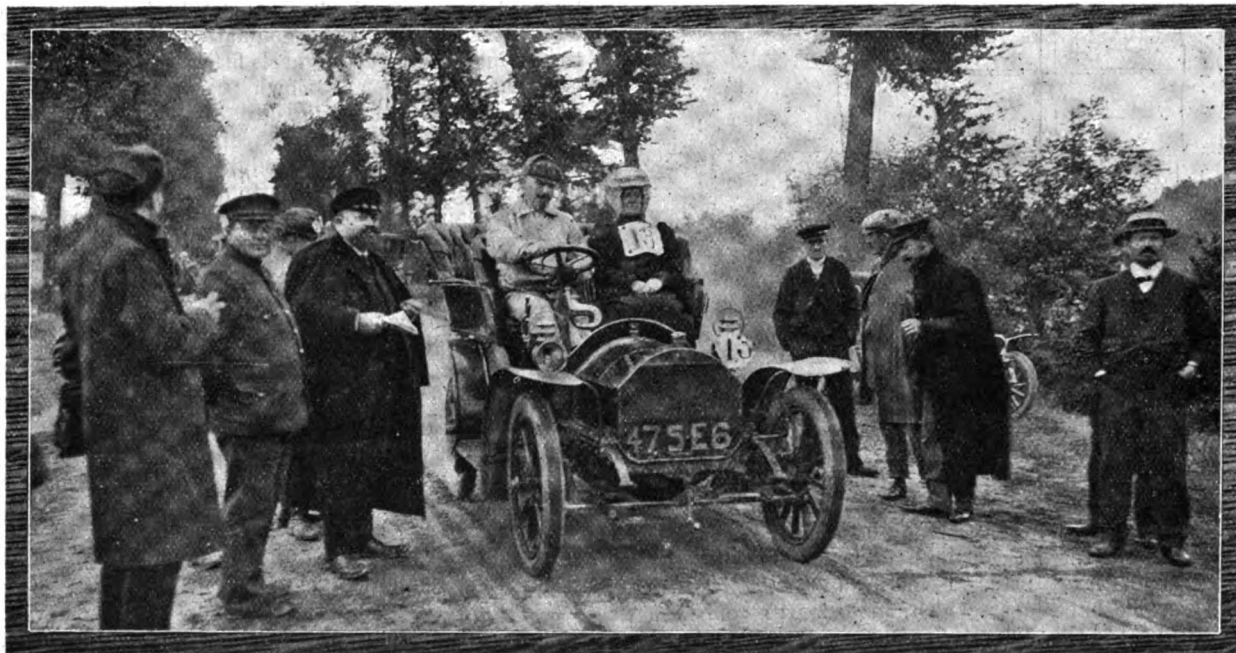
Negotiations are in hand for the establishment of a public motor-car service between Dürkheim and Ludwigshafen. The municipal authorities of Dusseldorf have voted a sum of £2,500 towards the establishment of a motor-bus connection between that town and Hamm.

### Motor Racing in Russia.

A motor race over a distance of 100 versts on the Tsarskoie-Selo-Gatchina road took place recently. The best time was made by M. Farrigh on a 15-25-h.p. Brasier, who covered the distance in 1 h. 36 min.

### Industrial Motor Vehicles for Spain.

Senor Alvarez, Secretaire Sub-Commission F.C.S., M.C.P. et Ouest de l'Espagne, Gare Delicias, Madrid, informs us that his



The Boulogne Speed Trials.—M. Capdeville on his 12-h.p. Unic Car.

Gobron. On Friday, the 20th inst., there was a series of events for the Leopold II. challenge medal. The cars were first submitted to a kilometre hill-climb in the Forest of Boulogne from a flying start, the best time being made by M. Franchomme on a 100-h.p. Darracq (38 1-5 sec.). This competitor was also the winner of the flying kilometre speed trial on the level in 31 4-5 sec., and of the kilometre (standing start) on the Tingry hill, about eighteen kilometres from Boulogne, the time in this case being 59 sec. In making the awards the times of the three trials were added together, with the following results:—

			Min.	sec.
Cars up to 10-12-h.p. ...	Bonté ...	10-h.p. Clement	4	9
		Bayard		
Cars up to 12-20-h.p. ...	Bathiat ...	18-h.p. Peugeot..	3	24
Cars up to 20-30-h.p. ...	Lattune ...	24-h.p. Cottin	3	7
		Desgouttes		
Cars over 30-h.p. ...	Franchomme ...	100-h.p. Darracq	2	9

The De Caters Challenge Cup, which was contested in 1904 and 1905 on the Doullens Hill over a distance of 500 metres, flying start, and was secured in the first year by Wagner, on a Darracq, and last year by Hanriot, on a Bayard-Clement, was also held during the day. There were only two competitors—Wagner,

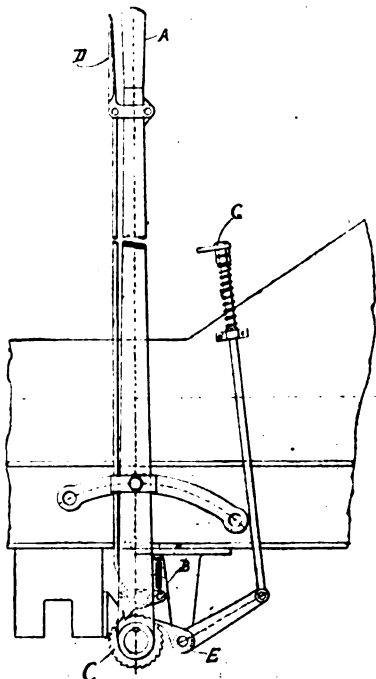
company contemplates the establishment of one or two motor-vehicle services for the transport of both passengers and goods, and that he will be pleased to receive particulars of such machines, together with any information with regard to the cost of operation of the same.

### Miscellaneous Items.

An automobile flower fete is to be held in Baden-Baden on August 29th next.—The Paris *Salon* is to be held from the 7th to the 23rd December next, and not in October, as has been incorrectly reported in some quarters.—The Michelin Company, of Clermont Ferrand, has just issued the 1906 edition of its "Guide to France," an indispensable work to all motorists touring in the country.—On Sunday next, the 29th inst., the Automobile Club Bourguignon will hold a hill-climbing competition on the Val-Suzon hill, near Dijon.—The Allgemeine Motorfahrer Verband of Vienna is organising a competition of motor-bicycles with side car attachments for the 29th and 30th inst. On the first day the run is from Vienna to Gratz, and on the second the return trip to the capital will be made, the total distance being about 250 miles.

## MOTOR 'BUS BRAKES.

THE recent serious motor-'bus accident at Handcross has caused the question of the brakes on such vehicles to come into special prominence, and we learn that the Ryknield Motor Company, Ltd., of Burton-on-Trent, have decided to fit to their latest type 40-h.p. 'bus, in addition to the two ordinary brakes which are under the driver's control, an entirely independent one worked by the conductor. This will



Arrangement of Ratchet-Gear for Rear Road Wheel Brakes of Critchley-Norris Motor-'Bus.

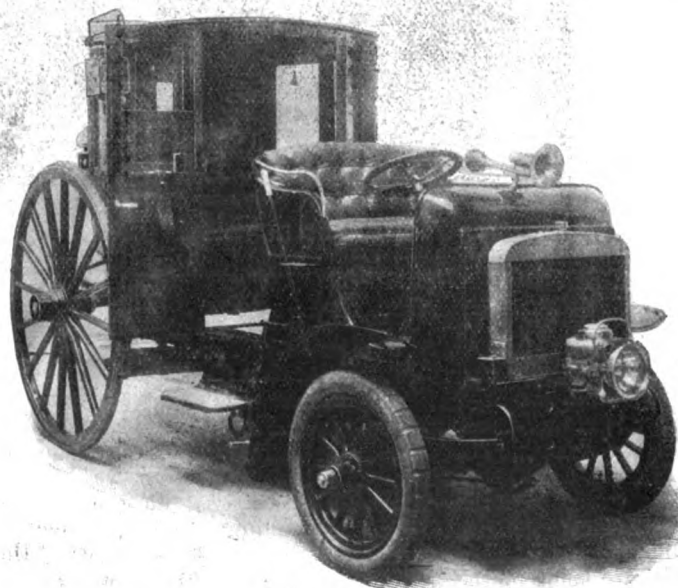
be a screw brake of the most powerful description acting directly on the road wheels, and it will be actuated by a hand wheel placed near the foot of the staircase. The Critchley-Norris Motor Company are also fitting their motor-buses with a special form of hand-operated brake acting on drums on the rear road wheels. The arrangement is such that there is practically no limit to the power that may be applied, and it is quite possible to hold the 'bus by the hand-brake alone on the very steepest grade with full load. Referring to the accompanying drawing, A is the hand-lever, which, in order to apply the brake, is pulled towards the driver. This lever carries a pawl B, which engages in a ratchet wheel C; the latter is fixed to a shaft which carries a lever coupled to the brakes on the back wheel. D is a trigger for lifting the pawl out of engagement. In pulling over the lever A the pawl B engages with the ratchet wheel C, and the shaft to which it is fitted, thereby putting on the brake. If at the first pull over of the lever A the brake is not on sufficiently hard, the pawl B can be lifted by the trigger D, the brake being held on by the pawl E. The driver can now push the brake lever forward and pull back again, when the ratchet wheel is moved a further distance and the brake is applied harder. In order to take off the brake the pawl E is released by the pedal G, and the pawl B lifted out of engagement by the trigger D.

SOLID-DRAWN weldless tubes for motor-cars, &c., lubricators, oil cups, &c., are illustrated in the new list which Messrs. John Spencer, Ltd., of Wednesbury, have issued.

THE 1906-7 catalogue of the London Autocar Company, 182, Gray's Inn Road, London, will be of special interest to those in the trade, and to garage proprietors, as well as to motorists on the look-out for spare parts, &c. In electrical accessories the list seems comprehensive enough for all practical purposes, and indicates the firm's facilities for supplying motorists.

## A NEW MOTOR HANSOM.

A DEMONSTRATION was given in London on Friday last week with a new motor-hansom which has been designed by the Pull-Car Motor Company, of Preston. We give an illustration of the vehicle herewith, and may explain that it is built up of two parts, the forward one of which carries the engine and transmission mechanism as well as the driver's seat and steering gear. The rear portion consists of an ordinary hansom cab body, the idea of the firm in designing the *avant-train* or motor fore-carriage being that of introducing an arrangement which can be readily adapted to existing forms of horse-drawn vehicles, so converting them into automobiles. The fore carriage comprises a short frame, to which is fixed, under the driver's seat, and at right angles to the usual position, a Fafnir 14-h.p. four-cylinder engine. The crank shaft is extended on one side, and carries near the end a chain wheel, on which works a Renold silent chain to convey the power to the intermediary shaft on which the change-speed gear is mounted. The latter is of the epicyclic type so largely used on many American cars; it is adapted to give two forward speeds and a reverse, controlled by pedals. The final drive is by a single centrally-located chain working on to the front axle, which is of special design to allow the forward pair of road wheels to act both as steers and drivers. The latter are shod with pneumatic tyres, while the rear pair are the ordinary solid-tyred wheels fitted to hansoms. Although these give the Pull-Car a somewhat novel appearance, their large diameter undoubtedly adds to the easy riding qualities of the vehicle, which in the course of a trial run along the usually bumpy Embankment proved most comfortable. The motive power being applied to the front wheels instead of the rear, as usual, is claimed to obviate all tendency of the car to side-slip, while another point is its ability to turn in a small circle—both desirable features in cab work. We understand that the Scotland Yard authorities have submitted the new motor-hansom to exhaustive trial, and, while desiring certain slight modifications as regards the brakes and size of the body, have approved the



general design, so that work is to be pushed on with the object of putting a number in service in the Metropolis at an early date.

THE fourth edition of the catalogue of Messrs. Van Raden and Co., Ltd., issued this year, has just been received from Coventry. Previous reference has been made to the comprehensive character of the list. Suffice it now to say that the firm have opened London offices at 8, Cecil Court, Charing Cross Road, where many of their electrical specialities may be seen.

LORD LONDESBOROUGH has just taken delivery of a 28-h.p. Daimler brake from The Motor House.

SOME farmers are declaring that, owing to the dust raised by motor-cars settling upon grass, it now takes a man two days to cut an acre with a scythe, whereas it only took one before motor-cars came into existence.

At the exhibition in connection with the Sanitary Congress at Bristol a bronze medal was awarded to Messrs. Wilson and Stockall for their motor ambulance.

A FUND for the relief of the distress caused by the motor-bus accident at Handcross has been opened. The bankers are Messrs. Martin and Co., Orpington, and the Kent Automobile Club has subscribed ten guineas to the fund.

UNDER the managing directorship of Mr. O. F. Mandy the British Bariquand and Marre Engine Company, Ltd., have opened a depot and show rooms at 10, Poland Street, London, W., for the sale of Barriquand and Marre petrol engines and motor components.

THE Sirdar Rubber Company have removed their head offices to 34, Baker Street, W. Wheels should, as before, be sent to the works at Shirland Road, Paddington, W., for tyreing and re-tyreing, as well as to the company's various depots in Dublin, Glasgow, and elsewhere.

At the recent Bisley camp one of the features of the busy scene was the motor accessory supply tent established by Mr. H. Quartermaine, of Woking, where he has two garages—one in Chobham Road and one in Chertsey Road—capable of accommodating from sixty to eighty cars.

THE value of the motor-cars and parts exported from the United States during May last is returned at £96,908, as compared with only £58,336 in the corresponding month of 1905. Of the total England is responsible for £27,621, and Canada £24,031, these being the two principal outlets for American automobile productions.

DURING the year ending March 31st the following registration work was done by the County of Essex registration authority:—Number of motor-cars registered, 196; motor-car transfers, 86; motor-cycles, 324; motor-cycle transfers, 185; motor-cars (heavy), 19; manufacturers' numbers, 9; driving licences, 1,172; driving renewals, 1,208; driving duplicates, 50. The fees amounted to £951 5s.

FROM 532, Oxford Street, W., comes a list of motor clothing and accessories stocked by Automobilia, Ltd. Among the garments for motorists are several new fashionable designs, and the stock of leather liveries is extremely comprehensive. Horns, lamps, tools and tool kits, jacks, pumps, &c., are all included in this new catalogue, which demonstrates the facilities that Automobilia possesses for meeting the requirements of motorists of all degrees.

MOTOR garages will be found at most of the principal hotels in Scotland, including the Portpatrick Hotel, the Fiebarachan Hotel, Aberfoyle; the Woodside Hotel, Doune; the Central Hotel, Edzell; the Commercial Hotel, Kirkcudbright; Kusack's Marine Hotel, St. Andrews; the Station Hotel, Oban, which has a first-rate inspection pit; and the Palace Hotel at Aberfeldy, near the scene of one of the hill-climbing competitions in the Scottish Reliability Trial of last year.

WE have had submitted to us recently by M. J. Agesilas, of 37, Barbican, London, E.C., samples of a new alloy he is introducing. It is known as "Fortior," and is stated to consist of a mixture of copper and aluminium with a few thousandths of other elements. Tests carried out with the alloy in the Laboratory of the Conservatoire National des Arts et Metiers, in Paris, show it to have a melting point between 1,010 and 1,030 deg. C. and that when heated up to between 690 and 730 deg. C. and tempered in water it possesses noteworthy properties as regards elastic limit and breaking load. The alloy is well adapted for use in many different parts of petrol engines and motor-cars, and as it can be forged as readily as iron and steel, is well worthy of the attention of automobile engineers.

## HERE AND THERE.

MESSRS. F. CLEAVER AND Co. have a motor garage and accessory store in West Street, Sittingbourne.

BEFORE the Recorder of London (Sir Forrest Fulton), on Tuesday, William Keen (26), engineer, was sentenced to twelve months' hard labour for obtaining two motor-cars by false pretences.

MESSRS. MILLS AND IVES have opened a garage and repair shop in Queen Victoria Road, Coventry. It is on the main road from London to the north.

WE learn that Mr. G. S. Bowles, M.P., has just placed an order with Messrs. Dean and Burden, Bro., Ltd., for a 25-30-h.p. six-cylinder "Scout" landaulet.

A NUMBER of medical men who motor met on Thursday of last week at Brant Broughton, on the invitation of Dr. Percy and Mrs. Sharp, who annually entertain their motoring medical friends.

MR. H. W. SOUTHALL, JUN., of Union Passage, Birmingham, has lately brought out a new tyre inflation gauge, of which we give general and sectional views herewith. The device is intended to supersede the ordinary pressure gauges attached to pumps, which frequently only register the pressure of the air passing through the inflator tube to the tyre, which is often considerably more than is actually in the latter. The Southall gauge, which is supplied in a strong leather-covered and lined

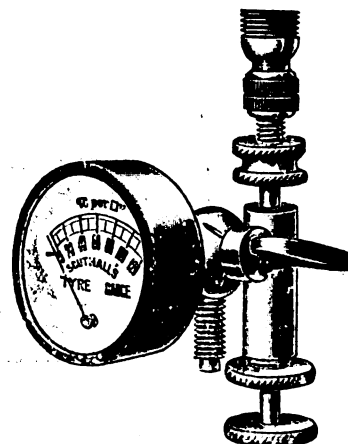


Fig. 1.—General View.

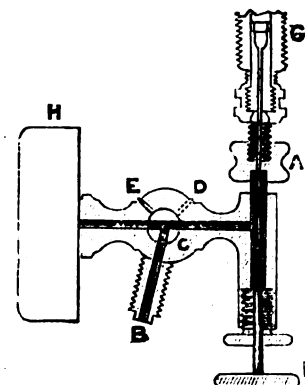


Fig. 2.—Sectional View.

box, consists of a union A, which fits on the tyre valve G, and a screw piece B on which the pump is fitted. This is set at an angle, enabling the pump to be screwed on more readily than on the valve direct. A two-way cock G, when at position D, allows air to pass from the pump B to the tyre; at the same time it cuts off the gauge H, which is thus not strained at each stroke. To read pressure in tyre the cock has to be in position E, which cuts off the pump B, and by turning the thumbscrew F the pin in the valve G is raised from its seating and a perfectly free passage is provided from the gauge to the inside of the tyre. If the pressure is found not to be sufficient, the thumbscrew must be turned back, the cock placed at position D, and more air pumped in.

THE returns issued by the U.S. Bureau of Statistics of the Department of Commerce and Labour for the fiscal year ending with June show that the automobile industry has broken all previous records. Approximately, cars to the value of £800,000 were imported into the United States during the year, £600,000 worth exported, while the output of home manufacturers amounted, roughly speaking, to £5,200,000. In its industrial effect upon the country the importance of the American automobile industry is keeping pace with its financial growth, as is shown by the census returns, the number of wage-earners employed having risen from 2,242 in 1900 to 10,239 in 1905. The gross outlay in wages has developed from £264,130 to £1,235,790 during the same interval.

THE Grand Duke Alexander of Oldenburg has acquired a 40-h.p. Benz car.

Two of the three candidates at the Cockermouth bye election are members of the A.C.G.B.I.

AMONG the contributory causes of his financial embarrassment, a Rochdale tanner assigns the popularity of the motor-car.

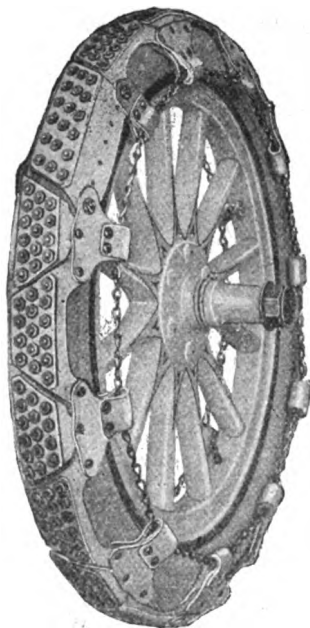
THE address of the London office of Mann's Patent Steam Cart and Wagon Co., Ltd., now is 9, Fenchurch Avenue, London, E.C.

A SINGLE-DECK petrol-electric 'bus of the Auto-Mixte type, with nineteen passengers, was successfully driven down Handcross Hill on Friday last week without the use of the brakes being resorted to.

MR. J. A. RYLEY, of 23½, Martineau Street, Birmingham, will forward to applicants a copy of his splendid show card of the "Vita" plug. He has just obtained a considerable order from abroad for these well-known plugs.

MESSRS. GALL AND INGLIS have issued another of their "Strip" Motor Maps, this dealing with the Midland Road, and giving intermediate distances as well as useful notes on the character of the roads between various places.

MESSRS. R. AND J. PULLMAN, LTD., of Godalming, possess experience of motoring with a knowledge of the leather trade that



has been well combined in the manufacture of a non-skid band of considerable merit. Their new type is detachable, and by creating a constant circulation of air between the band and the outer cover tends to reduce the temperature of the tyre. It yields readily to impact with substances on the road, and altogether possesses many points of excellence. The detachable non-skid consists of sections of leather, studded with steel rivets, which cover the surface of the tyre, and are attached to two chains following the circle of the rim, which allow the device to creep slightly on the surface of the tyre beneath. Contrary to what might be imagined, stones and grit do not work in between the band and the tyre below it; in fact, the band takes the entire rub of the road, and protects the rubber to a really remarkable degree,

which, in a practical test extending over many hundreds of miles, remained quite uninjured. Messrs. R. and J. Pullman are anxious for all motorists who want a really practical detachable non-skid to test this new type for themselves.

MESSRS. DURHAM, CHURCHILL AND CO. have recently obtained an order from the Sheffield Corporation for a 15-cwt. chain-driven delivery vehicle. It will be fitted with a 20-h.p. four-cylinder motor and 32 in. road wheels shod with twin 2½ in. Sirdar tyres at the back, and single 3 in. in the front.

MESSRS. LEGROS AND KNOWLES, LTD., have entered three Iris motor-boats for the Motor Yacht Club's Reliability Trials to be held at Southampton on August 1st and 2nd. Two of the vessels are fitted with the standard 24-h.p. Iris marine set, the engine comprising four cylinders, 4½ in. bore by 4½ in. stroke. The third is a lighter and faster boat, fitted with a 35-h.p. light marine set, the engine having four cylinders, 5 in. bore by 5½ in. stroke, running at 900 r.p.m.

THE fact that it is now in a third edition is testimony to the high opinion which the public has formed of Pitman's "Business Man's Guide," by Mr. J. A. Slater, and published by Sir Isaac Pitman and Sons, Ltd. It is really an A B C of business, a repository of commercial information, arranged in an easily-accessible form. The French, German, and Spanish equivalents of some English commercial terms and phrases are given, and the volume will be found useful in every office.

AN Argyll car has, for the third time in succession, gained first prize and gold medal at the Wirral Agricultural Show.

MOTORISTS travelling in Scotland will find the guides and time tables of Messrs. W. Macdonald and Co., Ltd., reliable and useful companions.

MESSRS. MARK MAYHEW AND CO., of Battersea, are announcing a sale of horses, being about to increase the number of motor-vehicles in their service.

OF the two 12-16-h.p. Clement-Talbot cars, that fitted with Palmer cord tyres gained the highest marks out of the sixty-four petrol cars which competed in the South Harting Hill Climb.

THE Immisch Launch and Boat Company, Ltd., has issued a catalogue of the motor-boats launched from its headquarters at Platt's Eyot, Hampton-on-Thames. The drawings and descriptions afford full information to intending motor-boatists.

MOTORISTS familiar with the early days of the automobile movement will regret to hear of the death of Mr. Roger H. Fuller, who did much for the industry when the car was less popular than now. The funeral took place on Friday of last week, at Surbiton.

MR. EDWARD ARNOLD'S "Wallet" series of handbooks fills a place in public requirements, and the little book by Mr. H. R. Reynolds included therein has interest of a general character. It is concerned with "Motoring for Moderate Incomes," and attempts to be of service to those who can afford the initial expense of £500 for the car and £100 per annum for upkeep. Hence its value to the public.

COLLISIONS between motor-cars and railway trains are, fortunately, not of frequent occurrence. One took place the other day at Woodville Road Bridge, Cardiff, where the Taff Vale Railway has erected a platform and instituted a service of motor-cars between that point and the docks. A motor-car was standing at the platform, partly under the bridge, when an engine with a tender and brake-van, the latter being in front, backed into the car, which was considerably damaged.

WE have just received a copy of the latest retail motor catalogue issued by Messrs. Brown Bros., Ltd., which is certainly one of the most comprehensive lists of motor goods published. The volume is strongly and tastefully got up, and contains about 150 pages of illustrations, including every article the motorist will want, no matter whether it is a car, motor-cycle, or the smallest accessory. All articles are numbered and priced out at the end of the catalogue, by which means one can see the price of practically every article at a glance without wading through pages of illustrations.

THE "Continental" Handbook for Automobilists has just been published. The work, which is of the greatest value to all motorists throughout the United Kingdom, contains amongst other subjects the following:—Speed tables, legal information, list of automobile clubs; hints on the cleaning and care of cars, as well as the clothing of the motorist, tyre manipulation, railway and steamer freights, European frontier regulations, automobile terms; alphabetical list of towns, with particulars of oil and petrol depots, repairers and garages, and other useful information, including a large road map of Great Britain. The Continental Tyre and Rubber Company (Great Britain), Ltd., will be pleased to forward a copy of this guide to any reader on receipt of sixpence in stamps to cover the cost of postage and packing.

THE Albany Engineering Company, which has removed into new works at Ossory Road, Old Kent Road, London, S.E., has sent us a copy of the new catalogue of Albany circulating pumps. These have already been described in the *M.C.J.*, and their many advantages have secured for them a large adoption by motor-car manufacturers for water-circulating purposes. The Albany Company are also now drawing attention to the utility of the pumps in connection with forced lubrication, by means of which oil is supplied to all essential points which cannot be reached by gravitation and the ordinary oil-can, thus preventing wear, saving the cost of repairs, and also a great amount of power. We may add that the ¾-in. size, which has been adopted by several leading manufacturers, weighs only 3 lbs., and works against a pressure of 200 lbs. per square inch.



## SOME CURRENT TOPICS.

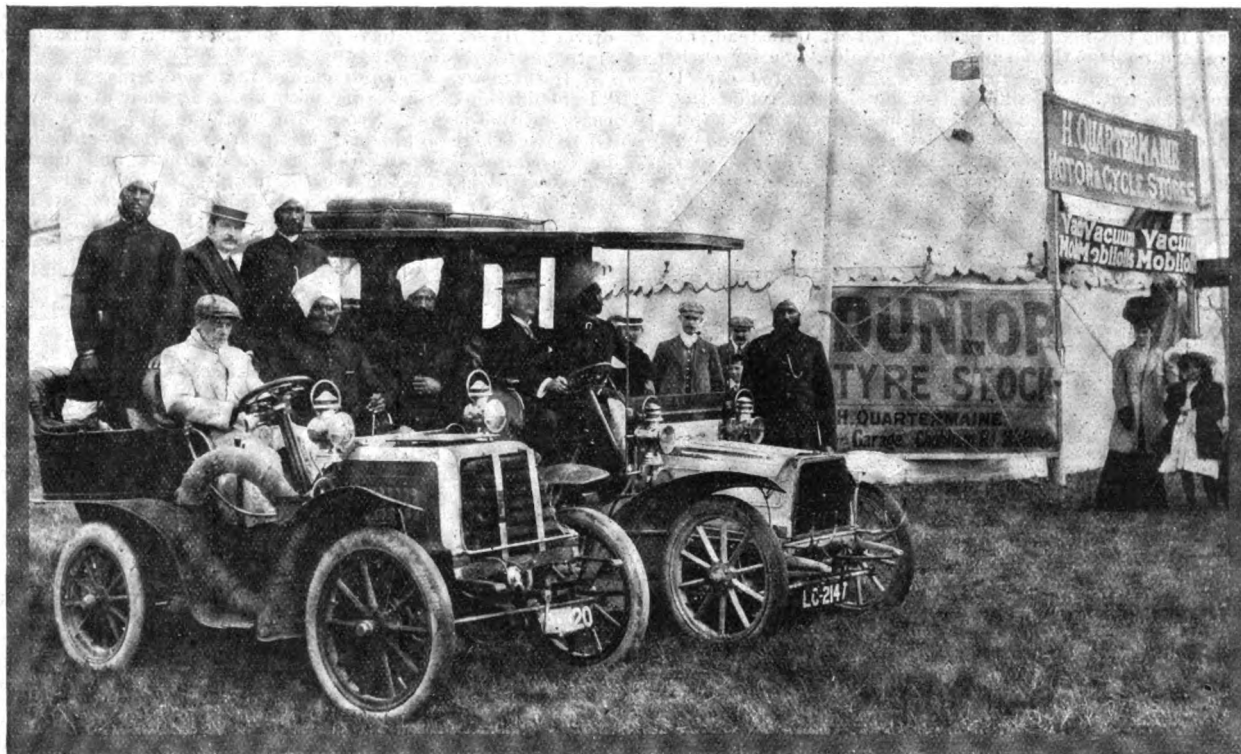
### The Horse-power of Motor-cars.

In connection with the remarks on this subject which appeared in the last issue of the *M.C.J.*, Mr. John S. Napier, of the New Arrol-Johnston Car Co., Ltd., writes as follows:—"I am of opinion that the solution suggested by the Germans is as far from the correct solution as ever, as by it an assumed speed of engine is taken—900 revolutions per minute—which makes the formula work out to the advantage of the cars with fast-running motors. It seems to me that one of the simplest and most nearly approximate methods of estimating horse-power for hill climbs or other competitions is to take the volume swept out of the cylinder per minute during the trial. This might be obtained by having a revolution counter attached to the engine, which

definite figure can be obtained, by which the relative merits of all cars can be accurately compared. I should be very glad to see the A.C.G.B.I. adopting such an arrangement, and I feel certain it will go far towards forcing manufacturers to build cars giving much higher thermal and mechanical efficiency than they do to-day, and further, will perforce lead them to go more into the scientific branch of their business and make them endeavour to find means of getting better results from a gallon of petrol than their neighbour."

### Hill Climbing.

In connection with hill climbing it may be well to remember that a great many short hills having good surfaces may be "rushed" on the top speed if the throttle is opened widely some distance before the hill is reached and the ignition somewhat advanced, so as to give the car the advantage of high momentum. As the car proceeds up the slope the engine will slow down, and while the throttle should be kept wide open the slower speed of the engine may require the ignition to be some-



The Malay State Guides, who competed at Bisle last week, leaving the Camp for a Trip to Windsor in Cars provided by Mr. H. Quartermaine, of Woking.

[A. H. Fry, Brighton.

Photo by]

can be put in gear by some official on the start of the competition, and put out of gear at the finish. The number of revolutions run by the engine having thus been ascertained, and the bore and stroke being known, the power could be calculated. The only fault with this system is the fact that one cannot know the mean pressure in the cylinders, which of course varies with every make of engine, and therefore an assumed mean pressure would have to be taken, so that the horse-power obtained would be more or less fictitious."

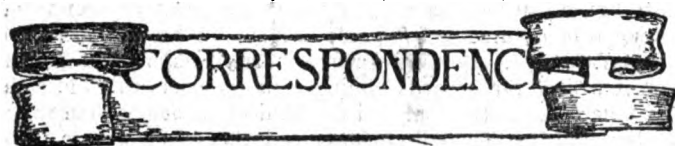
### Fuel Consumption as the Guide.

"The better method—and one which I have often wondered has not been adopted before—is," continues Mr. Napier, "that which was, roughly, put in force in last year's Tourist Trophy Race, i.e., that the fuel consumption be measured. A definite amount of power should be got from a certain quantity of fuel, and if that power is not obtained the engine or gearing is not as efficient as it ought to be. With the fuel consumption measured during a trial and the weight of a car known an absolutely

what retarded. If this is the case one will generally become aware of it by the knocking sound emitted by the motor. By the expert use of the throttle and ignition a very steep hill may be frequently ascended without recourse to a lower gear, but it is not advisable to wait until the motor is severely overloaded and almost brought to a stop before changing to a lower speed.

Mr. W. H. MASON, of Kingsland Bridge, London, is known to motor-car manufacturers as a maker of well-designed motor bodies, to which department he has given special attention of late years. From the designs submitted in his new catalogue the various types of carriages seem well designed and of good construction.

Mr. A. H. HUNT, 115-117, Cannon Street, E.C., has issued a catalogue dealing with Hellenes's dry cell ignition batteries. Advice and instruction as to the selection and use of dry batteries for motor-cars, cycles, &c., are given, as well as hints with regard to connections, &c., and useful testing instruments.

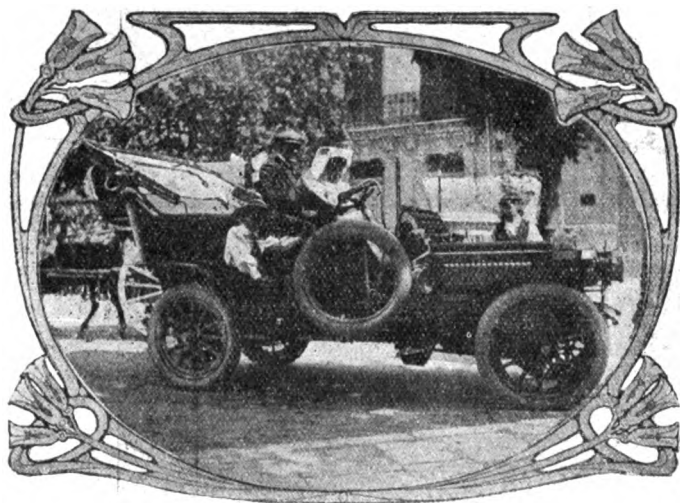


[Letters to the Editor should be addressed to the offices,  
87-83, Charing Cross Road, W.C.]

### A REGRETTABLE INCIDENT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As a subscriber to your paper for some time, I hope that you will find space for the following, which shows why some of the general public hate us motorists, and class us all as "road-hogs," owing to the misdeeds of a small minority. Perhaps also the publicity might be the means of my being able to identify the car in question. On Friday last, the 20th, I was out with two of my children, both of whom were riding donkeys, and accompanied by two dogs. I had just met a friend of mine who was riding a bicycle, and who had got off to talk to me. We were then engaged in talking to three of my men who were trimming the hedges by the side of the road, consequently there were a good number of us altogether, and as the road is a comparatively narrow one, it would not be asking too much to expect anyone to drive a car carefully past us. This was on the road between Lewes and Ditchling, about 200 yards beyond where the road makes a sharp turn from the main road leading to East Grinstead, at which turn there are no less than three red triangles, one for each direction. At just about a quarter to four a large covered car, I believe with brougham top, and painted dark blue, came round the corner from the direction of Lewes, and before I had time to get one of my dogs to my side of the road, hampered as I was with the children on their donkeys, was close on us. The driver blew his horn three or four times at the dog, but never slackened speed in the least, and drove



A Daimler Car in Spain.

The vehicle seen in the illustration was close to the scene of the explosion of the bomb thrown on the occasion of the wedding of King Alfonso.

right over him, two wheels passing over him, killing him on the spot. Thinking that no doubt the car would stop, none of us thought of taking the number till too late, and all we could make out was L.C. followed by a number of three or four figures ending in what looked like 89. One of us distinctly saw a man's head out of the side window, looking back, and I saw a face looking through the glass window behind. We waved to them to stop, but they took no notice whatever. I immediately went home, got out my own car, and went to Ditchling to inform the police, and to see if anyone could tell me anything about the car, but hitherto to no purpose. I then drove back to Lewes, and informed the police there, as the car probably came through there. This is the second time I have had a dog killed on the road, on both of which occasions the driver has gone on, though presumably aware of what he had done. The first occasion was before the days of identification plates. If any of your numerous readers can help me to discover the car, I should be most grateful, as such conduct is too disgraceful. It is to the interest of us all to stop this sort of behaviour.—Yours truly,

JOHN SHIFFNER, A.P. 8 AND 847.

### REFLECTIONS FROM GLASS SCREENS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As you wish for the experience of users of glass screens, and as I have used screens for years, and of a variety of patterns, I will

give my opinion, which is that the best screen is one not higher than the driver's eye—rather lower is better. I do not like any bar across the top of the glass. After using these low screens, both upright and sloping, I much prefer the sloping form. I am not at all troubled with reflections, and in case of rain, snow, or fog making the view indistinct, it is easy to look over the top. I would much rather drive in bad weather, either night or day, behind such a screen than with no screen and goggles. I consider it much safer. I have had no experience as yet in going through it, but, in my opinion, as soon as the heavy plate glass is broken, its own momentum and the push it would get from the bodies of the occupants of the front seat would send the lot well away, and their faces would be well above it. I think it is much more important to have the screen wide than high. The wide dashboards of the Daimler and Brooke cars lend themselves to this sort of screen, and the slope not only does away with dangerous reflections but is a great protection from rain. It is easy to fix a second screen above the one I have explained, with a greater slope still, but this I prefer of celluloid. The main point with this second screen is to fix it 2 in. above the glass. This gives a clear view with no draught on the face.

—Yours truly,

ERNEST ESTCOURT.

### DRIVERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Might I be permitted to say a few words re Mr. Percy Richardson's letter, from the point of view of a disappointed would-be driver? He seems to have gone thoroughly into the matter, for he has stated our case exactly.

If there was a club or garage that would give a good finish off, "I should think a few runs with about an hour at the wheel," I feel confident that there are scores who would be glad to pay a moderate fee. Of course, there would be a certificate required, "and one that would be recognised," to all who proved desirable and capable drivers. Personally I have taken a great interest in motor-cars, motor-cycles, &c., for years, and owned several motor-bicycles, so that I had a good idea of the petrol engine before I paid my premium for four months at a garage, and on more than one occasion have helped old drivers on the road out of trouble, but am still unable to find a way out of my own.—Yours truly,

A. WOULD-BE DRIVER.

### HILL CLIMBING CONTESTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I regret to see in your last issue that the North Eastern Automobile Association have been rash enough to admit steam cars to their hill climbing contest, thereby exposing most of their members owning some of our finest petrol cars to unfair and rather ignominious comparison. Moreover I learn that, instead of being grateful thereat, the steam car competitors actually had the ill grace to feel aggrieved at being excluded from the handicap. The promoters paid them the compliment of classifying them as equivalent to an eight-cylinder petrol engine of the same bore and stroke. What more can they want? Surely this should satisfy their self-esteem.

With regard to the handicap, it is a well-known fact that no formula has yet been applied that will work out the results of handicaps where steam cars are included without bringing out the steam cars on top, which is, of course, not at all a proper state of affairs. I would like to suggest, therefore, that the A.C.G.B.I. should offer some inducement—say a certificate of proficiency, at a merely nominal fee to cover expenses—to any person, provided he is a member of the A.C.G.B.I. or affiliated thereto, who shall invent and prove the efficiency of a formula which will work out these hill climbing handicaps in such a way as will permit petrol cars to clearly prove their superiority over steam, without actually excluding the latter.—Yours truly,

W. E. FURNEAUX.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to Mr. T. H. Woollen's letter in the last issue of the *M.C.J.*, I would assure him that the remarks contained in my previous letter were made after attending a number of the hill climbs held this year, and examining the cars taking part. It would obviously be incorrect if I were to assert that every member of the trade taking part in these competitions entered special cars, but what I do say is that the manufacturers and agents entering ordinary standard cars are placed at a serious disadvantage. The whole trouble is that the rules are not strict enough, and the rules that do exist are not sufficiently strictly enforced. It is, obviously, impossible for me to mention names, even did I wish to do so.

I cannot help thinking that Mr. Woollen has not been sufficiently critical in examining the various cars which have taken part in these hill climbs. I am not blaming the manufacturers, as, obviously, if the rules allow them to run such cars, it would be foolish of them not to take advantage of this, as the success of a car in a competition has a certain commercial value. It is a matter of business, as these events are now conducted. A proper formula—fair to everybody—and proper rules, is the sole solution of the whole trouble, and until we get these there is

bound to be a great deal of dissatisfaction, and very rightly so. While competitions are run under the present rules, I think it would be far better for trade entries to be barred. If Mr. Woollen has been successful in winning one of these competitions on one of his ordinary standard cars, I have to congratulate him, and his case is but the exception which goes to prove the rule.—Yours truly,

CHAS. JARROTT.

### THE CIRCUIT EUROPEEN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As one who had made every arrangement to go through the Circuit European competition, and which has since been abandoned on what I consider to be unsatisfactory grounds, I have endeavoured to ascertain from various representative British firms what amount of loss in materials and otherwise they have been at in the matter. I find that the manufacturers in the Midlands—the Daimler, Wolseley and Humber firms—have been the most direct sufferers. The Daimler Company built three special engines that they might be of the maximum size allowed for their class, and three bodies—in fact, three cars so constructed as to completely comply with the regulations for the event. They have them now on their hands. The first intimation received concerning the decision to postpone the trial was a report of Baron De Zuylen's speech in the French technical papers, on chancing to read which Mr. E. M. C. Instone wrote to the A.C.G.B.I. that strong repre-

### THE HELE-SHAW CLUTCH.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In answer to Mr. Herbert Smith's enquiry in the last issue of the *M.C.J.*, re the Hele-Shaw clutch I may say that the one on my 30 h.p. Argyll has given every satisfaction. I have had no trouble with it and have used it for over 4,000 miles. The Argyll people, I believe, fit them on all their cars now. You simply see whether they require any lubricant every 500 miles. A special oil is being supplied. I consider it is one of the finest inventions for cars.—Yours truly,

J. O. HUNT, JUN.

### ACCUMULATOR CHARGING.

TO THE EDITOR OF *The Motor-Car Journal*.

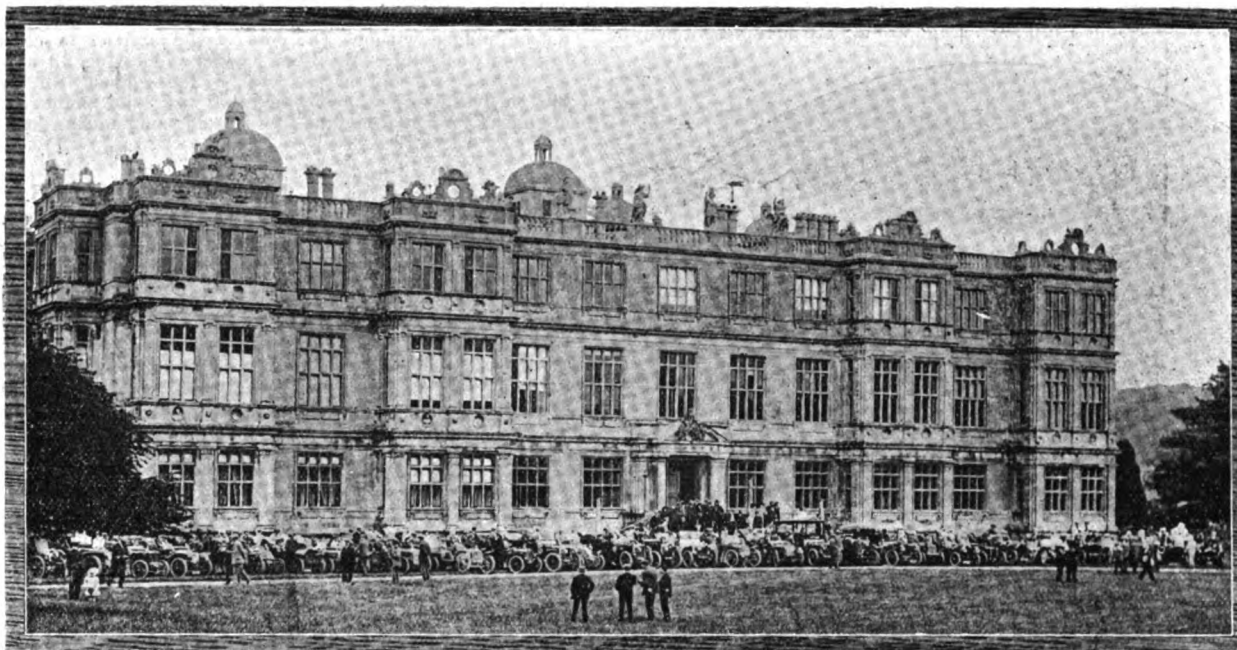
SIR,—I should be much obliged if some readers of the *M.C.J.* would state their experiences of the Boron cells for charging accumulators. I understand that a novel type of cell is now to be obtained, that may be used for both lighting and charging; such a combination would certainly prove most convenient in a motor house for inspection purposes, where petrol or other volatile liquid may be stored.—Yours truly,

C. COLLIN.

### STEAM CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to "Engineer's" letter in the *M.C.J.* of July 7th, re the climbing powers of steam cars, I must first correct an error I made



The Motor Car Meet at Longleat House, the Seat of the Marquis of Bath. (See page 465).

sentation should be made to the Automobile Club of France as to the damage, both financially and otherwise, which would be suffered by entrants in the event of the test being abandoned; and it is understood that the British Club took the matter up, without, however, any satisfactory results. The Humber Company entered two cars for the event, and the special bodywork, which had been practically completed, had to be scrapped. The Wolseley Company had particularly reserved itself for the trial. Indeed, they had not entered any large cars in any other test this season. They had specially finished two engines to meet the regulations, the maximum bore allowable being 130 mm., whereas their standard 32-h.p. engine has a bore of 133 mm. In addition the firm built two bodies to exactly the dimensions set out by the French Club.

The chief reason given out officially for the abandonment this year of the Circuit European is "with the view of giving more time." This might be argued to mean to afford the organising body more time: more actually it is that the French firms were not ready with their cars for this important event—mostly because they did not intend to be ready. I have a very shrewd suspicion that the real situation is summed in a phrase contained in a letter to me on the subject from the managing director of the Humber Company. "So far as we can learn, the preponderance of English cars entered alarmed the French makers, who feared the success of the English cars, and that is the real reason of the postponement." In any case, I think the time is ripe, now that we are in the midst of a comparatively dull season as regards motoring events—dull because it had been more or less set aside for the Circuit European—that what appears an eminently unsatisfactory business should be thoroughly investigated.—Yours truly,

H. MASSAC BUIST.

in my quotation from Mr. Smith's letter, and that is in the last sentence, "I have from a standing start driven a 9-h.p. new type Serpollet up a short incline of 1 in 3½," which should read 1 in 3. I happen to know that this was an actual test in the workshop, and I feel sure Mr. Smith would again carry out this test in presence of witnesses if required, to demonstrate the truth of this, as I know it is pretty hard to swallow.

Unfortunately, Mr. Smith has not given the name of the hill near Dorking with the grade of 1 in 3½ in parts, up which the Serpollet was driven. I think, however, that it must be Leith Hill, and when I cycled (but not motored) down this hill I formed a notion that it might be 1 in 4 if not steeper in parts. I have not got my map with me, otherwise I would give "Engineer" the bearings of the hill from Dorking, but I should think it would be about two miles S.S.W. of that place.

Re Clarkson's 'buses on 1 in 4.7, I can quite believe that they can go through the performance of stopping and starting on that grade, as I have seen them running in that town of hills, Torquay. I will, however, pin my faith to the Serpollet system, and think that the new Darracq-Serpollet 'buses will please the general public far better than any of the petrol systems. As the above 'buses will burn crude petroleum fuel at about 2d. per gallon, and as the engines of the Gardner-Serpollet system cost but little for upkeep, I think the Darracq-Serpollet should be a good success.

If the editor of the *M.C.J.* can see his way to reproducing a short article from the E.M. of July 6th re the purchasing of reliable second-hand small cars, I am sure he will be doing a great service to that great and ever increasing body of people with small means who wish to

go in for motoring, but who fear the first great expense. They think that they must pay a high price for even a second-hand car, and that if it is cheap it must be unreliable. The article shows that there are some reliable kinds which may be bought for the modest sum of £20. The cheapest way to buy a car is first to belong to the Motor Union, then get the Union to send one of their men to report on intended purchase.—Yours truly,

J. H. BROOKES-SMITH.

### THE RENAULT RACING CAR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Having noticed in a recent issue of the *M.C.J.* that the Renault car in the Grand Prix had no differential gear, I should be obliged if you could tell me whether both back wheels are keyed rigidly on to the axle, or whether there is some ratchet device, as in some small cars I have seen.—Yours truly,

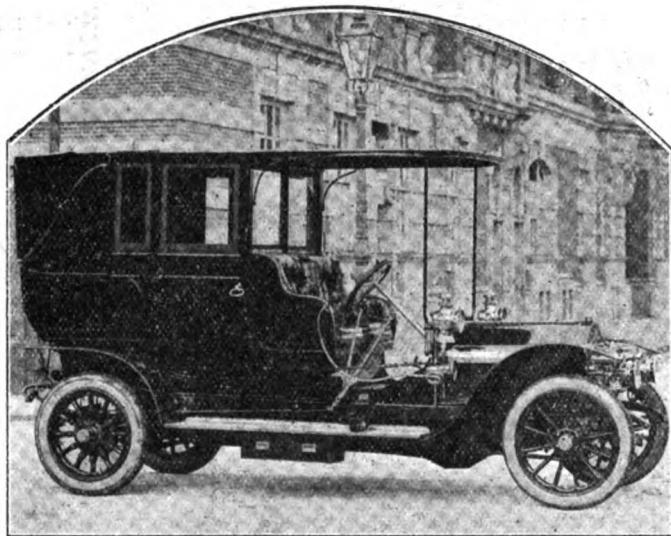
"MOTOR MAD."

[The rear road wheels were, we understand, rigidly keyed on to the axle. The wheel track of the car was reduced as much as possible in order to make up for the absence of a differential.]

### THE HORSE POWER OF MOTOR-CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—For several years I have suggested that the various powers denominated in makers' catalogues were misleading, and I have suggested that for the purposes of comparison cubical inch contents of cylinders was the only proper comparison. Whereas I took ten cubic inch contents to represent 1-h.p., Mr. Edge wants it to be represented by



The Special Car built for Sir Charles Hardinge by the Wolseley Company. The Chassis is of the 16-h.p. type, but is fitted with an 18-h.p. Siddeley Engine and a double Landaulst Body by Hamshaw, of Leicester.

seven cubic inches only. It makes no difference what the unit is. By all means let it be seven. There is, however, one point Mr. Edge leaves out in his formula, that is price, without which it is impossible to obtain a comparison of efficiency. I have, therefore, addressed the following letter to the Secretary of the A.C.G.B.I.—Yours truly,

D. M. WEIGEL.

Copy of letter from Mr. D. M. Weigel to the secretary of the Automobile Club of Great Britain and Ireland:—

July 17th, 1906.

With reference to the letter dated July 4th addressed to you by Mr. S. F. Edge and published in the automobile Press, would you permit me to point out that in suggesting a formula upon which to base a comparison between the relative performances of various makes of cars in hill climbing competitions Mr. Edge leaves out all question of price of the vehicles. Inasmuch as "efficiency" is merely another term for economy, I would point out that without the price being taken into consideration true efficiency cannot be calculated at all. The purchasing public are not only desirous of knowing which car is the speediest or best hill climber, but they are equally desirous of knowing what extra speed and power costs them. The car showing the best result in proportion to price is (there is no question of that) the most efficient. Therefore, in his desire to form a fair formula, Mr. Edge must include price, as his suggestion to obtain a true result of efficiency becomes an absurdity otherwise.

I agree with Mr. Edge that catalogue denominations of power should be ignored, and that the power of an engine should be denoted by its size, viz., cubical inch contents. The unit he suggests of 7 cubic in. per h.p. is in my opinion an impossible one to attain, but if all are treated the same it does not matter. I fail to see that weight has any-

thing to do with the question. Under Mr. Edge's formula the heavier car would have the best chance. If weight were limited to various classes thus:—Class A, under 18 cwt. all on, and class B, under 25 cwt. all on, the manufacturer would strive to make his car as light as possible, which is the aim of all makers. But under Mr. Edge's formula the manufacturer would have everything to gain, certainly nothing to lose, by manufacturing his car as heavy as possible. Surely that is a step in the wrong direction. The formula I would suggest is:—

Price  
h.p.  $\times$  time.

Taking as an example three cars' out of Mr. Edge's list, and suggesting that all cars did exactly the same time, say 60 sec. up an imaginary hill, and base the h.p. on the suggestion that 7 cubic in. equal 1-h.p., we have the following result:—

30-h.p. Daimler	...	690	$\times$ 60	=	657½	points, winner.
		63				
24-h.p. Fiat	...	720	$\times$ 60	=	685½	" 2
		63				
40-h.p. Napier	...	1250	$\times$ 60	=	1744½	" 3
		43				

It will be readily seen that the Daimler is slightly, in fact a mere fraction, more efficient than the Fiat, but that both of them are practically three times more efficient than the Napier. Can it be that because, based upon a proper formula, the Napier car being about the heaviest and dearest car upon the market, it would be practically last every time, that Mr. Edge has proposed his curious formula? In framing a rule for efficiency, might I repeat that efficiency being merely a coined word for economy, that co-efficiency or comparative economy cannot be judged without the cost of the articles in competition being taken into account. Mr. Edge's letter suggesting an attempt to judge co-efficiency without price is absurd, and I trust, Sir, that your committee will view the matter from the same point of view that all engineers view it from, and that is—efficiency means cost.—Yours truly,

D. M. WEIGEL.

### BRAKES FOR MOTOR-BUSES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Whatever the expert decision as to the cause of this—the Handcross—accident may be, the question of brakes must undoubtedly be seriously considered, admitting that the present system of braking is sufficiently good to brake the cars for quick stoppages on level surfaces. In making long descents the brake strain is much increased, and these being sensitive to allow for foot actuation, the writer considers them inadequate. If the London bus companies would requisition the experience of a good carriage builder to fit a brake of the wheel type as fitted to heavy horse-drawn vehicles, the results would be satisfactory. I suggest this to be an additional emergency brake, which would give the riding public the satisfaction of knowing that their safety was being considered.—Yours truly,

J. HOLDING.

### THE DANGER OF PETROL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was much interested in the letters on this subject from Mr. C. S. Drewry and Mr. W. Jamieson in the last issue of the *M.C.J.*, and in connection therewith it may be useful to mention that if the motor is run for a considerable length of time in a closed stable the exhaust gases pollute the atmosphere to such an extent as to render it unsafe to breathe. Respiration of such vitiated air for any considerable period is likely to produce a condition of intoxication, which is characterized by headache, nausea, and finally by unconsciousness. There should always be plenty of ventilation if a motor is to be run very much in a small stable.—Yours truly,

W. S. S.

### A FIERCE CLUTCH.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you would advise me re my leather-lined clutch, which is very fierce. When I let the pedal back ever so gently it does not bite at all until it grips with a bang. I have tried castor oil with only temporary effect, and have also loosened the spring; the clutch is nearly new.—Yours truly,

E. C. ELDRIDGE.

[The clutch might be thoroughly washed out with paraffin to remove all the grease. After the paraffin has been allowed to drain out the clutch will in all probability be found to slip. This can, however, be overcome by dusting a little fuller's earth powder on the leather, and occasionally dressing with castor oil and paraffin in equal quantities.]

NORFOLK HOTELS.—A correspondent about to take a holiday in Norfolk will be glad to have the names of any inns in the county that have satisfactory accommodation for motorists, not necessarily fashionable hotels, but comfortable hostleries for man and car.

HAVING seen Mr. Henry Moore's letter in the *M.C.J.*, Mr. A. Fincher would like to add his testimony as to the reliability of the Moseley Tyre Company's tyres. He has used their 34 by 5 tyres on his 18-h.p. car for the last six months, and, although he has ridden them over 2,000 miles, has never had a puncture.



## CLUBS AND ASSOCIATIONS.

### AUTOMOBILE ASSOCIATION.

WITH reference to the extension of their work between London and Scotland this season the Association selected a route likely to suit the requirements of most automobilists whose cars will start for the north in August. It is as follows:—London, Barnet, Hatfield, Stevenage, Baldock (or Hitchin) Biggleswade, Buckden, Stamford, Grantham, Newark, Retford, Doncaster, Ferrybridge, Tadcaster, Wetherby, Boroughbridge (via Leeming Lane) to Catcliffe, Scotch Corner, Darlington, Newcastle, Morpeth, Alnwick, Belford, Berwick, Dunbar, E. Linton, Haddington, Musselburgh, Edinburgh.

Over four hundred miles of road will be patrolled by the cyclists, whose services in respect of tyre troubles or temporary mechanical derangements will be an important factor in the progress of motorists to the moors.

### CRYSTAL PALACE.

A MEETING has been held with a view of forming an automobile club for the district. Twenty-one names were enrolled upon

1 min. 34 5-10 sec.; Messrs. F. C. Allworth, 1 min. 34 4-5 sec.; L. Beadle, 2 min. 36 4-5 sec.; H. A. Cunis, 2 min. 31 2-5 sec.; C. Gordon, 1 min. 28 1-5 sec.; A. Jackson, 2 min. 6 sec.; Mrs. Lucas, 2 min. 13 3-5 sec.; R. Lucas, 1 min. 57 2-5 sec. Hot water was provided for a picnic tea, members bringing their own tea baskets, and everyone present enjoyed themselves immensely, the weather and scenery leaving nothing to be desired, and the thanks of the club was heartily accorded to Lord Derby and the Hon. Arthur Stanley for their kindness and courtesy in the matter.

### MANCHESTER.

THE speed-judgment test competitions promoted by the Manchester Motor Club are always popular, and the fifth of the series, held on Saturday afternoon, proved no exception to the rule. Three prizes were offered, and of an entry of twenty-six, eighteen competed. There was a large gathering of motorists at the Kilton, Hoo Green, to witness the start. Mr. A. R. Albert started the men at Lower Peover at two-minute intervals, and each competitor was advised that the speed was to be at a rate of eighteen miles per hour. As to the distance timed over each competitor was entirely ignorant until he had finished. This proved to be four miles, so that the time standard of 13 minutes 20 seconds determined the prize-winners. The times accomplished were remarkably close, seconds only dividing the successful competitors from the correct time, thus showing pace judgment of no means order. The results were:—E. J. Dowe (tri-car), 1; J. T. Ward (motor-bicycle), 2; R. Stansfield (tri-car), 3.

Last week end the club had two important events. On the previous evening they had a race meeting on a small scale at Fallowfield track



The Scheveningen Automobile Meet. The Procession of Decorated Cars along the Promenade. [De Auto.

the membership list. It was decided that the title of the club should be "The Crystal Palace Automobile Club." Mr. Henry Hollands, of 16, Anerley Grove, Norwood, S.E., will act as hon. secretary, and members of the club will have the opportunity of joining the Crystal Palace Club. The subscription will be one guinea per annum, with no entrance fee for the first hundred members.

### EDINBURGH.

THE result of the Edinburgh Motor Club's recent competition on Soutra Hill has been officially declared as follows:—1, J. F. Duthie, 10-h.p. Whitlock-Aster; 2, R. Aitken, 16-h.p. Peugeot; 3, F. G. Simpson, 10-h.p. Humber; 4, R. Wilson, 10-h.p. Humber; 5, W. Inman, 15-h.p. Darracq; 6, Dr. Veitch, 20-h.p. Argyll; 7, L. Knoblauch, 6-h.p. Siddeley; 8, R. Henderson, 20-h.p. Humber; 9, W. Adams, 24-h.p. De Dietrich; 10, Stirling Paterson, 15-h.p. Darracq; 11, W. L. Hugh, 28-h.p. Daimler; 12, A. Mackenzie, 16-h.p. Albion; 13, S. Morrison, 20-h.p. Darracq; 14, J. W. Patten, 8-h.p. Rover.

### BLACKHEATH.

THE speed-gauging competition of this club, which was held at Holwood Park, the seat of Earl Derby, proved a great success. Lord Derby and the Hon. Arthur Stanley met the members of the club on a car. A course of half a mile had been prepared, over which competitors had to drive at a speed of fifteen miles per hour, and consequently the one that ran the course nearest to two minutes' time was the winner, closest times being as follows:—Hon. Arthur Stanley, M.P.,

the event being a ten miles eliminating race on trial runs in four heats, to select a team to compete against the Liverpool Motor Club, who have challenged the Manchester Club to an inter-club race on New Brighton track on the 8th prox. The four heats were won respectively by H. Andrews, L. G. Barber, F. Dunderdale, and P. H. T. Butler, the runners up being J. Fraser, F. Westmoreland, W. T. Munroe and A. J. Moorhouse, and from these the team will be selected.

### CARDIFF.

THERE were sixteen entries for the speed judging competition of the Cardiff Motor Club mentioned in our issue of last week. The first prize was won by Mr. Harry Prickett, who reached the finishing post only five seconds over his time. Mr. J. W. Blackaller was second, and Mr. H. Haddon third.

### NORTHAMPTONSHIRE.

A MEETING of the committee of the Northamptonshire Automobile Club has been held at the George Hotel, Northampton. There were present:—Major Hibbert (chairman), Rev. S. Seggins Pratt, Dr. Henshaw, Mr. Humphrey Bennett, Mr. Charles W. Phipps, and the hon. secretary (Mr. Sidney F. Harris). The following gentlemen were elected to serve on the Legal Cases Committee:—The chairman, vice-chairman, Mr. F. Bostock, Mr. H. Bennett, and the hon. secretary. It was decided that a fee of 1s. be charged to all club chauffeurs who have their names entered on the register. It was proposed by the Chairman,

seconded by the Rev. W. S. Pratt, and carried, that a letter he sent to Colonel Stopford Sackville thanking him for his kindness in inviting the members to Drayton House on June 29th, and expressing their great appreciation of the way in which he entertained them.

### WEST SURREY.

THE invitation meets during July of the West Surrey Club were all marked by good attendances, this form of club activity being found, as a rule, to secure more support from members than any other except competitions.

On the 7th inst. members met at Grayswood Tower, Haslemere, by invitation of Mr. and Mrs. Barker. The meet on the 14th inst. was at Frolbury Manor, Dorking, by invitation of Mr. Warne, when more than fourteen cars attended. On Saturday last Dr. and Mrs. Rideal entertained the club at The Chalet, Elstead, among the members attending being Colonel Fairtlough, Mr. Alder, Colonel Swaine (Cadillac), Mrs. Sartorius (Cadillac), Mrs. Bullard, Messrs. Warne, Ingram (C.G.V.), Sparkes, Leon, Buttemer, Houghton (Renault), Dr. Bryden (Speedwell), Dr. Henderson and Mrs. Williams.

The annual gymkhana will take place to-day (Saturday), at Prior's Field, Compton.

### MOTOR CYCLE UNION OF IRELAND.

THE Dublin centre of the Motor Cycle Union of Ireland held a hill climb on Saturday last on a hill some miles from Dublin, in the Co. Wicklow. The contest, which was a handicap under the formula of Professor Callendar, was divided into two sections, pedalling and non-pedalling. The following are the times of the various competitors in both sections who succeeded in reaching the finish, where Mr. Colman O'Connell officiated, Mr. T. W. Murphy timing at the start:—

#### CLASS A. (PEDALLING).

Position.	Competitor.	Car.	Time. M. s.
1.	J. G. Drury ...	3-h.p. Triumph ...	3 58
2.	E. O. B. White ...	2½-h.p. Griffon ...	4 7 2-5
3.	C. B. Franklin ...	3-h.p. Triumph ...	4 8
4.	W. J. Gillespie ...	3-h.p. Morehampton ...	4 15 2-5
5.	W. Ladley ...	3½-h.p. Morehampton ...	4 28 4-5
6.	H. A. Evans ...	3-h.p. Singer ...	4 33 1-5
7.	B. Dumphy ...	2½-h.p. Minerva ...	4 47
8.	R. W. Howison ...	2½-h.p. F.N. ...	4 53
9.	J. Mooney ...	4-cylinder F.N. ...	5 3 2-5
10.	J. Hurst ...	2½-h.p. F.N. ...	5 14
—	W. H. Meredith...	2-h.p. Triumph, did not finish.	
—	E. Cannon...	2-h.p. Minerva, " "	
—	W. Jacques ...	3½-h.p. Aleyon, " "	

#### CLASS B. (non-pedalling.)

1.	C. B. Franklin ...	3-h.p. Triumph ...	3 38
2.	B. Dumphy ...	2½-h.p. Minerva ...	3 51 4-5
3.	J. G. Drury ...	3-h.p. Triumph ...	3 54 4-5
4.	W. Ladley ...	3½-h.p. Morehampton ...	4 6 1-5
5.	W. J. Gillespie ...	3-h.p. Morehampton ...	4 49 2-5
6.	W. James ...	2½-h.p. N.S.U. ...	4 57 1-5
7.	J. Kavanagh ...	2-h.p. Morehampton ...	5 34
—	H. A. Evans ...	3-h.p. Singer, retired.	
—	E. O. B. White ...	2½-h.p. Griffon, " "	

### AUTOCYCLE.

THE Autocycle Club's quarterly trial has been held over a 125 miles course from Uxbridge, via Beaconsfield, High Wycombe, and Dashwood Hill, to Banbury, returning to Uxbridge by way of Bicester, Aylesbury, Berkhamstead, and Chesham.

Out of an entry of twenty-three (fourteen bicycles and nine tricars), seventeen started, there being eleven bicycle-riders and six tricars. Non-stop runs were made by J. W. Chapman, 3½-h.p. Quadrant; G. Aldington, 2½-h.p. Kerry; W. Gunn, 10-h.p. Lagonda tri-car; Mrs. Hilda Hewett, 10-h.p. Lagonda tri-car; B. Holland, 9-h.p. Singer tri-car; C. K. Phillips, 9-h.p. Singer tri-car. The order of merit in the ascent of Dashwood Hill was:—Bicycles, L. W. Bellinger, 3½-h.p. Quadrant, 1; C. H. Gold, 3½-h.p. Rip, 2; H. C. Ebbutt, 6-h.p. Jap, 3. Tri-cars: B. Holland, 9-h.p. Singer, 1; Mrs. Hewett, 10-h.p. Lagonda, 2; W. Gunn, 10-h.p. Lagonda, 3.

### IRISH.

AN extraordinary general meeting of the club was held at the club premises, 34, Dawson Street, Dublin, when it was resolved that the amount of the entrance fee should be increased to three guineas. It had also been proposed that the annual subscription of members residing within twenty miles of Dublin should be increased to three guineas, but as this did not appear to meet with the approval of many members, this suggested alteration in the rules was withdrawn. The hon. secretary explained that all steps had now been taken for the registration of the club as a limited liability company, thus limiting the liability of members, and enabling debentures to be issued.

### MOTOR YACHT.

WITH pouring rain nearly all the previous day, it looked ill for the Club Handicap on Saturday, for which no less than twelve boats were entered, but in the morning the weather cleared up and it turned out a beautiful day. With a hot sun, a light N.W. wind and a smooth sea, Southampton Water was looking its best. Eight boats were started, and finished at the following times:—

		Start. H. m. s.	Finish. H. m. s.	Result.
Penguin ...	Mr. H. W. Hutchinson ...	2 40 48	5 0 40	3rd.
Tramp ...	Capt. E. T. Dixon ...	3 44 29	5 1 10	
Chrys ...	Mr. H. Brickwood ...	3 35 1	5 3 4	
Squirt ...	Mr. T. Winans ...	3 41 16	5 1 6	
Phoebe ...	Mr. W. Summers ...	3 27 33	4 54 50	2nd.
Commander ...	The Rear Commodore ...	3 41 18	4 54 23	1st.
Nan ...	Capt. E. T. Dixon ...	3 38 28	5 8 30	
Hebe ...	Capt. R. T. Dixon ...	4 0 0	5 1 20	

The course was, as usual, five times round the Greenlands Buoy, starting and finishing opposite the Enchantress.

THE Blackheath Automobile Club's gymkhana, which was to have been held to-day (Saturday), has been postponed.

### HILL CLIMB AT LONGLEAT.

BETWEEN the discussion and the dinner with which the Motor Meet began and ended at Bath on Saturday was a hill-climbing contest at Longleat, by permission of the Marquis of Bath. The following were the officials:—Clerks of the course, Sir Wroth Lethbridge, Bart., Col. H. C. L. Holden, R.A., F.R.S., and Mr. G. T. Langridge; stewards, members of the Somerset Automobile Club Committee; judge, Hon. A. Stanley, M.P.; starter, Mr. T. D. Dutton; clerks of the scales, Captain W. Vaughan-Jenkins and Mr. H. E. Hippisley; marshals, Mr. J. W. Orde, Mr. P. F. C. Elwes, and Mr. J. R. Benson; timekeepers, Mr. T. D. Dutton and Mr. C. Wheelwright; handicapper, Mr. W. Worby Beaumont; secretary of the meeting, Mr. A. Armitage, Haygrass, Taunton. The committee of the Somerset A.C. was composed as follows:—Mr. J. W. Aspinall (Weston-super-Mare), Mr. Stanley Austin (Glastonbury), Colonel Barrett (Moredon, Taunton), Mr. H. P. Batten (Yeovil), Dr. Benson (Bath), Mr. H. L. T. Blake (Fairfield, Bridgwater), Mr. C. H. Dawe (Weston-super-Mare), Mr. W. S. Donne (Castle Cary), Mr. P. F. C. Elwes (Somerton), Mr. R. B. Graves-Knyfton (Uphill), Mr. H. Hippisley (Ston Easton), Captain Vaughan-Jenkins (Monkton Combe), Mr. C. Chester Master (Bridgwater). The course was about a mile and the cars were timed from a standing start. The features of such events are practically the same wherever held, and a record of the results is the main point of interest. These were as follows:—

CLASS A.—For cars the list price of which is £150, and not more than £350; and in this class cars costing not more than £250 must carry two passengers, and cars costing over that and up to £350 must carry four passengers. The price of any chassis in this class must be less than £300; 10-h.p. Alldays, Mr. W. Allday, 1; 8-10-h.p. Coventry Humber, Mr. H. Wilcox, Warminster, 2; 10-h.p. Vulcan, Mr. E. H. Atchley, Gloucestershire, 3.

CLASS B.—For cars the chassis price of which is £300, and not more than £500, to carry four passengers. The chassis price includes the tyres; 20-32-h.p. Darracq, Mr. A. Rawlinson, 1; 22-h.p. Minerva, Mr. O. H. Bayldon, 2; 20-32-h.p. Darracq, Sir Thomas Sutherland, 3.

CLASS C.—For cars the chassis price of which is over £500, and not more than £850, to carry four passengers. The chassis price includes the tyres; 30-40-h.p. Daimler, Mrs. Herbert Lloyd, 1; 30-40-h.p. Daimler, Mr. P. Brodtmann, 2; 40-h.p. Berliet, Mr. J. E. Hutton, 3.

CLASS D.—For cars the chassis price of which is over £850, to carry four passengers. The chassis price includes the tyres; 35-h.p. Daimler, Mr. F. A. Bolton. This car did the fastest time of the day by 9 3-5 sec.

### THE NEWNHAM HILL CLIMB.

DAVENTRY had been alive with cars and cycles for the two or three days prior to the hill climb of the Coventry Motor Club on Saturday last, so that the inhabitants of the town and neighbouring villages were all aware of what was to happen, and consequently turned up in hundreds. By the kindness of Mr. Band, the local surveyor, and one of the clerks of the course, the loose stones were swept off the road and a decent surface was presented for the motor-bicyclists, who started first.

As the large number of eighty-three entries had been received, it was decided to run the first two classes with but short intervals between each start. The fun was then fast and furious. The speed with which the motor-cycles took the curves was a great attraction to the spectators and some excellent riding was witnessed. As the hill includes 106 yards of 1 in 6½, the few who did fail to climb the gradient should have every sympathy, and the successful ones congratulations.

The tri-car class produced, among other machines, a new pattern of Riley tri-car, of 5-h.p., which was successful in winning the cup for merit in its class. Miss Hind drove her 9-h.p. Singer well and came in third in merit in her class.

In Class 3 the speeds varied greatly amongst the third-six entries, and many of the drivers of the faster cars must have had great difficulty in cleaving their way through the spectators. Bad luck seems to have accompanied some of the entrants, especially in the cases of the 20-30-h.p. Maudslay and the 20-h.p. Marchand. Each had been doing excellent times in trials and should have made an exceptionally good showing. In the former case the car had been assisting the officials immediately prior to its turn by taking a message up the hill. Subsequently, just after starting, through a misunderstanding the driver stopped his car, and then, instead of returning, continued. His time was therefore about double what it should have been. The Marchand car suffered from too eager gear-changing by its driver and had to stop.

In the class for motor-bicycles Mr. J. Edge was first in order of speed on his 5-h.p. Vindec, Mr. F. Mustard (3-h.p. Triumph) being first in order of merit, Mr. R. M. Brice (3½-h.p. Brown) being second, and Mr. C. E. James (3½-h.p. Daintree) third.

The speediest machine in the tri-car class was Mr. H. J. Riley's 4-h.p. Riley. The order of merit was as follows:—1, A. V. Riley (5-h.p. Riley); 2, E. W. Harris (9-h.p. Singer); 3, Miss M. Hind (9-h.p. Singer).

In Class 3 the order of speed and of merit of the competing cars was as follows:—

Make and Advertised Horse Power.	Entrant.	Order of Speed.	Order of Merit.
24-h.p. Mass	Launcester Motor Garage	13	23
16-20-h.p. Rover	F. D. Gethin	11	21
20-h.p. Marchand	W. Pilkington	stopped on hill.	
22-h.p. Minerva	W. Byron	4	1
16-20-h.p. Rover	E. W. Lewis	10	22
10-12-h.p. Rover	E. W. Greaves	14	10
10-12-h.p. Humber	D. Gould	12	20
10-12-h.p. Humber	W. Tuck	15	18
10-h.p. Alldays	S. Downing	26	13
10-12-h.p. Humber	C. N. Patterson	23	27
20-30-h.p. Maudslay	C. Maudslay	29	30
10-h.p. Alldays	W. Allday	16	3
28-h.p. Isotta-Fraschini	H. O. Hall	3	26
16-h.p. Maxwell	F. W. Peckham	24	29
12-16-h.p. Talbot	G. R. Garrard	6	2
10-h.p. Alldays	W. Allday	22	19
20-24-h.p. Talbot	T. H. Woollen	stopped on hill.	
10-h.p. Alldays	W. H. Goodwin	18	7
20-h.p. Dennis	W. H. Lamotte	25	28
12-16-h.p. Talbot	R. T. Owen	19	15
12-14-h.p. West	E. J. West	20	17
16-20-h.p. Rover	P. Graham	stopped on hill.	
15-h.p. De Dion	W. Guilding	17	12
8-h.p. De Dion	E. G. Newey	28	9
30-40-h.p. Daimler	E. P. Prestwich	1	11
28-h.p. Armstrong-Whitworth	W. G. Wilson	8	24
8-h.p. De Dion	Miss D. Levitt	30	6
30-40-h.p. Daimler	O. Harmer	5	25
7-h.p. Clyde	G. H. Wait	21	4
16-20-h.p. Rover	J. K. Starley	7	13
16-20-h.p. Rover	F. Starley	9	16
6-h.p. Rover	B. F. Wright	27	5
30-40-h.p. Daimler	A. Farnell	2	8

### AMBASSADORIAL PRIVILEGES.

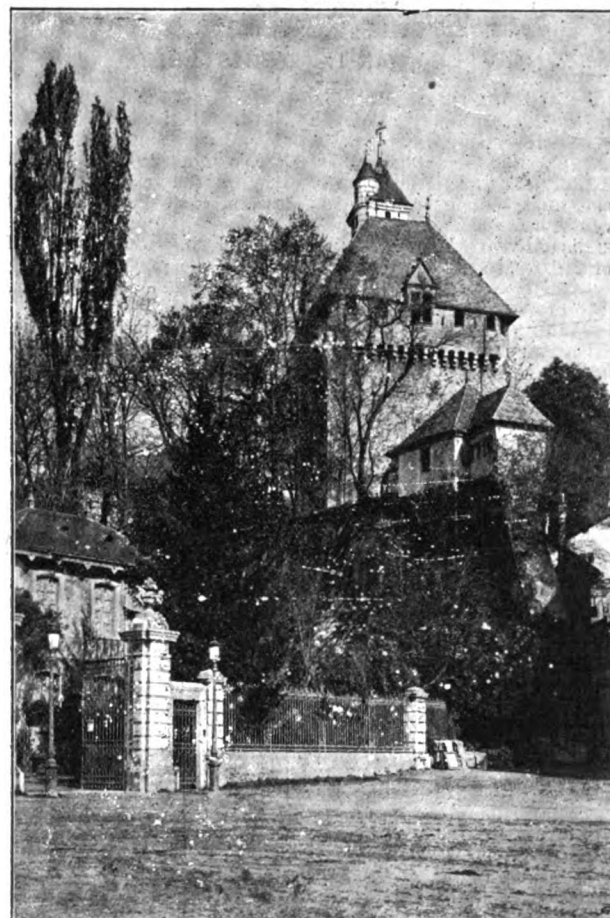
A CASE of some interest has been dealt with at Barnet. On the 7th inst. the American Ambassador was being driven by his chauffeur along the Great North Road, near Barnet. A policeman signalled to the chauffeur to stop the car, and on the car being brought to a standstill he was told he would be summoned for furious driving. When the case came on before the Barnet Magistrates evidence was given that the car was travelling at thirty miles an hour, ten more than the limit. Mr. Hodson, Chief Clerk at the Embassy, said that Ambassadors and their domestics were exempt from arrest or legal process, and produced an Act of Parliament, dated 1708, bearing on the subject. Viscount Enfield, from the Bench, asked if the American Ambassador wished the case not to proceed, and Mr. Hodson said that whether the Ambassador wished it to proceed or not it was quite beyond the power of the Bench to deal with it. The police inspector said that if the occupant of the car had declared his identity the Commissioner would have been supplied with the full particulars of the case. Mr. Hodson: Yes; and he would have quashed it in a moment. The summons was withdrawn.

### MOTOR-BOAT RELIABILITY TRIALS.

THE annual Reliability Trials of the Motor Yacht Club will take place in Southampton Water on the 1st and 2nd prox. In Class A, for boats not exceeding 75 M.M.A. rating, there are ten entrants, viz., the Maudslay Motor Company, Dean and Burden, J. Peroy Dean, P. Thellusson and Co., Mr. J. H. S. Phillips, J. I. Thornycroft and Co., De Dion Bouton, Ltd., Dickson and Halliday, Wolseley Motor Co.,

Parsons and Co. Messrs. Thellusson and Co.'s boat will be fitted with a Thornycroft motor, Messrs. Dickson and Halliday's with a White and Poppe engine, and that of Mr. Phillips with a Vosper motor.

Class B is for boats exceeding 75, but not exceeding 250 M.M.A. rating, and has brought the following entries:—Camper and Nicholson, J. I. Thornycroft and Co., Mr. G. J. F. Knowles, Legros and Knowles, Perman and Co., Capt. R. T. Dixon, R.E., Mr. A. G. Fentiman, Vosper and Co. The first entry will have a Fairbanks motor and Mr. Fentiman's boat a Blake engine. There are two entries for Class 2, the limit for which is 1,000 M.M.A. rating, viz., J. W. Brookes and Co. and J. I. Thornycroft and Co. In the cruiser class the competitors will be Dixon Bros. and Hutchinson, Teddington Motor Car and Launch Co., Mr. S. F. Edge, Woodnutt and Co., Mr. A. J. North, Perman and Co. The Teddington Company will have their boat fitted with a Wolseley motor and Messrs. Perman and Co.'s vessel will have a Goodhoop engine. The motors provided with all the other entries are sufficiently indicated in the names of the entrants.



Touring in France. The Archives Tower of the Castle of the Dukes of Savoy at Chambéry, France.

### ROAD REPORTS.

LEWES.—Lewes, with its steep hills and dangerous cross-roads, provides ample scope for improvement in connection with warning signals. The High Street, though of sufficient width for the greater part of its length, is dangerously narrow as it winds round the corner near St. Michael's Church. Approaching this spot from the centre of the town, and with the prospect of a hill-climb into St. Anne's, the driver of a motor-car is often tempted to accelerate his speed, and it would only need an unseen obstruction around the corner to provide every requisite for a serious accident. A road warning should certainly be set up in or near the town.

RYE.—A suggestion has been made that the surveyor to the Rye Rural District Council should make a tour of the locality with a view to reporting on dangerous corners where warning signals should be erected.

CRAWLEY.—The recent motor-bus disaster was referred to at the Crawley Parish Council, and attention was drawn to the dangerous condition of the main thoroughfare at Crawley. The Council decided to urge the Horsham Rural Council to repair the road at once.

WARMINSTER.—So great is the dust nuisance at Warminster that a number of residents in the main thoroughfare between Bath and Salisbury sent a cheque to the Warminster Urban Council to pay for the road being

tarred. The cheque was returned, but it has been decided to sprinkle the road with a dust preventive.

CHICHESTER residents are delighted with the effect of laying a coating of tar on top of the macadam roadway in East and West Streets. The other main streets of the town are to be similarly treated.

NORTHAMPTONSHIRE.—The county automobile club is communicating with the local authorities with regard to a dangerous bridge about a mile from Staverton on the road between Daventry and Southam.

WORTHING.—At Worthing the Borough Surveyor (Mr. Roberts) has lately been utilizing crushed clinker taken from the destructor works for road mending, and, mixed with other substances into a compound, it forms a very good material. The stretch at West Buildings has stood the test well, and Paragon Street is to be similarly treated. In Chapel Road natural rock asphalt has been laid with very satisfactory results so far as the dust question is concerned.

WANDSWORTH.—Notices warning motorists and others to proceed slowly at the junction of Portsmouth Road and the road leading across Putney Heath, and in the main road through Roehampton, are shortly to be set up by the local authorities.

### NEW COMPANIES REGISTERED.

HALLEY'S INDUSTRIAL MOTORS.—Capital, £75,000. To acquire the Glasgow Motor Lorry Company, Ltd. Registered office, 116, St. Vincent Street, Glasgow.

FRISWELL (1906).—Capital, £150,000. To adopt an agreement with Friswell, Ltd., and C. Friswell, and to carry on the business of motor, cycle, boat and vehicle builders and dealers, &c. Other particulars were given in last week's *M.C.J.*

GREEN'S MOTOR PATENTS SYNDICATE, LTD.—Registered with a capital of £10,000, to adopt an agreement with the parties carrying on business at Kimberley House, 14 to 17, Holborn Viaduct, E.C., as Green's Motor Patent Syndicate.

JOHN WOODHOUSE AND CO., LTD.—Registered with a capital of £2,000. To take over as a going concern the business of motor-car, house and horticultural builder carried on by Rosina Ault, at Coventry, as John Woodhouse and Co. Registered office, 158, Spion Street, Coventry.

INDUSTRIAL ENGINEERING AND MOTOR COMPANY.—Capital, £50,000.

### PUBLIC MOTOR SERVICES.

AMONG our small advertisements will be found several announcements of interest to all concerned in public motor services; the organisation of motor-bus concerns, &c. Drivers and others find our columns the best available means of reaching the organisers of such enterprises.

THE employees of the London Power Omnibus Company, Ltd., (Pioneer Line), held their first annual outing at Hastings. A party of fifty sat down to an excellent dinner at the Castle Hotel, presided over by Mr. W. E. Bracey Wright, the traffic superintendent, and Mr. A. Hills, his assistant.

A DRIVER in the employ of Patrick Hearn, of Gray's Inn Road, was summoned at Highgate Police Court for driving a motor-omnibus wantonly, or recklessly, at Ballard's Lane, Finchley. Inspector Sly stated that he was on his bicycle when he saw the defendant driving a motor-omnibus towards him. The road was partly "up," and a van was standing by the side of the road opening. The defendant was going at about eight miles an hour, and the driver of a restive pony held up his hand, but the defendant kept on. The pony became worse, swerved round, and backed the trap across the road. A lady in the trap stood up and signalled to defendant to stop, but he made no attempt to slacken his speed, and just managed to pass between the trap and the van, very narrowly missing the trap. The defendant:—I went through for safety, and that is where I made a little mistake. Mr. Barfield fined him 5s., and 12s. costs.

EVERY Monday Messrs. Joseph Tomlinson and Sons, Ltd., of Bedford Street, Sheffield, run a motor char-a-banc to Matlock; on Wednesdays it goes to Buxton.

A SPECIAL meeting of the Watch Committee of Manchester has considered applications for the licensing of motor-omnibuses received from the Manchester and District Motor-omnibus Company, Ltd. Licences for four motor-omnibuses, have been issued for three months from present date. The omnibuses will run between Stretford, Chorlton-cum-Hardy, Withington, and Burnage Lane to the Stockport Road tram route.

A SERVICE of motor-buses is to run between Portsmouth and Midhurst.

THOSE who took part in the Scottish Reliability Trial will remember the road from Tomintoul down to Grantown-on-Spey and rejoice to know that a different route has been chosen for the motor-car service to be started by Mr. Alex. M'Tavish, of the Richmond Hotel, Tomintoul, on Wednesday next. The chosen course for the new service will be via Glenlivet, Ballindalloch and the Haughs of Cromdale, along the military highway constructed by General Wade 150 years ago. A 16-h.p. Albion char-a-banc will be engaged in the work.

ON Saturday the London Motor Omnibus Company commenced a new service of motor-omnibuses between Gospel Oak and Lower Tooting.

Leaving Gospel Oak, the route taken is along Park Hill Road, across Haverstock Hill, and along England's Lane, Eton Avenue and Belaise Road, to Kilburn Station, thence along Harrow Road, through Westbourne Park and Grove to Notting Hill Gate and Shepherd's Bush. From Shepherd's Bush the omnibuses go by Netherwood Road, along Hammersmith Broadway, to Fulham Palace Road, Putney Bridge, and Upper Richmond Road to Wandsworth, and then by Garrett Lane to Earlsfield and Lower Tooting. The fare for the whole distance is 8d.

THE Vanguard omnibuses have been taken off the service from Hammersmith to Hampstead Road, and it is stated that the London General Omnibus Company, following their example, will take off their motor-omnibuses, though the service of horsed omnibuses will be retained.

THE magistrate at Bow Street Police Court has promised Lord Kilmorey a summons if the motor-buses taking up passengers in King William Street, W.C., can be shown to be a nuisance, so far as the Charing Cross Hospital is concerned.

A SERVICE of motor-omnibuses between Stretford and Didsbury was inaugurated on Saturday by the new local company, of which Councillor Boyle is managing director. Levenshulme will have a service in the next few weeks. The garage of the company is at Trafford Park, and can accommodate fifty vehicles.

MR. W. J. ELLIS is applying for a licence to run three motor-buses from London Road, Southchurch Road, Southend-on-Sea, on to Shoeburyness.

THE motor-buses for the Great Eastern Railway Company, recently referred to in our columns, are fitted with Royal Sirdar Buffer tyres, as are also forty of those belonging to the Great Western Railway, and all those of the Great North of Scotland Railway, the Star Omnibus Company, and the Sussex Motor Road Car Company, to mention but a few of the public motor services which have adopted these tyres.

ON Tuesday, Alfred Sharp appeared before Mr. Marsham at the Bow Street Police Court to a summons charging him with driving a motor-bus in a manner dangerous to the public. The defendant said the road was greasy, and he got on the wrong side of the refuge entirely owing to his bus having skidded. If he had put on the brake when the skidding occurred the bus would have turned completely round. The best thing to do in these circumstances was to steer in the direction of the skid. If he had not gone on the wrong side of the refuge he would have gone into the refuge itself. William Cull, who was called as an expert, said he quite agreed with the defendant as to the danger of attempting to stop a heavy motor-bus when it commenced to skid. He once attempted it, and the bus turned completely round. Mr. Marsham said it was a complicated case. It was difficult to see why the defendant should have gone on the wrong side of the road unless the bus skidded, and if it did skid—and he believed it did—he was not to blame. The summons would therefore be dismissed.

### A CHAUFFEUR'S CONTRACT.

IN the Westminster County Court, before Judge Woodfall, the case of Wastnidge v. Hotel Cecil (Ltd.) has been heard. The plaintiff, it was explained, was a garage proprietor, and had had in his employ a skilled workman who was under a contract to remain with him for one year, which period expired on the 24th inst. These contracts were obtained from all the plaintiff's chauffeurs, because it was so difficult—in fact, almost impossible—to get one sufficiently trustworthy in the stress of the season.

The man in question, however, left the plaintiff, in spite of his agreement, and entered the employ of the Hotel Cecil (Ltd.). The defendants were informed of the facts, and sent a copy of his contract, but they still kept him in their service, and hence the plaintiff now sought to recover damages from them on the grounds that they had induced the man to break his service with the plaintiff, and had harboured him, in spite of the existence of his contract.

The defendants contended that the man came to them in the ordinary way and asked for employment and it was given to him.

James Valentine, the chauffeur in question, also stated that last July, when he signed the contract, he was given to understand that it was only an agreement that he should not take any of the customers' cars away. Nothing else was said, and, if there had been, he would not have signed it. Under cross-examination, however, he admitted that he understood he had a year's certain employment with the plaintiff, but he thought he could leave when he liked.

The judge gave judgment for the plaintiff for the amount claimed—£50, with costs.

### THE BRIGHTON MOTOR ROAD.

BEFORE the Master of the Rolls and Lord Justice Moulton the case of "Rex v. Brighton Corporation (ex-parte Shoemith)" was mentioned in the Court of Appeal on Monday. The Divisional Court a short time ago made absolute a rule nisi for a certiorari to bring up to be quashed certain orders and resolutions made by the corporation of the borough of Brighton in July and August, 1905, whereby it was ordered that the treasurer of the borough should pay to the Public Works Committee two sums of £2,500 and £550, which had been agreed to be paid to the contractor who had undertaken at their instance to tarmac a portion of the Madeira Road in order to



make it suitable for the Automobile Club races. When the rule was applied for it was said that the road was in a perfectly sound condition and that the alteration was not required on the ground of necessary repair or reconstruction, and was therefore a waste and illegal expenditure of the rates. The Divisional Court accepted this view and made the rule absolute. The result of that decision, so long as it stood, was to render some individual or individuals personally liable to pay for the work, and an appeal having been entered by the Corporation, the applicant for the rule applied that the appeal should be expedited on the ground that unless the appeal was speedily heard and determined the personnel of the borough council would probably be changed, and the difficulty of fixing the liability on who was to pay greatly increased, in the event of the appeal being dismissed.

Their lordships dismissed the application, the Master of the Rolls saying no sufficient ground had been made out why other litigants should stand aside for this appeal to be brought on and disposed of out of its turn.

### CASES AGAINST MOTORISTS.

SERGEANT WAGHORN'S timing operations in the Hailsham Division resulted in a batch of motor cases at the Petty Sessions on the 18th inst. Seven out of eight defendants were fined various amounts, totalling about £42. The case against Mr. A. D. Grigg, of London, was adjourned for a fresh summons to be issued. It was stated that he went abroad immediately after the police had stopped him, and sent a cheque for £20 to the Secretary of the Automobile Club with instructions to pay the fine and return the change, "if any." He had asked that the summons should be left at the Automobile Club.

LIEUT. the HON. H. MEADE, R.N., was fined £2 and costs at Kingston for driving a motor-car along Portsmouth Road at a speed equal to 33 miles an hour. Defendant wrote admitting the offence, and saying he had orders to proceed to his ship with all dispatch. Eight motorists were convicted at the same court of exceeding the speed limit in Richmond Park. The fines ranged from £1 to £2.

THE Westminster magistrate has directed a further remand in the case against Malcolm Henry Stern, chauffeur, who is charged with the manslaughter of William Alves, and causing injury to other persons through recklessly driving, while drunk, a motor-brougham in High Road, Knightsbridge.

SYDNEY ENGLAND, of Manchester, has been fined £10 and costs at the Bradford West Riding Court for furiously driving a motor-cycle on the Leeds and Bradford road. A mechanic who had timed the defendant said the speed for 500 yards worked out at 70 miles an hour.

A FRENCH motorist named Arthur Adlard, who was fined £5 and costs at Kirkham for furiously driving a motor-car, pleaded that he was unacquainted with English methods, and his "cut off" refused to act coming down a steep hill. The Bench pointed out that he did not sound his horn or give any warning that his car was running away.

THE Motor Union has decided to support and assist one of its Manchester members in an appeal against a conviction at Northwich for having caused smoke to be emitted from his motor-car. It was contended for the defence that the owner of the car could not be summoned, as the prosecution were unable to prove that he was driving the car at the time, and that the section of the Act under which the summons was taken out had been repealed. He also submitted that as the car was under three tons and was constructed to consume its own smoke except from some temporary cause, that the summons fell to the ground. The magistrates, however, imposed a fine of 5s. and costs. An appeal will be made against this decision.

RUPERT WILLIAMS was summoned at Kingston for driving a motor-car at a greater speed than twenty miles an hour, at Cobham. The chairman (Mr. W. Y. Cockburn) said as the defendant had already been summoned for driving to the danger of the public, at the same time and place, the Bench were of opinion that the summons should be withdrawn. Mr. Staplee Firth defended. His client had already been tried and acquitted, and it was a monstrous thing to summon him there again for practically the same offence. He had brought a surveyor to prove that Superintendent Marks could not possibly see the car from where he was standing, as well as a gentleman from Anglesey and the defendant, who had to leave his regiment to attend, and he hoped the Bench would mark their disapprobation of this improper prosecution by awarding the defendant substantial costs. The chairman said they would not grant costs, but they expressed the opinion that it was not fair to a man to bring him there twice for the same offence. The summons was then withdrawn.

AT Hampstead a motor-omnibus driver has been fined 10s. and costs for driving his omnibus at the rate of over fifteen miles an hour over a measured distance in Finchley Road. Two of the five magistrates dissented from this conviction, as defendant was only timed for half a minute, and when going down hill.

SOLOMON GOLDBERG, of 25, Hackney Road, Shoreditch, has been summoned at Stratford for driving a motor-car without having been registered, and also with not having a licence. On June 17th the defendant met with an accident in Lea Bridge Road, Walthamstow, and a policeman, who was called, asked him for his licence. The defendant, who said his car had skidded and had knocked down a boy, produced merely an Inland Revenue licence. The subsequent inquiries showed

that he had not registered his car. He purchased the car, which was registered by its former owner, some three years ago, but the authorities had not been notified of the transfer. The Bench dismissed that summons, but for the second offence they imposed a fine of 20s. and costs.

A LONDON motorist has been summoned at Folkestone for not having a light at the back of his motor-car to illuminate the identification plate. P.C. Prebble said he was on duty in Dover Road when he saw defendant driving a motor-car down Dover Road into Dover Street. He noticed there was no light at the back of the car. Witness asked him if he was aware he had no light at the back of his car. He said "No." Defendant handed witness his licence, from which he took his name and address. The Chairman said, if there was an offence, it was only a technical one, therefore the summons would be dismissed.

MR. MARSHALL HALL'S chauffeur was recently fined 12 and 17s. costs for motoring at twenty-five miles an hour at High Wycombe.

AT the Maidstone Police Court the Chief Constable said he would respectfully ask their worship to inflict a more substantial penalty on motorists than had hitherto been the case. The two succeeding motorists before the Bench were fined £5 and £8 respectively.

DURING the hearing of a case of a man charged at the Navan Petty Sessions with being drunk while in charge of a motor-car, Sir John Dillon said he was the only motoring magistrate on the Bench, and he objected to the motor-car being introduced into the matter at all. The case was one of an ordinary character—in no way reflecting upon the motor-car movement.

BERNARD EBELL, of Burgh Heath, Epsom, was summoned by Inspector Johns, of Woodford, for riding a motor-car at more than twenty miles an hour, at Epping New Road, Woodford, May 25th.



One of two 12-15-h.p. Arrol-Johnston Light Delivery Vans built for the Bon Marche, Liverpool. The vehicle is constructed to carry loads up to 15 cwt., and is capable of attaining a speed of twenty miles per hour.

Constable Hill, 439 J, gave evidence that he, with a sergeant, timed defendant over a measured distance, which he covered at the rate of thirty miles an hour. He had been previously fined, and a penalty of £5 and costs was now imposed.

AT the Warwickshire Assizes, on Saturday, Herbert Collins, a chauffeur, was sentenced to nine months' imprisonment on a charge of the manslaughter of Herbert Price at Olton, on June 9th, by recklessly driving a motor-car.

AT the Haywards Heath Police Court on Saturday, William Gadsdon, cycle and motor engineer, Crawley, was charged with being drunk while in charge of a motor-car on the highway at Haywards Heath on July 20th. After hearing evidence he was fined 40s. and costs.

AT Dunblane Sheriff Court, Fredk. Nicholls has been fined £5 for having driven a motor-car on the Trossachs road, which is closed for motor traffic.

A BATCH of seven summonses against drivers of motor-cars for exceeding the speed limit was dealt with at the Uckfield Petty Sessions on Thursday of last week. The fines imposed and the costs amounted in the aggregate to £34 11s. 1d. Among the cases was that of Mr. H. G. Abrahams, 5, Tokenhouse Yard, London. Inspector Jennings, of Guildford, deposed that he was fined £7 for a similar offence at the Guildford Sessions in March last. Sergeant Waghorn proved a conviction at the Haywards Heath Police Court on May 2nd, when he was fined £3 and costs. Mr. Lawson Lewis also stated that on the day he was stopped at Maresfield he committed an offence, for which he was summoned and fined at Oxted. The Bench imposed a fine of £10 and 17s. 4d. costs.

WILLIAM ASHFULL, of 20, Wellington Street, London, W.C., was summoned at Bath on Saturday for driving a motor-car in High Street.

and failing to produce his licence when demanded so to do by P.C. Russell, on July 13th. He was also summoned for (he having been convicted on April 21st of an offence under the Motor Car Act, 1903) failing to produce his licence within a reasonable time for the purpose of endorsement. P.C. Russell gave evidence in the first case, which the magistrates dismissed. Chief Inspector Bence proved the conviction in the second case, defendant being fined 20s. or seven days for driving a motor-car without having a rear light. The money was not paid and the licence was not produced for endorsement. Defendant was written to and the money was subsequently paid. So far as he knew, the licence had not been produced for endorsement. Defendant was fined 40s. and costs.

At the Oxted Police Court on Monday several hours were occupied in hearing eight cases in which motorists were alleged to have exceeded the speed limit. In the case of Mr. Herbert Austin, it was alleged by P.S. Bailey that the defendant travelled over the measured distance at Godstone at a rate of twenty-seven miles an hour. It was admitted that one of two danger signals was placed on the wrong side of the road, this being very deceiving to motorists. Defendant said when he saw the danger-signal he slackened speed, and when in the danger zone, which was a part of the measured distance, he was not travelling at a greater speed than twelve miles an hour. A fine of £4 and costs was imposed. The Bench agreed to state a case, and notice of appeal was given.

THERE were three motor cases at the Shoreham Petty Sessions on Monday. Lord de Clifford, London, pleaded guilty to exceeding the speed limit at Southwick, and also to failing to produce his licence, on July 16th. Superintendent Hooker asked that the summons concerning the licence might be amended to read "driving without a licence." This was agreed to, and defendant pleaded guilty. A penalty of £5 4s. in all was imposed. The other motoring defendants were fined £10 and £4 respectively.

### CLAIMS AGAINST MOTORISTS.

At the Shrewsbury County Court, before Judge Harris Lea, an action has been brought under the extended jurisdiction of the County Court, by Sarah Drew, wife of Arthur Drew, Broughton, Claverley, near Wolverhampton, to recover damages from Henry James Bath, engineer, Badger Heath, near Wolverhampton, for injuries received owing to alleged negligent driving of a motor-car by defendant. The amount claimed by the plaintiff was £100. Mr. A. Graham was for the plaintiff, and Mr. S. R. Rhodes, Wolverhampton, represented the defendant. After hearing the case his Honour said he considered the defendant did not exercise proper care. In his opinion defendant drove unnecessarily near to the horse when on the wrong side of the road, and thus frightened the animal. He had, therefore, come to the conclusion that there was negligence on the part of the defendant, but it seemed to him that the damages had been largely exaggerated. There would be judgment for the plaintiff for £35 and costs.

AN action was brought at Bristol Assizes recently by Robert Daves, a Gloucestershire farmer, against the Rev. Lionel Mackinder, vicar of Wotton-under-Edge, and his wife for damages arising out of a collision between the plaintiff's trap and the defendants' motor-car. The car belonged to Mrs. Mackinder, and on January 22nd it left London at twelve o'clock, the passengers consisting of the owner, her nurse, a maid, and a chauffeur named Ernest Thorne. While descending a hill near home it collided with the trap, and Daves was thrown out and sustained spinal concussion. Thorne was summoned for furious driving, and in his absence was committed to gaol for three months. He appealed, saying he had never been served with a summons, and the conviction was quashed. He gave evidence that the collision was the fault of the driver of the trap. A verdict was given for the plaintiff, with £250 damages.

### MOTOR-CAR ACCIDENTS.

A VERDICT of "Accidental death" was returned in the case of Mrs. Willatts, who was knocked down by a motor-car at Wokingham while following a funeral procession. One witness said there was not room for the motor-car to pass the coffin on the right side. The procession practically took up the whole of the road. Several witnesses spoke to the deceased stepping in front of the motor, the speed of which was given as from eight to ten miles an hour.

A SERIOUS motor-car accident occurred on Sunday near Wooler (Northumberland). A party of young people left Wooler for a ride to Coldstream. All went well until a bridge was reached, when one of the spokes of a road wheel gave way, causing the car to overturn, and some of the occupants were seriously injured.

A SERIOUS accident befell Mr. Albert St. John Harmsworth, who was returning from Norfolk to London, late on Wednesday of last week. Mr. Harmsworth had himself driven the car as far as Royston, where he handed over the wheel to his chauffeur, taking a seat himself in the tonneau and going to sleep. Passing Lemsford on the North Road and approaching Hatfield, about midnight, the car struck the corner bank on the Hatfield side of the road, which forks to the left to Hertford and Ware, breaking the axle and the front wheels. Both the chauffeur and Mr. Harmsworth were thrown out into the road, where they were ultimately discovered by Mr. Milburn, who motored to Hat-

field and fetched a doctor, and then to Hampstead Heath to notify Mr. Harold Harmsworth. We understand Mr. Harmsworth is going on as well as can be expected under the circumstances.

A SERIOUS accident befell the Hon. Gerald Agar-Robartes, while motoring from Bodmin to Lostwithiel with Mr. St. Clair Hutchings on Tuesday, the day of the Bodmin bye-election. As they were descending the steep hill into Lostwithiel the brakes failed, and the car dashed at a terrific pace into a hedge at the bottom and was completely wrecked. Both the occupants were flung violently out, but very fortunately escaped serious injury, and after receiving medical attention were able to return to Lord Clifden's seat at Lanhydrock.

### MOTOR-BOAT CASES.

MR. F. CHEESEWRIGHT, of Ealing, W., was summoned at Feltham on Monday, at the instance of the Thames Conservancy, for navigating the motor-launch Ferro off Sunbury-on-Thames without special care and caution when passing vessels of a smaller class. Mr. Glenshaw, who prosecuted, said the defendant's launch entered Sunbury Lock-cut at such a speed that it made a wash that was dangerous to all other craft of a smaller class in the vicinity. The Bench imposed a fine of £2, including costs.

MR. SYDNEY BROAD was summoned for a similar offence when in charge of the motor-boat Twa, at Hampton, on Sunday, June 17th. Mr. Bernard Tidy, of Hampton Hill, said he and some friends were in a punt near Garrick's Ait when the defendant's launch passed. The speed was not very great, but the wash made by the launch came over both sides of the punt and swamped them, and, rushing up the bank, it entered the punt again. A fine of £3, including costs, was imposed.

### POLICE TRAPS.

CONSIDERABLE activity is being displayed by the police on many of the main roads in South Wales.

P. S. WAGHORN has been actively engaged in laying motor traps on the London and Eastbourne roads in the neighbourhood of Framfield and Maresfield.

POLICE energy seems to have been re-awakened on the road between Coventry and Birmingham, especially in the neighbourhood of Yardley.

A POLICE trap has been arranged on the Great North Road at Alconbury, Huntingdonshire.

THE Upper Worthing road at Poling has become dangerous to motorists, a trap there having just led half a dozen before the Arundel County Bench.

WE learn that elaborate plans are being laid by the police in the Shoreham district for the purpose of intercepting all cars passing through during Goodwood week. Motorists should drive with great caution after leaving Brighton, and until quite clear of Shoreham by any road.

A TRAP is in frequent operation at Lagham cross roads, Godstone. P.S. Bailey, who has recently been in charge of the device, has declared in court that catching motorists was the simplest thing he ever had to do since he joined the police force.

MESSRS. SMITH, PARFREY AND CO., of the Pimlico Wheelworks, Hammersmith, send a supplementary pamphlet to their catalogue recently noticed in our columns.

### TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case; otherwise no liability will be accepted.

# THE Motor-Car Journal.

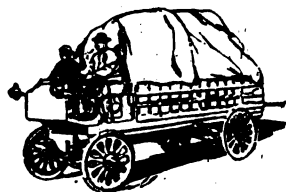
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## COMMENTS.



**M**EMBERS of the South of Scotland Chamber of Commerce have been discussing the railway rates question, and from examples which were quoted at the meeting it would appear that some of the charges made for the conveyance of goods from the Hawick district to London are really exorbitant. Seeing that the Caledonian, the Glasgow and South-Western, and the North British Railway Companies had agreed upon certain reductions in the rates from Glasgow to London, it was suggested that a service of motor vehicles might be run from the Borders to the Hillfoots, in order that the cheap rate might be taken advantage of, or to Kelso, Glasgow, or even Carlisle. Mr. Williamson said that the Hawick manufacturers would be unanimous in a scheme of that kind, and after further discussion the matter was remitted to Messrs. Ballantyne, Williamson, and John Roberts to consider and report. Doubtless some of our northern readers will be able to supply them with useful information on the subject.

£10,000.

THAT motorists are important, though unwilling, contributors to the expenses of criminal administration has been recognised in the southern counties to a degree not adequately realised in the North. Hence the value of the return which has appeared simultaneously with the appearance of the Royal Commission's Report, showing that the fines on motorists amount to about £10,000 a year. London, Surrey and Sussex have made the biggest hauls of the counties, the fines amounting to £1,621 in the case of London, £1,146 in the case of Surrey, and £1,597 in the case of Sussex. Of the English counties (excepting Monmouthshire) Wiltshire would appear to be the one in which motorists are the most law-abiding, fines to the amount of £7 only having been levied. Montgomeryshire shows the best record for Wales, for it has the record of not having inflicted a single fine, while the fines levied in the whole of Wales are about a sixth of those imposed in London alone.

### The Report.

Now that the long-expected Report of the Royal Commission is in the hands of the public, it may be of interest to recall the facts that led to its appointment. Prior to 1896, motor-cars could not practically be used on the roads of this country. In that year the Locomotives on Highways Act became law, by which the lighter kind of vehicles propelled by motor power were exempt from almost all the provisions of the Acts relating to locomotives on highways. These vehicles, called "light locomotives" by the Act of 1896, and "motor-cars" by that of 1903, were then made subject to new provisions. The first Act proposed no limitation of the weight which might be carried by motor-cars, but points of detail in their use were governed by regulations made by the Local Government Boards for England and Ireland

and the Secretary of Scotland for Scotland. The substantial increase of motor-car traffic subsequently led to general demands for alteration of the law, and the Motor Car Act of 1903 was introduced into the House of Lords, ultimately passing both Houses of Parliament, and being designed to expire at the end of the present year unless the period was extended. The provisions of that Act, together with the Heavy Motor Car Order of 1904, are generally known to our readers. It came into operation on the 1st of January, 1904, and by the end of the first year 27,348 motor-cycles and 24,201 cars were registered. These had increased to 37,665 motor-cycles and 36,373 cars by the 30th September last, and to 42,438 and 44,098 respectively on May 1st of the present year. The termination of the Act at the end of 1906 was the immediate necessity for a revision of the matter, and the appointment of the Royal Commission was welcomed as a fair means of arriving at some satisfactory line of public policy.

### Training Drivers.

ALTHOUGH the Royal Commission does not actually recommend any official scheme of examination of motor drivers, it is sufficiently friendly towards the examination of the A.C.G.B.I. to give the club much encouragement to persevere in its efforts to preserve the unwary from the pitfalls of the institutions that supply certificates of little value for large fees. In conjunction with the Motor Union, the Club is preparing a list of equipments necessary for a driving school, in order to obtain a licence signifying official recognition of the particular institution. Dr. Hele-Shaw is lending the weight of his knowledge and authority to the devisers of the scheme, and all will welcome any effort to raise and maintain the standard of teaching, in view of the importance of the subject to the public generally, as well as to the industry primarily concerned. On another page we give the club's suggested list of equipment for such schools.

### Ambassadorial Appreciation.

LAST week we referred to the case in which the chauffeur of the American Ambassador escaped conviction owing to the existence of an ancient law of privilege. The summons has had an interesting sequel. The Ambassador, who was in the car when the chauffeur was stopped, in appreciation of the action of the Bench, has sent to Lord Enfield a cheque for £20 for the Barnet Victoria Cottage Hospital, of which his lordship is president. Charity having thus gained, justice will doubtless be appeased.

### The Scottish Club.

So much meritorious work has been done by the Scottish Automobile Club that it has well earned the right of recognition as the premier authority in the automobile world of the northern part of Britain. The agreements lately made between this body, the A.C.G.B.I., and the Motor Union were ratified by the General Council of the Scottish club at a meeting held last week. The main points are that the Scottish

Club has the right to conduct public trials and competitions or closed events as and when they deem proper, and to control all matters relating to the automobile movement in Scotland. There will be a mutual recognition of drivers' registration and of disciplinary action. The Scottish Club will arrange and conduct examinations for driving and mechanical proficiency, and on their recommendation the A.C.G.B.I. will award certificates therefor. Every member will be, *ipso facto*, a member of the Motor Union, and the Scottish A.C. will be the administrative part of the Motor Union in Scotland, and will represent the other bodies at all inquiries under the Motor Car Act, or at any other proceedings in Scotland, where, in the interests of the movement, such representation is deemed desirable.

### Camels v. Cars.

THE Sirdar, Sir F. Wingate, has demonstrated the value of the motor-car in the Soudan, and we now learn, on official authority, that the prospects of automobilism in Egypt are improving. Motor-vehicles can at present be used only in and about Alexandria and Cairo, but some parts of the desert offer almost natural roads, and it is estimated that the cost of making many of these suitable for motor traffic would not be inordinate. An experiment has succeeded so far, and police inspection, formerly made on camels, and taking six weeks for each trip, can now be made in two weeks by means of motor-cars. In this connection Mr. John S. Napier, who has



just returned from a visit to Egypt, sends us an interesting photograph, in which a motor-car and a camel form the central objects. In a way, the picture thus presented may be taken to indicate the old "Ship of the Desert" and the new, for much of the work previously undertaken solely by means of camels is now accomplished entirely by the motor-car shown in the picture—the New Arrol-Johnston supplied some time ago to the Sirdar for use in the desert. Mr. Napier has brought home with him a very considerable number of orders, including one from the Egyptian Government for a car fitted with the new 38-45-h.p. engine.

### Against the Reckless Motorist.

THE appearance of the Earl of Lonsdale in the witness-box against the driver of a motor-car, together with the letter of Sir John Shiffner in our columns last week, affords proof of the desire of motorists to free the roads from the presence of drivers who show little concern for the comfort of those who use them reasonably and with regard to the feelings of others. In going to race meetings nowadays a great deal of motor-car traffic may be expected, and it behoves all who drive on roads so crowded to proceed with due care and propriety. When motorists act as Lord Lonsdale has done they not only administer a useful lesson to wanton offenders, but they do much to assure the public that motorists as a class are as humane as any others who drive upon the public roads.

### New Automobile Clubs.

Two new county automobile clubs—for Shropshire and Cambridgeshire—were formed last week under the auspices of the Motor Union of Great Britain and Ireland. Lord Harlech was unanimously elected President of the Shropshire Club, the secretary of which is Mr. J. J. Peele, solicitor, Shrewsbury. The Chairman of the Cambridgeshire Club is Mr. G. D. Newton, of Croxton Park, and Dr. Bindloss, of Melbourn, Cambs., is hon. secretary. Both clubs are affiliating with the Motor Union, which has now sixty-five county and district clubs included in its membership. The establishment of these new organisations is welcomed as extending the influence of the organised automobile movement for mutual defence.

### Roads.

PUBLIC opinion seems to be veering towards a recognition of the need for the road improvement so ardently desired by the motorist. Basing his views on the statement of the President of the Local Government Board with regard to the unemployed, Rev. Russell Wakefield—a well-known administrator of Metropolitan affairs—urges that there is much work to be done in connection with the improvement of road gradients, pointing out some very bad gradients, such as Harrow Hill, quite close to London. No local authority can reasonably be asked to undertake such a work, the benefits of which are shared even more by people at a distance than by those immediately in the locality. This is a point which led the conference of the National Urban District Councils' Association at Penrith on Saturday to adopt a resolution urging the Government to tax motor owners and make a grant towards maintaining and watering roads with a view of reducing the dust nuisance. He held that it was unfair that local authorities should bear the expense alone. Mr. Crookhall, of Fleetwood, said Lancashire was studded with county boroughs, and produce was carried between the boroughs by motor traction. The intermediate roads were maintained by the county, and the rateable value was slipping from the County Council's grasp. Main and secondary roads should be a national charge. Towards this view the opinion of experts seems gravitating.

### On the Way North.

ON and about the opening of the shooting season in Scotland, the roads from London to Edinburgh are being patrolled by the Automobile Association scouts, who will be prepared to render every reasonable assistance to members. These scouts will be personally inspected by Colonel W. J. Bosworth, Chairman of the Association, and Mr. Walter Gibbons, an active member of the committee, who has kindly placed his 50-h.p. Itala, which he will drive himself, at the committee's disposal. This extension of the enterprise to the northern roads is of considerable interest.

### The Prejudice of Local Authorities.

THE meeting of the Redhill Town Council on Monday should be remembered by those who believe in the impartiality of local authorities with regard to motor-car matters. The Watch Committee recommended that the salary of the head constable should be increased from £325 to £350 a year. The proposal was vigorously opposed by Alderman F. E. Barnes, a county and borough justice, who said he was surprised at the laxity of the borough police in regard to the speed of motor-cars. He had only seen one prosecution for exceeding the speed limit in the borough, yet every time he went out he saw motors travelling at the rate of thirty to forty miles an hour, to the danger of life and limb. The matter was referred back to the committee. We would remind our readers that these are the bodies who will be responsible for the imposition of the twelve-mile limit, should that clause of the Commission's report become law.



**Spoiling Each Other.**

SIR W. S. ROBSON, K.C., the Solicitor-General, in acknowledging the receipt of copies of resolutions relating to the regulation of motor-car traffic, has written to the South Shields Watch Committee stating that he does not like to commit himself to proposals of taxation without very full consideration, but he thinks the advance of the motor vehicle begins to call urgently for some remedial legislation, even if it were only in the interests of the motorists themselves. The country roads of England had become almost impassable by reason of the dust and danger to which motor-cars gave rise; in fact, motorists were now spoiling each other's sport, and under these circumstances the general public might have a better chance of being considered.

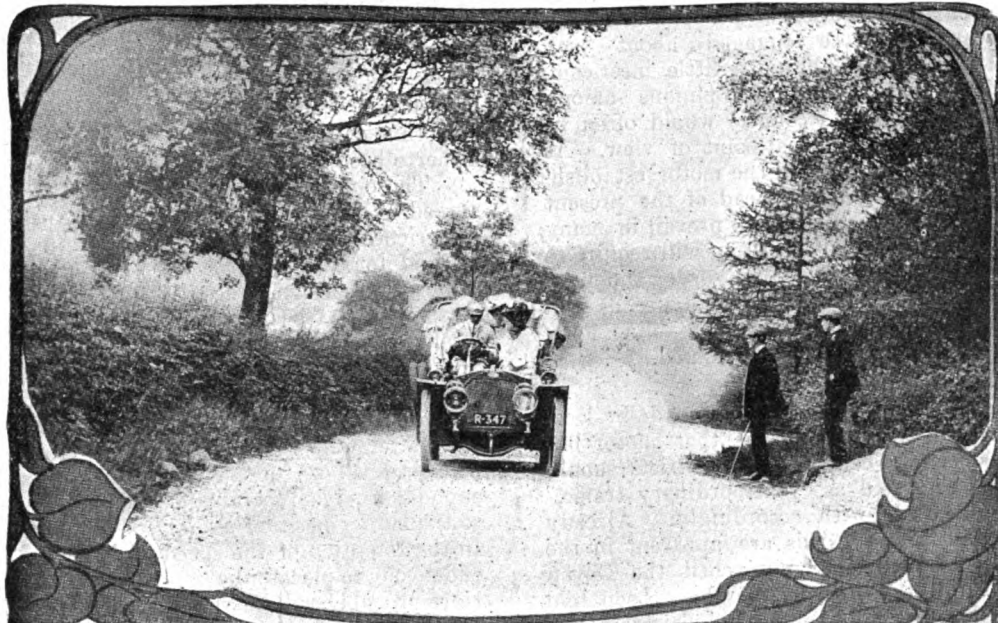
**The Motor-'bus.**

THE advent of the motor-'bu', with its acceleration of speed as compared with the more familiar form of locomotion, brings new dangers as well as fresh delights. Those who have become accustomed to jumping on and off the older 'bus when in motion must restrain their ardour when

Three hundred and thirty-two of the councils replied; 200 were in substantial agreement with all the suggestions, 100 expressed no opinion, while those which dissented from one or other of the proposals were few in number. Such a lame report really means nothing, and only on the plea that anything of an anti-motoring character just now is likely to find favour in some quarters can its publication by the Press be justified.

**The Cleansing of London Streets.**

NEARLY 100,000 vehicles enter and leave the City of London every day, and it is calculated that 22,481 pass the Bank of England in a day of twelve hours. Remembering that the great majority of these vans, carts, 'buses, &c., are drawn by horses, some idea of the necessity of constant care in the cleansing of the streets is obtainable. In the year just closed we learn from Mr. Frank Sumner, the City engineer, 83,442 van loads of dust and refuse were removed from the area under the control of the Guildhall authorities; 61 million gallons of water at 6d. per 1,000 gallons were used in the process of cleansing the streets. No fewer than 727 persons are engaged in the work, while six motor-vans are included in the vehicles that convey the refuse to the destructors at Letts'



The Derbyshire Club's Hill Climb at Haslewood Hill. Mr. H. A. Johnson's 22-28-h.p. Crossley on the stiff portion of the gradient. (See page 498).

mounting or getting down from the newer vehicle. They must also learn—as was pointed out by a coroner's jury—not to stand on the top, a proceeding associated with danger in busy thoroughfares. The recommendation of that jury that the company should raise the height of the back rail is also a wise precaution against the thoughtlessness of passengers that might well be generally insisted upon, while the uniform height of the step is a matter of primary importance to the public. These are two matters of obvious value upon which the licensing authorities might come to a decision. With regard to many other points of detail in design considerable latitude should be given, as the motor-'bus is still in its evolutionary stage—on the way, let us hope, to perfection.

**A Lame Report.**

THE Secretary of the Highways Protection League sends for publication a summary of the work done by the League during the last year. In 1905 a circular was sent to the rural district councils containing suggestions for the amendment of the existing law, and in particular a proposal for the reduction of the motor speed limit to 14 or 15 miles an hour

Wharf. These figures are eloquent with regard to the proportion of the cost of local government occasioned by the present system of traffic. And, so far as this particular section is concerned, the general adoption of the automobile is the only means of lessening the expense—by removing the cause of the refuse of the streets.

**Restrictions in Bombay.**

Now that the new rules governing motoring in the Bombay Presidency have been promulgated, there will be many motorists in India anxious for a beneficent Royal Commission to consider their effect upon the movement. All cars will have to be numbered, and registration of cars that emit smoke or visible vapour will be cancelled. There will be a fifteen mile an hour speed limit in the city. No motor vehicle may travel by night on any of the ghat roads between Poona and Mahabeshwar or on any other ghat road on which, with the previous sanction of Government, the District Magistrate has prohibited night travelling. No person may drive a motor-vehicle within the limits of Mahabeshwar, except in accordance with the written permission of the superintendent, who may grant or

refuse such permission at his absolute discretion, and may, in granting it, prescribe such general or special conditions as he thinks fit except for bona fide visitors.

#### Strange, yet True.

GEORGE FALKNER, of Walkden, near Manchester, has had the very unusual experience of being let off by the Lancaster county magistrates, though he had pleaded guilty to an offence against the Motor Car Act. He was found at Morecambe riding a motor-bicycle without an identification plate in front. He told the magistrates that he journeyed from Manchester, and that near Chorley the road was so rough that both his lamp and the front number plate were knocked off, and he left them in a shop in Chorley. The magistrates dismissed the information. This is the first time the Lancaster county magistrates have failed to impose a penalty on a motorist; hence the prominence given the occurrence in our columns.

#### Organising Garage Owners.

PROBABLY the first hint of the need for an organisation of garage proprietors appeared in our columns recently, when Mr. W. Jamieson referred to the value such an association would be in generally warning those engaged about such places of the dangers of petrol. Doubtless a little inter-communication and occasional interchange of opinions among owners of garages in some parts of the country would often be useful from a financial as well as a technical point of view. As motoring develops the character of some of the motor establishments will be expected to improve, and instead of the present haphazard plan of organisation which seems to prevail in many places the whole design and scheme of working will require to be changed, so that the economy resulting from order and first-class equipment may keep charges at a reasonable figure, as well as add to the efficiency of the work done—two points upon which no standard of perfection has yet been attained.

#### "Extraordinary Traffic."

ERE long efforts will be made by local authorities to suggest that motor-bus services in certain rural districts should be regarded as "extraordinary traffic," and dealt with accordingly. Already indications of this are apparent in the west, and the Paignton Council has approached the Devon County Council on the subject. In reply they have been told that the District Council must enforce its own claims in this respect, and the correspondence is to be sent to Mr. John Burns for the consideration of the Local Government Board. Evidently there are local people unable to appreciate the convenience and prosperity that the motor-bus is capable of introducing into the life of the country. They seem ready to thwart its progress at all points.

#### A Railway Plaint.

EVEN the "Tube" is feeling the effects of the motor-bus, which provides an open air competitor along a certain portion of the underground route of the Central London Railway Company. This fact is remarked upon by the directors in their report. Speaking at the meeting of the East London Railway Company last week, Lord Claud Hamilton attributed some of the decrease in passenger receipts to the rivalry of this new vehicle, and mentioned that the Great Eastern Railway and the London and South-Western Railway Company had suffered from the same cause. The truth is that the railway directors were slow to recognise the attractiveness of the motor-bus to the man who prefers going to business in the fresh air to being cooped up in a railway carriage. Had they been pioneers in the motor-bus movement in London they might have developed a system of exchange tickets, and have conveyed their passengers practically from home to office. Now the opportunity has gone.

## REPORT OF THE MOTOR CAR COMMISSION.

APPROACHING the past, present, and—what is more important—the future of automobilism with a judicial mind, the members of the Royal Commission on Motor Cars have emerged from their labours with the impress of such an attitude on every one of the eighty-two pages of their Report. They have sifted the evidence of 122 witnesses, representing "all sorts and conditions of men," and embracing various shades of opinion, from the deep legal blue of the man in charge of police traps to the almost ruby expletives of the person who finds his green hedgerows seared with the dust thrown up by the motor-car. All this has been analysed by the Commission with discriminating care, and considered with a knowledge increased by Captain Clive Bigham's luminous reports of the procedure of foreign countries with regard to the modern locomotion on ordinary roads. The result is the skeleton of a scheme of legislation which, by avoiding either extreme, seems well prepared for adoption, almost without variation, by the Legislature. Elsewhere we give a synopsis of the leading recommendations of the Commission; nothing is to be gained by hasty pronouncements on any of the clauses, but a few generalisations of the nature of "a first reading debate" may afford a useful guide to the many public discussions and private conversations that will take place ere the subject is brought before the House of Commons by the President of the Local Government Board, whose advocacy of quicker transit has hitherto been mainly associated with the tramcar.

There are some essential points upon which motorists are agreed. None want the illogical speed limit perpetuated. Experience has shown how unfairly it has operated; it has been utilised for the purpose of securing victims of police traps, rather than ensuring the safety of the public. In the old days, when stage coaches were in the zenith of their popularity, our forefathers, in framing the Highway Acts, never sought to define the point at which the speed of vehicles left the path of safety and went into the danger zone. They relied upon the negligence of the driver, or the furious character of his driving; and now, after an unsatisfactory experience of speed limits and police traps—we do not propose to adopt the Commission euphonious synonym of "police controls"—a return is presaged to the earlier position so far as the open country is concerned. In the retention of the speed limit for populous places we see an endeavour to placate the anti-motoring section of the community. Here probably will be the first serious difficulty of Parliament, for the regulation with regard to speed limits is to be taken from the Local Government Board and placed in the hands of the local authorities. This is a matter likely to excite controversy, and we propose to return to the point again, with a view of proving how the spirit of local prejudice might be allowed to thwart the motor movement in any particular district, and work possible hardship to motorists from a distance passing through proscribed areas. True, the present Lord Justice Moulton, in his memorable speech at the Motor Union's dinner last winter, did emphasise the matter of local regulation—a suggestion from which we dissented, with the approval of the motoring world. The position is scarcely less different to-day. Bucolic prejudice is as vehement as ever, and rural councillors as unfitted to suggest areas for restricted speed as county justices are to impartially administer the existing law with regard to motorists. On the whole the system of leaving the limitation of speed and the prohibition of cars in certain areas in the hands of the Local Government Board, at the suggestion of the local authorities, has not operated unfairly. But if the central body is to be merely the registering agency for the "red line" resolutions of district and rural councils, a great strain will be placed upon the patience of motorists.

The speed limit in its worst form having disappeared, satisfaction may be expressed with regard to the endorsement of licences. There will be an opportunity for the motorist to renew his clean record after a period of good behaviour extend-

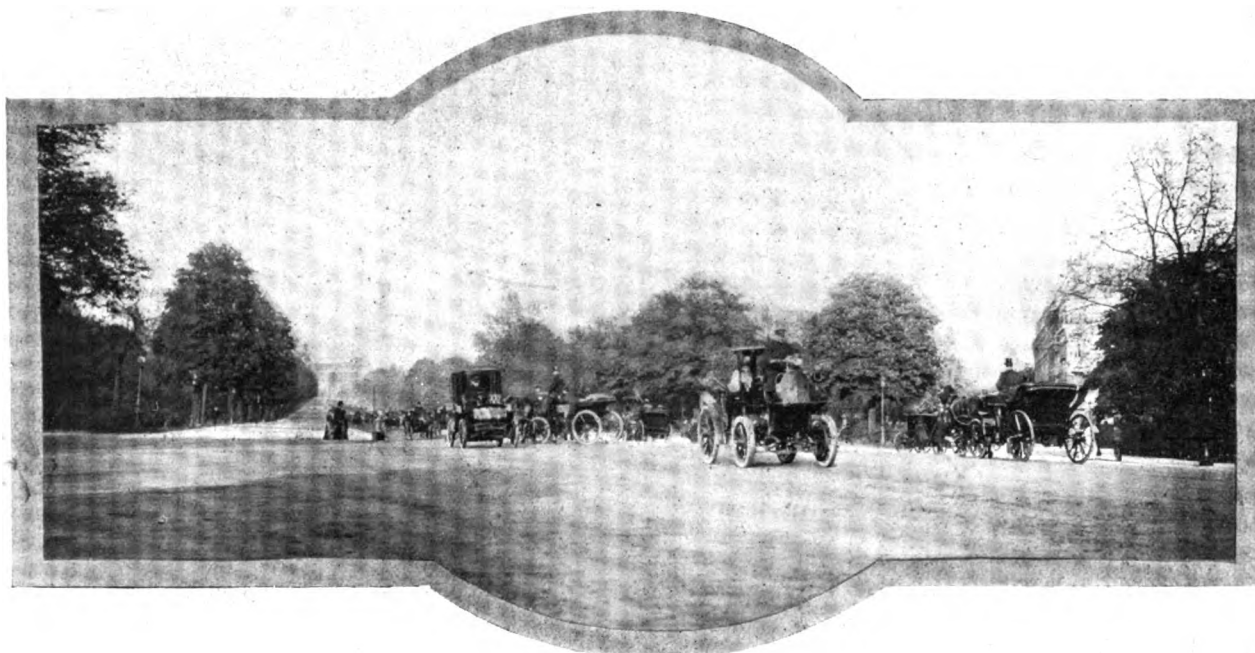
ing over two years. Motorists have been perplexed with the present position, and have wondered how long their endorsements are to be recounted against them, because tail lamps have failed, or the police imagination has stretched to the summoning point. It is gratifying, too, to know that the endorsement will be at the option of the magistrates, which leaves a loophole of escape, and secures a discretionary power which has hitherto been lacking—constituting a grave blot upon the hasty legislation of 1903. Equally satisfactory is the extension of the right of appeal in cases of endorsement or fines of more than 20s.

Much will probably be heard of the new financial arrangements proposed by the Commission. General agreement will be found with the principle of a graduated tax. That the motorist of minor degree, with his single-cylinder car, should be taxed on an equal footing with the six-cylinder vehicle, or that the 8-h.p. voiturette should contribute to the revenue equally with the 60-h.p. vehicle, has been an anomaly which is now promised removal. It is also gratifying to find that the money derived from such taxes is to be allocated not for "ordinary and customary repairs" of the roads, but in works designed to create durable and dustless highways. In other words, the local authorities will not be able to use the money for the perpetuation of admittedly bad plans of road construction; it

of moderate means from becoming a motorist, will considerably add to his expenses. Looking at some tyre accounts lately, we have been surprised at what motorists will stand in the way of expense; so that the difference between three and five guineas is not vital, but it is serious, nevertheless, and we look to Parliamentary advocates to ensure that the large taxation thus proposed will really go to the purpose of road improvements as outlined by the Commission. Unless really adequate safeguards are given in this respect, the whole scheme of taxation should be carefully revised and readjusted, with a view of making motoring an economic possibility to the largest possible number.

Motorists have become so accustomed to being numbered like auction lots that no resentment has been felt at the retention of the numbering proposal as a general principle, nor can we quarrel with the idea of uniformity being secured by their provision by the registering authorities, but some technical difficulties may be experienced when it is sought to rigidly fix the plate—slightly larger than that now in use—at a height of not less than 2 ft. 6 in. from the ground.

In the hour of victory—for the Commission's Report is a vindication of the policy enunciated by responsible motorists during the past year or so—it may appear ungracious to remind opponents of the completeness of their defeat. But the leagues



Motoring in Paris.—On the way to the Bois de Boulogne.

will have to be employed on really scientific work calculated to be of permanent benefit to the country. Often has this idea been ventilated in motoring circles; it forms the basis of a Bill introduced into the Commons by the Hon. Arthur Stanley; and its transference to the Statute Books should not be a difficult matter. But when the Committee stage is reached, those who voice the views of motorists in Parliament will have much to say with regard to the classification advised by Viscount Selby and his colleagues. Little need be said as to the taxes of two and three guineas on cars weighing up to 15 cwt., especially in view of the allocation of the tax to works that will, primarily, be to the benefit of the motorist. The raising of the annual charge to five guineas in the case of vehicles weighing from 15 cwt. to 25 cwt. becomes an increase of importance when petrol, tools, spare parts, &c., are included. These latter, not usually considered in official trials, might well have been left out, so that vehicles on the border line of the 15 cwt. category might have been consigned to the three guinea class. As it is, many that in the ordinary way would have been below 15 cwt. will by the weight of petrol, &c., be raised into a category that, without wholly deterring the man

and other associations which were called into premature existence to secure a general reduction of the speed limit, the harassing of motorists by further regulations, and the imposition of mechanical conditions to throttle the progressive growth of the industry, have been ignored. Their position was untenable, and the Highway Canutes who called upon the progress of the motor-car industry to be stayed, must now recognise the inevitable, and be prepared to acknowledge the rights as well as the wrongs of motorism.

THERE were 131 private motor-cars and twenty-three motorcycles registered during 1905 in Calcutta, and 203 drivers' licences were issued.

THE London County Council has recently seen fit to change the name of King Street, Regent Street, W., on account of the fact that there are several King Streets in the West End of London. They have, however, agreed to call it Kingly Street instead of King Street, so that it really does not make much difference to the White Steam Car business which is conducted therefrom.

## CONTINENTAL NOTES.

### The French Odotachymeter Competition.

The result of the recent competition of speed and mileage recording instruments held by the French Automobile Club has been announced. Eleven instruments were actually tried, the first prize (£20) being awarded to the Otto Schulze apparatus, a German invention, the second prize being divided between Herr Krauss and the Cowey Engineering Company.

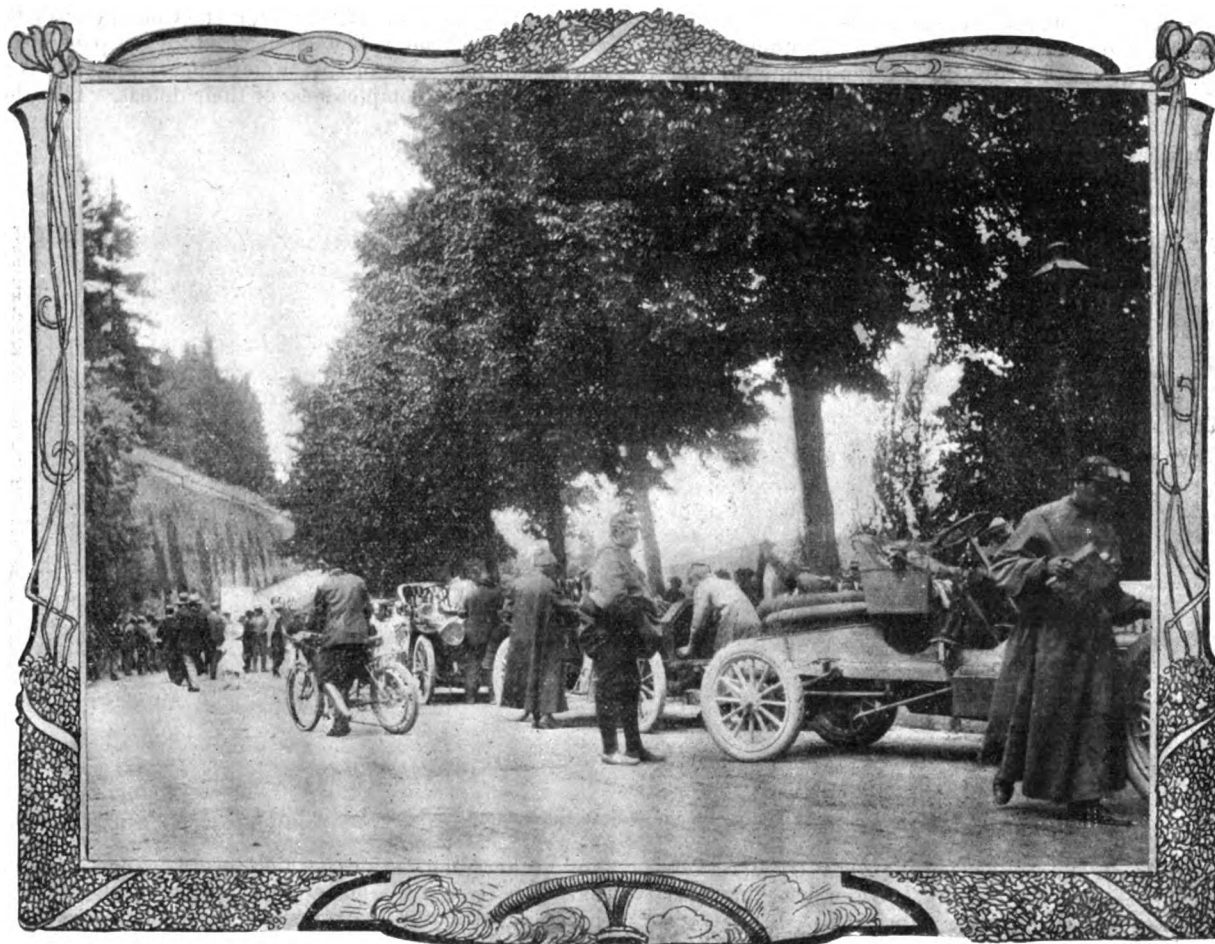
### Public Services in Germany.

A public motor-car service is about to be started between Mittweida, Burgstadt, and Leinbach. The municipal authorities of Rothenburg are considering a proposal to start a similar service between that town and Leutershausen. A company has just been formed at Bad Dürkheim to run motor-buses between that place and Ludwigsburg-am-Rhein. Messrs. Bussing and Co.,

—viz., four each Darracq, Brasier, Mercedes, and De Dietrich, three each Gregoire, Clement-Bayard and Hotchkiss, a Gobron and a Corre. The Panhard and Renault firms have decided to abstain from the contest. The weighing-in will take place at Bastogne on the 12th inst., and the start of the race at 7 a.m. on the 13th, the competitors being dispatched at minute intervals.

### A Touring Competition in Normandy.

The Moto-Club Normand is organising a touring competition for motor-cars and cycles for the 3rd, 4th, and 5th inst. The first day will be devoted to a series of brake tests on a hill having a gradient of 1 in 10. On the 4th inst. there is to be a run over a 45-mile circuit, which, starting and finishing at Vascoeil, takes in Gournay, Buch, and Heronchelle, the number of laps to be made varying according to the class. The event will conclude on Sunday with a flying kilometre speed trial.



The Belgian Criterium., The Competing Cars at Luxembourg.

of Brunswick, are building two 25-30-h.p. motor-buses for a service in Munich.

### An Italian Motor-Cycle and Voiturette Hill-Climbing Competition.

The Moto-Club d'Italia, in conjunction with the Italian Automobile Club, is organising a hill-climbing competition from Turin to the top of the Col de Sestrieres, a distance of 86 kilometres. The event will be held on the 26th inst., and will be open for touring motor-cycles and voiturettes.

### The Circuit des Ardennes.

It has been decided that the Circuit des Ardennes race shall be held on what is known as the Petit Circuit, which, starting and finishing at Bastogne, takes in Longlier, Leglise, Habay-la-Neuve, and Mortelange. The distance round is 85.714 kilometres, and as seven circuits have to be made, the total mileage is roundly 375. The entry list so far comprises 27 cars

### A Novel Competition.

The Moto-Club de Marseilles held a somewhat novel competition on Sunday last. It was known as the "Rallie-Postal Automobile," the competitors being dispatched from a certain point with instructions, previously kept secret, to proceed to five different post offices and collect a letter at the poste restante. According to the route chosen, the distance to be covered varied from 90 to 120 kilometres. There were twenty-five competitors, these comprising eight cars, five tri-cars, and twelve motor-cycles. The winner was M. Hamelle, who, on a 45-h.p. Mors, collected his five letters and returned to the finishing point in 2 hours 7 minutes, he having covered altogether about sixty-nine miles.

### The Boulogne Automobile Meeting.

The 90-h.p. Napier which competed for the De Caters Challenge Cup at the recent automobile meeting at Boulogne was driven by Prince de Chimay, and not by Mr. Cecil Edge.



There were only two competitors, Wagner on a 100-h.p. winning easily in 17 3-5 sec., as against 35 3-5 sec. by the Napier.

#### The Florio Cup Race.

The news that the Florio Cup race is not to be held owing to the Minister of War having declined to supply the troops necessary to guard the course has caused great consternation throughout Italy, and in some of the towns and villages on the Brescia circuit, on which the event was to have been held, disturbances have taken place. The Government has, however, confirmed the action of the War Department, so that there is little or no likelihood of the race being run this year.

#### The Belgian Criterium.

The 1,000-kilometre reliability trial for touring cars held under the auspices of the Belgian Spa, and Namur and Luxembourg Automobile Clubs, was concluded last week, forty-three out of the forty-seven which started successfully completing the five days' tour. The great event on the 26th ult. was the 500-kilometre race on the Circuit de la Meuse, for the surviving cars in Class I. The course, which, starting and finishing at Dinant, took in Bievre, Hondremont and Gedinne, had to be covered five times by the drivers in Categories 4, 5, and 6; and four times by those in Category 3. Thirty-one competitors qualified for the contest, in which twenty-nine started and seventeen finished. The results are appended:—

##### CATEGORY 6, CLASS I.

	H.	M.	S.
1. Hautvast (Pipe) ... ..	6	45	14
2. Croquet (Darracq) ... ..	6	57	25

##### CATEGORY 5, CLASS I.

1. Rigolly (Gobron) ... ..	7	28	37
2. Elskamp (Gobron) ... ..	7	38	56
3. Van Langendonck (Fiat) ... ..	8	25	22
4. Vanderstege (Fiat) ... ..	8	37	39
5. Eynard (Gobron) ... ..	8	45	20
6. Jacobs (Aries) ... ..	9	16	36
7. Cuenod (Martini) ... ..	9	41	5

##### CATEGORY 4, CLASS I.

1. Fischer (Vivinus) ... ..	8	7	45
2. De Vasselot (Pipe) ... ..	8	10	13
3. Vienne (Pipe) ... ..	9	5	45
4. Christiaens (N.A.G.) ... ..	9	17	32
5. Boudart (Darracq) ... ..	9	25	23
6. Pinard (N.A.G.) ... ..	9	28	28

##### CATEGORY 3, CLASS I.

1. Coquard (Aries) ... ..	7	32	27
2. Vlemineckx (Metallurgique) ... ..	8	24	59

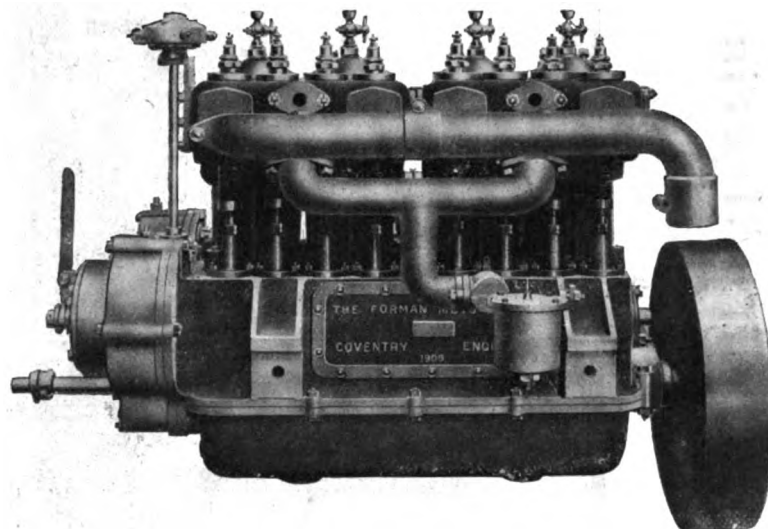
Hautvast's car is rated at 50-h.p.; his average speed works out at just over 46 miles per hour. On Friday, the 27th ult., the competitors had to take part in a hill-climbing contest on the Malchamps Hill, Spa, over a distance of five and a-half kil., the best times in Class 1 being:—Category 6, Hautvast (Pipe), 4 min. 23 sec.; Category 5, Rigolly (Gobron), 5 min. 1 sec.; Category 4, Vienne (Pipe), 6 min. 53 sec.; Category 3, M. Vlemineckx (Metallurgique); and Category 2, Martin (Metallurgique), 9 min. 12 sec. In Class 2, the winner of Category 5 was M. Grisard (Rochet-Schneider), he having survived the five days' tour and made the best time (5 min. 38 3-5 sec.) on the hill. Dandoy, on a Darracq, was first in Category 2 (12 min. 57 sec.). A series of flying kilometre speed trials on the Malchamps Hill was also held, Hautvast, on a Pipe, making the best time—43 sec. It was afterwards decided to cancel this event. Hautvast carries off the prize offered by the Belgian Government for the first Belgian car in the contest, he having completed the 500 kilometre tour on his Pipe car at an average speed of 47 miles per hour. Rigolly (Gobron) secures the Coupe de Spa for the first foreign vehicle while Barriaux (Vielpes) wins the prize offered by the Belgian Club for the lowest-powered car accomplishing the trial with the greatest regularity in running.

#### Miscellaneous Items.

The Moto-Club Oranais has just been formed at Oran, Algeria.—The municipal authorities of Tours have fixed 10 kilometres per hour (6½ miles) as the maximum speed at which motor-cars must pass through the town.—The Cesky Automobile Club, of Prague, proposes to hold in the autumn a reliability trial of voiturettes and light cars from Prague to Patzau and back.

## THE FORMAN 28-30-H.P. MOTOR.

ONE of the latest productions of the Forman Motor Company, Ltd., of Coventry, is the 28-30-h.p. engine, of which we give an illustration herewith. As will be seen, the four cylinders, which are 110 mm. bore by 130 mm. stroke, are cast in two pairs. The crank shaft is of liberal dimensions and runs on large centre and end bearings of phosphor bronze. The crank case is divided into two parts, bolted horizontally, the lower half being readily detachable. An inspection door is also provided to permit the big ends to be readily inspected. The valves are all mechanically actuated off a single cam shaft, the inlets being furnished with a variable lift obtained by means of sliding cams fitted to a shaft which can be moved to and fro in a length of steel tubing. By means of this arrangement, which is controlled from the steering wheel, any desired rate of engine can be obtained. The cam shaft gearing is enclosed in an aluminium case at the forward end of the motor. As to ignition, two systems are provided for—the ordinary accumulator system and high tension magneto. The contact maker for the former is located on the upper end of a vertical spindle driven by bevel gearing off the cam shaft. The magneto is carried on a bracket, which forms part of the crank case, and is driven by gear wheels off the crank shaft. The



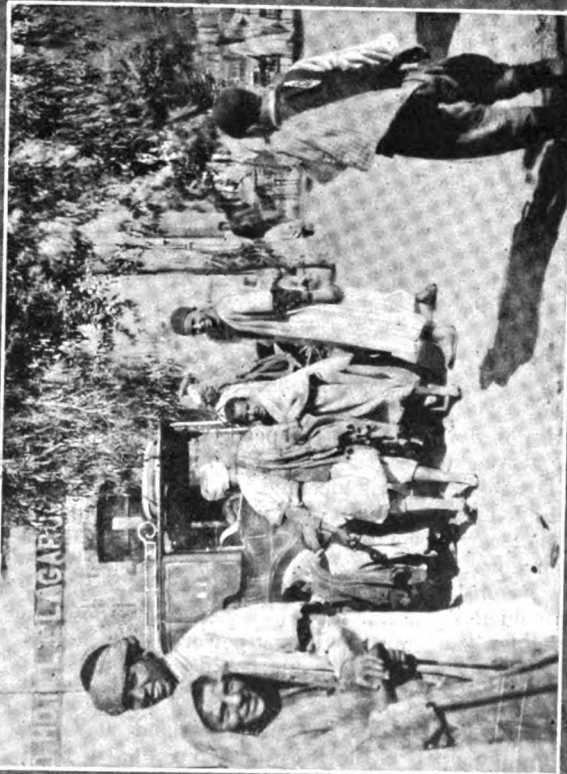
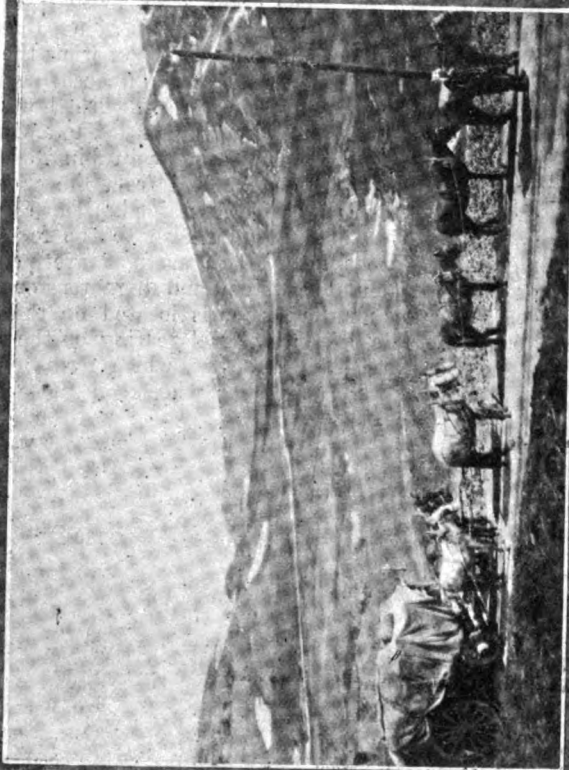
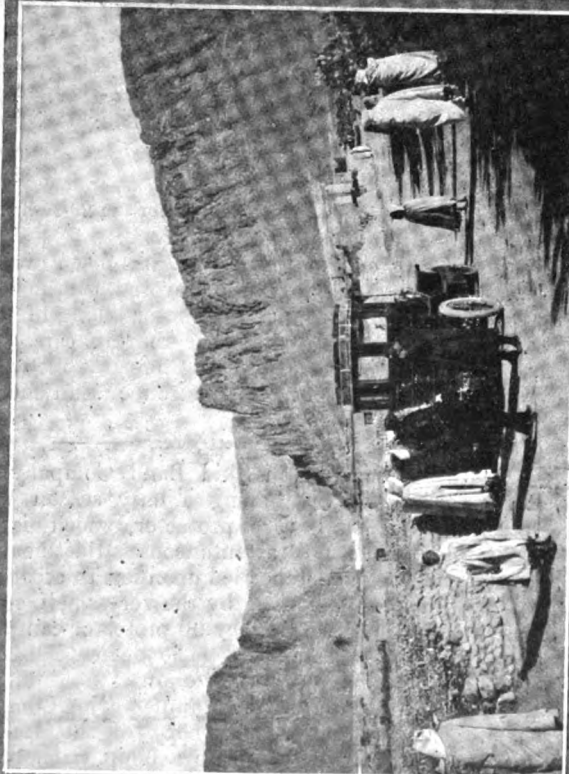
General View of Valve Side of Forman 28-30-h.p. Motor.

design of the engine throughout has been well thought out, special attention having been devoted to the bearings, which have been designed to give the motor a long life, rendering it as well suited for bus work as for touring cars. For the former purpose, however, the Forman Company recommend that the crank case be made of malleable iron or gun metal rather than aluminium.

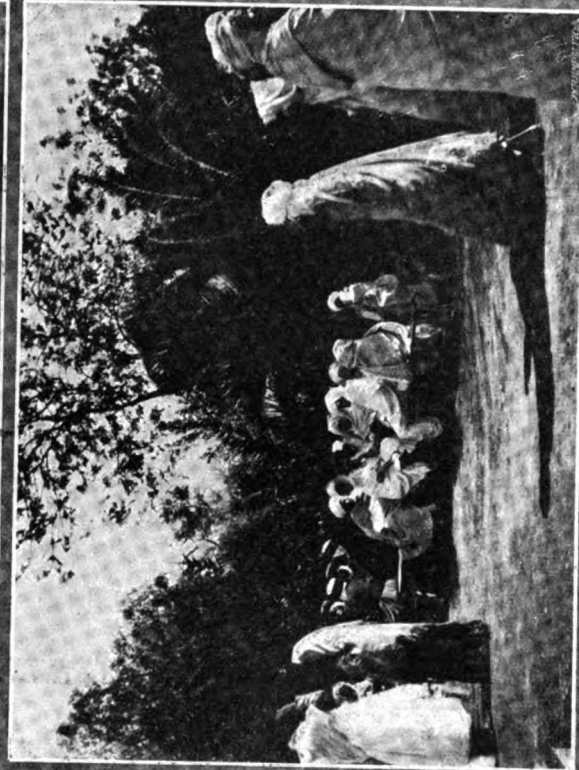
THE "Roberts" Non Skid Band Company, of St. Mary's Row, Birmingham, is having a busy season with the firm's detachable non-skid tyre protector, which is fitted with a renewable tread and instantaneous adjustment. Being absolutely rigid it can be depended upon not to creep, while a matter of convenience is afforded by the very small space it occupies when not in use. An 810 by 90 protector can be folded into a space 15 in. by 4 in. by 3 in. The device can be fitted to worn tyres equally as well as to new ones.

FROM the Avon Motor Manufacturing Company, of Keynsham, near Bristol, comes a copy of the 1906 catalogue of "Avon" cars. These comprise a 6-h.p. tri-mobile, a 6-h.p. two-seated car, a 6-h.p. light van, a 6-h.p. semi-delivery car, and a 10-h.p. double-cylinder tonneau. The object of the makers is to meet the demand for low-priced reliable vehicles; special attention has also been devoted to the question of keeping the cost of running expenses on an equally low scale.

# Touring in Algeria.



Interested Arabs at El Kantarah.  
Outside the Hotel at Tizi-Ouzen.

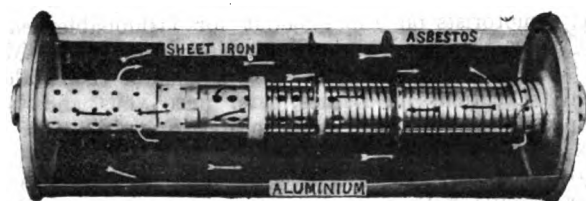


On the Road near Setif.  
An Arabian Open-Air Cafe at Biskra.

*[Allgemeine Automobil Zeitung.]*

## AN IMPROVED SILENCER FOR PETROL MOTORS.

WE illustrate herewith a new silencer for petrol motors which has recently been put on the market by Pratt's Patent Manufacturing Company, of Dukinfield, Cheshire. The object of this arrangement is to allow the exhaust gases, on leaving the engine under pressure, to undergo a certain amount of expansion before emerging from the silencer, whereby the sudden impact of the exhaust against the atmospheric pressure is greatly reduced, and hence the silencing is rendered much more effective. The casing of the silencer is composed of two metal cylinders, one made to fit inside the other, with a sheet of asbestos between them, the latter acting as a non-conductor of heat, and also serving to muffle the sound. The cylinders are fitted together by means of metal ends, with



Sectional View of Pratt's Expansion Silencer.

holes in the centre; through the latter, as will be seen, passes a central tube, screwed externally at each end, and provided with nut and outer cap to fix all firmly together. The tube, which is perforated with a number of holes, also contains a stop. Fitting close on the tube, but so as to easily slide backwards and forwards thereon, are two discs or stops, which are perforated with a number of holes; they are also rather smaller in diameter than the inside cylinder. These discs are attached to brass bosses or bearings, on each side of which is a spiral spring. The operation of the silencer is as follows:—The exhaust gas on leaving the engine under pressure enters the tube at the inlet opening, and passes through the holes into the outer chamber, forcing the discs forward against the action of the springs, thus causing the chamber to enlarge or expand. The reaction of the springs gradually forces the discs back again as the gas passes through the small perforations above mentioned. The gas then passes through the second lot of holes into the central tube, along this towards the inlet end, then through the third series of holes into the outer casing, and finally through a fourth set of holes into the atmosphere. The makers claim that the action of this silencer causes the exhaust to extend over a longer period than usual, and does away with the rapid puffing sound and renders it extremely silent. The apparatus is made in a variety of sizes suitable for cars of any power and with any number of cylinders.

ACCORDING to an attractive pamphlet issued by Messrs. Mann, Egerton and Co., Ltd., Norwich is an ideal centre for a motor tour, being in the centre of the Broads, within easy reach of a dozen seaside resorts and an equal number of golf links, while the roads in the county are exceptionally good. They have a garage with capacity for 200 cars, repair shop with a staff capable of effecting any class of motor repairs, and knowledge of automobilism that will be extremely useful to motorists journeying that way.

A FEW days ago we had a short run on a 9-h.p. Clyde two-cylinder car, and were struck by its flexibility and ease of control in traffic. This no doubt is accounted for by the transmission gear, which is not only silent, but gives a direct drive on each speed, the pinions being always in mesh. Although only a two-seater, the vehicle carried three persons up a gradient of 1 in 7 at a good speed on the second gear. Mr. G. H. Wait, Leicester, the designer, informs us that the car is meeting with considerable favour, especially amongst medical men. We may add that Mr. Wait is engaged on the construction of a 24–30-h.p. Clyde, to which we hope to refer in a subsequent issue.

## HERE AND THERE.

MESSRS. BOON AND PORTER have opened a garage at 161, Castelnau, Barnes.

MR. W. CHRISTY is developing his business in George Street, Limerick, as a motor-car agent.

A MOTOR-CAR, costing £650, is to be purchased for the county engineer of Middlesex by the County Council.

A NEW six-cylinder car is approaching completion at the works of Messrs. Hurst and Middleton, at Holloway, N.

FROM the Adams Manufacturing Company, Ltd., comes a coloured illustration of an Adams-Hewitt car at Godshill, Isle of Wight.

THE Lord Mayor of London and the Lady Mayoress left the Mansion House on Monday for Llandrindod Wells, in Wales, travelling by motor-car.

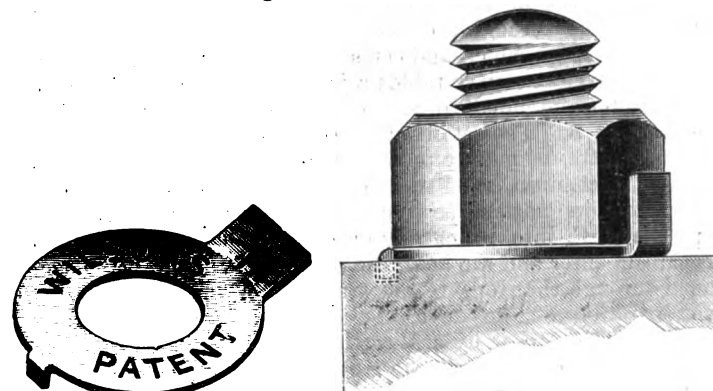
MESSRS. ERNEST ARNOTT AND HOLLOWAY, LTD., have opened new showrooms at 17, Old Burlington Street, W., and are showing the new 40-h.p. six-cylinder Minerva cars.

THE municipal authorities of Los Angeles, California, have passed a regulation requiring that all motor-cycles be equipped with silencers, and that the same are to be kept closed within the city limits.

MR. T. B. HYSLOP, medical superintendent of Bethlehem Hospital, has consented to read a paper at the Conference of Sanitary Inspectors at Blackpool next month on the effects of motor traffic on the brain.

THE Marquess of Lansdowne has just bought the chassis of an 18-h.p. White steam car, upon which he is going to have a landaulet body built. Other recent patrons of the White steam car are Earl Wemyss, Lord Blythswood, Sir John Edwards-Moss, and Sir Dudley Duckworth King.

THE accompanying illustrations show a new locking washer known as the "Positive," which has recently been put on the market by the Positive Locking Washer Company, Ltd., of York Grove, Queen's Road, London, S.E. The device is claimed to afford an efficient and economical method of securing bolt nuts and set screws where great vibration has to be resisted, and to



obviate the need of lock nuts, castle nuts and cotter pins. It is used like the ordinary washer, with the exception that an indentation is made in the work with a breast-drill or punch to take the nib; the nut or bolt is then tightened, and the lap is struck into position, so forming a firm grip. The lap is grooved or channelled on one side radially of the washer, in order that the necessary adjustment of the nut may be made.

THE British Motor Tourists' A.B.C. has been issued by the New Alphabetic Press, Ltd., and affords a ready guide to the towns and villages of Great Britain and Ireland. These are arranged alphabetically, and the principal hotels, garages, charging stations, and petrol dealers in each place are set forth for the convenience of motorists on tour. There are two or three preliminary articles, some useful hints on legal matters, and lists of organisations associated with motorism. The volume has been issued at an opportune time.

MR. H. F. LOCKE KING proposes to construct a three-miles motor track on his estate at Weybridge.

FROM Messrs. J. E. Hutton, Ltd., comes a copy of the new catalogue of Mercedes, Panhard, and Berliet cars, for which they are agents.

THE municipal authorities of Philadelphia have just acquired twenty-four motor-bicycles for the use of the Bureau of Police in enforcing the local motor-car regulations.

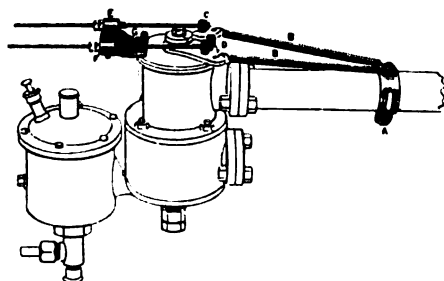
ON Monday, General Booth, of the Salvation Army, set forth on his third motor tour. Starting from Inverness, he hopes to visit 150 towns and journey 1,700 miles ere reaching Plymouth.

TURNER'S MOTOR MANUFACTURING CO., LTD., Wolverhampton, have recently completed a Turner-Miesse steam lorry to the order of Messrs. E. H. Hunter and Co., of London, E.C., for shipment to Japan.

FROM the Automobile Log Syndicate, of Mansion House Chambers, London, E.C., comes an illustrated catalogue of Soar's patent automatic speed-recording log and speed indicator. We may add that the device was described in the *M.C.J.* of June 17th, 1905.

MESSRS. J. W. BROOKE AND CO., LTD., Lowestoft, have sent us a photograph of the 20 ft. motor-boat they have entered for the Reliability Trials at Southampton. The vessel is clinker built in elm, and equipped with a Brooke 8-h.p. two-cylinder motor, which gives a speed of approximately nine miles per hour.

FOR those possessed of cars which are not equipped with steering wheel engine control the E. M. Bowden Patents Syndicate have devised an application of their mechanism which



enables the most obsolete vehicle to be brought up to date in these particulars. The equipment consists of a pair of levers and sector with suitable fittings for a hollow steering-wheel pillar, or, in the case of a solid column, a pair of levers set on a projecting plate held in place by a nut. These levers are connected with two lengths of Bowden wire mechanism, and are carried along the pillar through the dashboard, and terminate as shown in the illustration, which indicates the carburettor in position. A is a clip fixed to any suitable projection of the engine or frame, and is merely intended to provide an anchorage for the light coiled spring B. The action of these coiled springs, which are set divergently, is merely to pull against the operation of the Bowden mechanism, so that, when released, the lever plate D will resume its normal position. G is a stop plate fitted with stops E and F, into which the outer or coiled sections of the mechanism enter and are held, the wire cable itself being continued through the stops to the studs C, on the lever plate D. The operation of the device is self-explanatory. The lever plate D carries internally a throttle, and the actuation of the lever on the steering-wheel plate operates the lever plate on the carburettor to open or shut the throttle as desired, the throttle remaining exactly as set in any position.

MESSRS. A. DONALDSON AND CO., LTD., of Edinburgh, are opening a new motor garage and repair shop in conjunction with the Palace Hotel of Inverness, where it is their intention to keep a competent staff and to cater generally for motorists' requirements. The premises have been erected specially to suit the purpose.

THE "Handy Touring Atlas of the British Isles," just published by Messrs. George Newnes, Ltd., has been specially prepared for motorists and travellers by Mr. J. G. Bartholomew. The scale has been reduced from the Ordnance Survey, and both main and secondary roads are shown. The motor routes which are also furnished will be of value to all travellers, and Messrs. Newnes are to be congratulated on the excellence of their latest publication.

MR. A. H. D. ALTREE has been appointed manager of the magneto department of the Simms Manufacturing Co., Ltd.

CAPTAIN GOODLAKE, of the Tralee (Ireland) Motor Garage, will shortly open a repair shop equipped to undertake all descriptions of motor work.

THE fees of the A.C.G.B.I. for long-distance trials have been revised so that the minimum is now £21 for a trial which starts from and finishes in London.

THE 30-h.p. Wolseley-Siddeley 'bus has now completed over 10,000 miles running with the London General Omnibus Co., and has proved itself to be one of the most reliable vehicles on the road.

MESSRS. ALFRED DUNHILL, LTD., have issued their new catalogue of motor clothing in three sections, each of which is fully illustrated and descriptive of their new designs. The "Book of Liveries" is chiefly concerned with leather clothing and uniforms in Melton and other cloths, and will be of service to Society motorists on the look-out for fashionable leather suits, &c., for their drivers. The section devoted to "Men's Attire" is equally complete. The third division of the catalogue is entitled "Creations for Ladies," and here veils and hoods form a specially large section of an interesting publication.

THE Argyll works at Alexandria, N.B., are certainly the most important industrial enterprise in the Vale of Leven, and some few details with regard to their capacity may be of interest. Electricity for the whole of the establishment is produced in the power-house, which is equipped with nine Rodger-Rowden gas engines of 100-h.p. each. The coach-building shop is 422 ft. by 100 ft., the painting and upholstery shop being of the same length but 65 ft. in width. In the chassis-erecting shop it is possible to have 130 chassis on the floor at one time, leaving room for forty complete cars. The total frontage of the works is 760 ft., made up as follows:—Office block, 550 ft.; machine shop, 150 ft.; lodge, 34 ft.; and chassis shop, 26 ft. The splendid entrance hall is 45 ft. square, and the entire north side of the long corridor, running along the centre of the building to a length of 425 ft., is devoted to the administrative part of the work, while the south side is devoted to recreation purposes. The total cost, exclusive of machinery, will not be much less than £150,000.

THE "Windham" Sliding Detachable Body Company, since their *début* into the motor world, have made several important additions and improvements in the construction of their sliding detachable motor-car bodies. As the design stands to-day, the mere fact that a spacious double landaulet body can be removed by one man without the use of any implement in less than one minute is sufficient in itself to show that the firm have left no stone unturned to make their bodies similar in every detail, appearance, seating capacity, comfort, &c., to the ordinary fixed body, and at the same time to make them readily and easily detachable, and without injury to the paintwork. The advantages of a detachable body are, of course, apparent to everyone; the vast increase in the landaulet type of body proves that the majority of motorists desire something which can be used for wet or fine weather as well as for day or night work. The three great points that have been kept in mind in building bodies of the detachable kind are:—(1) That the appearance of the body is in no way affected; (2) that it is made easily detachable; (3) that when fixed it cannot rattle. It is especially in regard to the latter item that it may be said lies the whole nucleus or idea of the Windham arrangement, rattling being impossible, as each body is secured at the base, and nothing is added to or attached above which might induce or cause a rattle. The firm have protected under three patents every part of the invention. They do not, however, monopolise the building of these bodies, but allow any coachbuilder to construct them under a small royalty, the company supplying the necessary fittings. On the occasion of a recent visit to the works at Altenburg Gardens, Clapham Junction, S.W., we saw a number of bodies of different descriptions in various stages of construction, and we may add that a car which has been fitted with one of the detachable bodies for fifteen months or so is kept on hand ready for trial purposes over a specially bad piece of road.



## THE SCOTTISH RELIABILITY TRIALS.

WE are able this week to give the results of the Reliability Trial which took place in Scotland in June last, and the incidents of which were fully reported and illustrated in our issue of the 20th of that month. The trial consisted of a tour of 671½ miles extending over four days, the route comprising highland and mountainous roads providing a test of the utmost severity. On each day's run there was a timed hill-climbing test, but the trial route, it should be noted, included hills of greater length and of steeper gradients than those on which the timed tests were made. The highest number of marks possible is 1,000, proportioned as follows:—Reliability, 800; time in hill-climbing tests, 100; lowest fuel consumption per ton-mile, 100.

In each class a gold medal has been awarded, the vehicles thus distinguished being as follows:—

CLASS 1.—For vehicles the chassis price of which did not exceed £200: The 9-h.p. Swift entered by the Swift Motor Company, Ltd., and driven by Mr. R. H. Every. This gained 995.5 marks.

CLASS 2.—For vehicles the chassis price of which exceeds £200 but does not exceed £350: 12-15-h.p. New Arrol-Johnston, entered by Mr. John Hunter, and driven by Mr. E. A. Rosenheim. This gained 964.8 marks.

CLASS 3.—For vehicles the chassis price of which exceeds £350 but does not exceed £500: 12-16-h.p. Wilson-Pilcher, entered by Sir W. G. Armstrong, Whitworth and Company, Ltd., and driven by Mr. G. H. T. Slaney. This gained 958.9 marks.

CLASS 4.—For vehicles the chassis price of which exceeds £500 but does not exceed £650: 20-32-h.p. Special Darracq, entered by the Kennedy Motor Company, Ltd., and driven by Mr. S. Girling. This gained 975.3 marks.

CLASS 5.—Vehicles the chassis price of which exceeds £650: 25-36-h.p. Brasier, entered by Mann and Overtons, Ltd., and driven by Mr. M. Ross Browne. This gained 977.6 marks.

The Scottish Cup for the vehicle showing the lowest fuel consumption per ton-mile over the whole Trial has been gained by the 10-h.p. Darracq, entered by the Kennedy Motor Company, Ltd., and driven by Mr. Andrew Brown, with a consumption of 0.2395 gallons per ton-mile, equal to 41.7 ton-miles per gallon of fuel.

## SUMMARY OF RESULTS IN ORDER OF TOTAL MARKS GAINED.

Car Miles per Gallon.	Car.	Marks for Reliability.	Marks gained for Fuel Consumption.	Marks Gained for Hill Climbs.	Total Marks Gained.
CLASS 1. (Under £200.)					
36.0	9-10-h.p. Swift ... G.M.	799	100.0	96.5	995.5
37.3	8-h.p. Rover ...	799	91.5	86.9	957.4
26.2	9-10-h.p. Cadillac ...	800	74.1	70.05	944.15
	9-10-h.p. Adams-Hewitt ...	791	73.8	74.4	939.2
22.8	8-h.p. Maxwell ...	768	54.8	77.6	900.4
18.2	14-h.p. Pope Tribune ...	739	63.9	47.9	850.8
—	6-h.p. Rover ...	W. 2	—	—	—
CLASS 2. (£200 to £350.)					
28.4	12-15-h.p. New Arrol-Johnston ... G.M.	794	94.9	75.9	964.8
38.1	10-h.p. Darracq ... S.C.	788	100.0	70.4	958.4
20.0	10-12-h.p. Coventry ...	799	61.6	93.0	953.6
23.3	16-h.p. Albion ...	800	80.6	65.2	945.8
15.2	14-h.p. Vulcan ...	795	48.5	99.3	942.8
20.1	16-h.p. Reo ...	798	55.9	80.6	934.5
31.2	10-h.p. Argyll ...	767	83.0	76.2	926.2
23.9	10-h.p. Alldays ...	790	52.52	72.0	914.52
17.9	10-12-h.p. Argyll ...	799	55.8	51.2	906.0
14.7	16-h.p. Maxwell ...	800	39.8	63.7	903.5
22.5	16-h.p. Kelvin ...	784	60.3	52.3	896.6
19.3	12-14-h.p. Scottish Aster ...	785	65.2	40.7	890.9
—	14-17-h.p. Scout ...	W. 4	—	—	—
—	12-14-h.p. Victoria ...	W. 4	—	—	—
CLASS 3. (£350 to £500.)					
23.0	12-16-h.p. Wilson-Pilcher ... G.M.	800	91.8	67.1	958.9
21.2	15-h.p. Darracq ...	800	77.4	80.0	957.4
19.8	14-22-h.p. Germain ...	800	68.7	88.4	957.1

Car Miles per Gallon.	Car.	Marks for Reliability.	Marks gained for Fuel Consumption.	Marks Gained for Hill Climbs.	Total Marks Gained.
22.5	16-20-h.p. Sunbeam ...	800	86.5	69.8	956.3
20.1	15-h.p. Siddeley ...	800	78.2	74.9	953.1
16.1	24-h.p. Mass ...	786	65.7	98.4	950.1
17.1	16-20-h.p. Beeston Humber ...	791	67.6	84.7	943.3
16.3	16-20-h.p. Argyll ...	800	65.4	69.9	935.3
18.9	15-h.p. De Dion ...	800	76.8	57.8	934.6
21.7	12-14-h.p. Argyll ...	799	79.1	45.3	923.4
13.5	22-h.p. Minerva ...	787	51.3	84.9	923.2
27.9	12-h.p. Arrol-Johnston Dogcart ...	786	100.0	33.6	919.6
17.8	14-16-h.p. Argyll ...	754	63.9	58.6	876.5
12.5	20-22-h.p. Mobile ...	754	51.4	68.9	874.3
15.2	12-16-h.p. Clement-Talbot ...	745	50.4	59.6	855.0
11.2	14-20-h.p. Vinot ...	767	46.51	33.7	847.21
11.2	16-20-h.p. Chenard and Walcker ...	755	39.8	24.6	819.4
—	18-24-h.p. Courier ...	W. 2	—	—	—
—	18-22-h.p. Speedwell ...	W. 2	—	—	—
CLASS 4. (£500 to £650.)					
17.1	20-32-h.p. Special Darracq ... G.M.	800	75.3	100.0	975.3
22.3	24-30-h.p. New Arrol-Johnston ...	800	100.0	63.1	963.1
15.9	30-40-h.p. Belsize ...	800	75.4	76.3	951.7
21.6	28-h.p. Spyker ...	800	82.3	56.5	948.8
10.9	28-h.p. Ariel Simplex ...	799	56.2	88.6	943.8
14.5	25-h.p. Siddeley ...	800	71.5	70.0	941.5
16.6	18-h.p. Gladiator ...	800	80.55	60.1	940.65
15.5	28-h.p. Pipe ...	800	64.5	75.8	940.3
16.2	24-32-h.p. Gladiator ...	797	80.0	63.0	940.0
15.3	25-h.p. Straker-Squire ...	790	70.9	78.0	938.9
15.7	18-24-h.p. Peugeot ...	800	71.1	63.1	934.2
12.9	25-30-h.p. Iris ...	800	54.0	77.4	931.4
17.1	24-h.p. Albion ...	792	74.6	64.2	930.8
15.8	30-h.p. Standard ...	792	72.2	63.7	927.9
13.4	20-24-h.p. Clement-Talbot ...	794	56.0	70.2	920.2
16.2	30-36-h.p. Drummond ...	774	76.7	64.5	915.2
10.3	30-h.p. Bell ...	800	50.6	62.5	913.1
11.5	20-30-h.p. Pilain ...	800	50.1	60.4	910.5
21.3	20-h.p. Rolls-Royce ...	742	72.3	79.7	894.0
13.1	25-30-h.p. Austin ...	730	64.8	73.4	868.2
12.6	24-30-h.p. St. Vincent ...	696	62.7	43.0	801.7
—	20-30-h.p. Enfield ...	W. 2	—	—	—
—	30-48-h.p. Chenard and Walcker ...	W. 2	—	—	—
—	25-h.p. Brooke ...	W. 3	—	—	—
—	18-h.p. New Arrol-Johnston ...	W. 4	—	—	—
—	20-24-h.p. Horbick ...	W. 4	—	—	—
—	20-30-h.p. Maudslay ...	Disqualified	—	—	—
CLASS 5. (Over £650.)					
17.6	25-36-h.p. Brasier G.M.	793	100.0	84.6	977.6
15.0	28-36-h.p. Armstrong-Whitworth ...	800	86.6	82.8	969.4
12.4	30-h.p. Daimler ...	795	68.8	97.5	961.3
16.4	30-35-h.p. Metallurgique ...	798	90.4	72.8	961.2
12.7	40-h.p. Benz ...	799	73.4	87.8	960.2
10.8	35-h.p. Ariel Simplex ...	794	71.3	85.4	950.7
14.2	30-h.p. Rolls-Royce ...	800	75.9	73.8	949.7
13.7	30-40-h.p. Martini ...	795	85.4	63.8	949.2
11.4	30-40-h.p. Beeston Humber ...	783	64.2	78.9	935.1
12.1	35-h.p. Ariel Simplex ...	774	76.6	81.4	932.3
—	30-40-h.p. Peugeot ...	W. 2	—	—	—
—	24-34-h.p. Belsize ...	W. 2	—	—	—

G. M.—Gold Medal.

S. C.—Scottish Cup.

All vehicles with 800 marks for reliability have qualified for non stop certificates.

W. Withdraw 1st, 2nd, 3rd or 4th day.

AMONG the motor garages pleasantly located on Scottish lochs are those of the Loch Awe Hotel; the Tarbet Hotel, Loch Lomond; and Creggan's Hotel, Strachur, Loch Fyne.

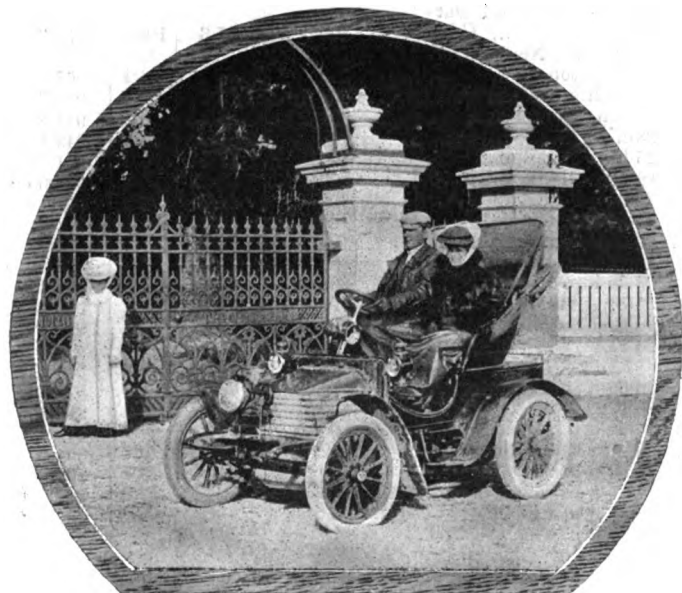
## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
27-33, Charing Cross Road, W.C.]

### PRESSURE OR GRAVITY FEED FOR CARBURETTORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have read with much interest the article and letters appearing in the *M.C.J.* with regard to the above subject, and if I may be allowed to express an opinion, I must state that I have found the pressure feed all round the much more satisfactory of the two. In the first case, I have always found pressure-fed motors are not so subject to that mysterious variation in running that one sometimes gets through gravity feed, which is generally accounted for by the varying head on the petrol, owing to the different gradients encountered in driving. Also on this same point, one very often comes across owners of cars having gravity-fed carburettors who find that their tanks must hold a certain quantity of petrol to get the best results, and that in consequence when the tank does not hold this exact quantity, or thereabouts, they complain that their engines do not run as regularly or consistently.



Dr. L. Palmer, of Featherston, New Zealand, on his 6-h.p. Wolseley. During the past year Dr. Palmer has driven the car over 10,000 miles without serious mishap.

Also, the point Mr. Hutton brings up is very common with a gravity-fed car in an exceptionally hilly district, and that is of being able, owing to the gradient, of setting the carburettor at a higher level than the petrol tank, so that it necessitates turning the car and running up hill backwards, in order to enable the petrol to flow to the carburettor.

Criticising the pressure feed, in the first case, one gets the advantage, under all circumstances of driving, of getting a regular supply of petrol. The pressure valve and fittings, being carefully made and fitted, with a little attention should give little or no trouble—in fact, no more trouble than the cock on the gravity tank, which I have found is very apt to leak and give just as much trouble in that way as the pressure valve will on the pressure system, which in both cases should be very insignificant. As regards the comparison of safety, personally I do not think there is anything in it. I must say I would rather handle a pressure-fed car in case of fire, as it is possible in case of a broken petrol pipe to let off the pressure, when immediately the flow of petrol ceases; but it certainly is a most difficult matter should a leak take place in the gravity system, as generally this goes on for some time before it is discovered, and if it is anywhere about the outlet cock of the tank, it is generally a very difficult matter to stop the petrol from continuing to leak out.

Of course, in cost, the pressure system is more expensive to fit than the gravity, and I think, as it is now being adopted by the large majority of makers, that this can be considered as a strong enough argument in favour of the pressure *versus* gravity feed for carburettors.—Yours truly,

PERCY RICHARDSON.

### HILL CLIMBING CONTESTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In answer to Mr. W. E. Furneaux's letter respecting the North Eastern Automobile Association having been rash enough to admit steam cars to their hill-climbing contest, may I say that he seems very bigoted over the affair. Why not let steam compete, especially as he states some of the finest petrol cars belong to the members of the above association, and of course would be most likely to compete? He states the promoters paid the steamers the compliment of classifying them as equivalent to an eight-cylinder petrol car. I do not think such makers as Turner Miesse, White, Stanley, Serpollet, and others care whether it is compared with eight or sixteen cylinders. Again, he wishes for some formula worked out that will not bring the steam cars to the top; but his idea is that it must be done through the A.C.G.B.I.—a member or members of the above to invent and prove the efficiency of a formula which will work out so as to permit petrol cars to clearly prove their superiority over steam, as he states, without actually excluding the latter. If Mr. Furneaux wishes to prevent steam coming out on top he should let them compete in all contests, so that it will push makers of petrol cars to invent or make petrol cars nearly or equivalent in power to steam. Why does he not suggest some power or law to restrict makers not to over-estimate the power of cars; probably Mr. Furneaux has one, and is surprised he cannot do what the makers represented the power to be.

As a spectator at the hill climbing competition advertised on page iii. of the *M.C.J.* for July 21, one cannot look without surprise at the vast difference between the steam and petrol cars, 18 h.p. steam beating 60-h.p. petrol by nearly 19 sec. If Mr. Furneaux should be competing in the N.E. contest, I wish him every success, but if steam be allowed to compete I am afraid he will have to take a back seat; and if steam should win they will do so without making a noise or stink.—Yours truly,

E. O. ROPER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Where does the "unfair comparison" mentioned by your correspondent, Mr. W. E. Furneaux, exist? And why should "our finest petrol cars" be protected? Why should the best steam cars not be allowed to compete on level terms, horse-power for horse-power, against petrol or any other class of motor-car? Surely a car ought to be judged by its performances and not by sentiment.

I may say that I have driven an 8-10-h.p. four-cylinder car of a well-known English make for over a year, and a very good little car it has proved, and an excellent hill-climber, but I have almost decided to invest in a steam car next year. I live in a hilly country, and from what I have seen of steamers I would have an easier time on the latter.—Yours truly,

FAIR PLAY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to the correspondence *re* the particular formula which should be adopted for deciding the handicapping of hill climbs, speed trials, &c., it seems to me that too much attention should not be paid to the widely divergent formulæ in use by handicappers throughout the country, as clearly it is practically impossible to create a formula to suit every car.

Formulæ are largely a matter of individual opinion, and in some cases suit one car, in others another: thus, at Blackdown Hill climb, the first five places in the handicap were won by Daimlers. Other makes of cars win on other formulæ, and it seems a pity that so much attention should be given to a controversy which would appear to have been started by a certain manufacturer for the object of advertising his own car and deceiving others.

The question for the public is not so much the exact number of millimetres in the bore and stroke of any engine they may fancy, but rather whether, for a certain fixed sum, they can obtain good results. In other words, many of these competitions are run under a price classification, and if a man can obtain a car for, say, £800, which will make faster time over a certain course or hill than any other car at a similar price, I do not think he will trouble his head very much about the various bores and strokes of other cars on sale at that price.

If human nature remain as it was, a man is largely influenced by his pocket, and I have little doubt that prospective purchasers will not be misled by the red herring of cylinder capacity which is being drawn across their track by interested parties.

Prices being equal, what the public want and have always admired is the car which gets to the top first, or in the fastest time.—Yours truly,

ARTHUR SHRAPNEL.

### DRIVERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have for the past six years taken your valuable paper, and should like to say a few words on the drivers' question. For the last fifteen years I have had the repair and charge of machinery (both

steam and internal combustion), and am well acquainted with the construction of motor-cars, am a motor-cyclist, and have for some time had a desire for motor driving. A short time ago I heard of a gentleman having a new car costing over £1,000. I offered my service with first-class character, and was told, on applying, the coachman was to drive the car.

Now, Sir, what is the use of men of experience (leaving out of the question men with a month's knowledge) thinking of entering the motor line, when employers prefer to have men with no mechanical skill. Would some of those employers, and there are a lot of them in the country, trust their lives behind such men in charge of our express locomotives and Atlantic greyhounds?—Yours truly,

CROSSHEAD.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In answer to Mr. Richardson's letter re drivers, I am surprised at a gentleman with years of experience making such statements. Will he kindly state what wages were offered when he found it difficult to get drivers?

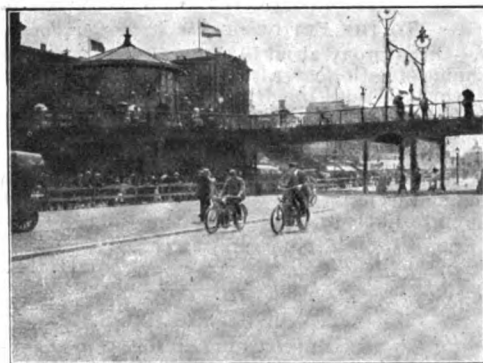
I wanted a berth last year, so was recommended to a gentleman, who asked me to bring references. After examining my first-class Board of Trade engineer's certificate, he offered 35s. per week. Of course, plenty of such gentlemen want engineers, no doubt.—Yours truly,

S. THORNTON.

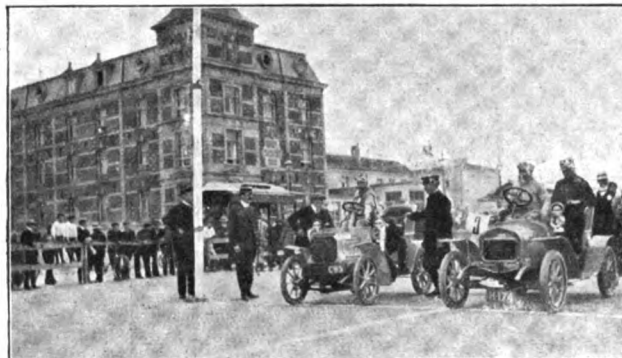
SOME EMERGENCY TYRE HINTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—To suddenly find yourself with a punctured tyre on a country road, beyond reach of help and without the necessary repairing outfit, may mean lack of forethought, and even carelessness, but it is none the less an awkward situation, and your readers may be interested to learn a way out of such a difficulty which served me a short time since.



A Motor Bicycle Contest.



The Start of one of the Heats in the Touring Car Speed Trials.

THE SCHEVENINGEN AUTOMOBILE WEEK.

[De Auto.

Having found myself in the above unhappy plight without even the hope of meeting a friendly motorist to lend me his aid, I considered the wisest course to take off the tyre and run to the nearest village on the rim, for both cover and tube were new, and I did not relish the idea of spoiling either. While engaged in this operation I gave vent to my feelings by flinging my cap to the ground, and in its fall the sun reflecting on the clip fastening the top to the peak, which was of the type adopted for fastening gloves, caught my eye. Here was a little hint given me by providence, and I clutched at it with most happy results. I first set to work to find my puncture, and here again fortune favoured me, for it was a very small hole. Then removing the clip from my cap I succeeded, by stretching the tube, in getting the studded part inside, leaving the stud protruding. Then, clipping the top button firmly on, I joyfully replaced the tube and fixed the cover over it.

I had rejoiced too quickly, however, for after a fruitless search I discovered I had left my pump at home, and, as though in mockery, I hauled out the rubber tube connection. I hunted still further, looking in every possible and impossible place where the pump might have been left, but only succeeded in finding a small coil of fine copper wire. I remembered hearing of an invention by which a tyre could be inflated from one of the cylinders, while running the engine with the other; this recollection, although not practicable through the lack of the proper fitting on the engine, was nevertheless encouraging, as it gave me an idea. The only thing needed was a connection of tubing long enough to connect the engine to the tyre, and as I only had about one foot of rubber available, I depended upon the oil feed pipes to supplement the difference. I selected the copper pipe which supplies the petrol to the float chamber for my purpose, as being cleaner than the others, which carry oil, and, turning off the tap near the tank, I disconnected the pipe and attached a small piece of rubber at each end of it. The necessary improvised pipe being ready, the next thing was to secure one end firmly on the compression tap and the other to the valve on the tyre, then, by opening the two compression taps, the

pump was ready for use. All that now remained to complete the operation was to turn the starting handle of the car, which had the desired effect of inflating the tyre. Thus my improvised apparatus, though rather crude, repaid me for my trouble and enabled me to return home in good time.—Yours truly,

CHAS. P. SOUTHWOOD.

ACCUMULATOR CHARGING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to Mr. C. Collin, I must confess that I have been more than delighted with the results obtained from my Boron cells. I have a six-cell parallel set, with which I keep all my accumulators, numbering in all 14, and varying in size from 20 to 80 amp. hours, in first-class condition. They cost me upon an average about 4d. per charge per 40 amp. hour accumulator. I have also two lamps with reflectors for lighting my motor house, and which I find extremely useful for inspection purposes.—Yours truly,

CHARLES KNIGHT.

A STEAM CAR CHALLENGE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have returned from my vacation tour in France and find that considerable correspondence on the steam car subject has been going on, on some points of which I venture to express an opinion. Mr. S. F. Edge has written to the papers objecting to the fact that steam cars are not handicapped when running in competition with petrol cars for the reason that they are "used in these hill-climbing competitions with a steam pressure of 1,200 to 1,300 lbs." The only reason that I have ever produced a large pressure of steam is that it allows me to start away from standing position and within a matter of 100 yards approximate ordinary road conditions as far as the supply of

fire and water is concerned. The large pressure of steam which I gather in the  $\frac{3}{4}$  in. tubing of my generator is really a very small volume of steam indeed, and lasts me for a very short time. Fifty yards away from the starting line at any of the hill climbs which I have been in this year, my car has been running in just the same shape as it would be run along the open road as far as steam supply is concerned. The pressure under such circumstances is in the neighbourhood of 250 to 350 lbs.

One point about Mr. Edge's letter I would like to call attention to. He declares that it is obvious that such steam cars as have been recently competing in the hill-climbing competitions are "simply instruments used for short-distance sprints." I now have the honour to suggest that, if it is worthy of his consideration, we plan a hill climb between Mr. Cecil Edge's 60-h.p. Napier that was run at Shelsley Walsh, South Harting and Aston Hill (as I assume the same car was run in the three hill-climbs), and my 18-h.p. White steam car which was run in competition with the Napier car in those three events. I should, of course, run identically the same car that I ran, and would expect Mr. Edge to do likewise. I would like to stipulate that Mr. Edge would use no oxygen or other adjunct to petrol. I would be willing to put up £100 toward a purse of £200, Mr. Edge to put up the other £100. I believe that if we start in Porlock village we could find sufficient gradient to call it a hill climb for at least two and a half to three miles.

I would like to point out that many of my friends in the Press have been wrong with regard to the breakage to my engine at the Henry Edmonds hill climb. I came to the starting line with a high pressure of steam and let it in more suddenly than I should have done, which resulted in shearing a retaining pin in the low-pressure web. This, of course, made my low-pressure and my high-pressure cranks work against each other. As the hill climb was on Saturday afternoon, and I was starting in the same car on Monday morning for a Continental tour, I towed the car to London as the easiest way to do the repair efficiently

and quickly, so that I could start early on the Monday morning. This I did, and to my certain knowledge I gave no information to any Press correspondent with reference to the breakage. I quite appreciate the efforts of several friends to explain what they termed a "burst generator," but, unfortunately for the correctness of their reports, the generator was not in the least damaged; in fact, I have not had any generator trouble with the car, in spite of the high pressures which have been maintained through the various competitions I have run in. I have had one or two troubles this year, but they have all been engine breakages, and have all been due to my efforts to start the car more suddenly than wisdom might dictate.

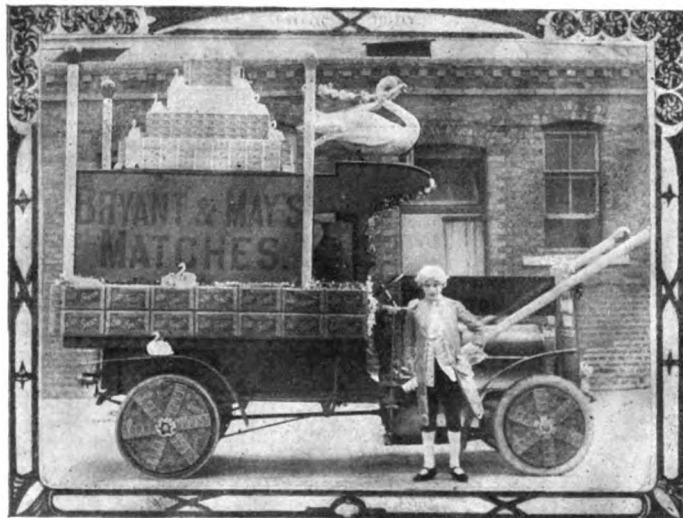
I have just returned from France, where my odometer tells me that since the Henry Edmunds hill climb I have travelled with this same car 1,118 miles, sometimes at very high speeds, and including such trying roads as the Auvergne Gordon Bennett course, carrying a full load, without one single involuntary road stop except for tyres. A member of the committee of the Midland Club was in the car and can vouch for my statements. To cap the climax, I ran the car this morning from Southampton to London with five up without stopping the road wheels, which certainly shows that the car was in good condition.—Yours truly,

FREDERIC COLEMAN.

### THE SALTBURN MEET.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As my name has been mentioned in connection with the "Sheffield Daily Telegraph" and Yorkshire Automobile Club, I feel I must reply personally to the letter in your issue of the 21st ult., and notes thereon.



Messrs. Bryant and May's Argyll Delivery Van, which took part in a Procession on the 14th ult., at Ilford, organised for the purpose of collecting funds for the local Hospital.

When the cup was presented to the Yorkshire Automobile Club, it was understood to be for cars up to 24-h.p., and terms of competition and handicapping were left to be settled by the Y.A.C., and a formula for petrol cars (supplied by Mr. Basil Joy, of the A.C.G.B.I.) was sent us by Mr. Leng, in which no mention of steam or electric cars was made. Therefore, my committee were entirely justified in assuming that a competition for petrol cars was alone intended.

When the terms of handicapping were completed they were sent to one proprietors of the "Sheffield Daily Telegraph," who approved of them, and they were embodied in a prospectus which was issued to the public in due course by the Y.A.C. After the issue of the prospectus in May, 1905, Mr. C. D. Leng, who had been away for his holidays whilst the correspondence with the "Telegraph" was taking place, wrote asking for steam to be admitted, which was then entirely out of the question, as the public announcements had been made, and having regard to the fact that his directors had agreed to the terms of competition.

Whatever may have been Mr. Leng's intentions with regard to the cup, my committee had only documentary evidence upon which to base the event. The cup having once been competed for, it would have been unfair to the holder to have altered the terms of competition this year or next; therefore, rather than submit to Mr. Leng's request for steam to be allowed to compete, the Y.A.C. Committee had no option but to return the cup to the donors and substitute another. The value of the "S.D.T." cup is given in your article as being 50 guineas, which is grossly overstated. I may say that when I visited Sheffield on June 26th I was very courteously received by Mr. Leng, who asked me, as chairman of the Y.A.C., to give him my personal undertaking that the cup should in 1907 be competed for by petrol, steam, and electric cars, but I pointed out to him how impossible it was that I should give this undertaking

and bind a future committee of the Y.A.C. He then gave verbal permission for the cup to be run for on the old terms.

It is interesting to note that on the evening of my interview with him he writes me:—"The 24-h.p. touring car is already out of date, and for future competitions of the 'Sheffield Daily Telegraph' trophy I should like to have your assurance that your committee will extend event D, that it will include touring cars up to say 40-h.p., divided into classes, the chassis price to be, say, £500, £600, £700, £800, the winner of each class to meet in the final upon handicap terms. I would suggest that the race or competition be extended to five miles. This, I think, would be possible on the sands by running to a point and back again. I shall be glad to have a letter from you, as chairman of the Yorkshire Club, and I have no doubt that such an event would be very interesting."

On the 28th June I received another letter, in which Mr. Leng seeks to further extend the event, as I will show by an extract as follows:—"On Saturday you called and pointed out that the programme was printed and matters had gone so far that you hoped we would allow the cup to be run for as before. I agreed to this rather than upset your arrangements, but what I now want is a promise from you, as chairman, that in 1907 the 'Sheffield Telegraph' trophy will be offered for an open event such as we contemplated. If you have a line on your programme intimating that in future this event will be open to all makes of touring cars up to chassis price of, say, £900, there will be no hardship on the winner. It is extremely unlikely that anyone will win the cup twice in succession."

The matter was carefully considered by my committee, who arrived at the conclusion that the only possible way to meet the difficulty was to return the cup.

We feel deeply sorry that such a misunderstanding between the proprietors of the "Sheffield Daily Telegraph" and ourselves should have arisen, and can only regret that the terms of competition were not made plain to us before the offer of the cup was entertained. So far as I am concerned this matter is at an end. To me personally it has been very painful.—Yours truly,

F. H. HEPPER.

### HOUNSLOW: A WARNING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—On Saturday, about 10.15 p.m., on passing through Hounslow, at the beginning of Bath Road, a large brick was hurled from the pavement at my car, which, besides the driver, contained three people. The brick fortunately missed the driver and struck the wind shield behind him, completely smashed the plate glass, and passed through, just missing a lady occupant. The car was immediately stopped, but no one was to be found, and it is needless to say there was no policeman within call. I am sending this letter as a warning to fellow-motorists of the treatment they are likely to receive in passing through this district.—Yours truly,

H. MUHLENKAMP.

### VALVE SPRINGS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you could give me some information as to how to judge whether the inlet and exhaust valve springs have been weakened, and also the best way of testing the same. My engine has latterly not been pulling so well as usual, and a motoring friend has suggested that it may be due to weak valve springs.—Yours truly,

W. HERBERT.

[There is really no definite method of testing the spring of the valves; the only way is to try slightly stronger springs and test the same. If no better results are obtained, we would advise the replacement of the old ones, as too strong a spring only causes unnecessary wear on the cams and tappets.]

### LOSS OF POWER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad of any advice in the following matter. The engine of my four-cylinder car, which was recently overhauled, such as having valves ground and bearings tightened, has, however, since being assembled, lost all power. The compression is less than it was before the valves were ground in.—Yours truly,

W. T. HUDSON.

[We would advise the taking out of the valves and carefully wiping the same and also the seating, as sometimes in grinding and cleaning round the valves a little of the carbon deposit drops below the inlet valve, and upon being subjected to the suction of the piston it gets under the valve, causing loss of compression. No doubt if the engine be run for a short time the compression will again be found good.]

TYRE STOPPING MATERIAL.—An Irish motorist writes:—"Would some of your readers who repair cuts in their tyres give their experience of the various tyre stopping materials now on the market? I have tried several makes without great success."

NUMBER PLATE FOUND.—Mr. L. Marcus, 124, Shaftesbury Avenue, W., found a trade number plate near Slough on Saturday afternoon.



# The Report of the Royal Commission.



ELSEWHERE we refer to the legislation with regard to motor vehicles which preceded the appointment of the Royal Commission on Motor Cars whose report has just been issued. Having premised that the scope of the new Bill that will be introduced into Parliament should include traction engines, the subject is divided into ten divisions which are summarised below.

## SPEED AND DRIVING.

The present general speed limit of twenty miles an hour for light motor-cars should be abolished, speed being controlled by Section 1 of the Motor Car Act, 1903, which made it an offence to drive on a public highway negligently, recklessly, or at a speed or in a manner dangerous to the public.

In towns and villages and at dangerous corners, steep hills, and similar places where caution is required speed should be controlled by a twelve-mile speed limit where adopted by resolution of the local authorities. The existing power of the Local Government Board with regard to the prohibition of motor-car traffic is to be retained, as well as the present pattern of notice boards.

The twelve-mile limits should be indicated in small towns and rural districts by danger-boards and in London and large towns by notices in the "Gazette" and other advertisement.

The speed limit of heavy motor-cars weighing from two to three tons and having non-resilient tyres should be reduced to five miles an hour.

The duty of a motorist as to stopping when any damage or accident has occurred should be enlarged much on the lines suggested by Earl Russell, making it an offence for anyone thus involved who drives on without tendering his name and address.

The Commission does not recommend the compulsory provision of speedometers on cars.

## ROADS AND DUST.

Agreeing that the dust nuisance is prevalent, the Commission recognised that it was due to the action of pneumatic tyres on the road. Evidence had not shown that any particular form of construction will produce cars that will uniformly raise but little dust. Hence they fell back upon the necessity for improved road construction, and propose that the revenue derived from the taxation of motor-cars should be devoted to the improvement of roads. A central department should direct the allocation of the moneys raised by such taxation to the different local authorities and some additional powers and facilities should be given to local authorities for obtaining the removal of obstructions to the public view on rural highways in certain cases. Local authorities should also provide side paths as far as possible.

## HEAVY MOTOR CARS.

The Commissioners are of opinion that the total loaded axle weight of a trailer should not exceed four tons, that, at any rate as regards future construction, all iron or other rigid tyres of heavy motor-cars should have rounded edges (as permissibly provided in Article VI. of the Heavy Motor Car Order, 1904), that no heavy motor-car should exceed a maximum over-all length of 22 feet, and that all motor vehicles having an axle weight of eight tons should have a wheel base of not less than eight feet. Further, the provisions of the Locomotives Act, 1898, in regard to the closing of bridges to locomotives should be applied to heavy motor-cars.

## MOTOR CYCLES.

The Act of 1903 refers to motor-cycles, but contains no definition of the term. The Local Government Board in their circular of 20th November, 1903, suggested that a motor-cycle might be generally treated as meaning a motor-car designed to travel on not more than three wheels and weighing not more than 3 cwt. unladen. A definition to this effect should be embodied in any new Motor Car Act.

## REGISTRATION OF CARS.

Annual registration of motor-cars, with a yearly fee of five shillings for cars and one shilling for moto-cycles, should be enforced. A registration card should be always carried on the car.

Identification plates of a slightly larger size than those at present used should be supplied by the local authority only, and should bear their mark, and cars should only be registered by the authorities of the county or county borough where the owner has a permanent postal address.

The registering authority should have the power of weighing any car. The definition of the weight of a car laden or unladen should be amended.

Further facilities should be arranged for enabling members of the general public to ascertain the name and address of the owner of any motor-car.

## LICENSING OF DRIVERS.

Owners of motor-cars should be liable to penalty if on summary conviction they are shown to have abetted their drivers in committing certain offences connected with the driving of a motor-car, and the duties of owners as to giving information leading to the identification of their drivers should be enlarged.

The procedure with regard to the issue, renewal, inspection, and production of driving licences should be simplified and slightly amended.

While the institution of an official system of the examination of motor-car drivers is not recommended, favourable reference is made to voluntary examinations for the A.C.G.B.I., the passing of which is now required by the metropolitan police authorities for police constables acting as motor-car drivers.

## IDENTIFICATION.

More specific regulations should be made as to the position and illumination of identification marks.

The adoption of the recommendation with regard to the size and location of the identification plates will render it no longer permissible to have the marks painted on a car. All plates should have the letters of the registration authority in a separate line from those of the registered number—Thus:—

L.C.

000 instead of L.C. 000.

The new dimensions proposed are:—

	Motor-Cars.		Motor-Cycles.	
	New Dimen-sions.	Old Dimen-sions.	New Dimen-sions.	Old Dimen-sions.
	Inches.	Inches.	Inches.	Inches.
Height of letter and figures ... ..	4	3½	2½	1½
Breadth of stroke... ..	½	½	1½	1½
Width of letters or figures (except I.) ... ..	2½	2½	1½	1½
Space between adjoining letters or figures ... ..	½	½	½	½
Space between any letter or figure and the edge of the plate ... ..	1	½	½	½

The law as to manufacturers' marks should be simplified with a view of securing greater freedom for the motor-car industry. It is suggested that makers should keep a more careful record than they have hitherto done, and that there is no necessity to restrict too closely the use of such marks in the case of cars used in the course of trade. The marks should be larger than those now in use, and it is recommended that the fee of £3 a year paid at present for the right to use these plates should be altered to one of 5s. for every pair of special plates in the manufacturer's possession. The plates issued by an authority should only be used on cars issuing from establishments in the area of that authority, and not at branch establishments elsewhere.

## OFFENCES AND PENALTIES.

A special penalty should be imposed for being drunk when in charge of a motor-car.

The endorsement of licences should be at the discretion of the Court except for the more serious offences. The holder of an endorsed licence should be entitled to obtain a clean licence after two years, during which he has held a licence without further endorsement.

A right of appeal should lie when endorsement or a fine of over 20s. has been imposed.

When an owner or hirer or any one present in a motor-car can be shown to have knowingly abetted any offence committed by the driver under Section 1 of the Motor Car Act, 1903 (as it now stands or as it may be amended), he should be liable on conviction to be punished by fine or imprisonment as at present, to withdrawal of his licence if he hold one, and to suspension of his registration card if he is a motor-car owner.

## SPECIAL QUESTIONS.

The emission of smoke or visible vapour on a public highway in such a quantity as to cause annoyance or danger, and the causing of excessive noise or vibration not of a momentary description, should be an offence.

Two lamps should be carried on the right and left front respectively of all motor-cars other than motor-cycles. The Commission are opposed to the suggestion that all horse drawn traffic should carry tail lights, and point out that the only reason such is required on motor-cars is for the illumination of the number plates.

## TAXATION.

The taxes upon motor-cars should be increased, and should be raised by means of a consolidated scale of duties.

Trade motor-cars should pay one half the taxes charged on pleasure motor-cars.

The Commission were not persuaded by the proposals to alter the basis of taxation from weight to a combination of weight with horse power or cylinder capacity. The revised scale recommended is as follows:—

Motor-cycles to pay £1 a year.

Motor-cars, weight unladen not exceeding 12 cwt., to pay £2 2s. a year.

Motor-cars, weight unladen exceeding 12 cwt., but not exceeding 15 cwt., to pay £3 3s. a year.

Motor-cars, weight unladen exceeding 15 cwt., but not exceeding 25 cwt., to pay £5 6s. a year.

Motor-cars, weight unladen exceeding 25 cwt., to pay £8 8s. a year.

The report of which the foregoing is a synopsis is signed by Viscount Selby, the Marquis of Winchester, Sir D. Harrel, Sir W. B. Forwood, Sir E. R. Henry, Mr. W. J. Mure, and Mr. H. C. Monro, who join in expressing appreciation of the services of Captain Clive Bigham as secretary. To the report a reservation is made by Sir E. R. Henry and Mr. H. C. Monro, not so much that the law has failed as that in different counties the executive have not made equal use of it, and that in places the methods adopted for enforcing Section 9 have not been well devised. "Whether the general speed limit is made much or little use of, the interests of the general public appear to us to demand that it shall continue to be part of the law, so that it may be applicable when required, and we must rely upon public opinion and magisterial benches everywhere to see that it is enforced only under reasonable conditions."

To the Report are appended many valuable reports on the law and practice as to motor-cars in the principal foreign countries and on the administration, construction and maintenance of certain classes of roads on the Continent.



An 18-24-h.p. Peugeot Car, with special Touring Body.

## OPINIONS OF MOTORISTS.

Several well-known motorists have favoured us with their views on the Report, the consensus of opinion being remarkably favourable to the finding of the Commissioners. In this connection the views of the officials of provincial clubs are of particular interest, and we have pleasure in giving publicity to the following communications to the M.C.J.

## YORKSHIRE VIEWS.

Mr. Sidney S. Dixon, the hon. secretary of the Bradford Automobile Club, the local branch of the Yorkshire Automobile Club, writes:—The Report of the Royal Commission on Motor Cars is more favourable to motorists than I had anticipated it would be.

I rather take exception to their recommendation that heavy motor-cars weighing from two to three tons, and having non-resilient tyres, should be reduced to five miles an hour. In my own particular district there are over twenty of these vehicles now working, and it would be a very serious matter to the owners were their speed to be restricted to this limit. Of course we are all aware the police up to the present have left this type of vehicle alone, and have devoted all their attention to pleasure cars, but in the event of the Act being passed abolishing the speed limit, it seems to me very probable they would confine their attention to heavier vehicles, in which case the motor-wagons and buses would very seriously suffer.

That the revenue derived from the taxation of motor-cars should be devoted to the improvement of roads I am entirely in accordance with. I also approve that a central department should direct the allocation of such monies raised, with the proviso that the local authorities who have the spending of such a sum of money should utilise it in improving the roads which are used by motorists, and not on small bye-roads which are found in every city and which are usually found at any time of the year in course of repair.

With reference to the emission of smoke or visible vapour on a

public highway in such a quantity as to cause annoyance or danger, and the causing of excessive noise or vibration not of a momentary description, should be an offence, I think this should not apply to the trade, as we are all well aware that it is more or less essential that a new car should have more lubrication than one which has been running for some time; I have also noticed repeatedly on cars of certain makes that when they are making a start, especially if they are on a slight incline, there is bound to be some emission of smoke through burnt oil; this is not noticed on level roads, but on a very steep hill it is practically impossible to run without emitting some smoke. I do not approve of the increase of taxation upon motor-cars; on comparing them with other vehicles I think that they pay more than their ratio of taxes already. That the general speed limit of twenty miles an hour for light motor-cars be abolished is what we have been fighting for for some time, and I entirely approve of the suggestion that a twelve miles speed limit be adopted by local authorities where it is thought expedient in towns, villages, or at dangerous corners, but I think it ought also to be essential that where such a limit is enforced conspicuous notices should be posted on all roads converging towards such an area, as one can hardly be expected to refer to a gazette before passing through towns and villages whilst on tour.

Mr. Charles P. Wilson, hon. sec. of the Yorkshire Automobile Club, entirely approves of the report of the Royal Commission, especially the recommendation to abolish the speed limit, and he also thinks the proposed graduated tax on motor-cars for the road improvements is a step in the right direction.

## LANCASHIRE OPINION.

Mr. Arthur Birtwistle, hon. sec. of the North East Lancashire Automobile Club, writes:—I approve, on the whole, of the report of the Royal Commission. The suggested universal lighting must commend itself to all who legitimately use the roads after dark, whilst the recommendations to abolish the speed limit and the dire penalties for the accidental omission to carry one's licence and the extension of the rights of appeal must also commend themselves to all motorists.

The provision for the graduation of the tax on motor-cars is, I think, a move in the right direction, for the following reasons. In the first place, the suction from the pneumatic tyres of a heavy car must be much more than that from a light one; a heavy car, as a rule, also raises much more dust than a light one; in both ways the heavier car is, in my view, causing a larger deterioration of the road. In the second place, the larger cars are essentially pleasure cars, i.e., luxuries, and, speaking generally, the owners of such cars are in a position to pay an increased tax without feeling it, and I am of opinion that, so far from raising objections, such owners will favourably regard the proposal if the revenue thus derived is spent, not in any one particular district, but throughout the country generally.

Mr. Charles Smith, hon. secretary of the North London Automobile Club, entirely approves of the report of the Royal Commission, and thinks that it is the beginning of common sense as applied to motoring.

## ROAD REPORTS.

WARWICKSHIRE.—A motorist writes cautioning drivers against the road between Solihull and Hampton-in-Arden. At the bottom of the hill leading to Solihull he has noticed some new cut stones put into the wheel ruts. The stones were all over the road in patches of from 50 to 100 yards. This goes on until within 60 yards of the canal bridge in the Catherine-de-Barns Road, or for a distance of from one to one and a half miles of loose stones. The net result of his experience was two tyres cut to pieces and rendered useless, and the other two cut so badly as to be useless until repaired.

LANCASHIRE.—Mr. W. H. Schofield, the Lancashire County Surveyor, has been experimenting with regard to the cost of dealing with the dust nuisance on main and secondary roads. Summarising the information, the use of palliatives would entail an additional expenditure of approximately £40 per mile, and there are 472 miles of macadamised main roads. Arrangements have been made through Messrs. Needham and Co., of Manchester, for the laying of a quarter-mile length of tar macadam on the Blackburn and Manchester road in the Turton Urban District, with a view to testing its wearing qualities under that class of traffic. The grouting of granite macadam with a mixture of boiling pitch and sand has been tried successfully on the main roads in Turton.

FARNHAM.—In Farnham, Surrey, the urban council have carried out extensive experiments with tar dressing, which have proved very satisfactory, and at the rural council have been considering a suggestion that the whole of the roads in their district—180 miles—should be treated with a dust preventive, and it was pointed out that this would involve the council in an expenditure of £11,000. It was eventually decided to send a circular letter to all the councils in the county of Surrey asking if they would be willing to join in a conference, or would give expression to their opinions as to the best remedies to adopt to abate the dust.

WEST SUSSEX.—A new main roads scheme is now under discussion by the West Sussex County Council. The Roads and Bridges Committee of that authority has erected motor caution boards near three schools at Horsham, and has sanctioned some experiments by the County Surveyor on the main Brighton road between Henfield and Woodmancote. The Lower Shoreham Road, Kingston-by-Sea, is also to be tarred, the cost to be divided between the local authority and the County Council.

## CLUBS AND ASSOCIATIONS.

### SCOTTISH.

A MEETING of the General Council was held on the 23rd ult., Mr. H. M. Napier, chairman, presiding, when the admission of seventy-five members to the Club was duly confirmed.

The prosecution of motorists was considered, and, having regard to the generally accepted view, confirmed by legal opinion, that, in terms of the Motor Car Act, the Sheriff Court is the only court of competent jurisdiction in Scotland, it was agreed that the Club should test the matter by the appeal of a suitable case to the High Court of Justiciary.

Application for official appointment of hotels and repairers in Scotland, the responsibility for which, under the agreement with the A.C.G.B.I., now devolves upon the Scottish Club, were submitted and a special committee appointed to deal with the matter. The relations between the Scottish Club and the A.C.G.B.I. were considered, the agreement came to being referred to in our "Comments" on another page.

The agreements with the Automobile Club of Great Britain and Ireland and the Motor Union, as negotiated and adjusted by a sub-committee, copies of which were in the hands of the members of the Council, were submitted and approved.

We may add that the financial clauses in connection therewith provide for an annual grant to the Motor Union equal to 5s. per member on the roll of the Scottish Automobile Club, and in consideration of the work done by the Scottish Club as the administrative part of the Motor Union in Scotland, including legal defence, if any, the representation of motorists at inquiries under the Motor-Car Act, &c., the Motor Union are to pay to the Scottish Club a sum not less than 55 per cent. of the total capitation grants paid by the Scottish Automobile Club in each year.

Having regard to the wider powers and responsibilities devolving on the Club under the agreements above referred to, the General Council had under consideration the whole constitution of the club. They agreed that its usefulness and efficiency and influence would be increased and its claims on automobilists—more especially those in outlying parts of the country—strengthened, and its membership still more largely augmented, were its sectional character abolished, and its administrative work entirely conducted through one governing body and one secretarial department. They consequently have framed an amended constitution and rules which will be submitted for approval of a special general meeting of the Club to be held shortly.

### AUTO CYCLE.

THE Auto Cycle Club will have a hill-climb on the 8th prox. at Birdlip Hill. The machines entered must be of the maker's standard pattern, fully equipped for the road, fitted with motor-cycle tyres, steel mudguards, toolbag weighing not less than 7 lbs., stand, and touring saddle. The tank must contain at least one gallon of petrol. There will be six classes, as follows:—

- 1.—For machines with engines not exceeding 80 by 80 mm. Variable gears allowed.
- 2.—For machines with engines not exceeding 85 by 85 mm. Variable gears not allowed.
- 3.—For machines with twin-cylinder engines; size of each cylinder not to exceed 80 by 80 mm., or its equivalent.
- 4.—For machines with twin-cylinder engines of any size.
- 5.—Slow test. Variable gears eligible.
- 6.—For forecars, sidecars, and quadcars, carrying two passengers; machines to be fitted with variable gear. Size of each cylinder not to exceed 95 by 95 mm., or its equivalent volume swept out.

### LADIES'.

LAST year the members of the Ladies' Automobile Club spent an afternoon at Bear Wood, Wokingham, and again this year Mrs. Walter invited them to have their final summer meet at her home. About fifty of the members and their friends were made welcome at Bear Wood by Mr. and Mrs. Walter. Among those who accepted Mrs. Walter's invitation were:—Baron and Baroness Campbell von Laurentz, Mrs. Louis Fagan, Mrs. Campbell Farrer, Mrs. H. R. C. Harrison, Mrs. Hartung and Mr. Hartung, jun., Mr. and Mrs. Buttemer, Mrs. Bonham Carter, Miss Evans, Mrs. Herbert Lloyd, Mr. Peter Lloyd, Miss Edith Schiff, Major and Mrs. Turner, Mrs. Bovill, Mrs. Hargreaves, Mrs. Whitaker, Mrs. Mansell-Moullin, and the club secretary, Miss d'Esterre-Hughes.

### IRISH AUTOMOBILE CLUB.

It has been deemed advisable to hold the Motor-car Gymkhana on August 28th at St. Andrews College Recreation Grounds, Donnybrook, instead of Leopardstown Racecourse. These grounds are situate about 300 yards, on the left-hand side of the road, beyond the terminus of the Donnybrook tram, and within easy walking distance of the Royal Dublin Society's Show Grounds. The Lord Lieutenant has promised to be pre-

sent. A novel and interesting programme of events has been prepared.

### ESSEX.

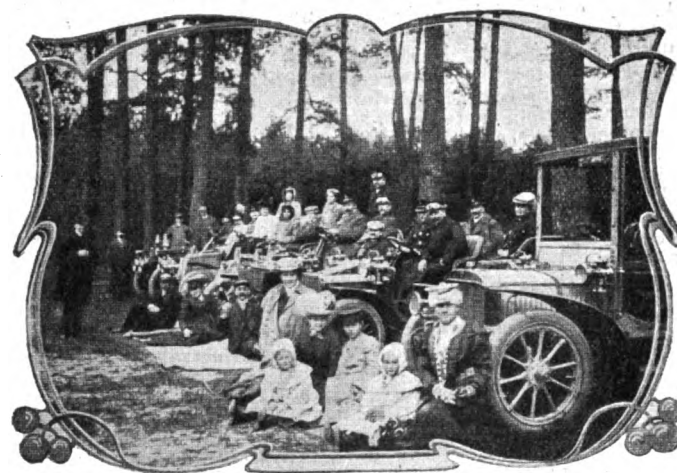
THE programme of the Essex County Automobile Club for the rest of the year includes meals at Frinton and Colchester, an open hill climb on October 6th, and a non-stop run to Witham on September 15th. The annual dinner will be held on November 14th.

### KENT.

ON Saturday last the members of the Kent Automobile Club were most hospitably entertained by Mr. and Miss Willis at their residence, "The Phillipines," Brasted Chart. "The Phillipines" is situated on one of the highest points in Kent, and the views from the terrace are very beautiful. Some twenty cars were lined up on the wide terrace in front of the spacious lawns, on which the Blue Hungarian Band played throughout the afternoon. Mr. Willis had kindly left open for the inspection of his guests his laboratory, which is full of interesting things for those who were scientifically inclined. About eighty members and friends were present, among whom were Col. Edward Latter, Mrs. Lubbock, Mr. and Mrs. Austin, Dr. Madden, Mr. and Mrs. Gardner, Mr. and Mrs. Mann, Mr. Brewer, Mr. and Mrs. Symmonds, Mr. and Mrs. Killik, Mr. C. B. Gardner, Mr. A. M. Killik, Mr. and Mrs. Nash, Mr. and Mrs. Wyllie, Mr. Page, Mr. Stace, Mrs. Kenyon and the hon. secretary.

### NORTH EAST LANCASHIRE.

THE motor-car trials of the North East Lancashire Automobile Club last week took place on a kilometre length of the new road that leads from the Grammar School to the Bungalow, and the Pike at Rivington



A Motor-Car Picnic.

was marked out, and spectators lined the route as well as the moorland slopes. The fastest times in each class were as follows:—

- For cars listed at not more than £200.—Dr. J. V. Fox, 6-h.p. Belsize, 3 min. 36 2-5 sec.  
Not exceeding £300.—F. Pearce, 15-h.p. Vulcan, 3 min. 9 1-5 sec.  
Two-seated car, not exceeding £300.—E. A. Riley, 12-h.p. Belsize, 2 min. 30 1-5 sec.  
Not exceeding £500.—H. Noble, 18-24-h.p. Belsize, 2 min. 14 sec.  
Not exceeding £600.—A. H. Walker, 20-h.p. Darracq, 1 min. 36 3-5 sec.  
Not exceeding £700.—A. H. Walker, 30-h.p. Darracq, 1 min. 24 3-5 sec.  
Not exceeding £800.—W. D. Coddington, 30-40-h.p. Daimler, 1 min. 19 1-5 sec.  
Not exceeding £900.—G. Chapman, 30-40-h.p. Daimler, 1 min. 21 sec.  
Not exceeding £1,000.—J. E. Baxter, 40-50-h.p. Wolseley, 1 min. 12 sec.  
Over £1,000.—A. Birtwistle, 35-45-h.p. Daimler, 1 min. 7 3-5 sec.

### MANCHESTER.

ON Saturday last the Manchester Automobile Club had a run to Beeston Castle, situated half-way between Chester and Crewe. The castle dates from the early part of the reign of King Henry III., and is now a stately ruin. Some of the walls and several of the towers still remain nearly perfect. Beeston Hill, upon which the castle is built, is 530 feet high, and the view obtained from the summit over the Vale Royal of England amply repaid those members of the club who had taken the trouble to climb to the summit. The draw well was an object of interest as it was in perfect condition though dry. Up to 1842 it was nearly full of rubbish, and it had the reputation of being a hiding-place for hidden treasure, and in that year it was cleaned out, and found to be 366 feet deep, but nothing of value was obtained by

emptying it. Though several severe showers rather spoilt the enjoyment of those who were picnicing in the grounds, the run was pronounced a success and will no doubt be repeated another year.

### MIDLAND.

ONE hundred and twenty-five of the most enthusiastic automobilists that ever rode in cars sped through the lanes of Warwickshire on Saturday.

Owing to the kindness of Mr. Clayton, J.P., of Castle Bromwich, and the members of the Midland Automobile Club, these little cripples were given a joyous day. In the garden there was a sumptuous tea, which they ate to the accompaniment of a gramophone, and afterwards Mr. Punch ill-treated his acquaintances in the old and irresistibly amusing way.

### LINCOLNSHIRE.

As previously announced, there will be a hill climbing competition, by permission of Sir John Thorold, in his picturesque park at Syston, on Saturday, August 18th, open to members of the Lincolnshire Club only, under the closed competition rules of the A.C.G.B.I.

Mr. J. St. F. FAIR, of Chertsey, and Mr. J. Milner, of Broadclyst, Devon, have been elected life members of the Motor Union.

### JOINT CLUB MEET.

ONE of the largest musters of motorists, at least in that district, was held on Thursday last week at Bulwell Hall, near Nottingham, the charming residence of Mr. Charles Hardy, the president of the Nottingham Automobile Club. Mr. Hardy's own club and the Derby, Leicester, and Lincolnshire Clubs had been invited, and there were over a hundred cars, with about 350 passengers. After the reception the beautiful grounds were inspected, and then tea was served in a special marquee, the band of the Robin Hood Rifles playing choice selections. The visitors then drove through the park to a large field, where Mr. Frank Butler's balloon, "Dolce far Niente," was inflated. No less than 45,000 feet of gas had been used, and she was a pretty sight as she "rode at anchor," so to speak, being perfectly still. Mr. Butler had with him the Hon. C. S. Rolls and Mr. C. F. Pollock. Surrounded by a great crowd of motorists, and witnessed by thousands of people from the district, the balloon made a splendid ascent about 5.30, and went off towards Matlock and the Peak district. Soon after seven o'clock the party safely alighted on the moors about five miles from Buxton, and at a height of some 1,600 feet above sea level. The voyage was a most successful one, and the aeronauts had some glorious views of beautiful Derbyshire.

Amongst the members of visiting clubs who accepted invitations were Messrs. G. W. Reynolds, Leicester (16-h.p. Peugeot); F. H. Goddard, Lincoln; C. J. Allin, Derby (10 12-h.p. Humber); Dr. Hancock Steil, Grantham; Orson Wright, Leicester (22-h.p. Minerva); A. McAlpin, Leicester; W. B. Jevons, Market Rasen; Dr. Gilpin, Bourne; Mr. W. T. Gent, Gainsborough; H. E. Barron, Leicester (10-h.p. Peugeot); H. E. Harding, Leicester (8-h.p. Parr); Dr. Jagger, Lincoln; T. Mays, Bourne; W. A. Tomlinson, Bourne-mouth; R. W. Sale, Derby (8-h.p. Wolseley); G. H. Reading, Burton-on-Trent (10-h.p. Wolseley); Dr. W. G. Copestake, Derby; Captain Newsum, Lincoln; Captain Byron, Leicester; Dr. Sharp, Newark; and R. B. Gibson, Bourne (12-h.p. Richard-Brasier).

The members of the Notts Automobile Club who accepted the invitation of their president included Messrs. Jesse Boot, 16-h.p. Richard-Brasier; Dr. Gray, 10-12-h.p. Humber; P. L. Huskinson, 30-h.p. Daimler; A. R. Atkey, 16-h.p. Minerva; C. E. W. Lucas; A. Barlow, 16-h.p. Argyll; B. W. Winter, 20-30-h.p. Renault; J. W. Carson, 10-12-h.p. Humber; S. C. Hardy; Dr. P. Tressider; F. A. Boulton, 35-h.p. Daimler; A. F. Houfton, 16-20-h.p. Humber; J. D. Siddeley; R. C. Craven; Ross Browne, 18-28-h.p. Mercedes; R. M. Wright, 10-12-h.p. Humber; W. E. Danby, 10-h.p. Argyll; E. W. Wells, 30-h.p. Daimler; W. D. Wells; W. T. Cresswell, 16-20-h.p. Argyll; R. Cripps, 16-h.p. Argyll; W. M. Hutchinson, 30-h.p. Daimler; Booth Granger, 10-h.p. Gladiator; R. S. Clifford, jnn., 12-h.p. Richard-Brasier; Colonel R. L. Birkin, 16-h.p. Clement; H. Belcher, 12-16-h.p. Talbot.

### MOTOR SCHOOL EQUIPMENT.

THE following is a provisional list of equipment necessary for a driving school in order to obtain the A.C.G.B.I.'s Club's licence:—

- (1) A car that can be driven. (Not less than 10-12-h.p. two-cylinders).
- (2) A complete engine that can be run, mounted on a table or stand, so that it can be taken down and re-assembled without difficulty.
- (3) A set of change-speed gears.
- (4) A set of differential gears.
- (5) A separate float-feed carburettor.
- (6) A complete system of high-tension ignition, adapted for a two or four-cylinder car, consisting of accumulator, commutator, coils and plugs, and, if possible, model crank-shaft and pistons.
- (7) A magneto (high or low-tension).
- (8) Diagrams of wiring for accumulator, and for high-tension and low-tension magneto.
- (9) A centrifugal and gear pump.
- (10) Wall diagram of water circulation.
- (11) Some covers and tubes and a rim or, prefer-

ably, a wheel on a stand. (12) A set of diagrams illustrating the various systems of lubrication. (13) A charging board or diagram if there is no electric supply. (14) Examples of spring washers, and of the various ways of locking nuts. (15) Examples of Stauffer greasers. (16) Text-books as approved by the Club.

### HILL CLIMBING CONTEST.

#### HAZLEWOOD HILL.

ON Saturday last the hill-climbing competition for possession of the Derby and District Automobile Club Challenge Cup took place at the site again chosen being Hazlewood Hill. The competition was confined to the members of the club. The cars assembled at Hazlewood Railway Station, where they were weighed with their occupants and lined up at the foot of the hill, which is close to the station. The course is a very stiff incline and constitutes an admirable test of the hill-climbing capabilities of a car.

The results are to be forwarded to the A.C.G.B.I., who will, taking into consideration the horse-power of each car, the weight with passengers and other detail, award the cup to the driver who, in their opinion, made the most meritorious ascent, thus giving the smaller cars an equal chance with the larger ones. The Derby Club were also again giving a silver medal to the winner of the challenge cup, and a bronze medal for the second best performance. About 2.30 a start was made and some excellent ascents were seen.

Appended is a list of the competitors, their cars, and the times made in their best attempt:—

		Time. Min. sec. longer.
F. A. Bolton	35-h.p. Daimler...	x
A. Swinger	30-40-h.p. Daimler	38
C. T. Leech	18-22-h.p. Daimler	45 2-5
A. J. Clay	20-h.p. Ryknield	1 3-5
L. P. M-II	15-h.p. Darracq...	1 19
H. A. Johnson	22-28-h.p. Crossley	1 31 1-5
F. Hurdle	8-10-h.p. Humber	1 32 4-5
S. Downing	10-h.p. Alldays	1 37
H. Jefferson	8-10-h.p. Humber	2 35 2-5
G. F. Reading	10-h.p. Wolseley	2 40 4-5
C. J. Allin	8-10-h.p. Humber	2 45 3-5
N. Sayer	10-h.p. Wolseley	2 47 3-5
J. Richards	10-h.p. Wolseley	3 12 4-5
H. G. W. Dawson	7-8-h.p. Swift	4 15

The course was admirably kept by the county police assisted by the club officials, who were as follows:—Starter, Mr. P. E. Jeule; time-keeper, Mr. J. Allin; clerks of the course, Messrs. L. P. Mell, Dr. Copestake, C. T. Leech. As usual, the arrangements for expeditiously dispatching the cars and keeping the hill clear were greatly facilitated by use of the club's telephone. Amongst those present, in addition to competitors and their passengers, were Mr. Geo. B. Crompton, Miss Crompton and party, Rev. W. H. Turner, Mrs. Turner, Mr. and Mrs. G. B. Fletcher and party, Mrs. C. J. Allin, Miss Allin, Mrs. L. P. Mall, R. Jefferson, Miss Carnit, J. T. C. Eadie and Mrs. Eadie, W. Hartley, A. Ford, H. A. Johnson and others.

### NEW COMPANIES REGISTERED.

ACADEMY OF MOTORING.—Capital £10,000. Teachers of motoring. Agreement with Messrs. P. B. Adams, H. B. Pettitt, L. C. Bartholomew, and W. P. Adams. 85, New Bond Street, W.

ROSSE MOTOR-CAR AND CYCLE COMPANY.—Capital £5,000. Agreement with Messrs. T. Rhodes, E. Heaton, and P. Cox.

H. J. NICOLL AND CO.—Capital, £125,000. To acquire the business carried on by Messrs. H. Nicoll, D. Nicoll, and J. Nicoll, at 114, 116, 118, and 120, Regent Street, W., and elsewhere, and H. J. Nicoll and Co., and to carry on the business of motorists' tailors, &c.

BRITISH MOTOR-BOAT CLUB PROPRIETARY, LIVERPOOL BRANCH.—Liability, 2s. 6d. Signatories are to appoint the first committee.

MOORE, OF BRIGHTON.—£2,000. To acquire the business carried on at 21, Regency Square, and 1 and 2, Regency Mews, Brighton, as Henry Moore, and to carry on the business of motor-car, omnibus, and carriage manufacturers, &c. The first directors are Mr. Henry Moore (chairman and managing director) and Mr. Hugh S. Moore. Union Bank Chambers, North Street, Brighton.

LONDON AUTOMOBILE AGENCY.—Capital, £500. First directors Messrs. F. W. Bishop, G. F. Skudder, and N. P. Burch.

RESILIENT RIM COMPANY.—Capital, £10,000. To adopt agreements with B. B. Van Praagh and (2) with Mr. M. Braithwaite, and to carry on the business of coach and carriage builders, &c. 4, Suffolk Street, Pall Mall East, S.W.

BRITISH TAXI-MOTOR CAB COMPANY.—Capital, £150,000. To adopt an agreement with Mr. G. Garnier, and to carry on the business of motor-car proprietors, &c., Botolph Lane, E.C.

DE DION.—Capital, £100. To carry on, in the United Kingdom, France, or elsewhere, the business of manufacturers of and dealers in



motor-cars, cycles, and vehicles propelled by any kind of motive power, whether manufactured by De Dion, Routon et Cie or others.  
MOTOR CARRIERS.—Capital, £1,000.

### PUBLIC MOTOR SERVICES.

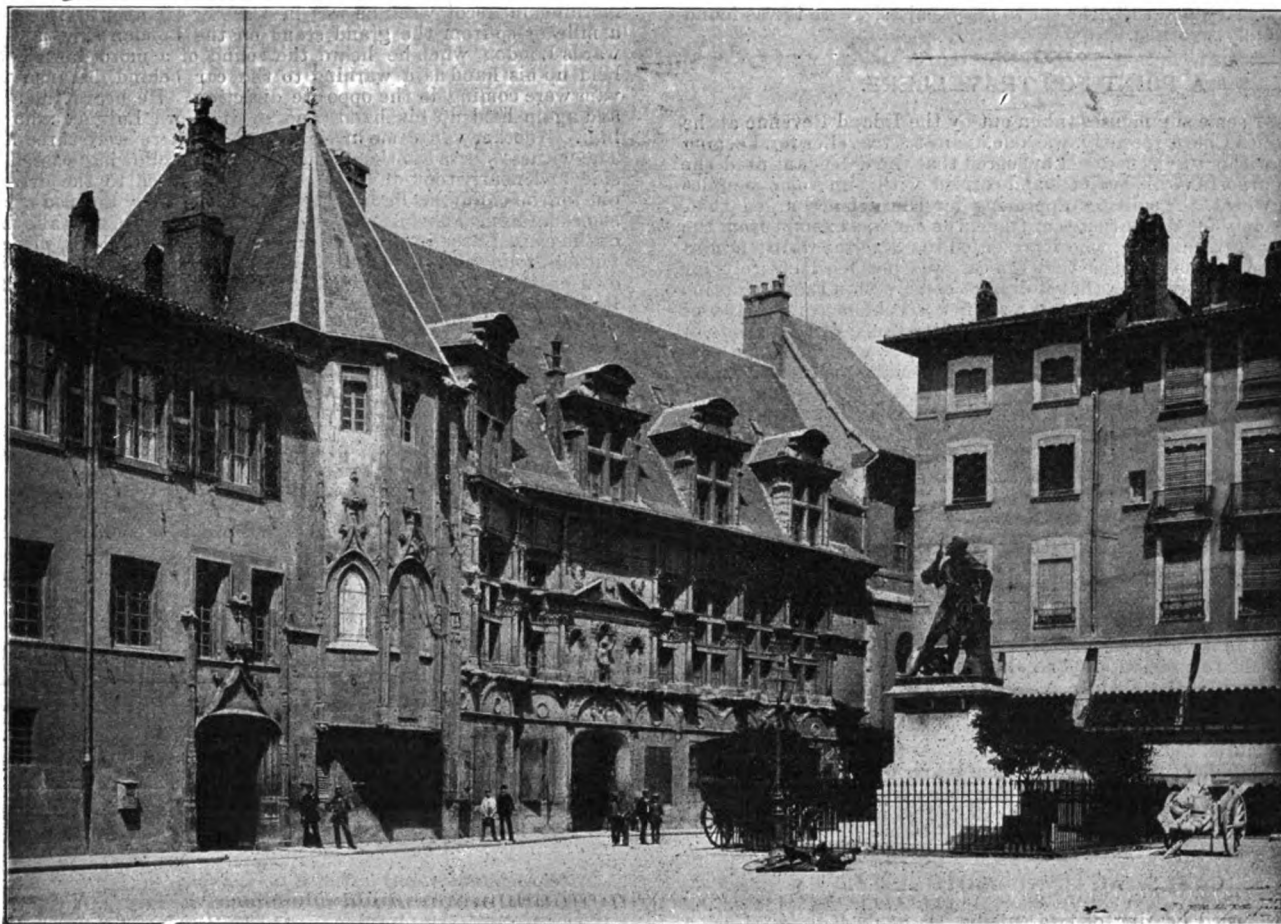
MESSRS. FAIRBANKS BROS., of Paddington, cab proprietors, sued the London Road-Car Company at Marylebone County Court for damages in respect of two accidents in which defendants' motor-buses had figured. Mr. Turrell (instructed by Mr. Nonweiler) was for the plaintiffs, and Mr. R. Drake for the defendants. Plaintiffs' counsel said that until recently his clients had had a curious agreement with the defendants, known as a "knock for knock" agreement, which provided that neither company was to bring an action against the other for injury to horses or vehicles—in other words, the parties were to have "knock for knock." Plaintiff said that the agreement had never paid with horse vehicles, and it would therefore be easy for the Court to understand that it would mean a dead loss when applied to motor-buses. After hearing the evidence, the jury found for the full amount of claim in regard to the first accident, but for the Road-Car Company in the second

Bryan, A.I.C.E.; at the Dollis Hill Garage, Cricklewood, where Mr J. H. Fooks-Bale is in charge, practical lessons in driving are given.

SOME weeks ago the motor-bus company at Southend were fined for plying for hire within the borough without a licence, and the vehicles have not been running since. At a special meeting of the town council this week, a recommendation to grant a licence under amended conditions to March 31st next is being considered. The previous licence was refused by the company on the ground that the terms were arbitrary and unreasonable.

A SERVICE of motor-omnibuses has commenced running this week between Clapham Junction and the Angel, Islington. The route is via Oakley Street, King's Road, Sloane Street, Piccadilly, &c.

REPLYING to questions by Mr. J. G. Weir in the House of Commons on Tuesday, the President of the Local Government Board said, so far as licences under the Motor Car Act to drivers of motor-cars are concerned, there is no power to require any test of eyesight before they are granted. So far, however, as relates to licences under the Metropolitan Public Carriage Act to the drivers of omnibuses and hackney carriages in the Metropolitan police district, the police authorities satisfy themselves as to the general soundness of the driver's sight before a licence is given.



Touring in the Dauphine District of France. The Palace of Justice, Grenoble.

case, where the defence raised was that plaintiff's cab-driver had unsuccessfully tried to cut in front of the motor-bus.

ON Monday morning some consternation was caused in Ludgate Hill, E.C., by the presence of a motor-bus upon the pavement, more especially as it had forced a horse and van thereon in its progress towards a shop window.

A SLIGHT accident occurred on Saturday to a party from Portsmouth, who were enjoying an outing on two motor-buses. While descending Butser Hill, three miles from Petersfield, the first bus met a heavy cart, which was passed safely. The flags flying behind, however, frightened the horse, which swerved into the road; and the second bus, to avoid collision, ran too close to the bank and into a telephone pole. The latter was broken, but the bus was stopped, and thus prevented from falling over the side of the road. Only slight damage was done, and after this was repaired the party proceeded to Petersfield.

ALL motor-bus drivers employed by the London General Omnibus Company receive about three months' practical training before being allowed in the streets with a vehicle in public service. At the depot in Torrens Street, Islington, instruction in theory is given by Mr. F.

### MOTOR-CAR ACCIDENTS.

ON the Great Bath Road, near Slough, a woman, endeavouring to cross the road in front of a motor-car, driven by Mr. J. Howard McFadden, jun., of Philadelphia, was caught by the vehicle and sustained such fearful injuries that her life is despaired of. On the previous evening, in Slough High Street, a little girl, named Moorshead, of Slough, was knocked down by a car driven by Mr. Frank Ballencont, of San Francisco, and owned by Mr. Carolan, who is also an American. She now lies in the infirmary in a very dangerous condition.

A BOY named Harry Timmis was knocked down by a motor-car at Broadheath, near Manchester. He was caught by the splash-board of the car and, suffering from a fractured skull and concussion of the brain, was taken to the Altrincham Hospital.

EARLY on Saturday morning two motor-cars were running along the Chorley Road, Westhoughton, near Bolton, when they came into collision, and both were overturned. Two of the occupants, Mr. James Randles and Mr. Robert Percy, of Nottingham, received serious cuts and bruises, but the others escaped with a shaking. The cars were but slightly damaged.

ON Monday last an alarming accident befell a party of motorists at Adams Hill, on the outskirts of Nottingham. Mr. H. Bircumshaw, Beeston, and his wife were being driven home by their chauffeur, John Allcock, accompanied by Mr. and Mrs. Hardstaff, when the car came into collision with a pony and trap. The latter was smashed, and its driver was thrown to the ground, alighting on his head. The car was overturned upon its occupants and greatly injured.

EARLY on Monday morning an accident, attended with fatal consequences, befell two well-known Dumfries gentlemen whilst out with a motor-cycle equipped with a basket seat in front. All went well till they were near Crocketford, ten miles from Dumfries, on their return journey. It was early morning and moonlight, and after rounding a corner of the road they suddenly dashed into a drove of cattle that was being taken to Castle Douglas market. Both gentlemen were thrown violently to the ground, and the machine was much damaged as the result of the collision with the alarmed animals. Mr. Barbour was thrown on his head, and died in a few minutes, without regaining consciousness, his skull being fractured. Mr. Blake received serious injuries about the head and face, but under medical attendance is progressing favourably.

A MOTOR-CAR belonging to Capt. Winterbottom swerved into a bank at the side of the road about five miles from Buxton. Mr. Hodgkinson, of the motor garage, Buxton, was soon on the spot with break-down tackle, and took the car to his premises, where it was found to be completely wrecked.

### A POINT FOR TRAVELLERS.

AMONGST some summonses taken out by the Inland Revenue at the Lambeth Police Court, recently, was one against a traveller for keeping a motor-car without a licence. It appeared that the defendant used the car for the purposes of his business and carried with him some samples of shredded wheat. A solicitor appearing for the defence urged that, being used solely for the purposes of trade, the car was exempt from the licence duty. Mr. Simpson, who represented the Excise, whilst admitting that there was no evidence that the car was not used entirely for business purposes, contended that it did not come within the exemption clause of the Act, inasmuch as it was not a vehicle constructed or adapted for use "and used" solely for the conveyance of any goods or burden in the course of trade or husbandry. This was a vehicle constructed and adapted for the carriage of persons rather than of goods.

Mr. Francis upheld the contention of the Excise, remarking that if the view set up by the defence were correct, one could conceive thousands of carriages, doctors' carriages and so forth, which could claim exemption. He imposed a penalty of £2 10s., that sum to include the licence duty, £2 2s.

### OBSTRUCTING A MOTORIST.

AT the Maidenhead County Bench an example has been made of a driver of a brake who obstructed a motor-car belonging to Mr. J. L. Keene, of Henley-on-Thames. When the obstruction occurred the latter at once reported the facts to the Motor Union, who thereupon instructed Mr. C. H. Dodd to prosecute. The offence occurred near Ascot. Mr. Keene, according to the evidence, was about to overtake the brake, which was then travelling slightly on the off-side of the road, the road being clear of other traffic. The driver ignored the horn, and although Mr. Keene also shouted to him, he deliberately drew to the off-side so as to block the passage of the car. Mr. Keene managed to pass with his off wheels in a ditch, but, in doing so, he came into collision with part of the horse's harness, which damaged the car. The Bench fined the defendant 10s. and 4s. 6d. costs.

### CASES AGAINST MOTORISTS.

THE adjourned hearing of two summonses against Josiah Coe, a driver in the employment of the London Motor Garage Company, took place at the West London Police Court, before Mr. Lane, on the 24th July last. Earl Russell, instructed by Messrs. Amery-Parkes, solicitors for the Automobile Association, appeared for the defendant in both cases. The first summons was for unlawfully driving a motor-car at a speed which was dangerous to the public along Holland Park Avenue on the 17th June. The second summons was under Article 4 of the Motor Car Use and Construction Order, 1904, for not giving audible and sufficient warning of the approach or position of the motor-car upon the same occasion. The first summons having been dismissed, the second case was then gone into. It was admitted that the defendant did not blow his horn. It was true that he was passing Royal Crescent, which turned into the main road, but as he did not see anything coming out, there was no need to sound it. Mr. Lane stated that it would be very stupid of him if he held that the driver of a motor-car had to sound his horn whenever passing a cross road, but that in this case he thought that, especially at the time the offence was alleged to have taken place and the amount of traffic which was on the road, it was necessary for the horn to be sounded, and that the driver made no attempt whatever even to slow up when passing Royal Crescent. He inflicted a fine of £3 and 2s. costs. After some argument the magistrate reduced the fine to £1 and 2s. costs to allow for the costs in the first case.

At the North Holland Police Court, Henry Mays, of Bourne, was

summoned for having driven a motor-car recklessly, and at a speed dangerous to the public, at Fishtoft, on the 14th ult.; and also with not having stopped on an accident happening to a cyclist. He pleaded not guilty. The Bench imposed a fine of £2 in the first case, and £3 in the second, with costs, and the solicitor's fee (£1 1s.).

MALCOLM HENRY STEIN, chauffeur, was indicted at the Old Bailey for the manslaughter of William Alves, who was with him in a motor-brougham when it crashed into a cab coming in the opposite direction. The passengers and the cabman were hurt, and Alves received such injuries from being thrown out of the brougham that he died a few hours afterwards. Stein was driving on the wrong side of the road. Giving evidence on his own behalf, he accounted for his dazed appearance by the effect of the accident. Let any man, he aided, drive a motor-car for ten or twelve hours in London, as he had done on that day, and his eyes would be swollen, as the doctor said his were. The jury found him not guilty and he was discharged.

GEORGE HANDESYDE, of 103, Ivy Road, Cricklewood, was remanded at Newport, on Saturday, charged with the manslaughter of Frank Fisher, by running him down with a motor-car the previous day. He was remanded on bail for a week.

ON Saturday, at Windsor, Charles Pecqueux, chauffeur to Mrs. Vanderbilt, was summoned on a charge of recklessly driving a motor-car on June 23rd at Ascot. Lord Lonsdale stated that on the Saturday morning in Ascot week he was in a motor-car about three-quarters of a mile or so from the grand stand on the London side, and going towards London, when he heard the sound of a motor-horn behind, and held up his hand as a warning to the car behind, because two gipsy vans were coming in the opposite direction. He heard the horn again, and again held up his hand, and so did Lord Lurgan, who was with him. Another van came in sight, so that there were three altogether. The witness steered to the left, and the car following passed his right side, and nearly took off his wheels. He shouted to the driver to look out for the children; he did not stop, and narrowly escaped running over some children. The dust was so great that he could not take the number of the car. Later it stuck on a hill by Lord Stanley's place, and the witness followed and took the number. Lord Lonsdale added that his own car was slightly damaged by the defendant's car, in which some ladies were riding. He had never seen more wanton, reckless, and dangerous driving. The Bench found the defendant guilty of reckless driving, inflicted a fine of £10, and ordered the licence to be endorsed.

### POLICE TRAPS.

SEVERAL danger points have been reported on the London-Eastbourne road.

THERE are traps on the main road from Windermere to Dunmail Raise.

AT Sheldon, on the Coventry road a police trap has been established.

YORKSHIRE motorists should beware of the police trap between Barnby Moor and Etherley.

ON the occasion of Goodwood races, the Automobile Association cyclist patrols were on duty on the following roads:—London, Godalming, Chiddingfold, Northchapel, Petworth to Goodwood, instead of the Haslemere and Midhurst route, as previously arranged; Goodwood via Old Shoreham Road to Brighton; Sutton to Reigate; and from Croydon through Crawley to Brighton.

THE police trap on the Chichester Road, Arundel, extends over a quarter of a mile, and has resulted in several captures during the last few days.

### TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case; otherwise no liability will be accepted.

# THE Motor-Car Journal.

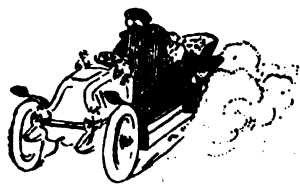
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## COMMENTS.



WE are not so certain as are those who write letters to the papers that the dust of the roads is wholly detrimental to the fruits of trees. Much has been said of late as to the destruction caused by the dust and the loss to farmers; but now comes an authoritative assurance in the columns of the "Devon and Exeter Gazette"

that the excellence of the apple crop in Somerset this year is owing to the dust which has been so plentiful and which has absolutely destroyed the blight which threatened the crops. For many years the crops in the county have been poor—certainly below what the growers had a right to anticipate; this year's yield, however, promises a record, and we are glad to learn, on the authority of a really reliable source, that the motor-car, by raising the dust, has contributed to such a result. When the growers adequately recognise that the use of the automobile will facilitate the conveyance of fruit to the market their prosperity should be complete.

### The Club's Certificate.

OFFICIAL recognition of the examination scheme of the A.C.G.B.I. is now coming from all quarters. The authorities of New Scotland Yard were the first to acknowledge its value by insisting that no one should drive a police motor-car without first obtaining the certificate of the Club. Now the General Purposes Committee of the Worthing Town Council is recommending that every person applying for a licence as a motor-car driver shall be required to submit a certificate of efficiency from the A.C.G.B.I., "or other association of equal authority and standing." Certainly the latter will be difficult to find. It would therefore appear that the time is not far distant when the possession of the Club's certificate will be as helpful to public service drivers in obtaining situations as it is to those in private service.

### Motor-'bus Racing.

GOODWOOD and other popular race meetings are to have rivals in the Strand and other thoroughfares in the West End of London, where the drivers of competing motor-'buses seem anxious to pass each other, and to give their passengers some of the excitement of the racecourse. It must be confessed that often the occupants of the outside seats are as keenly interested in the pursuit as the drivers; but whether their enthusiasm can be regarded as aiding and abetting the dangerous proceeding is a matter of legal nicety not yet determined. As to the liability of the driver there is "no manner of a shadow of a doubt," as has been proved in the cases referred to in our "Public Motor Services" on another page, and at Westminster, where a motor-omnibus driver was summoned for driving in a manner dangerous to the public. The solicitor who supported the summons, on behalf the police, said that the defendant, in order to pass an omnibus belonging to a rival company, drove the wrong side of a pedestrian refuge, thus endangering the lives of several persons crossing the road. The

magistrate said that this thing was continually being done, and walking about London largely as he did he saw a great deal of it. To pull round a refuge to gain an advantage over a rival omnibus was reckless driving, and of a most dangerous character. As a matter of law, he (the magistrate) was prepared to hold that any driver who drove the wrong side of a refuge must show that he did so for the safety of his passengers. If he could not do that, there would be a conviction in every case.

### The Selection of Routes.

THERE are some points of the Report of the Select Committee on London Cabs and Omnibuses which have an interest to those interested in the development of motor traffic in cities and towns. One sensible recommendation has reference to the routes of such vehicles, it being rightly suggested that these should be sanctioned by the authorities, which would thus be able to keep motor-buses to main avenues until they become quieter and less provoking to the inhabitants of fashionable squares and quiet streets. No objection is made to the present speed limit of twelve miles an hour for motor-buses plying for hire in the London streets, but it is advised that this should be rigorously adhered to, the police to take stringent action where it is being exceeded—a hint they are already acting upon, judging by the numerous appearances of motor-bus drivers in the London police-courts of late.

### An Efficient Silencer Defined.

ON the invitation of the Competitions Committee of the A.C.G.B.I., the Technical Committee of that body has been invited to state what, in its opinion, constitutes an efficient silencer in relation to sporting competitions and touring cars generally. The need for this has been generally felt at competitions during the season, and it will be interesting to see how far the definition is regarded by officials in the contests that remain to be decided. According to the Technical Committee of the Club, "apart from any question of back pressure, an efficient silencer is one which renders the emission of the exhaust gases from an engine inaudible under ordinary running conditions at the distance of 10 yards from the side of a car in an open road, and which is practically gas-tight everywhere except at the proper outlets."

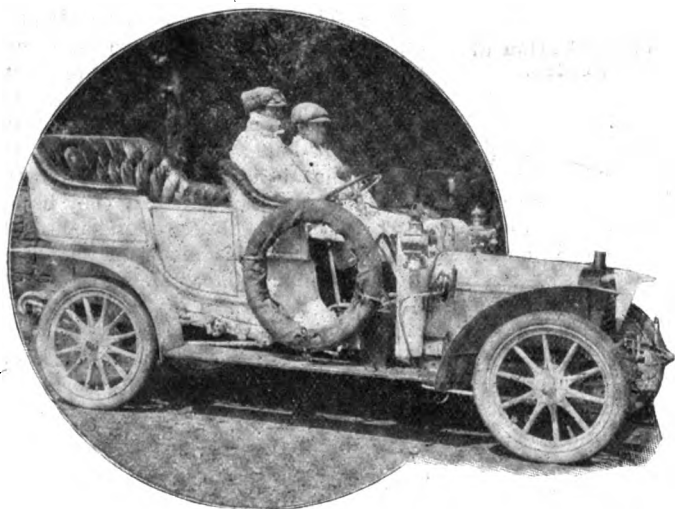
### The Army Motor Reserve.

A ROYAL WARRANT promulgated before the holidays has given food for discussion in military circles, and, although many will regret the disbandment of the Motor Volunteer Corps, all will appreciate the recognition of the motor-car as an effective weapon of military service. An Army Motor Reserve of officers is to be established, commissions to be granted to members of the late Motor Volunteer Corps, and to such other persons as may possess the necessary qualifications. An officer of the Army Motor Reserve will have to be in possession of an efficient motor-car and be required to place his car and his services as driver at the disposal of the Army Council during not less than six days in each year. Retirement will be compulsory at the age of sixty. Officers of the Army Motor Reserve

employed at home will receive such rates of pay and allowances as may from time to time be determined, the rates at the outset being as follows:—30s. a day for not less than six hours for the use of the car, 3d. a mile petrol allowance, detention allowance of 12s. 6d. if necessarily detained for the night. Officers of the Army Motor Reserve called to Army service at a time of emergency will receive, in addition to the allowances of their regimental rank, pay at the following rates:—Lieutenant-colonel, 24s. a day; major, 19s. a day; captain, 15s. 6d. a day; lieutenant, 10s. a day; second lieutenant, 7s. 9d. a day. Officers will be required on being called to Army service at a time of emergency to give the Army Council the option of buying or hiring their cars at a price or rate to be assessed by a committee on which officers of the Army Motor Reserve shall sit.

#### Motor Volunteer Corps.

THE Motor Volunteers have had a short but eventful history. In 1901 the automobile assistance which Mr. Mark Mayhew, then an officer in the Imperial Yeomanry, was able to give to Sir Evelyn Wood and Sir Redvers Buller at the manoeuvres suggested the formation of an organised body of motorists prepared to serve their country if need be. Mr.



The 12-15-h.p. Arrol-Johnston Car which won the Gold Medal in Class 2 in the Scottish Reliability Trials.

Mayhew secured the co-operation of several well-known motorists in a project for the permanent establishment of a Motor Volunteer Corps and then approached the War Office. A committee was specially appointed to investigate the matter, and this reported favourably in November, 1902. In the following March the corps was officially gazetted, since when it has proved its service. Last year 124 duties were performed, occupying an aggregate of 1,321 days. The strength of the corps being reported at 159, this would give an average of about nine days' duty by each officer and member. The total distance travelled by motor-cars on duty was 87,941 miles, and by motor-cycles 10,338 miles.

#### A Novel Commissariat Van.

THERE is scarcely any limit to the value of the automobile in military operations, and in the Volunteer manoeuvres at Swanage on Bank Holiday a new demonstration of its value was given. This was due to the initiative of the 4th Hampshire. Captain Smith, who is in charge of the cyclist section, borrowed from the Bournemouth Corporation one of their motor-dustcarts, and employed it as a commissariat wagon, after, of course, it had been washed out. Under the present scheme of manoeuvres the cyclists are playing a prominent part, covering the country from Lulworth to Shaftesbury with a screen of cyclist scouts. They carry no more than is

essential, and from Wednesday will be engaged in such a fashion that they will sleep wherever they chance to be, and always under the stars. Captain Smith's suggestion that a good scheme would be to borrow a motor-dustcart and turn it into a supply base was patriotically supported by the Bournemouth Corporation. Lord Montagu is thus provided with a movable base. A portable cooking apparatus, food, and a Maxim gun are all on the wagon, which will follow the Hants cyclists five miles in the rear, and be readily accessible when wanted. The Hampshire men are making great use of motor-cycles, of which they have five.

#### The Automobile Association.

VERILY the Automobile Association is justifying its existence and demonstrating to the motoring community that it will still be a field of utility when "police controls"—how delightfully simple the phrase sounds in the Report of a Royal Commission!—no longer spoil the landscape. In the midst of holiday delights come a budget of route guides, contour maps, lists of helpful friends, warnings of suspected places, and other information likely to be of service to the motorist on the road. The London to Edinburgh route card will be useful to those going north, especially as the A.A. scout system, which has succeeded so well in the south, is to be worked in connection therewith until the 14th inst. A goodly number of roads have now been mapped out on the contour plan, with the names of agents printed near to the district for which they are responsible. When we remember that the Association was only founded last year, and that its re-union at the Agricultural Hall Exhibition and the annual dinner have been its chief public appearances, its success seems all the more remarkable. Unquestionably it has discovered a niche of its own in the automobile world.

#### Diplomatic Immunity.

WITHOUT wishing to disturb *l'entente cordiale* between the nations of the world, we would support those British M.P.'s who are being worried by victimised constituents into demanding some revision of the privileges of ambassadors and their suites. Two years ago a case which aroused some ire in America involved one of the British representatives in the United States; recently, the American Ambassador added another to the charges against motorists here, although handsomely purging himself of all suggestion of escaping the payment of fines; and now a question of diplomatic privilege is raised in a matter brought to the attention of Sir Edward Grey by Mr. Simon, M.P. A collision took place in May, in Golden Lane, E.C., between a motor-car (driven, it is alleged, negligently, and belonging to the Marquis de Jacome Correa, of the Portuguese Legation) and a Walthamstow cyclist, who was seriously injured. Both marquis and chauffeur are immune from proceedings in the English Courts, but the marquis, Mr. Simon points out, may waive this immunity as regards his chauffeur. Sir Edward Grey, however, replied that the facts have been brought to the notice of the Portuguese Minister, which is the only action that can be taken. That, however, is not very satisfactory to the cyclist, nor will motorists generally approve of any such immunity under which they, as a body, may be brought into disrepute. What is law for the host should be equally so for the guest—whether ambassador or ordinary visitor.

#### New Club.

IN accordance with our usual practice, the formation of new automobile clubs is given the bolder publicity of large type, and we have pleasure in recording the establishment of an organisation for the benefit of motorists in the Richmond district. This is to be known as the Richmond and District Motor Cycle Club, and, although its scope is thus apparently limited, the extension of membership to owners of small cars will give opportunity for motorists generally to associate together

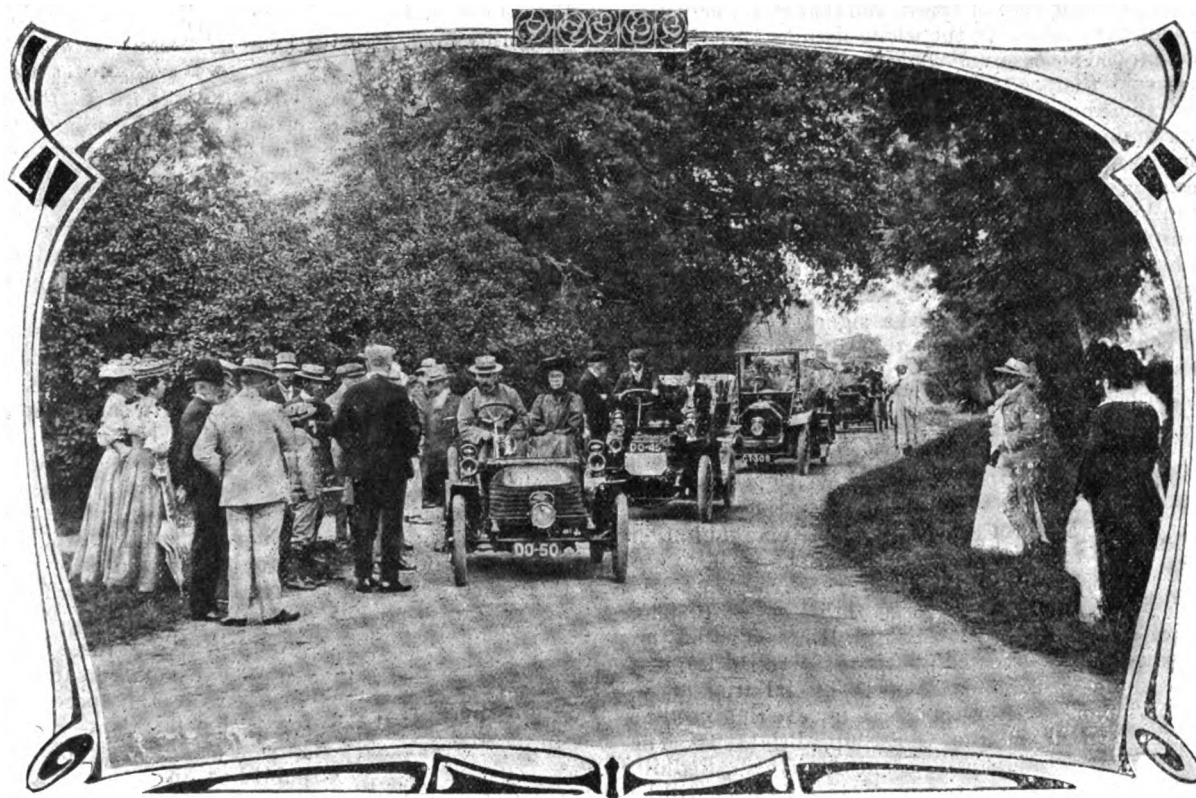


for mutual help. A programme of meets and similar social events is being arranged, and meetings of a more serious order will be held in the winter, when discussions on matters of practical and technical importance will take place under the auspices of the new club, whose honorary secretary is Captain l'Estrange, 62, Bath Road, Bedford Park, W.

#### Cars at Race Meetings.

THAT railway experts are closely following the progress of the motor-car may be inferred from statistics which have been given by the chairmen at the company meetings held during the last few days. At the meeting of the London and South-Western Railway Company Sir Charles Scotter mentioned that on four days at Ascot this year the number of cars present were 420, 441, 747, and 404 respectively. He rightly concluded that a large proportion of these motorists would have travelled by the line in which he was interested, and would almost certainly have travelled first class. The same

considerable improvement in hull design was noted, although some of the sterns with V transoms did not commend themselves to the artistic eye. The examination by the judges of the machinery and appliances constituting the installation of the vessels of all classes showed a general improvement, not only in the arrangement of the main features, but also of the details, including those of the actuating mechanism, control gear and connections, and pipe arrangements. The engines of the petrol boats have generally participated in the great improvements made in these motors for other purposes. The kerosine engines showed in some cases marked improvement in their adaptation to their purpose, although in some others the objections to the ordinary form of vaporiser, the heaviness of impulse and want of balance of main moving parts, showed themselves almost as conspicuously as heretofore. The use of petrol for starting kerosine engines removes one of the marked objections to the heated vaporiser, but it introduces an objection which in great part destroys one of the main advantages of the kerosine engine. Where the ordinary design of the latter



The Lincolnshire Club's Meet at Asgarby Park. (See page 514.)

remark applied to Sandown and Kempton Park. No doubt all the railway companies serving the great racecourses will suffer from the advent of the motor-car, and be more and more forced to rely upon the cheaper fares for their prosperity. This has also been confessed by Lord Cottesloe at the meeting of the London, Brighton, and South Coast Company, who attributed to motor-cars a considerable adverse effect on their first-class traffic, and to the extension of the rail motor services the decrease in their second and third class returns. This latter, however, supplied compensation to the value of £4,965, for 358,580 passengers had been carried by that means in the past half-year.

#### The Motor-Boat Trials.

THE third annual reliability trials of the Motor Yacht Club were held this year under more favourable climatic conditions than obtained in 1905. Although entries were fewer in number than was the case last year, the vessels competing covered a wide range of type—from the small open launch to the sea-going cruising yacht and the cargo vessel. A

has been adhered to, even when petrol is so used, there remains in most cases much room for improvement on the lines of the best engine practice where petrol only is used. On another page we give the awards in the Trials.

#### Traps in Scotland.

THE prosecution of motorists in Dumbartonshire, and the arbitrary method of dealing with them by Sheriff Blair, has incensed the motoring community in the West of Scotland, and particularly in Helensburgh and Dumbarton districts. The Scottish Automobile Club intervened in a case last week, where one of their members was prosecuted for driving in Helensburgh at forty-seven miles per hour. Mr. Geo. H. Robb appeared for the Club, and although it was brought out in the defence that the car was impossible of such a speed, being a 15-h.p. car carrying five passengers with one cylinder out of action, the Sheriff, on the evidence of three policemen possessing one stop watch and all located at one end of a measured distance of nearly 1,200 yards, convicted, but imposed no penalty, deferring sentence for six months. The Club is still considering

the whole matter of the prosecutions in this court with a view to further action. Their intervention at this stage has been much appreciated by the members in that district.

#### Fair Play in Kintyre.

FORTUNATELY this recently developed vindictiveness is not universal throughout the northern part of Britain, and in the first motor-car prosecution in Kintyre, which has just occurred, the defence was successful. In this a chauffeur was charged with an alleged breach of the road regulations in having failed to stop his car at the request of a man in charge of two horses yoked to a cart. The defendant testified to the receipt of instructions from his employer, Mr. H. Sinclair Scott, to drive carefully—in fact, he got a bonus of half-a-crown a week from Mr. Scott for immunity from accident. After hearing lengthy evidence on both sides the Fiscal said in view of the evidence that had been led for the defence he did not think he was justified in pressing the case. It was quite clear that the car was not going at an undue rate of speed, and that it did actually stop before reaching the carts. In the whole circumstances he did not think he had proved his case, and could not ask for a conviction. Sheriff Wallace said that as the Fiscal had (in his opinion very properly) withdrawn the charge against the chauffeur, there was nothing for him to do except to say that he entirely approved of his having done so for the reason he had stated. The evidence for the prosecution was of such a conflicting character as to leave a doubt in his lordship's mind whether the driver of the cart had held up his hand at all; or even if he did hold up his hand, that he had held it in such a way that the driver of the motor-car must have seen it. While it was no justification for a motor-car driver to say he did not see a signal to stop, if the signal was not conveyed in such a way that a reasonably careful driver should see it there could be no liability on his part for not stopping. Such a sense of fairness is a credit to the administration of the law in Scotland.

#### A Midnight Run.

SOMETHING of a novelty is presented in the programme of the Southern Motor Club—a very active organisation of enthusiastic motorists. They are having a midnight run to Brighton, starting on Friday the 10th inst., at 10 p.m. Three-quarters of an hour later the party will assemble at the Swan and Sugar Loaf at Croydon, where a "roll call" will be made, and where—we quote from the official itinerary—"hotel closes at 11 p.m." After that nothing exciting need be expected till the arrival at the Old Ship, Brighton. The meeting places during the night will be at Mertham, Redhill, Crawley, and Bolney, and as the repair garages *en route* will be closed, a number of the members of the club will carry tow-ropes, and the Croydon "roll-call" will be repeated at each halt, so that none may be left on the road. In these hot days it is difficult to keep cool; we hope the southern motorists will escape the heat of the day, and all arrive in good spirits at London-by-the-Sea, whither, by the way, some members of the club journeyed on a Bank Holiday tour.

#### The Motor-Bus Accident.

ON Tuesday the jury which inquired into the cause of the death of the ten victims of the motor-bus accident at Handcross Hill concluded its sittings, returning a verdict which seems to summarise the conclusions of the experts and other witnesses at the inquiry. They found that the accident was caused by a breakage of the machinery brought on by the efforts of the driver to check the speed of the omnibus when he found it was beginning to go too fast, the machinery not being of sufficient strength to stand the strain. The driver is said to have committed an error of judgment in allowing the omnibus to attain so high a speed before taking means to check it. And then comes this important rider:—"We are strongly of opinion that this type of omnibus is unsuitable for

use on country roads." This is a view that has been previously expressed in these columns. The double-decked motor-bus is certainly not a picnic vehicle, and the natural tendency of people to leave the inside seats for the top cannot be restrained. For such long journeys as that to Brighton the motor char-a-banc provides a possible solution of the problem that should be considered by organisers of such trips.

#### The Glidden Tour.

AMERICAN motorists have been following the proceedings in the Glidden tour with great interest, and some exciting incidents occurred during the event, the route of which was fully described in our issue of the 14th ult. One of the most pleasant features of the run was the meeting of Canadian and American motorists, when the Automobile Club of the Dominion did all it could to make easy the passage of those from the United States. Mr. C. J. Glidden, the donor of the trophy, whose exploits have generally been associated with a British car, accompanied the competitors on a White steamer driven by Mr. Augustus Post.

#### London's New Number.

HAVING regard to the fact that the authority which assigns the letters of identification for counties and county boroughs is the Local Government Board, some surprise has been expressed by the announcement that the London County Council's new index mark is L.N. Such is entirely premature, and nothing but A. and L.C. is likely to distinguish Metropolitan vehicles during the present holiday season; so far, 18,500 motor-cars have been registered in the Metropolis, the first 10,000 being identified with the letter A.; the others have been numbered up to L.C. 8,500. As the L.C.C. will not sit again till the winter, the Motor Car Department called the attention of the Council to the fact that when 1,500 more cars have been registered a new letter will be required, and it was decided to apply to the Local Government Board for a new letter to be used when the 20,000 is reached. We believe the letters L.N. have been suggested, and agree that they would be suitable; they have, however, first to be sanctioned by the L.G.B., and then some weeks must elapse ere their adoption by the L.C.C.

#### In the Parks.

WITHIN the last three months forty-four motorists have been summoned and fined for exceeding the speed limit as defined for closing the park to motor traffic, but, he ominously added, "it depends on the conduct of motorists themselves whether some such step may not be necessary." Certainly, on the figures already made known to Parliament, there is nothing to warrant such procedure. The matter is one of considerable importance to metropolitan motorists, and we would suggest that the Motor Union should not overlook the regulations that may be imposed in parks when drawing up its full report on the views of the Royal Commission. This is one of the incidental subjects that may otherwise cause trouble and irritation after the opportunity for redress has gone.

At the last meeting of the Bridlington Rural District Council, the Rev. G. E. Park, vicar of North Burton, in referring to the traffic of motor-cars, said, "What we want to restrain, curb, and improve off the face of the earth is the prowling, pestilential, petrol-propelled, pachydermatous, phlebotomising pacher." Perhaps he will now inform the Council what to do with persons whose love of alliteration appears greater than their store of common sense.

## THE CREPET CHANGE-SPEED GEAR.

WE illustrate herewith a new change-speed gear for use on petrol cars designed by M. Crepet, a French engineer, which is being introduced into this country by Messrs. J. C. Lyell and Company, Westminster. The gear is of the type in which the pinions are always in mesh, the power being transmitted through the requisite pair by means of keys

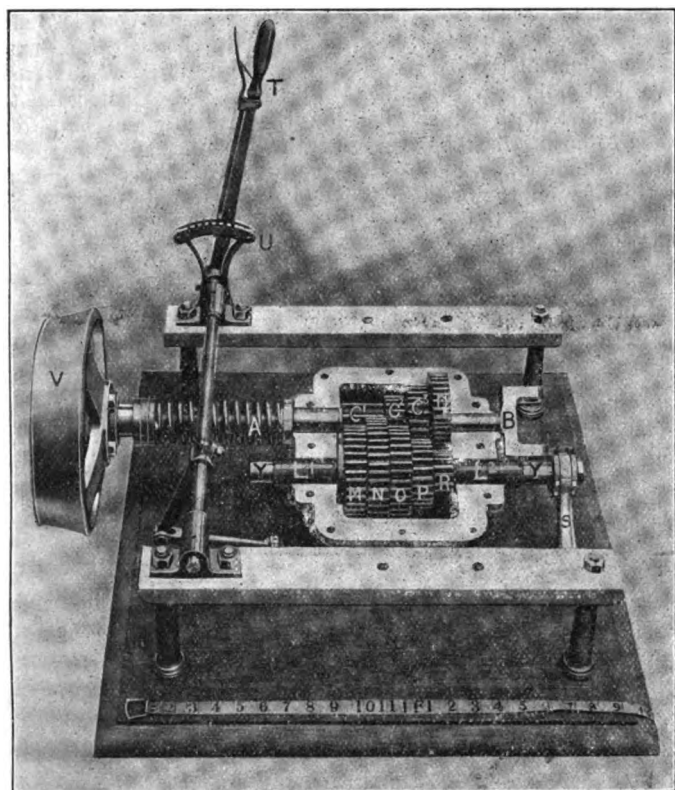


Fig. 1.—General View of Crepet Change-Speed Gear.

on the side shaft, which latter has a to and fro motion controlled by the change-speed lever T and arm S.

Referring to the accompanying illustrations, Fig. 1 gives a view of a three-speed and reverse gear-box for cars of from 8 to 12-h.p. with the top half of the case removed, while Fig. 2 shows the details of the sliding side shaft. The clutch shaft A has formed solid with it the pinions C<sup>1</sup>, C<sup>2</sup>, C<sup>3</sup>, which are constantly in mesh with corresponding pinions N, O, P, normally running loose on the side shaft, but any one of which can be instantly locked into position by means of the keys W<sup>1</sup>, W<sup>2</sup>. A feature of the latter is that they are not joined to the shaft, but are formed solid with it. They are placed opposite each other on the shaft; their width is equal to half that of the pinions, while their section is such as to exactly fit the openings in the gear wheels, so that they exercise their work on the whole surface. Unlike its fellows, the pinion R is so fixed that, despite the lateral motion of the shaft, the two must rotate together. A short shaft B has fixed to it at one end the pinion D, and at the other a joint to which a cardan shaft can be attached to convey the power to the rear live axle; or in place of the joint a bevel pinion can be fitted to mesh with a corresponding wheel on the differential shaft in the case of chain-driven vehicles. The shafts A and B are unconnected with each other, except for a frictionless thimble joint, while between the pinions C<sup>3</sup> and D a ball ring is provided. For the forward speeds the power is transmitted through one of the pairs of pinions, C<sup>1</sup>N, C<sup>2</sup>O, or C<sup>3</sup>P, and then from the shaft Y to B through the gear wheels R D. The reverse motion is obtained by means of the pinion C<sup>1</sup>, which meshes, as to half its width, with a small pinion carried on a short spindle centrally below the shafts A Y (not shown in

the illustrations), the intermediary pinion being in its turn continuously in gear with the wheel M, which, like N, O, P, runs loosely on the shaft Y, but can be locked thereto by the keys W<sup>1</sup>, W<sup>2</sup>.

Having now described the general arrangement of the Crepet gear, we may proceed to refer to its special features—that is to say, the points of difference from those of a similar type already in use. In the first place, it will be noticed from Fig. 2 that ball rings are interpolated between each of the pinions on the sliding shaft Y, their object being to carry the friction on the faces of the gear wheels, and to prevent them getting wedged to each other by inclining on their plan of rotation. At one end a ball-bearing thrust, L<sup>1</sup>, is provided, and at the other a thrust piece, L<sup>2</sup>, by means of which the pinions support each other in perfect alignment, provision being made so that the adjustment can be performed outside the gear-box. Another advantage of the ball rings and thrusts is that not only can the shaft be easily moved to and fro to lock one or other of the pinions, but it can be taken out altogether without displacing a single gear wheel. The seat of the wheels, which is equal to half their thickness, has two openings at X<sup>1</sup> and X<sup>2</sup> at opposite sides of the diameter to receive the keys on the shaft Y. The hollow space on each side of the seat is equal to half the thickness of W<sup>1</sup> W<sup>2</sup>, so that when the latter enter one of the circular spaces the pinions all run loose. As these spaces exist in all the loose gear wheels on the shaft Y, there is a neutral point between each speed; thus the driver can stop and start at any of the speeds without passing through the first speed again, and can, in case of necessity, pass from one speed to another, or even stop, without declutching with the foot.

As will be gathered from the illustrations, the gear is both simple and ingenious, one of its strong points, apart from the fact of the pinions being always in mesh, being its compactness.

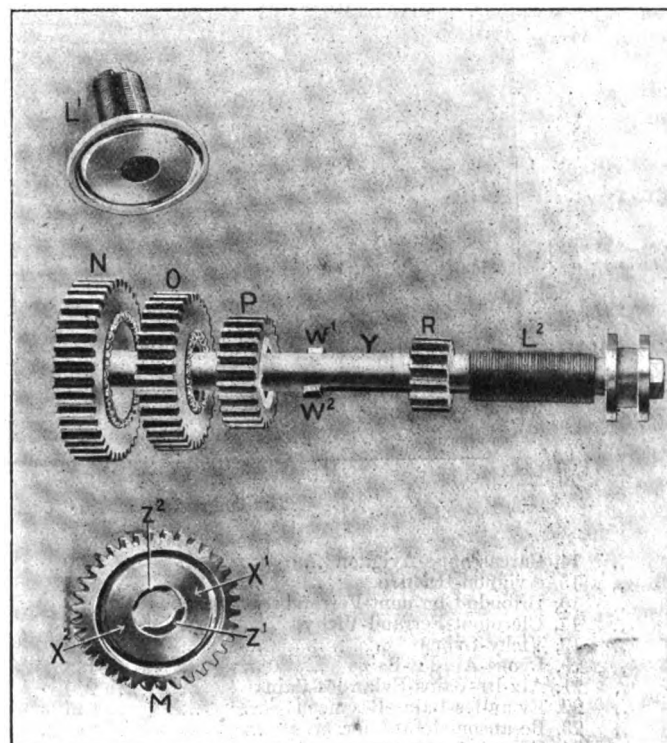


Fig. 2.—Details of Side Shaft of Crepet Change-Speed Gear.

and consequently relatively small size. It is being made in four sizes, for cars of from 8 to 12-h.p., from 12 to 18-h.p., these having three speeds and a reverse; from 18 to 24-h.p., and from 30 to 50-h.p., with four speeds in addition to the backward motion. In the largest type, which is specially intended for motor-bus work, the two shafts, instead of being located in the same horizontal plane, are arranged one above the other, the gear-box itself being made in three parts.

## CONTINENTAL NOTES.

## The Coupe du "Matin."

The reliability trial which is being organised by the "Matin" of Paris commenced at Versailles on Thursday, the 2nd inst., and will extend until the 28th inst., there being twenty-six daily runs, as outlined below. The only day on which the cars will rest is the 18th inst., which will be spent at Vichy. The following is the itinerary of the trial:—

		Kil.
Aug. 2,	Paris-Deauville ... ..	218
" 3,	Deauville-Granville ... ..	171
" 4,	Granville-Dinard ... ..	148
" 5,	Dinard-Brest ... ..	225
" 6,	Brest-Nantes ... ..	326
" 7,	Nantes-les Sables-d'Olonne ... ..	157
" 8,	Les Sables-d'Olonne-Royan ... ..	256
" 9,	Royan-Bordeaux ... ..	136
" 10,	Bordeaux-Biarritz ... ..	271
" 11,	Biarritz-Pau ... ..	170
" 12,	Pau-Bagnères-de-Luchon ... ..	137
" 13,	Bagnères-de-Luchon-Carcassonne ... ..	250



The Coupe du "Matin" Competition. The Scene at the Weighing in.

" 14,	Carcassonne-Avignon ... ..	270
" 15,	Avignon-Brionde ... ..	276
" 16,	Brionde-Clermont-Ferrand ... ..	159
" 17,	Clermont-Ferrand-Vichy ... ..	131
" 19,	Vichy-Lyons ... ..	202
" 20,	Lyons-Aix-les-Bains ... ..	185
" 21,	Aix-les-Bains-Evian-les-Bains ... ..	200
" 22,	Evian-les-Bains-Besancon ... ..	245
" 23,	Besancon-Gerardmer ... ..	317
" 24,	Gerardmer-Mezieres ... ..	340
" 25,	Mezieres-Amiens ... ..	256
" 26,	Amiens-Boulogne-sur-Mer ... ..	219
" 27,	Boulogne-sur-Mer-Le Havre ... ..	281
" 28,	Le Havre-Paris ... ..	211

The total distance to be covered is about 3,750 miles. Sixty-eight entries were received, and of these forty-nine started, they comprising the following:—Wheel section: Neron non-skid, fitted to a De Dietrich, two Vulcan non-skids (De Dion and Corre cars); Soleil spring wheel (Rochet-Schneider); two Garchey spring wheels (De Dion and Mieusset cars); and an E. L. spring wheel (Delàunay-Bélleville). Endurance class:—

Category 1: motor-bicycles, a Lurquin-Coudert and an Albatros; Category 2: motor tri-cars, two Contals; Category 3: single-cylinder cars, maximum bore 110 mm., two De Dions, a Cottéreau, a Darracq, an Alcyon, and three Lacoste-Battmann; Category 4: twin-cylinder cars, max. bore 130 mm., or four-cylinder ditto, 85 mm. bore, two Darracqs, a De Dion, a Thuault, three Cottéreau, and a Bastaert; Category 5: four-cylinder cars, max. bore 105 mm., two C.V.R.'s, three De Dions, a C.I.A., a Darracq, a Herald, a Panhard, a Clement-Bayard, and a Berliet; Category 6: four-cylinder cars, max. bore 125 mm., three Mercedes, two C.V.R.'s, a Gobron, a Clement, a Darracq, and a Clement-Bayard; Category 7: four-cylinder cars, max. bore 140 mm., two Siddeleys. Perre, on the Albatros motor-bicycle, met with an accident on the first day and had to be taken to hospital. The driver of the Thuault car (Category 4) also abandoned, owing to a broken wheel. Granville was the destination on the 3rd inst., this place being safely reached by thirty-seven of the competitors, while thirty-six arrived at Dinard on the 4th inst.

## The Lederlin Cup.

A hill-climbing competition for the Lederlin cup was held on Sunday last under the auspices of the Automobile Club Vosgien. The contest was over a winding course from near St. Maurice-sur-Moselle to a point close to the mountain known as the Ballon d'Alsace; the distance was 9 kilometres, and the difference of altitude between the starting and finishing points 2,059 ft. The best time of the day was made by Baron de Turekheim on a 60-h.p. De Dietrich (12 min. 46 sec.). The award was, however, made on a sealed handicap, under which the Lederlin cup fell to the lot of M. Goux, jun., who drove a 4-6-h.p. Lion (Peugeot) voiturette.

## The Circuit des Ardennes.

Many of the competitors in the Circuit des Ardennes race, which is to be held on the 13th inst., are already practising on the course. The Hotchkiss cars have been withdrawn from the contest, the reason being that the makers are engaged in



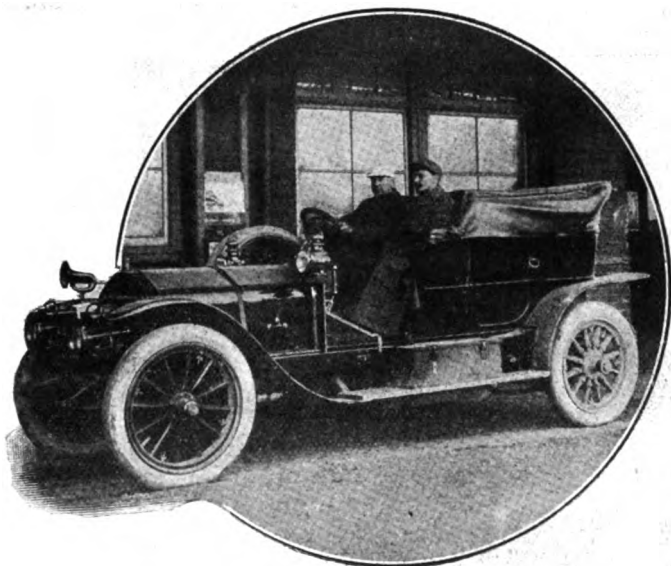
reducing the weight of the vehicles to allow use to be made of wheels with detachable rims ready for the Vanderbilt Cup race. The Luxembourg provincial Government authorities have decided to impose a tax of £8 per car on the machines taking part in the race.

#### Motor-Cabs in Paris.

The number of motor-cabs in Paris is steadily increasing. In addition to 500 which the Renault Company are building; the Clement-Bayard firm have an order in hand for a large number of 10-h.p. vehicles for the Compagnie des Petites Voitures, while it is reported that still another company is being formed with the object of putting 500 12-h.p. vehicles in service.

#### Touring in the French Alps.

The Syndicat d'Initiative de la Savoie, of Chambéry has just issued a series of itineraries to places of interest in the French Alps. The work, which is in two parts, should be indispensable to motorists contemplating a tour in that part of France, as very complete maps are given of each route, together with a profile of the gradients.



One of the two 32-h.p. Siddeley Cars at present taking part in La Coupe de Matin Contest in France. The vehicles are fitted with 32-h.p. four-cylinder engines, and have a wheel base of 10 ft. 4 in. The front wheels are shod with 920 mm. by 120 mm. tyres, and the back wheels with 935 by 135 mm. In all other respects they are of the Wolseley Company's standard type, except that the springs have been slightly strengthened.

#### Public Services in Germany.

The municipal authorities of Dortmund have agreed to take a number of shares in a company which is being formed to run a service of motor vehicles between that town and certain suburbs not provided with tramway communication. A sixteen-seated bus has lately been put on the road between Griesbach and Oppenau.

#### Miscellaneous Items.

The local authorities of Magny-Fouchard (Aube), France, have fixed 15 kilometres (9½ miles) per hour as the maximum speed allowed to motor-cars passing through the town.—A motor-bus service is to be started between the Hotel de Ville and the Porte Maillot, Paris, on the 15th inst.—Twenty-two entries have been received for the contest for the Coupe de Liedekerke, which is to be held in the Belgian Ardennes on the 14th inst. They comprise three each Metallurgique, Minerva, Aries, Miesusset, Darracq, Pipe, and Vivinus, and a Herald.—La Societe Mercedes Electrique is the name of a company which has just been formed in Paris with a capital of £264,000, to build cars on the Lohner-Porsche system.—The German Automobile Exhibition is to be held in the Zoological Gardens, Berlin, from November 24th to December 4th next.

## THE "WAGHORN" POLICE TRAP.

BY SIR ARCHIBALD, J. MACDONALD, BART., J.P.

**A** KNOCK at the door, and my driver promptly admitted to inform me of a "police trap" at Ninfield, in Sussex. We will start at once for the scene of operations, and I will take three other reliable witnesses, as well as my camera, and do what I can to stop both "police persecution" as well as "furious driving." Those were my orders.

We left Bexhill at two o'clock and ran to the quarter distance of the trap in quick time on my 40-h.p. De Dietrich, carefully piloted to the exact spot by one of the "victims" who had given me the information. There was a gate leading into a field of wheat, and over this I climbed, with my camera, to secure if possible, under difficult conditions, my first snapshot of the south end of the "trap." There he was, the "little boy blue," slowly sinking out of sight on seeing my camera into concealment of the green wheat, but the "click" of the shutter was quicker than his "legal limit movements."

Familiarity breeds contempt, so I proceeded to closer quarters and secured another picture at point blank range, which shows one of my assistants leaning over the hedge, looking at my victim, "in camera."

Having much more yet to see to, I returned to my car and drove slowly to the far end of the trap, to the north. Here I was able to "stalk," and photograph unseen, the two policemen at this end, but the thing that bothered me most was that there was no timing apparatus at either end of the trap.

It did not take two of my passengers long to find out that it was artfully concealed in the very centre of the "trap," and thither I proceeded.

I found "Wagflaghorn" in charge, with a professional electrician who presided over this "infernal machine," which was worked as follows. It consisted of an oblong box about 14 in. by 10 in. In the centre of the lid was a watch, and on each side of the watch were two electric press buttons. Note the method of procedure, which I carefully observed while sitting by the machine, while cars were actually running through the trap under supervision of my assistants.

Car enters trap from either end and police in charge press a button, which rings a bell in the aforesaid box, 220 yards distant, in centre of "trap." Electrician in charge, caught unexpectedly, standing some two yards away from the box, and possibly lighting a cigarette or pipe, rushes to box and presses No. 1 contact to stop the bell ringing, and then No. 2 contact to start the watch. How beautifully accurate!

Car passes centre of trap, 220 yards in a given time, then No. 3 contact button is pressed to stop the watch, and No. 4 is pressed, which rings a bell at the far end, either way, for the car to be stopped. That is all, but it is a very expensive, reprehensive, and, I fear, extensive and low-down trick to play on a straight and open country road, to the detriment of my "brothers of the road."

We must band together to defeat the knights of the hedge, alias hedge hogs, and the Automobile Association works its hardest merely to try and secure something more nearly related to equitable treatment than what we have hitherto been called upon to endure. I received every civility from the inspector in charge of the trap, and the same was mutual, but there was something cold about it somehow. He said to one of my assistants that I was obstructing him in the performance of his duties, but on hearing of this I personally challenged that statement, and successfully proved to him that as vice-chairman of the Automobile Association, and a J.P., I was there with the same object as he had ostensibly, to stop or prevent a breach of the law. He seemed satisfied, though very disappointed, and literally "packed up his traps" and withdrew.

So great has been the popularity of the motor house established for the convenience of members of the A.C.G.B.I. in Down Street, Piccadilly, W., that supplementary premises will shortly be acquired.

## SOME CURRENT TOPICS.

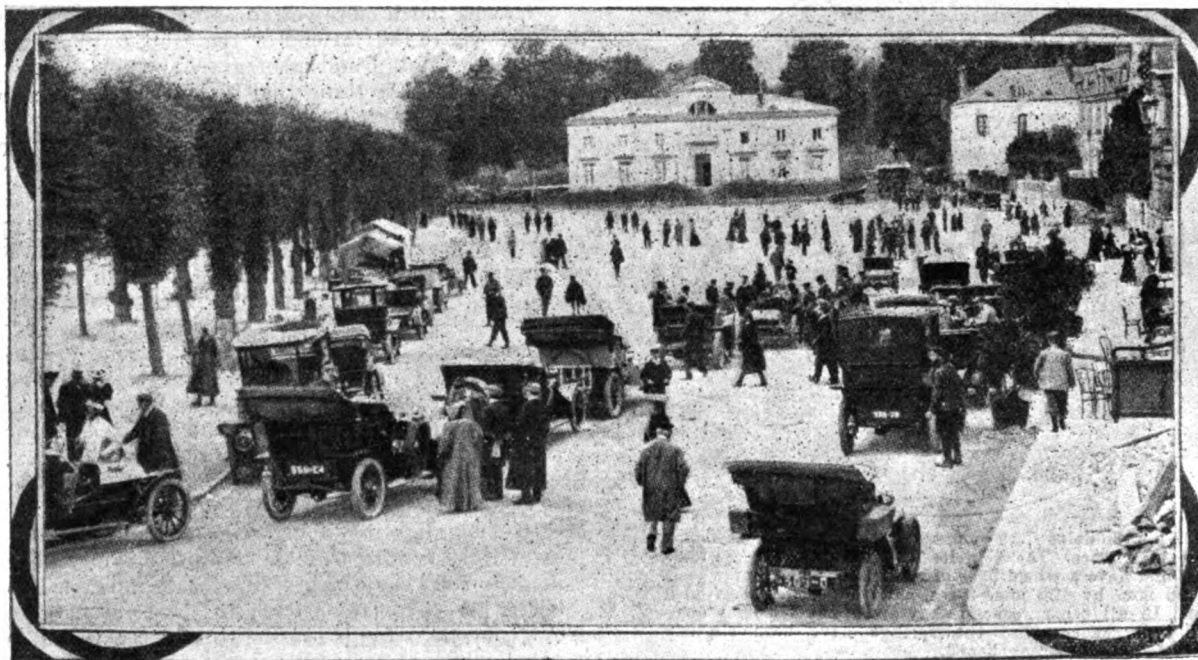
### The Prevention of Side Slip.

Many attempts have been made at one time and another to overcome the tendency of motor vehicles to skid or side-slip on greasy roads, but so far no practical result has been achieved. The rapidly-increasing number of motor-buses in the public service renders the solution of the problem more urgent than ever, so that we welcomed the opportunity afforded us of inspecting the arrangement which is being introduced by the Allen Company, of Westminster, and of which a demonstration was given last week in the grounds of the Motor Academy at Notting Hill, W. The Allen system comprises two parts—brakes on the front wheels, and what is known as a steering control. The former consists of contracting bands working on drums connected to the hubs of the front wheels; they are operated by a pedal, and are so arranged that the pressure is

slip which sometimes occur when no brakes are applied, such as "running" side-slip, &c. By grasping both the movable and fixed steering wheels, even with one hand, the back of the car cannot move sideways except by dragging the front of the vehicle around with it, and thus the side-moving force is counteracted by that which is drawing the front of the car in the line of original momentum, and the greater the weight in the front of the car, the greater the force of forward momentum to which the steering control anchors.

### Tests on Grease.

With the object of demonstrating the claims made for the joint system of front wheel brakes and steering control a 10-h.p. Cadillac fitted with both was driven over a stretch of asphalt which had been covered with a slimy mixture of gear oil and grease. As to the "skiddy" nature of the track there was no doubt, as when the car was driven over it and the ordinary brake applied it skidded in a most exciting fashion, the vehicle swinging round until the driver was facing the opposite direction. On another run over the grease only the front wheel brakes were applied, and although the car again side-slipped the skid was not so marked as on the previous occasion. Finally, several runs were made to



A Motor Meet at Chateau-Thierry, France.

applied equally on each of the drums, no matter at what angle the steering wheels are at the moment the brakes are applied. Not only so, but the front wheels are free to move, under the action of the steering wheel, even when the brakes are on. The connection between the pedal and brake drums is by means of wire cable, the ends of which are attached to a sort of double horizontal pulley fixed on an extension of the steering pivots, so that the brakes operate on the same centres as the wheels themselves.

### The Allen Steering Control.

As regards the steering control, this is an exceedingly simple arrangement. The usual steering wheel rotates above and almost in contact with a fluted brass ring, held rigidly by a connection with the steering column. To steer the car, only the usual wheel is turned, but by gripping both this and the brass under-wheel at the moment of applying the brakes the steering wheels are held absolutely rigid in relation to the body of the car at whatever angle they happen to be turned, thus rendering front-wheel braking as safe and practical as rear-wheel brakes. Besides being a necessary adjunct to the brake system, the steering control is intended to prevent those forms of side-

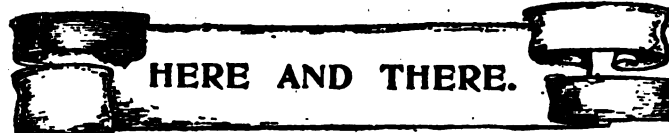
show the efficiency of the joint arrangement. A good speed was got up, and once on the greasy track the driver applied the front wheel brakes and held both the movable and fixed steering wheels, the vehicle sliding along in a straight line without any sign of a side skid. Not only was the capacity of the combined system in preventing the rear part of the car swinging round unexpectedly clearly shown, but it was pointed out that where a car gets out of hand, either on descending a steep hill or other occasion, and the rear portion commences to sway from side to side, the latter can be checked by one hand by means of the steering control, leaving the driver's other hand free to manipulate the emergency brake in addition to the ordinary foot-operated one. Altogether the Allen arrangement appears to be a step in the right direction, and on this account is worthy of the attention not only of manufacturers of motor-vehicles, but also of the engineers of public-service concerns.

ON a site given by Lord Carrington, at High Wycombe, a Church lads' brigade drill-hall, to cost £1,500, is to be built to perpetuate the memory of the Rev. R. Oakley, the motor-cycling curate who met his death last year in a test race of 100 miles.

THE Albion Motor Car Company, Ltd., of Scotstoun, are building a 16-h.p. 24 cwt. delivery van for the Kelso Laundry Company, of Kelso.

THE Academy of Motoring, Limited, have opened a new garage at 1, Chester Street, Grosvenor Place, W., where they have accommodation for garaging about thirty cars.

WHEN in Worthing recently we found the Central Motor Garage in Chapel Road very conveniently located. Not only is a good supply of petrol, oils and greases kept on hand but facilities are available for the charging of accumulators.



THE motor races to be held on the Skegness sands on the 8th prox., under the auspices of the Notts Automobile Club, include an event for racing cars.

MR. A. A. GODIN has issued an album of photographs

of well-known motorists who have testified to their appreciation of the well-known Ducellier motor-lamps.

MR. GLADSTONE has suggested to Sir William Collins, M.P., a conference at the Home Office on the question of motor-ambulances for London.

THE London and South Western Railway Company have just put a 24-h.p. single-deck motor-bus in service between Totton and Lyndhurst.

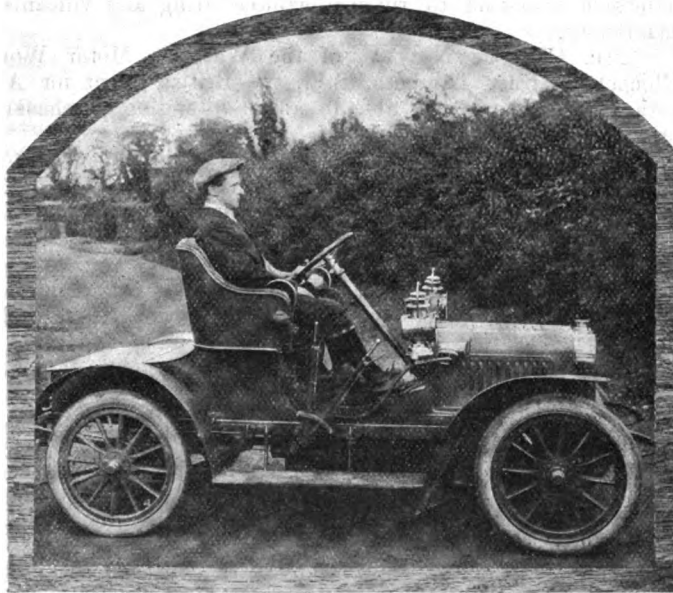
THE committee of the Technical Institute, Salford, propose to hold a course of automobile lectures next winter. They are now seeking a suitable teacher.

MESSRS. SINGER AND CO., LTD., have lately completed a 9-h.p. tri-car to the order of the Egyptian Government for use as an inspection machine in the desert.

FROM Messrs. Rebour, of Puteaux (Seine), France, comes a copy of the catalogue of Rebour cars. These are made in four sizes—10-12-h.p., 18-22-h.p., 25-30-h.p., and 40-50-h.p., and are largely on Mercedes lines.

MESSRS. R. REYNOLD JACKSON AND CO., LTD., in sending the photograph reproduced herewith, write us as follows:—

"We have recently geared our cars about 15 per cent. higher on each speed, and as we could not find a hill that a 9-h.p. Jackson could not take, with four passengers up, we were interested to see what could be done in the way of hauling other vehicles up a fairly stiff incline, so a day or two ago we took out an ordinary stock car, and mounted Ladbroke Grove Hill, W., with ease,



The 9-10-h.p. Swift Car which secured the Gold Medal in Class 1 in the recent Scottish Reliability Trials.

THE Toronto Automobile Club is considering a movement to organise all the automobilists of the Province of Ontario into a provincial association, the object of which is to secure more favourable legislation, and to look after the common interest and welfare of motorists.

WE learn that the partnership hitherto existing between Messrs. P. R. Lamb, C. H. Lamb, and A. R. Garnett has been dissolved by mutual consent, and that the business of Messrs. Lamb Bros. and Garnett, agents for the National cars, will in future be carried on by Mr. A. R. Garnett.

THE Daimler Motor Company, Ltd., have just issued an interesting and instructive paper model of a Daimler car, consisting of a number of coloured plates, arranged one above the other, showing the "anatomy" of the vehicle. All the various parts are numbered, so that by reference to the index its proper denomination may be ascertained.

A FEW days ago we visited the works of Messrs. Drummond Brothers, Ltd., at Ryde's Hill, near Guildford, and found them very complete and up-to-date in every respect, the equipment comprising a foundry for the production of their own castings. The firm are devoting special attention to the manufacture of small lathes and shaping machines suitable for use in motor-repairing establishments and in private garages.

IN connection with the discussion on the location of motor-car brakes the Belsize London Agency, Ltd., draw our attention to the fact that in the Belsize cars both foot and hand brakes act directly upon the back wheels, the foot brake acting internally and the hand brake externally upon an extra large drum. In the new 1907 models a modification is being made, the hand brake operating upon a drum attached to the driving shaft at the rear of the gear-box, while the foot brake, which bears by far the greater portion of the work, still operates as before directly on the rear wheels.



taking two victoria carriages, weighing 10 cwt. each, with three persons up, the weights of the passengers being 11, 12, and 14 stone respectively. After this, we just managed to reach the top of the hill with the same two victoria carriages and also a horse dogcart, four carriages in all, and the driver. The total weight in this hauling performance was 2 tons 3 cwt., made up as follows:—Driver, 11 stone; motor-car, 15 cwt.; first carriage, 10 cwt.; second carriage, 10 cwt.; and third carriage, 6 cwt."

ORIGINALITY marks the design of the new poster which Messrs. Grose, Ltd., have brought out to acquaint the public with the fact that their non-skid bands were first in the field, and retain a wide measure of popularity with motorists.

MR. J. C. MARTIN has opened a motor garage in the High Street, Lewes.

MESSRS. DENNIS BROS., LTD., Guildford, have recently completed six 20-h.p. 2-ton delivery vans to the order of Messrs. Carter, Paterson and Co., Ltd.

A COMPETITION is to be held with a view to finding a solution of the emission of vapour nuisance—or, at least, a mitigation of the present inconvenience.

WE illustrate herewith two accessories for use in connection with ignition accumulators, which have lately been put on the market by Messrs. Ward and Goldstone, of Strangeways, Manchester. In Fig. 1 is shown the "Indispenso" accumulator charging adapter and polarity indicator. With this device motorists are enabled to charge their accumulators at home or on tour, from any continuous current supply. The adapter A is placed in the lampholder of any bracket or pendant, and the

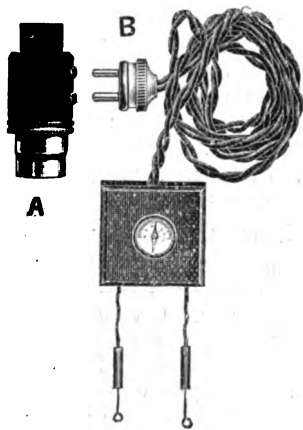


Fig. 1.

lamp is placed in the holder attached to the device. The plug B is then inserted in the socket holes of the adapter. To find the polarity the two connecting hooks are to be placed together, when the blue point of the needle in the indicator will point to the positive wire; the wires are then broken apart, and the positive wire connected to the + terminal of the accumulator and the other to the - terminal, when charging will commence. Fig. 2 shows the "Multum" generator, for charging accumulators at a minimum cost. They are supplied

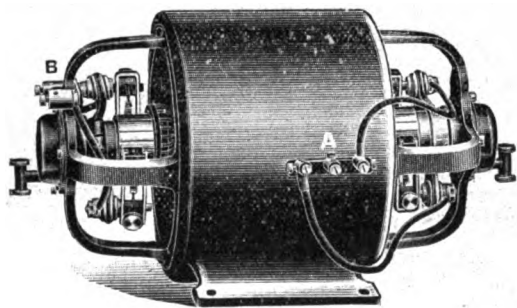


Fig. 2.

to work off any direct current electric lighting circuits, and to work from 100 volts to 250 volts down to 10 volts at 8 amperes. They are of English construction, fitted with ring oiling lubricators. The commutators are built up very massively, and the machine can be left running and charging accumulators for any length of time. A switchboard consisting of voltmeter, ammeter, switch and varying resistance, is also being supplied for use in connection with the generator.

A SAFETY brake for motor vehicles is being put on the market by Messrs. Ellis and Taylor, engineers, Southend-on-Sea. The arrangement is such that it automatically stops the engine and applies the brake on a runaway bus or other vehicle. It can also be used by the driver in emergency by slight foot pressure, or by the conductor or other person at the rear of the vehicle by a gentle bell pull.

A NEW motor garage adjoining the Portland Hotel, Queen's Road, Chesterfield, has been opened by Mr. C. J. Czaikowsky.

THE Notts County Council has decided to put up danger signs at each of the three main approaches to Radcliffe-on-Trent.

THE Mexican Ministry of the Interior has just acquired two motor-cars for the use, respectively, of the Inspector-General of Police and of the Fire Brigade.

COUNCILLOR ROBINSON, of Pontefract, has proposed at a meeting of the local council to leave all the roads rough and unrolled as a cure for scorching motor-cars. The proposal was defeated.

MESSRS. DAVID BRIDGE AND CO., of Castleton, near Manchester, in addition to friction clutches, are devoting considerable attention to rubber manufacturing and vulcanising machinery.

MR. GRAHAM NOTLEY, of the Waterloo Motor Works, Chicheley Street, Lambeth, S.E., the British agent for Ader cars, is, we learn, now able to afford intending purchasers a trial run on one of these vehicles.

FROM the A.C.G.B.I. comes a reprint of the paper on "The Field of the Electric Tramway and Motor Omnibus," read by Mr. E. Manville to the members of the club last winter. The statistics he then placed before them are of interest to all concerned in the development of public services.

MR. MACAULEY MORT writes that he has now completed 12,500 miles on his Crossley car, and that it is going as well as ever. The fact that Mr. Mort has been able to keep this car running without the aid of a chauffeur is an excellent testimony to the reliability and simplicity of the vehicle.

MESSRS. J. W. BROOKE AND CO., LTD., have lately completed a searchlight plant to the order of the 1st Tyneside Battalion of Royal Engineer Volunteers for coast defence work. The vehicle is driven by a four-cylinder 15-20-h.p. Brooke engine, and carries a 45-h.p. motor, driving a dynamo, together with searchlight, switchboards and controlling apparatus. The machine in full working order, and with a crew of eight men, can attain a speed of fifteen miles per hour.

AN interesting result of the decision to remove the internal revenue tax on denaturised alcohol is that the U.S. Department of Agriculture has determined to institute a series of experiments for the purpose of obtaining all the information that can be secured regarding the use of alcohol as fuel for internal-combustion engines. Professor Charles E. Lucke has been retained by the Department to direct the investigation, and the work will be carried on at the Columbia University laboratories.

Now that the official results of the Scottish reliability trials have been published attention may be called to the fact that the Pope Tribune Car was not entered by the Service Company, Limited, who are the British agents. The driver had not handled one of these cars for more than about 100 miles before the commencement of the trials, and, however expert a driver may be, this is not sufficient to give the practical experience of a particular car which would enable it to make the best show on any of the points for which marks were given. Allowing for the special circumstances, the performance of the car was a very creditable one.

THE Argyll Company have this week submitted a new vehicle to a road trial from Glasgow to London. The car in question is the first of the Argyll cabs, which are fitted with 14-16-h.p. four-cylinder engines located under the driver's seat. The body has comfortable seating accommodation for four inside passengers, with large luggage capacity on the roof; the over-all length of the vehicle is 10 ft., the wheel base 6 ft. 6 in., and the width 5 ft. 4 in., while it can turn in a circle of 30 ft. diameter. Glasgow was left on Monday morning with a full load, the passengers including Mr. Alex. Govan, of the Argyll Company, and Mr. E. H. Watson, of Argylls, London, Ltd. The journey as far as Kendal, which included the climb over Shap Fell, was made without any gear changes having to be resorted to. As we go to press we learn by telegram that the run from Kendal to Leeds was accomplished without trouble of any kind, the petrol consumption averaging fifteen miles to the gallon.



## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
87-89, Charing Cross Road, W.C.]

### SCOTTISH RELIABILITY TRIALS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—According to the official report, the results published as regards the car which has been awarded the gold medal and our own 24-h.p. Mass car are as below:—

#### MARKS GAINED.

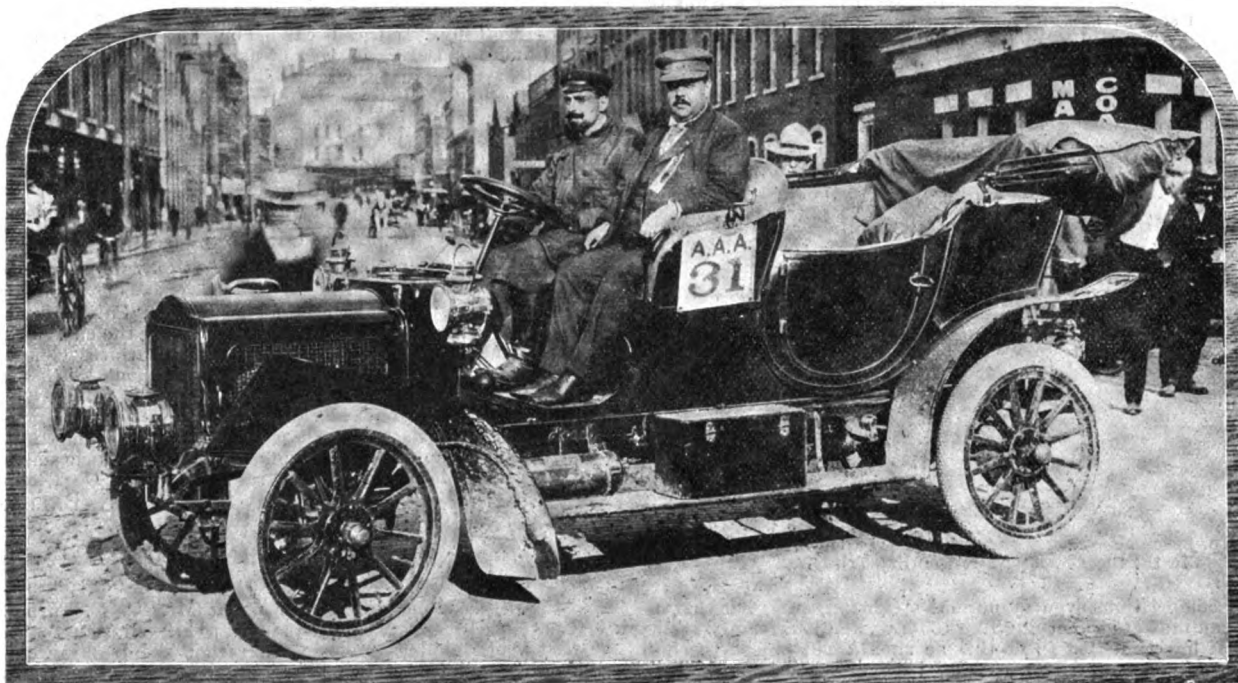
	Hill climbs.	Petrol consumption.	Reliability.	Total.
Gold Medal Car...	67.1	98.8	800	958.9
Mass Car...	98.4	65.7	786	950.1
			Total difference £...	8.8.1

Nine marks were deducted because the car was turned over in an endeavour to avoid a serious collision with other cars stuck on an inefficiently controlled and extremely dangerous hill, viz., Bridge of Avon.

By this report you will see that the car which has been awarded

taking part in the Irish Automobile Club's Open Hill Climb at Ballinacorney, near Dublin, a steep hill of some two miles in length. The car obtained the cup and first place in Class II. under circumstances almost unique in the history of sporting motor events, and which may be of sufficient interest to your readers to secure the insertion of these lines in your valued journal.

The car had arrived within five miles of the course when the engine stopped, and careful examination disclosed the fact that the petrol feed pipe inside the petrol tank at rear had become loose, thus allowing the air pressure to escape and preventing any outflow of petrol to the carburettor. In about an hour the competition was to commence, and prompt measures had to be adopted. The locality was in the depth of the Wicklow Hills, far away from any assistance, but ingenuity overcame all obstacles. Some old rubber connections and copper piping to the acetylene lamps were taken off the car and connected to the inlet pipe to the carburettor. The pipe from the petrol tank had to be cut to allow the rubber connections to be made. An empty tin of petrol was then filled from the tank by using the rubber pump connection as a syphon. The old rubber and metal pipings were then placed to couple up the carburettor to the petrol tin, which was held in my arms as steadily as the Irish roads would allow. This secured a gravity syphon feed, and enabled us to reach the course almost as the last car had started. The petrol was being jerked out of the tin by oscillation, and the old pipes were leaking; but in this condition the car started, and secured first place in its class and the Goff cup. Mr. Hugh P. MacConnell, who was



Mr. C. J. Glidden on the White Steam Car driven by Mr. Augustus Post in the Glidden Tour. (See page 504).

the gold medal scored 958.9 marks, whereas our car, according to their reports, scored 950.1. The Mass car was, as already said, turned over by the driver in his efforts to avoid a very serious collision with a number of small cars which were stuck on the Bridge of Avon hill, which hill was not properly controlled by the committee. For this overturning, although it was booked as a traffic stop by the observer at the time, it not being a mechanical stop in any sense or term of the word, the committee have deducted nine marks for reasons best known to themselves. If you add these nine marks to the total given above, you will observe that the 24-h.p. Mass car is entitled to the gold medal, and not the other car. We wish everybody, of course, to clearly understand that we do not depreciate the performance of the other car in any way whatever; we simply state the figures as given by the committee.

We think it only right to draw your attention and the attention of the public to these facts, as the results published by the Scottish Trials Committee are likely to be very misleading as to the performances of the two cars mentioned. We have formally protested to the committee against the nine marks being deducted from our score and are awaiting their reply before taking any further action in the matter.—Yours truly,

THE LANCASTER MOTOR GARAGE.

### AN EMERGENCY PETROL TANK.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I had the pleasure of accompanying the owner of a 24-40-h.p. Bianchi car on a nine hours' non-stop run from London to Holyhead, and

at the wheel throughout, deserves great credit for the result of this novel event and well-earned victory.—Yours truly,

A. R. LANGTON.

### A STEAM CAR CHALLENGE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the challenge made to me in your last issue to match a six-cylinder Napier car against a steam car, I shall be pleased to do this under proper auspices and in a legal manner, and I think the simplest and best way is for your correspondent to let the contest be decided in the Graphic trophy, if the permission of the Automobile Club could be obtained, as I should not like to be concerned in an illegal race on the road in this country; but I should be quite prepared to send my six-cylinder Napier over to a foreign country where such a competition could be arranged without harm to the cause of automobilism. I should expect the steam car to run under standard touring conditions exactly as it is set out in its own price list it should run.

To give an example of the way the public can be deceived in these hill-climbing results let us compare the price list of your correspondent's car with what actually does take place in practice.

The engine is supposed to be a compound engine with a 3 in. bore high pressure cylinder and 5 in. bore low pressure cylinder, stroke 3½ in. At steam pressure of 400 lbs., which is certainly not below the ordinary working pressure, the engine, if used as a compound engine indicates about 23-h.p. at 400 revolutions, and at the same pressure and same revolutions worked as a simple engine, which is the way it has been

worked in the recent hill climbing competitions, it indicates 50-h.p., or more than double, and while the steam pressure is up to 1,200 lbs., which is somewhere about the pressure that your correspondent starts his hill climbs with, the indicated horse-power at 400 revolutions would be in the neighbourhood of 150-h.p. Does one in a hundred of the ordinary public know that this so-called 18-h.p. steam car can actually indicate at the start of its hill climbs 150-h.p.? I agree that your correspondent admits that in some of the competitions for which he has entered this undue steam pressure for which the engine was not calculated caused it to break, but surely this is the best possible proof that the car was not being used under normal conditions such as the ordinary user would be expected to run his car under, and it is these abnormal conditions that I object to in competitions for *bona fide* touring cars.

I think the car in question is quite an excellent one; I give your correspondent every credit for taking advantage of the rules as they stand, as he has every right to do; but a vehicle which enables one to store up power and use it practically like an explosive in a gun for starting purposes is not running under *bona fide* touring conditions, and especially when this stored-up power once out of three times causes part of the vehicle to break up.

I thank your correspondent for his very sporting offer and I wish him every success in his steam propaganda, as I think by open competition of steam and petrol cars the good and bad points of each will be properly known and understood and each side will strive harder to incorporate in his particular form of motor-car the good points of the other, so that every benefit will accrue to the user by constant and serious competition between every class of self-propelled vehicle, and I think the thanks of the whole motor manufacturing world are due to Mr. Coleman for so ably coming forward and showing what steam is capable of even. But, as I have pointed out, I do not consider them ordinary touring conditions, and I think it would be only right of Mr. Coleman to state clearly that his 18-h.p. engine when used as a compound, as set out in his price list, is nothing of the sort, but at least a 50-h.p. when used as he uses it in his



The 20-32-h.p. Special Darracq which secured the Gold Medal in Class 4 in the recent Scottish Reliability Trials.

hill climbing competitions even at normal steam pressure, but that on starting he can indicate something like 150-h.p., and it certainly seems to me that if he is entitled to do this he should not object to competitors in similar events using oxygen to enable them to have an abnormal petrol engine which is no more a touring vehicle than his own is under the conditions he runs.—Yours truly,

S. F. EDGE.

[The challenge of Mr. Frederic Coleman was for a run up Porlock Hill; possibly the A.C.G.B.I. could arrange matters with the local authorities, as has been done at several other competitions.]

### ACCUMULATOR CHARGING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Replying to Mr. C. Collins's inquiry *re* Boron cells in the *M.C.J.* of the 28th ult., we have at present twenty-four of these cells in use; with these we daily charge 40, 50, 60, and 80 amp. hour accumulators. We find the charges by these cells last much longer than when accumulators are charged by dynamos, and have recently adopted this system entirely. The inspection lamps for inspecting plates whilst forming are maintained by these cells and give excellent results.—Yours truly,

SELENIUM ACCUMULATOR CO.

### THE HORSE POWER OF PETROL MOTORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the many letters on the above subject, I venture to think it is in the various methods of testing employed by different makers the explanation of the startling differences in the horse-power ratings of petrol motors would appear to lie. Taking all in all, it is safe to say that where a maker's catalogue states that his motors have developed a certain power under brake test, they have actually done so and that his statement is a mere record of fact. But it is one thing to have a motor show a tremendous amount of power, considering

its dimensions, when tested under brake, and quite another matter for it to develop the same power under a continued efficiency test. From its very nature the duration of a brake test must be comparatively short; its length is measured by minutes and often by seconds, and forcing a motor to develop an amount of power far beyond its normal output for such a short time presents no insuperable obstacles. If, however, the engine were coupled to a dynamo and run steadily for a period of several hours, in accordance with the usual practice of conducting efficiency tests, the readings would at no time show that any such wonderful amount of power was being developed. The motor that rose to 20-h.p. under the momentary brake test will find its level under the continued grind of the efficiency test and may work out as low as 12-h.p.—Yours truly,

R. SANDERSON.

### THE REPORT OF THE ROYAL COMMISSION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I quite agree with you that on the whole the Report of the Royal Commission on Motor Cars is to be regarded as satisfactory. The only point which in my mind needs amendment is that relating to the taxation, as, if the suggested scale is adopted, it will cause many a would-be motorist of moderate means to think twice ere making the plunge. The introduction of a scale of taxes according to weight is, I admit, a step in the right direction, but I consider that an increase should be made in the limits in the first two classes, especially as the unladen weight of the cars is to include all parts, equipment, stores, fuel, water, or accumulators necessary or ordinarily used with the car when working. If this is carried out, the majority of small car owners will find themselves in the £5 5s. class. Looking at the scale as it stands, I think that the limits should be increased so that all cars up to 15 cwt. should be in the £2 2s. class, and vehicles from 15 to 20 cwt. £3 3s., the others remaining as suggested by the Commission. I should be glad to hear the views of other small car users on the subject.—Yours truly,

W. BENTLEY.

### TYRE STOPPING MATERIALS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to your correspondent's inquiry as to tyre stopping materials, I have found Gamage's "Philkut" satisfactory, but I do not content myself with "simply filling the cut." Not only should all dirt be removed from the cut, and the surfaces cleaned with a rat-tail file, but the surface of the tyre for about  $\frac{1}{2}$  in. around the cut should also be filed clean. The cut should be filled with solution from the bottom, and the excess of solution can then be smoothed down on the surface so as to form a patch about 1-12th in. thick over the line of the cut, gradually thinning off for  $\frac{1}{2}$  in. on each side. I have found such patches last well on the tyres of my 6-h.p. De Dion.—Yours truly,

H. STANLEY BALLANCE, M.D.

### HILL-CLIMBING CONTESTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We read with amusement Mr. W. E. Furneaux's letter in your issue of July 21st, with regard to hill climbing contests, thinking that his little pleasantries were rather a refreshing change from the dogmatic effusions that are generally written on the subject. But surely some of your readers have done your correspondent the injustice of taking him too literally at his word. We fear that in what appears to be an effort to give the A.C.G.B.I. a dig in the ribs, Mr. Furneaux has unintentionally pulled the leg of Mr. E. O. Roper as well as "Fair Play."

For our part we think that Mr. Shrapnell exactly puts before the public what they ought to insist upon. The tireless Mr. Edge and others derive ceaseless joy from the making of formulae and the juggling with weird figures which some of us understand, but many do not. We all, however, understand the value of £100, £500, £1,000—save perhaps the extremely lucky ones among us—and we quite appreciate the difference between carrying two passengers and five, and it appears to us that when all competitions base their classification according to catalogue price only, and work their handicaps on this basis in conjunction with weight of passengers, then only will Daimlers, Napiers, Whites and Stanleys, petrol or steam, be all under fair conditions, and have no grounds for urging that their competitors receive any preferential treatment.—Yours truly,

W. GALLOWAY AND CO.

### DRIVERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It was with much pleasure I read Mr. Percy Richardson's letter. It would indeed be a great boon, both to owners and drivers, if a recognised school could be started. There is not the least doubt there are hundreds seeking first situations, but without any success, owing to owners being afraid to trust them. I myself have for the last five months been trying to get a first place.

I have had five months' training at a garage, during which time I had practical experience in repairs as well as plenty of driving lessons,

But for all this I am always told that I have not sufficient experience, although the firm with which I trained are prepared to give me a recommendation. I am now beginning to think my money has been thrown away, and would strongly recommend anyone who contemplates becoming a driver to think twice before he parts with his money, until some plan is adopted by which proficiency can be assured, and a man make certain that he is not wasting his time and money.—Yours truly;

DISAPPOINTED.

### WHY IS A SILENCER NECESSARY?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you or any reader of the *M.C.J.* could inform me why petrol engines require silencers, and why the stroke is not slightly lengthened or the bore slightly increased in diameter until the explosive force of the charge is reduced to atmosphere before the exhaust opens, which would seem to utilise more of the expansive force of the charge and doing away with the noise.—Yours truly,

ENQUIRER.

[We are afraid that "Enquirer" would have a great difficulty in increasing his cylinder dimensions (bore and stroke) so as to reduce the explosive force to atmosphere before opening the exhaust valves. In the first instance the turning movement of the crank would be excessive in comparison with the speed, and secondly, the bore and stroke being increased the volume of gas in ratio would be greater, so practically the only effect would be increase of horse-power. Of course there might be a means of fitting an appliance so as to give a measured quantity of gas, but without doubt this would not be as simple as using a silencer.]

### POPPING IN THE CARBURETTOR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The engine of my car has developed a popping noise in the carburettor. I should be glad if you could tell me the cause, and how to find the faulty cylinder, as my engine has four cylinders, mechanically operated valves, high tension and magneto ignitions. The popping is intermittent; it stops for a few miles and then pops for a few strokes.—Yours truly,

T. E. MULLERSON.

[We should imagine our correspondent's trouble to be due to a faulty inlet valve or perhaps a weak spring on the same. If new springs were tried and valves ground in, a remedy would no doubt be effected. The only means of ascertaining which cylinder is faulty is to try each one individually, releasing the compression on the other three, and by this means finding if there is any back pressure at the air intake of the carburettor.]

### BRAKES FOR MOTOR-BUSES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was interested in the remarks on this subject in the last issue of the *M.C.J.* In my opinion the foot brake should be that acting on the rear road wheels. Undoubtedly the main brake should be that actuated by a pedal, as the driver's hands are then left free for steering purposes, and with it connected up to the rear wheels the vehicle can be properly controlled even should anything happen to the transmission mechanism. Not only so, but as at present arranged the strain of continually starting and stopping the bus is taken by the driving gear, subjecting it to undue wear. It is on these grounds that I suggest the present arrangement be entirely reversed—that the hand-operated brake should be that acting on the transmission and used for emergency purposes only, and that what may be termed the running brake be connected with the rear road wheels and actuated by a pedal.—Yours truly,

R. HENDERSON.

### CHANGE-SPEED GEARS FOR MOTOR-BUSES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to the recent discussion on motor-buses, it appears that the chief trouble lies in the gear-box. Nearly every petrol vehicle is fitted with a change-speed gear of the system known as the train balladeur, in which the outer rims of two rapidly revolving cog-wheels travelling at different speeds are suddenly brought into mesh. It is impossible to conceive how a device so utterly barbarous and unmechanical and against all common sense has so long survived. The gear-box appears to have received but little attention from the inventor and to be at the present time practically in the same state as when the motor-car was first introduced into Great Britain.

With the train balladeur system, however carefully the levers are manipulated, every change of speed or direction must result in a considerable amount of noise and shock to all parts of the car. These continued shocks are bound to soon cause the iron and steel to crystallise and become liable at any time to suddenly snap—possibly causing a terrible fatal accident. The sensible and practical type of gear is the "always in mesh," sometimes called the central key system, in which the change is effected by locking keys sliding into place at the centre of the cog-wheels—where the speed of rotation is least—and is done without the slightest trace of noise or jar. This considerably increases the life of the gears and greatly reduces the cost of upkeep of the car.

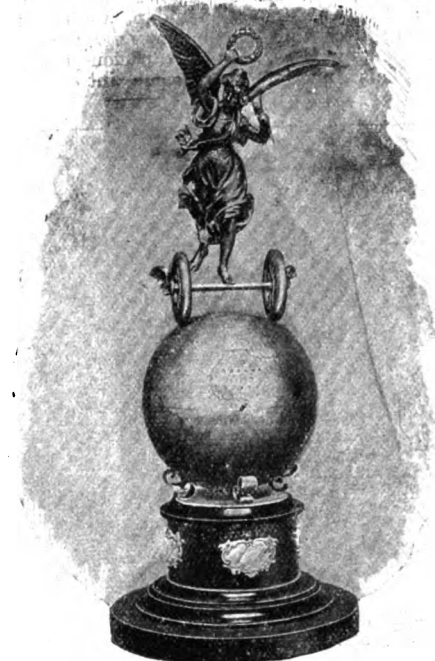
With the ordinary gear, should the slightest hesitation or clumsiness be shown in changing speed, only the corners of the teeth on the outer circumference of the cog-wheel—where the speed of rotation is fastest—are brought into mesh, rapidly wearing them away and causing a loud, harsh, grating sound so familiar to all who have had any experience with motor vehicles. With the central key system, on the other hand, should the keys not go home at the first revolution, the keys are resting on a smooth surface at the centre of the pinion, where the speed of rotation is slowest. A neutral is also provided between each speed, so that, should the clutch jam and refuse to come out, the car can be stopped by moving the lever into the next notch, this having the same effect as declutching.—Yours truly,

CONSULTING ENGINEER.

### DRIVING ON TOP GEAR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—For many motorists there seems to be a fascination about the use of the top-speed gear in a car equipped with the usual range of change-speed gears. That a vehicle is capable of ascending certain familiar hills on top speed is sufficient to give it a high place in their estimation. Why this feat, as it may be called, should give the car pre-



The Albert Brown Trophy presented to the Motor Cycling Club by Mr. Albert Brown for a Competition amongst Members of the Club for all-British built cars.

eminence they might not be able to say in a convincing way. There are, undoubtedly, advantages in the top-speed capacity, such as noiselessness when the drive is direct, with no change-speed gears in mesh, and for the automobilist who finds no delight in car manipulation there is a pleasant freedom from gear changing. There is, however, another side to be considered. Were weight and cost negligible quantities in motor construction every car could have an engine big enough to dispense with the change-speed gear altogether. Commercially they have to be considered, and the use of the gear-box permits of the necessary economies in these directions. Consequently, if the gear-box is a good thing to carry, it certainly should be a good thing to use.

When a hill is to be climbed that cannot be rushed, failure to change speed means a slowing down of the motor, the result being increase of stresses, which, though they may not cause bending or fracture, certainly do not prolong the life of the working parts of the engine. All things considered, there is no question that an intelligent use of the change-speed gears is necessary for efficient operation.—Yours truly,

L. R. RAINBIRD.

SOLS PETROS.—A firm that has received an order for a barrel of "Sols Petros" is anxious to discover from whence they can obtain supplies.

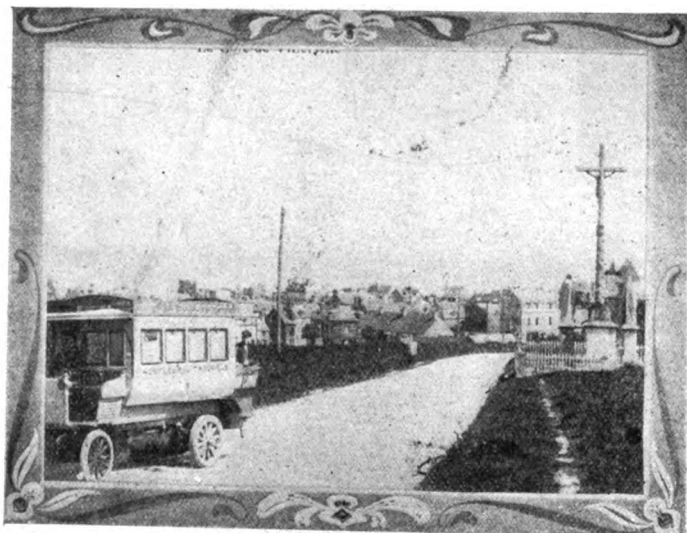
WE are asked to state that the Napier car which competed in the recent contest for the De Caters Challenge Cup at Boulogne was the 60-h.p. belonging to Prince de Chimay, and that the vehicle met with an accident owing to a side-slip.

A JACK was left upon the road about three miles on the London side of Redhill, by Mr. A. C. Wright, 3, St. Mary's Grove, Gunnersbury, W., on Bank Holiday. Should any reader have found the same the owner will be glad to hear from him.

## CLUBS AND ASSOCIATIONS.

### LINCOLNSHIRE.

MR. GEORGE GODSON'S annual invitation to the members of the Lincolnshire Automobile Club to meet at Asgarby was fulfilled on Thursday of last week, and the event proved even more popular than its predecessors. The competitions took the form of a gymkhana, and amongst the motorists who put in an appearance were Sir Hickman Bacon, Wolseley; Mr. C. W. Pennell, 20-h.p. Martini; Mr. W. A. Tomlinson, 10-12-h.p. Humber; Dr. Cragg, Baby Peugeot; Mr. A. A. Padley, 16-20-h.p. Humber; Dr. Miller, 7-9-h.p. Peugeot; Dr. Mason, 7-9-h.p. Peugeot; Major Goddard, 16-20-h.p. Clement-Talbot; Dr. W. J. Gilpin, 12-h.p. Georges Richard; Captain R. Gleed, Baby Peugeot; Dr. White, 6-h.p. Wolseley; Dr. P. Sharp, 12-h.p. Richardson; Dr. Moxam, Baby Peugeot; Mr. Coombes, 24-h.p. Georges Richard; Rev. M. C. Wilkins, 10-h.p. Argyll; Dr. Benson, motor-cycle; Major J. A. Cole, 16-20-h.p. Humber; Mr. A. W. Holloway, 8-11-h.p. Peugeot; Rev. T. A. Stoodley, 8-10-h.p. De Dion; Mr. B. Gibson, 10-h.p. Richard-Brasier; Dr. W. Jagger, 8-10-h.p. Cadillac; Mr. Parish, Rover, and Dr. Pim; altogether the company numbered nearly 200. Tea and other refreshments were served in a capacious marquee erected in the Parkfield. This function over, some interesting sports were



A French Motor 'Bus Service.—A Snapshot at Villerville, near Honfleur.

commenced. There were about seventeen entries in a speed judging competition. In this event Mr. W. Swain officiated as checker and Mr. Godson took the times. The winner was Dr. Gilpin, of Bourne. His speed was set at 16 miles an hour, and his actual travelling pace was only 10 sec. out in covering a course of 4 1-5 miles; Dr. Cragg, of Billingsboro', and Mr. W. A. Tomlinson, of Sleaford, were equally second, their results being only 15 sec. more than the actual time allowance.

A balancing competition which afterwards took place was won by Mr. W. A. Tomlinson, who was only 34 sec. in getting his balance. Mr. C. W. Pennell, J.P., of Lincoln, judged this contest, and Mr. J. Caswell, of Langrick, took the times. Mr. Godson presented souvenirs to those winning the competitions.

The Lincolnshire Automobile Club's Committee met at Sleaford on Thursday, the 2nd inst., to settle final details for the proposed hill climb in Syton Park. Amongst those present were Sir Hickman Bacon, the club president, and Major J. A. Cole, the chairman of the Administrative Committee. The programme as arranged shows that there will be three events, viz., Class A, for cars not exceeding 10-h.p.; Class B, for cars not exceeding 20-h.p.; and Class C, for cars exceeding 20-h.p. Special prizes will be competed for, including the Newsom Challenge Cup and the Lincoln members' prize for the actual fastest time.

### NORTH LONDON.

FAVOUR'D with beautiful weather, the members of the North London Automobile Club enjoyed the sixth outing of the season. The rendezvous chosen was their country head-quarters at the Red Lion Hotel, Hatfield. Although the majority of the members were taking their holidays, the muster was very good. After tea the party drove about a mile and a half further on to witness and partake in the sparking plug contest. Competitors had to start their engines

on a given line, stop at place marked, take out a sparking plug and insert one handed to them by an official, restart engine and drive to a given point.

The following are the names and times of the first three:—

		Min.	sec.
F. Horton	6 1/2-h.p. Darracq	1	44-2-5
Bransom Griffiths	10-12-h.p. Humber	1	46-4-5
H. Johnson	16-h.p. Horbick	1	51

Mr. Max Graddon was the starter and Mr. J. T. Barber timekeeper.

### PETERBOROUGH.

THIS club brought off a 200 miles reliability trial on the 2nd inst. The competitors started from Peterborough, and the first 100 miles of the run was to Hitchin, returning to Peterborough. The second half of the journey was through Lincolnshire, the route being via Market Deeping, Bourne, Folkingham and Sleaford to Lincoln and back, finishing at Peterborough. The following eight accomplished the distance in eleven hours and thus qualified for gold medals, viz.:—T. Woodman, F. S. Southwell, R. S. Parres, J. Matthews, A. Adams, E. W. Clark, W. Smith and P. R. Heighton. The hon. secretary (Mr. J. Matthews) ably carried out all the arrangements for the trial, assisted by a committee consisting of Messrs. F. S. Southwell, T. Woodman, and F. T. Heighton.

### SUSSEX.

A GYMKHANA was held on Saturday at Eastbourne under the auspices of the Sussex County Automobile Club. The following is a list of events:—Bending Race (1st prize, cup presented by the club; 2nd, club's silver medal).—1, Mr. J. P. Cockerell's 14-h.p. Germain, time, 1 min. 17 1-5 sec.; 2, Mr. V. Lucas's 6-h.p. De Dion, time, 1 min. 24 sec.

Slow Race (1st prize, cup presented by the club; 2nd, club's silver medal).—1, Mr. H. Colgate's 10-h.p. Lanchester; 2, Mr. J. W. Amps's 14-h.p. Daimler.

Lady Passenger Race (1st prize, cup presented by the club; 2nd, club's silver medal).—1, Mr. H. Musker's 35-h.p. Daimler; 2, Mr. V. Lucas's 6-h.p. De Dion.

Tilting the Ring (1st prize, presented by the club; 2nd, club's silver medal).—1, Mr. J. W. Amps's 14-h.p. Daimler; 2, Mr. M. F. Mieville's 40-h.p. Peugeot.

"Bomb" Race (1st prize, presented by the club; 2nd, club's silver medal).—1, Mr. V. Lucas's 6-h.p. De Dion; 2, Mr. H. Musker's 35-h.p. Daimler.

Musical Chairs.—1, Mr. H. Musker's 35-h.p. Daimler; 2, Mr. H. Colgate's 10-h.p. Lanchester. During the day the band of the 2nd Sussex R.G.A. (Volunteers) rendered musical selections. At the conclusion of the gymkhana Mrs. J. P. Cockerell handed the prizes to the winners. The following were the officials:—Messrs. J. P. Cockerell, H. S. W. Eyre, and A. Scrase-Dickens, clerks of the course; starter, Mr. C. F. Frowd; judges, Captain J. G. R. Homfray, Mr. J. Cannington, and Mr. E. E. Miller; marshals, Captain F. D. Lyon, Mr. P. Penraddocke, and Mr. F. H. Nye; timekeepers, Messrs. Bruford; secretary, Mr. M. F. Mieville.

### SHROPSHIRE.

At the representative gathering of Shropshire motorists, at which it was decided to form an automobile club for Shropshire, the following were elected on the committee:—Major Heber Percy, Dr. Stawell, Messrs. Howard McLean, J. Cavan, J. R. Greatorex, Donaldson Hudson, Major F. Forester, C. T. Dugdale, E. C. Peele, E. M. Wakeman, R. Wingfield, C. E. Jenkins, Dr. Russ Wood, and Captain Forester.

### AN IRISH HILL CLIMB.

THE second hill climb of the season under the auspices of the Irish Automobile Club for the season was held on Saturday. The programme was divided into five classes according to the price of the chassis, including tyres, a special prize consisting of a silver cup being awarded to the owner of the winning car in each class and a silver medal of special design to the second. The contest took place on Ballinaslaught Hill, close to Newtownmountkennedy, co. Wicklow, the distance from start to finish being about one mile seven hundred yards; despatched sharp on time and the others following at a four minutes' interval. The best performance of the day was that of the 35-45-h.p. Daimler in Class E, the time returned being 2 min. 24 1-5 sec.

The following are the details:—

CLASS A.—Cars chassis price under £200.			
No.	Driver.	Car.	Min. sec.
1.	F. Wilkinson	8-h.p. Stanley Steamer	5 54 3-5
2.	A. M. Inglis	10-h.p. Adams-Hewitt	6 22 2-5
3.	R. J. McCreedy	10-h.p. Adams-Hewitt	6 44 3-5
4.	A. W. Inglis	10-h.p. Adams-Hewitt	6 55 3-5
5.	Chambers and Co.	8-h.p. Chambers	7 16 2-5

CLASS B.—Cars chassis price under £350.			
No.	Driver.	Car.	Min. sec.
1.	F. Wilkinson	10-h.p. Stanley Steamer	4 40 1-5
2.	Dr. Glenn	10-h.p. Coventry Hunter	5 56 1-5
3.	E. White	10-h.p. Unic	5 58 1-5
4.	G. Swift	10-h.p. Prosper Lambert	6 28 2-5
5.	J. C. Herdman	10-h.p. Darracq	7 8 2-5
6.	H. Bland	10-h.p. Boyer	7 36 3-5



CLASS C.—Cars chassis price under £500.

1. F. Wilkinson...	20-h.p. Stanley Steamer...	2	30
2. A. Rawlinson...	20-35-h.p. Darracq...	3	10 4-5
3. W. R. McTaggart...	16-20-h.p. Argyll...	4	23 1-5
4. G. E. Mills...	12-16-h.p. Clement-Talbot...	4	33 4-5
5. G. Jacob...	15-20-h.p. Darracq...	4	49 3-5
6. G. T. Robinson...	12-16-h.p. Clement-Talbot...	5	14 4-5
7. E. M. Sterling...	15-20-h.p. Unic...	5	20 2-5
8. W. D. Sainsbery...	18-h.p. Argyll...	6	0 2-5
9. Sir W. D. Goff, Bart.	18-h.p. Clement...	6	49
10. J. Robinson...	12-16-h.p. Clement-Talbot...	5	57

CLASS D.—Cars chassis price under £800.

1. Straker and McConnell	40-h.p. Bianchi...	3	37 3-5
2. E. M. Sterling...	36-h.p. Richard-Brasier...	3	43 4-5
3. T. Henshaw...	28-h.p. Daimler...	3	44 3-5

CLASS E.—Cars chassis price over £800.

1. F. A. Bolton...	35-45-h.p. Daimler...	2	24 1-5
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(Dixon and Hutchinson), Teddington (Wolseley), Napier Major (Napier and Sons), St. Helena (Woodnut and Co.), Gazeka (Gardner).

The judges recommend the following awards be made:—

CLASS A.—A gold medal to Messrs. John I. Thornycroft and Co. for Veradaise; a silver medal to the Maudslay Motor Company for Maudslay; a bronze medal to the Wolseley Tool and Motor Car Co. for Eileen.

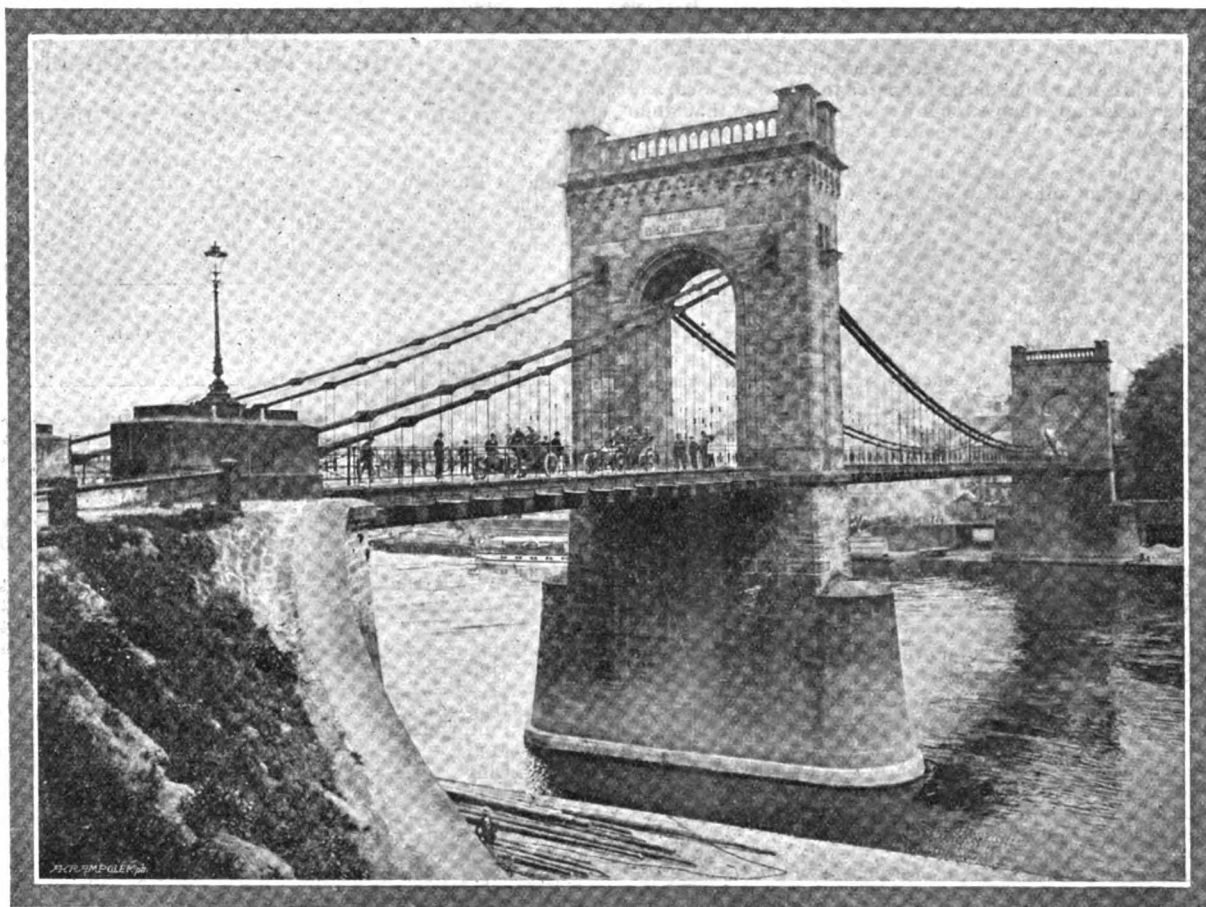
CLASS B.—A silver medal to Mr. A. J. Fentiman, for Javelin; a bronze medal to Messrs. Camper and Nicholson for Squirt.

SEAGOING VESSELS not under M. M. A. classification, a gold medal to Messrs. Perman and Co. for Wasp; a silver medal to Messrs. John I. Thornycroft and Co. for Firefly.

CRUISERS.—A gold medal to Mr. S. F. Edge for Napier Major; a silver medal to Messrs. Dixon Bros. and Hutchinson for Penguin.

The special award for the best all-British vessel and equipment in each class were won by Veradaise in class A, Javelin in class B, Firefly in the sea-going class, and Napier Major in the cruiser class.

The special prize for vessels using ordinary paraffin of not less than 73 degrees flash point has been won by Messrs. Thellusson and Co. for



Touring in Bohemia. The Bridge over the Elbe at Tetschen.

(Allgemeine Automobil Zeitung.)

ASTON HILL CLIMB.

FOLLOWING our recent announcement with reference to the above competition, Captain Masui has received an official notification from the hon. secretary of the Hertfordshire County Automobile Club, in which he states that the result has been finally come to as follows:—

- First, 14-22-h.p. Germain driven by H. Ramois.
- Second, 10-h.p. Alldays and Onions.
- Third, 60-h.p. Napier driven by C. Edge.

MOTOR-BOAT TRIALS.

THE third annual reliability trials of motor vessels, under the auspices of the Motor Yacht Club of Great Britain and Ireland, was held in Southampton Water at the latter end of last week.

The following were the starters:—Maudslay (Maudslay Co.), Nantilus (Thornycroft), Manapouri (Vosper), Veradaise (Thornycroft), Dion Bouton (De Dion), Eileen (Wolseley), Brooke (Brooke), Gladys (Vosper), Squirt (Fairbanks), Champuk (Thornycroft), Iris (Legros and Knowles), Hebe (Dixon and Hutchinson), Javelin (Blake), Nogi (Parsons), Firefly (Thornycroft), Wasp (Goedhoop, junior), Penguin

Nantilus in class A, Messrs. John I. Thornycroft and Co. for Firefly in the sea-going class, and Messrs. Woodnut and Co. for St. Helena in the cruiser class.

The Autocar challenge cup is awarded this year to Messrs. John I. Thornycroft and Co. for Veradaise, as she is considered by the judges to have made the most meritorious performance irrespective of class.

The silver gilt cup presented by Mr. Montague Grahame White to the mechanic who keeps his engine and vessel cleanest throughout the trials has been awarded to the mechanic of Napier Major.

ROAD REPORTS.

CREMPOID.—On page 366 of our report of the Scottish Reliability Trial, in the *M.C.J.* for June 16th, mention was made of the new dust layer Crempoid as having been noticed at Luss. We now learn from the patentees, Messrs. A. J. Craig and N. Kemp, of Galashiels, that the hotel proprietor there could not keep his windows or doors open on account of the dust from passing motor-cars. He treated the road in front of his hotel for about sixty yards with a 10 per cent. solution of Crempoid, followed in three days by a 5 per cent. solution. This put a skin on the roads that rendered the road dustless for about a fortnight.

and now he finds that a 2½ per cent. solution lasts him two to three weeks. More extended experiments with the same substance in connection with road making are about to be made.

**SURREY.**—The Surrey County Council has received the report of the county surveyor of the result of the experiments—conducted at a cost of £2,000—to grapple with the motor dust nuisance. On the whole, he said, they had not been satisfactory. Tarmac, aconia, and tarring the roads had been tried. The last appeared to be the best and most economical method.

**CLAPHAM AND WANDSWORTH.**—The carriage way in Cedars Road, Clapham, is being dressed with tar as an experiment. The Wandsworth Borough Council has also decided to similarly treat that part of Trinity Road, Wandsworth, which is not paved with wood or tar macadam.

**HAMPSHIRE.**—In the outlying districts of Southampton serious complaints are made of the dusty roads. Of two suggestions laid before the Highway Committee of the South Stoneham District, one from the West End District Council urges that the expense of watering the roads should be borne wholly or in part by motorists who create the nuisance. The second was an offer from Colonel Frank Willan, J.P., to supply sufficient calcium chloride with which to cover 200 yards of roadway. This offer was accepted, with thanks, and the district surveyor was directed to report upon the experiment to be made.

**LINCOLNSHIRE.**—Some little time ago the Lincolnshire Automobile Club approached the Lindsey County Council as to a road of about five miles in length which the Council had decided to close. The road runs under the sea-hills from Chapel St. Leonards to Sutton-on-Sea, and besides being very little more than a rough track, is so narrow that when two vehicles meet one must get into the fields to allow the other to pass, and there are several gates across it. The club did not wish to use the road, but desired to obviate the precedent of a road closed in the county. They therefore asked the Council to allow them to deal with the matter, and the result is that four notice boards erected by the club have proved so effective that the Council has decided not to proceed with its application to close the road. The notices read:—"This road is unfit for motor-cars, and drivers are urgently requested not to use it. Erected by the Lincolnshire Automobile Club," and they are erected at the four approaches to this dangerous and undesirable road.

**STAFFORDSHIRE.**—Several roads in the neighbourhood of Stafford, Leek, Newcastle-under-Lyme and Uttoxeter are under repair, as well as the Lichfield and Burton road, near the former city, and that part of the Lichfield and Walsall road through Rushall village.

**WORTHING.**—The tar coating of the county roads around Worthing seems to be going on on a somewhat general scale. Along the lower road between the Worthing boundary and Lancing the surface is being so coated. The main road through Finton is also to be treated with tar, if a contribution of £8 can be secured from the parish.

**WITHAM.**—Mr. H. Bawtree drew attention at the last meeting of the Witham Council to the experiments which had been carried out by the Woodbridge Council with calcium chloride solution for street watering. He moved that the Council purchase four tons of calcium chloride at 30s. a ton, and that it be used on certain portions of the roads as an experiment. This was seconded and carried unanimously.

**SKIPTON.**—The Council are laying down a length of tar macadam from the station to the Canal Bridge.

### PUBLIC MOTOR SERVICES.

At the meeting of the Great Eastern Railway Company, on Tuesday week, Lord Claud Hamilton said one complaint he had to make was regarding a company which ran motor-omnibuses in London, and which characterised its vehicles as "The Great Eastern" buses. The omission of the word "railway" put that company within the law; but it was none the less inconvenient to the railway company, as they had suffered a great deal from various complaints received from people who considered the accommodation and the service of these buses to be inadequate. As regarded their own motor services in the country, they had not proved remunerative, though they believed that indirectly they were probably run without any loss.

In view of the justifiable outcry with regard to the exhaust from motor-omnibuses, the Expert and Technical Committee of the A.C.G.B.I. intends to make some experiments with a motor-bus fitted with a vertical exhaust delivery carried above the level of the outside seats.

The statutory meeting of the Darracq-Serpollet Omnibus Company, Ltd., has taken place. Mr. J. S. Smith-Winby, the chairman, said the share capital consisted of 200,000 preferred ordinary shares of £1 each, and 300,000 ordinary shares of £1 each. The former were issued at a premium of 1s. per share, and were largely over-subscribed by the shareholders of the Darracq Company. These shares represented the working capital of the new company, and the ordinary shares, which were deferred as to capital and dividend, represented the consideration paid for the acquisition of the business. Two types of omnibuses are to be constructed, one of 25-h.p. for light single-deck omnibuses, such as for some time had been running satisfactorily in France, and a second heavier type of 40-h.p. with double-decks and capable of carrying thirty-six passengers. Two omnibuses of this type will be seen this month in London.

At the Marlborough Street (London) Police Court, on the 3rd inst., Mr. Kennedy had six drivers of motor-buses before him charged with reckless and dangerous driving. Mr. Elliot F. Barker prosecuted on

behalf of the Commissioner of Police, and said that the Commissioner viewed these offences of motor-omnibus drivers very seriously, and special police officers had been detailed off to watch them. Several of the vehicles were driven on the wrong side of the road, a most dangerous proceeding. The attention of drivers was drawn to a recent case in which the Lord Chancellor said it was the duty of persons driving motor-cars or other vehicles on the public highway to remember that nervous, decrepit, deaf, and blind persons and children were just as much entitled to use the highway as the drivers, and if any of the drivers thought fit so to drive that there was a chance of serious consequences through a mistake in judgment or miscalculation, and those consequences were not averted, they would have to pay for it in damages.

SEVERAL motor-bus cases were heard in the London courts on Tuesday. In one, at the Marylebone County Court, a greengrocer was awarded £20 damages against the Road Car Company, one of whose motor-buses had struck his vehicle, doing damage. At three police courts drivers of such vehicles were fined for recklessness, and in the Coroner's Court at Kensington an inquest was held on the body of Mrs. Underwood, who was knocked down by a motor-bus. The jury, in returning a verdict of "Accidental death," added a rider that they exonerated the driver from blame, considering "that the deceased herself contributed to the accident by the careless manner in which she attempted to cross the road."

### THE DU PRE CHALLENGE CUP.

LEICESTERSHIRE, NOTTS, AND DERBY AND DISTRICT AUTOMOBILE CLUBS.

THE final results of the competition for the Du Pre Challenge Cup, held at Hazlewood Hill, reported in our issue of June 30th, together with the order of merit as decided by the A.C.G.B.I., have now been made known. The winner of the cup is Mr. H. E. Barron. In the following table membership of the Leicestershire, Notts, and Derby and District Clubs is denoted by the letters L., N., and D., respectively.

Member.	Club.	Maker.	Mark.	Figure of Merit.
F. A. Bolton ...	L. N. & D.	35-h.p. Daimler ...	4	179.8
W.M. Hutchinson ...	N.	30-40-h.p. Daimler ...	4	181.2
E. W. Wells ...	N.	30-40-h.p. Daimler ...	4	175.0
J. A. Doran ...	L. & N.	22-h.p. Minerva ...	4	208.1
J. A. Doran ...	L. & N.	30-h.p. Rolls-Royce ...	4	171.5
M. Ross Browne ...	L. N. & D.	25-36-h.p. Brasier ...	4	184.5
C. T. Leech ...	D.	18-22-h.p. Daimler ...	2	175.4
Two-seater				
Capt. W. Byron ...	L. & D.	20-h.p. Rolls-Royce ...	4	181.2
R. Cripps ...	N.	24-30-h.p. Argyll ...	4	175.9
G. A. Strutt ...	D.	16-20-h.p. Humber ...	4	189.3
E. Arnott ...	N.	22-h.p. Minerva ...	4	185.8
R. G. Hogarth ...	N.	12-16-h.p. Clement-Talbot ...	5	210.5
J. A. Hooper ...	L.	16-20-h.p. Humber ...	4	174.6
T. C. Pullinger ...	N.	16-20-h.p. Humber ...	4	169.9
L. P. Mell ...	D.	15-h.p. Darracq ...	4	192.1
A. J. Clay ...	D.	20-h.p. Ryknield ...	2	173.5
& 3 cwt. ballast				
H. J. Marsden ...	L.	20-32-h.p. Darracq ...	4	161.2
Capt. W. Byron ...	L & D.	16-h.p. Minerva ...	4	180.0
Dr. H. W. Boreham ...	L.	10-h.p. Darracq ...	4	186.4
H. E. Barron ...	L.	10-h.p. Peugeot ...	4	236.5
G. F. Reading ...	D.	10-h.p. Wolsley ...	4	174.0
C. J. Allin ...	D.	8-10-h.p. Humber ...	4	180.2
R. Sutton Clifford, jun. ...	L. N. & D.	12-h.p. Richard-Brasier ...	4	179.5
C. H. Smith ...	D.	8-h.p. Rover ...	2	160.7
J. T. Eady ...	L.	8-h.p. Clyde ...	4	201.8
H. W. Dawson ...	D.	7-8-h.p. Swift ...	2	174.9

### POLICE TRAPS.

MESSRS. S. DE SAUMAREZ BROCK AND Co. inform us that a trap is worked on Sundays on the main road between Mitcham and Croydon. The traps along the London Road, Norbury, to Thornton Heath are also still being worked on Sundays.

THE Lancaster-Carlisle road is being carefully watched by the police, and at Carnforth and Milnthorpe particular care should be taken by motorists.

ON the Salisbury road, in the parish of Upton Lovel, near Warminster, a police trap has been the means of securing several alleged speedy motorists.

THE utmost care in driving through Helensburgh and thence to Shandon and Luss, as well as from Bowling to Helensburgh, is necessary, in consequence of recent police activity against motorists.

# MACHINE TOOLS FOR MOTOR-CAR BUILDERS.

MESSRS. WEBSTER AND BENNETT, LTD., Coventry, have recently considerably improved the design of their profile milling machine for finishing cams for motor-car engines. The tool is provided with cabinet bases, a trough for lubricant, tray for the workman in front of the fixed headstock, and a rack for spanners at the end. The centres are 7½ in. high, the bed is 6 ft. long, and the floor space occupied is 6 ft. 8 in. by 3 ft. 1 in. The bed has been made both wider and deeper to withstand twisting strains, and is 11½ in. by 10½ in. in cross section. The whole of the machine has been thickened up in section and now weighs about one ton. Moreover, it is driven by a 3 in. belt with a single pulley 12 in. diam. placed at the back, and running at 300 revs. per minute. The machine, which is consequently well suited for motor drives, will deal with 2 5-8 in. motor shafts, which can be admitted up to 4 ft. long. Any number of cams can, of course, be milled, one at a time, but there are usually either eight or twelve cams to the shaft. Almost any cam can be completed in ten minutes. The horizontal cutter spindle is driven through a train of cut spur gears, hardened and running in oil. In fact, the whole of the gearing runs in oil. The cutter is, of course, at the front of the cutter head, overhanging on the left-hand side. The shaft is usually held in a three-jaw self-centring chuck which is slowly revolved by feed motion driven from the cutter head. At the back it carries the copy or former, against which bears a roller carried by the cutter head and kept up to position by a spiral spring. This displaces the weight formerly used and is adjustable by nut at the back. The cam shaft is passed through the hollow spindle held in the chuck, and also gripped at the other end in the nose of the dividing head. This head is clamped to the bed by an eccentric device with handle. The dividing plate gives four positions, according to the number of cylinders. The loose headstock dividing lever is held by spring for all positions, both in and out of the notches. The former or copy plate roller is adjustable by screw to 1/1000 in. When the total drop of the cam leaves too much metal for finishing at one cut, the depth of the first cut can be regulated by means of a hand wheel and screw. Then for the finish the path of the cutter is controlled by the copy plate. For removing the job the same hand wheel is also used to push back the cutter slide, which in the improved machine now has a gibbed strip. The standard machine has two cam shapes, but can be arranged for three. The cutter head, of course, slides to and from the front of the machine on a projection at the back of the bed, its position being governed by the copy plate. The feed motion is driven by a two-speed cone pulley at the back of the cutter head, a belt being taken round guide and tension rollers by which it is kept tight at every position of the cutter slide. The feed is then obtained by double worm and worm-wheel reduction with friction clutch actuated by hand wheel at the end of the machine. The feed is about one revolution in three minutes, so that for setting, roughing, and finishing one cam ten minutes is ample time. One advantage of the machine is that the cams can be correctly formed solid on the shaft, although motor-cars are successfully running with cams that are simply held in place. However, the solid cams can be made smaller and therefore lighter. The machine, with suitable formers, can also be used for milling the edges of nuts, glands and similar jobs, and for brasswork of all kinds. In a machine of this kind a motor shaft with eight cams of steel has been completed in 80 minutes, and a similar steel shaft with four bevelled cams in 50 minutes.

## OBSTRUCTING MOTORISTS.

RICHARD GROVES, brake driver, was summoned at Ongar for persistently obstructing the highway at Ongar. Dr. W. M. Tapp said defendant was driving a char-a-banc full of beanfeasters, and for about two miles refused to let him pass in his motor-car. Fined 10s. inclusive. Alfred Pardoe, brake driver, Highgate, summoned for a similar offence at Stanford Rivers, was fined 10s. and costs 5s. 4d. Defendant obstructed Mr. R. H. Stephens, of Chigwell, in his motor-car.

## A SPARKING PLUG CASE.

At the Marlborough Street Police Court, before Mr. Kennedy, on Thursday, the 2nd inst., Mr. M. C. Friend, Ship Yard, Wardour Street, London, W., was charged with having in his possession for sale and exposing for sale a quantity of sparking plugs to which a false trade description, viz., "Pogon Brevete," was applied. The prosecution was instituted by Messrs. H. M. Hobson, Limited. Mr. Harold Morris appeared for the prosecution and Mr. A. F. Clements, solicitor, for the defence. The defence raised was that Mr. Friend had bought the plugs in question innocently from a Mr. E. Perregaux.

After a lengthy hearing of the case, extending over three days, the magistrate, in giving his decision, dismissed the summonses, stating that the case was one of considerable difficulty; if it had been merely a civil action he might have given judgment for the prosecutors, but as it was a criminal matter he did not feel justified in convicting. On the application of the defendant for costs, the learned magistrate stated that it was not a sufficiently clear case for him to award the defendant costs, and that the trade in spurious plugs was a great hardship to the prosecutors. The magistrate further made an order that one hundred spurious plugs seized under a search warrant at Ship Yard should be forfeited to the prosecutors, Messrs. H. H. Hobson, Limited.

## NEW COMPANIES REGISTERED.

MOTOR ENGINE AND MANUFACTURING COMPANY.—Capital, £2,000. Agreement with British Duplex Motor Engine Syndicate, Ltd.

RICHMOND LAUNDRY, MOTOR GARAGE AND ENGINEERING COMPANY.—Capital, £5,000. First directors, Messrs. C. H. Mason and W. Cherry. Castle Wynd, Richmond, Yorkshire.

RUSHMORE LAMPS.—Capital, £3,000. To acquire the business carried on at 49, Rupert Street, London, as Stewart and Tyler, and to carry on the business of manufacturers of and dealers in searchlights and motor lamps, &c. The first directors are Messrs. G. S. S. Monck, S. F. Tyler, and W. L. Stewart.

## CASES AGAINST MOTORISTS.

A FINE of £5 has been imposed at Brighton on a chauffeur named Thompson, employed by Sir Archibald Macdonald, for driving a motor-car in East Street at a speed dangerous to the public. The police and other witnesses estimated the speed at eighteen or twenty miles an hour, but defendant, his employer, and others suggested that it did not exceed eight miles, Sir Archibald stating that the speedometer, which disregarded anything below ten miles an hour, had registered nothing when passing along the street in question.

CHARLES STURLEY has been charged at the Thames Police Court with



Touring in Italy. The Church of St. Catherine, Pisa.

being drunk while in charge of a motor-car. Defendant was seen in Franklin Street in charge of a car, which he tried to start, but was unable to do so on account of his condition. Mr. Biron said had defendant been actually driving he would have been sent to prison. As it was he would be fined 40s. and 7s. 6d. costs, or in default one month's imprisonment.

At Highgate, Clarence De Vanstey Glentworth was fined £5 and costs for driving a motor-car at Finchley at thirty-eight miles an hour, and 20s. and costs for not having a rear identification plate easily distinguishable.

"You will have to pay or go to prison. People who keep these infernal things can afford to pay fines," said Col. Cones, at Bristol, to William Hayer, a chauffeur, of Peckham, who was fined £5 and costs for driving a motor-car at excessive speed.

HERBERT VALLANCE, surgeon, of School Hill, Lewes, was fined £5 and 15s. costs at Lewes for driving a car in a manner dangerous to the public in that town on the 23rd July. Mr. Lawson Lewis conducted the case for the prosecution, and the evidence went to show that at about one o'clock on the day in question defendant drove his motor-car from the direction of Southover up Station Street in the dangerous manner complained of. Approaching the junction of the cross road at the foot of the hill, in the opposite direction, were two cabs and a brewer's dray, and it was alleged that defendant drove in a dangerous manner between the heads of the horses. The latter had to be pulled up suddenly to avoid a collision. Defendant, on oath, argued that it was only the speed at which he passed the crossing that prevented an

accident, and he could not have restarted his car at the foot of the hill if he had pulled up. As it was, no accident occurred.

For driving a motor-car without a lamp burning to illuminate the rear identification plate, Frederick Lanchester has been fined 10s. and costs at the Sparkhill Police Court. The defendant said the lamp was burning when he left Knowle, but it must have been blown out. It was impossible to keep a lamp alight by Act of Parliament. If he had heard the officer call to him he would have stopped at once, but the roar of the traffic was very great at the time.

THE Hon. Geoffrey Howard, M.P., has been charged at Penkridge Police Court with driving his motor-car to the common danger, and also with driving recklessly. On June 2nd, it was stated, a measured quarter of a mile was set on the Watling Street Road at Weston-super-Lizard, through which Mr. Howard's car passed in 29.2.5 sec., or at a rate of thirty miles an hour. The defendant, in the witness-box, said that he could not say whether he or his chauffeur was driving at the place. It was three weeks before he received any intimation of the offence. Neither the police-sergeant nor constable could say who was driving, and the Bench dismissed the case for want of evidence.

THE Scarborough magistrates have heard a charge against Charles Ives, of Nutley, Rawdon, Bradford, of having driven a motor-car along the Scarborough Valley Park Road at a dangerous speed. Evidence for the prosecution was that the defendant drove along the road at a speed of fully twenty-five miles an hour, and that he ran over two dogs and failed to stop until he had gone a considerable distance. The defendant said he did not stop immediately because he was afraid that the dogs were "a bit cut," which might have shocked his wife very much. The defendant was fined £2 and the costs.

AT the Arundel Borough Bench, last week, John Jarvis, Portsmouth, was summoned for driving a motor-car at a rate above the legal limit on the 26th ult. Major Clay said he considered the car was not travelling more than fifteen miles an hour, and it had broken down at Winchester. Mr. Herbert Clay, who said he had done a deal of horse driving, was of opinion that the car did not travel more than fifteen miles an hour. The Bench convicted and imposed a fine of £3 and 16s. costs.

COLONEL CHARLES CHALMERS was fined £3 at Haddington for driving a motor-car within the borough at a speed more than ten miles an hour. Colonel Chalmers explained that he was in East Lothian on Volunteer business, and asked that as it was an unpaid public service, the case might be treated differently from ordinary cases. The Bench, however, declined to consider this plea.

AT the Doncaster West Riding Police Court a motorist, Henry Stobart, Etherley, was summoned for having driven a motor-car at a speed dangerous to the public, at Rossington, on the 6th ult. He was ordered to pay the costs. For having failed to produce their drivers' licences, Douglas Lee, motor driver, Wombwell; John William Simpson, motor driver, Ackworth; Algernon Beechey Kingsford, schoolmaster, Pontefract; John Coulson, collier, Harlington; and Thomas Howard, barman, Masbro', were mulcted in sums varying from 5s. and costs to £1 including costs.

WHEN the usual long list of summonses against motorists for exceeding the speed limit was begun at Guildford Sessions, on Saturday, a solicitor appealed to the Bench to take into consideration the opinion of the Royal Commission that the speed limit should be abolished. Sir William Chance, the chairman, replied that the magistrates had to deal with the law as it existed now, and the Bench inflicted the usual substantial penalties in all cases.

AT Warminster a batch of motorists have been summoned for exceeding the speed limit on the Salisbury road. The speed varied from twenty-six to thirty-two miles an hour. Fines of £2 and costs each were imposed.

CAPTAIN C. T. B. WOOD, of Queen Street, Mayfair, was summoned for exceeding the twenty mile limit on the Portsmouth road at Cobham on July 22nd, and he was further summoned for failing to produce his licence when requested to do so by the police. Defendant, it was stated, was driving at the rate of thirty miles an hour, and when asked for his licence said he had left it at home. A fine of £3 and 8s. 6d. costs was imposed for exceeding the limit, and the other summons was dismissed on payment of 8s. 6d. costs. The following were also summoned on the same occasion:—William Wickens, thirty miles an hour at Surbiton, fines £2 and 8s. 6d. costs; William Harold Spencer, thirty-two miles an hour at Queen's road, Hersham, fined £2 and 10s. 6d. costs; and Clive Bowring, thirty miles an hour at Portsmouth Road, Walton, £2 and 8s. 6d. costs.

AT Bow Street, Quenton Grogan, a chauffeur, of Sunningdale, East Molesey, was charged with driving a motor-car to the common danger, and with obstructing a police-constable whilst in the execution of his duty. It was given in evidence that the prisoner drove a motor-car on the wrong side of a street refuge at the junction of Agar Street and the Strand, W.C. Police-constable 70 E took his name and address with the view of reporting him for a summons, and he afterwards got down from his car and said, "I have had to produce my licence, and I want to see your warrant." He kept walking round the officer and repeating this, and as a crowd collected and he refused to go away he was arrested. He was fined 40s.

AT the Lancaster County Police Court on Saturday Dr. H. Faulkner was charged with riding an unregistered motor-bicycle at Carnforth. It was shown that the bicycle had been registered in Cumberland, but had not been transferred. The case was dismissed on payment of costs.

JOHN GREENLAND, of Carnforth, was charged at the Lancaster

County Police Court with being drunk in charge of a motor-car at Carnforth on July 25th. It was shown that the car in which the defendant was driving about Carnforth with eight passengers met with an accident, and some of the occupants were thrown out and injured. The police said that when he was apprehended after the accident he was drunk. This was denied by several witnesses. The Bench gave the defendant the benefit of the doubt.

## MOTOR-CAR ACCIDENTS.

A MOTOR-CAR was being driven along Putney Bridge Road at about eight miles an hour, when it suddenly mounted the pavement and knocked down George Thomas Hill, a four-year-old boy, inflicting fatal injuries. At the inquest the verdict was "Accidental death," and the coroner, Mr. Troutbeck, remarked that from the public point of view this was a serious case. There should be a very careful examination of the car in order to have a better idea as to why the failure occurred. The fact that a motor-car might suddenly mount the pavement in the streets of London was very serious. There must be a cause for it, and it must be investigated by competent engineers.

MR. LUXMORE DREW has held an inquiry at Fulham with reference to the death of Alfred Diller, aged 12, who was killed by being run over by a motor-car, at the junction of Wandsworth Bridge Road and New King's Road. Lady Barttelot said that the driver and owner of the car, Mr. Harold J. Teschemaker, was taking her home from Goodwood at the time of the accident. They pulled on to the off-side to pass a line of omnibuses. Suddenly the boy darted in front of the car, hesitated, and then doubled back, with the result that he was knocked down. Mr. Teschemaker also gave evidence to the same effect. He was going at a slow speed because his petrol was running out, and he knew the danger of the road at that spot. The jury returned a verdict of "Accidental death."

THE North Essex coroner on Tuesday held an inquest at Finchingfield respecting the death of a cyclist named Frederick Whiffen, who collided with a 40-h.p. motor-car while descending a hill, and was killed on the spot. The evidence went to show that the deceased man, seeing no chance of passing on his proper side, had to cross over, when he struck the car. The owner of the car, Captain Robert Ogilby, admitted that he did not know the road, and had not sounded his horn. The jury considered him very negligent in not doing so.

## PETROLEUM AS A PLAGUE DISINFECTANT.

[BOMBAY, Wednesday.—Dr. Turner, Officer of Health for Bombay, has successfully demonstrated the extraordinary efficacy of crude petroleum as a plague disinfectant. It is believed that his experiments will materially advance the prospects of extirpating the plague.—Renter.]

When you're strolling in the country and inhaling of an air

Which is fragrant with the perfume of the rose—

Should the vile stench of some motor, as it shoots past, make you swear,

You must never once attempt to hold your nose,

For the evil smell that's wafted on the summer air sublime

Is with disinfecting properties surcharged

That will help you to avoid both Bubonic and Typhoid.

To inhale it with a diaphragm enlarged.

If you want a germ-killer that is sure—

Something cheap that will effect a perfect cure—

Just inhale the petrol gases

Of some motor as it passes,

For their stench could disinfect a common sewer.

—G. M. S. in the "Edinburgh Dispatch."

## TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case; otherwise, no liability will be accepted.



# THE Motor-Car Journal.

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## A PRIZE COMPETITION.

### FOR THE BEST AUTOMOBILE "LIMERICK."

OUR readers are familiar with the form of the "Limerick," the best known example of which probably is as follows:—

There was a young lady of Riga,  
Who went for a ride on a tiger,  
They finished the ride  
With the lady inside,  
And a smile on the face of the tiger.

We shall be pleased to offer a prize of one guinea for the best original Limerick, and two second prizes of half a guinea each. The theme is to have reference to a motor-car, motorist, club or association concerned with automobilism, and the matter must be original and not ill-natured.

The Limericks must be sent to the office of *The Motor-Car Journal* not later than first post on Saturday the 25th inst., on postcards, with the author's name and address clearly written.

The winning examples will be published in the same issue

of the *M.C.J.* in which the announcement of the award is made; and it is also our intention to publish a selection from the unsuccessful competitors. The Editor's decision will be final.

We give further examples of the Limerick as follows—not as patterns to imitate or deter, but merely as suggestions:—

A Commission by law was decreed  
Before which car-owners could plead,  
They said their full say,  
Waited many a day;  
And now! Good bye to the limit of speed.

There was a young policeman in blue,  
Who never had much work to do,  
But 'stead of a nap  
He worked a nice "trap,"  
Through which speedy motorists flew.

Duray's just won the big race,  
Sixty-six miles an hour was his pace;  
In the Grand Prix he struggled,  
And with tyres was troubled,  
But at last he has secured the first place.

## COMMENTS.



IN the early days of motoring stories of stray dogs being killed and the subsequent demands of alleged owners for compensation were plentiful. The practice grew awhile, and then seemed to cease. Latterly there has been quite an epidemic of dog killing, and many obviously fair-minded people have deplored the loss of favourite animals and the apparent callousness of some motor-car drivers. Motorists themselves have been among the complainants, and really ordinary courtesy should demand that drivers of cars who have been so unfortunate as to run over dogs should stop when requested. Major A. W. Collings, writing from Limpley Stoke, records that he was on the Glastonbury road, near Bridgwater, the other day, when a motor-car was driven over a dog with deliberate intent. Without adopting his suspicion of *malice prepense*, we do condemn the conduct of the passengers in the automobile, who are said to have turned round, and, when they saw the animal was killed, drove right ahead. Such action is reprehensible.

### The Army Motor Reserve.

We gladly give currency to the appeal made by Lieut.-Col. Mark Mayhew to owners of motor-cars that they should become associated with the Army Motor Reserve, the formation of which was notified in our last issue. Already the main features of this new branch of the regular army have been outlined, wherein it was shown, as Lieut.-Col. Mayhew rightly points out, that it is really only a reconstruction of the corps. Nothing is being destroyed, and the first motor corps ever formed in any army is now placed on a sounder basis, with the object of still further increasing its great usefulness. The constantly growing demands on the resources of the corps have rendered it essential that an effort should be made to augment

its numerical strength. There are a great number of motorists in the United Kingdom who have ample time at their disposal, and who, we feel sure, will readily respond to an appeal to render some service to their country. The headquarters of the Reserve are at 29, Sackville Street, Piccadilly, W.

### Improvement in Drivers.

Now that the evidence which was heard by the Royal Commission on Motor Cars has been published, some of the arguments and statements that led that judicial body to the conclusions at which they arrived are available for public discussion, and will doubtless be reiterated during the next few months. One or two important questions of automobilism are brought to the front, particularly in the evidence of Captain James, the Chief Constable of Northumberland. It is gratifying to know that he is of an opinion that the manners and ability of the hired chauffeur are now on the up-grade. In the early days of the motor-car movement, the driver of a motor-car was generally a mechanic straight from the workshop, who had no knowledge of traffic exigencies or the ordinary rules of the highway. Now motor-car drivers recognise that there are certain unwritten rules of the road which are required to be observed by all who wish to earn the good opinion of those who use them, whether on motor-cars or horse-drawn vehicles.

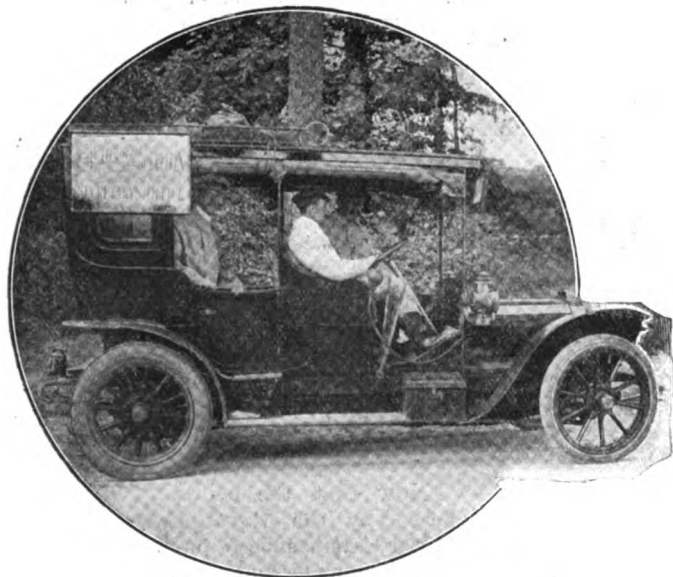
### The Value of the Industry.

ACCORDING to the Report of the Royal Commission, the capital invested in the automobile industry towards the end of last year was five millions sterling, and 17,000 men found employment therein. Since then the development of the motor-bus alone has enlarged those figures, while the activities of every maker of importance have rendered the estimate considerably lagging behind the actual figures. And if these statistics only refer to the car itself, what is to be said

of the subsidiary trades that have shared in the automobile prosperity? Tailors, certain branches of the leather business, lamp firms, and scores of accessory providers, have all benefited by the circulation of money that has followed the revolution lately effected in locomotion. That impending legislation is not likely to set back the tide of their success is a very satisfactory feature of the outlook. And then, in an incidental way, many other industries have been encouraged by the impetus given to the revival of hotels, and the necessity for improvements of the road. In fact, the automobile is responsible, more than is immediately recognisable, for some of the prevailing national prosperity.

#### Patrolling the Roads.

THE most ambitious task yet undertaken by the Automobile Association has excited great interest and attracted a rush of applicants for membership, which is already over 1,500. To cover 400 miles of road with cyclist patrols in order that motorists may drive to Scotland in comparative immunity from police interference involved careful thought and much tedious preparation. The "Office" car tackled this problem on the Thursday afternoon, when the secretary altered the



Inspecting the Automobile Association's Patrols on the North Road.

dispositions, and engaged extra scouts to the end that excessive speed on the part of unwary drivers could not pass unnoticed or unrestrained by the peaceful patrol. Through Nottinghamshire it was found that a broad-minded Chief Constable prefers his men to walk upright and on the road in view of the public they should, can, and do protect, and discourages the trapping system entirely; but in Yorkshire the scene was changed, and hurried re-organisation of patrols was again required. This done, the Pipe car turned for the South, a few score miles from Scotland, to meet Mr. Gibbons' 50-h.p. Itala, with Colonel Bosworth on board. This took place at the Doncaster Motor Garage, where Mr. Jackson had kept "open house" as a centre for receipt of telegraphed reports from several honorary inspectors. Colonel Bosworth took command, completed his inspection and reached Edinburgh on Sunday evening. His arrival there synchronised with the return to town of the secretary in his travelling office, which had passed through ten counties and over 700 miles of road in four days without mishap to the car, occupants or other road users. There are loud appeals for similar road patrolling during Doncaster race week, the motor traffic there being enormous. The A.A. scout, working peacefully on the road in full view of everybody, will be more useful than the local constable, the glory of whose trapping shines so brightly upon him that he must needs seek the shelter of a thick hedge.

#### Town Carriage Competition.

QUITE distinct from the ordinary touring vehicle is the class of automobile required for the purpose of Society in town. Hence the interest that will attach to the new Trial which the A.C.G.B.I. will hold on October 15th in order to encourage the production of well-studied cars and coach work for covered or semi-covered vehicles. There will be two classes arranged according to price, £600 being the boundary line; Class A being for those below that figure, and Class B for those beyond it. On page 535 we give the points which will be taken into consideration in making the award, and each of them will be judged separately, the vehicles being placed in order of merit under each head. A route of thirty miles will be selected for the purpose of the trial, and only a moderate speed will be expected. The cost of running will not enter into the calculations of the judges.

#### Dangerous Corners.

ANTICIPATING the operation of the suggestion of the Royal Commission that high hedges at sharp corners should be lowered, and that efforts should be made to ease the risks of motorists approaching unknown turns by improving the corners, the Roads and Bridges Committee of the East Sussex County Council has been giving the matter serious attention. More than that, some of the public-spirited landowners within the area of their jurisdiction have come to their assistance, and have consented to action being taken without legislative enactment being necessary. Colonel Rawson, for example, has given orders for the Bolney cross roads, which is one of the most dangerous crossways in the county, to be improved at his own expense. Owners of land adjoining the cross roads at Slaugham, Pitished, Berwick, Boddingham, and Muddleswood are also to be invited to consent to the corners being cut off the banks and hedges being lowered in the interests of public safety generally.

#### Courtesy.

ANOTHER aspect of the question of consideration for users of the road occurs to us in connection with the International Tourist Trophy race in the Isle of Man next month. The last date for receiving entries is the 27th inst., and most of the competitors have already familiarised themselves with the roads, of which, by the way, good reports are to hand. Hospitable Mona is a Sabbatarian island, and permission for the contest to be decided within the little island was accorded on the understanding that Sunday practising should not be indulged in—an undertaking which is likely to be enforced, as is also the speed limit of fourteen miles an hour to cars visiting the island.

#### Trials in Ireland.

WE understand that the trials which the Irish Automobile Club contemplate for next year have been provisionally fixed for June 28th, 29th, 30th, and July 1st. This early announcement may prevent a clashing of the event with the Scottish contest, as unfortunately happened this year, with the result that the trial in the Emerald Isle was somewhat obscured by the larger event in Scotland. Although no definite route has yet been fixed upon, a course of nearly 600 miles for the four days, including a speed test and some hill climbs, has been discussed. This will have to be arranged not only to secure a suitable route, but also to allow for suitable accommodation for those taking part in the event, and, unless this is well looked after, will be found an even greater difficulty than was the case in the Highlands of Scotland. It is suggested that for the first day the objective should be Portrush *via* Newry and Antrim. A circular route to Magilligan's Point and Cookstown and back to Dublin has been thought of for the second, and on the third day an interesting run by the Wicklow Hills through Avoca and Enniscorthy to Waterford will revive memories of

the tour which followed the Gordon Bennett race in Ireland three years ago. From thence the contestants will go back to Dublin via Carlow and Kilkenny. The Irish Automobile Club is taking the matter into very serious consideration, and, whatever is the result of their deliberations, it is hoped that British manufacturers will give them every encouragement, and so make their trial a real success.

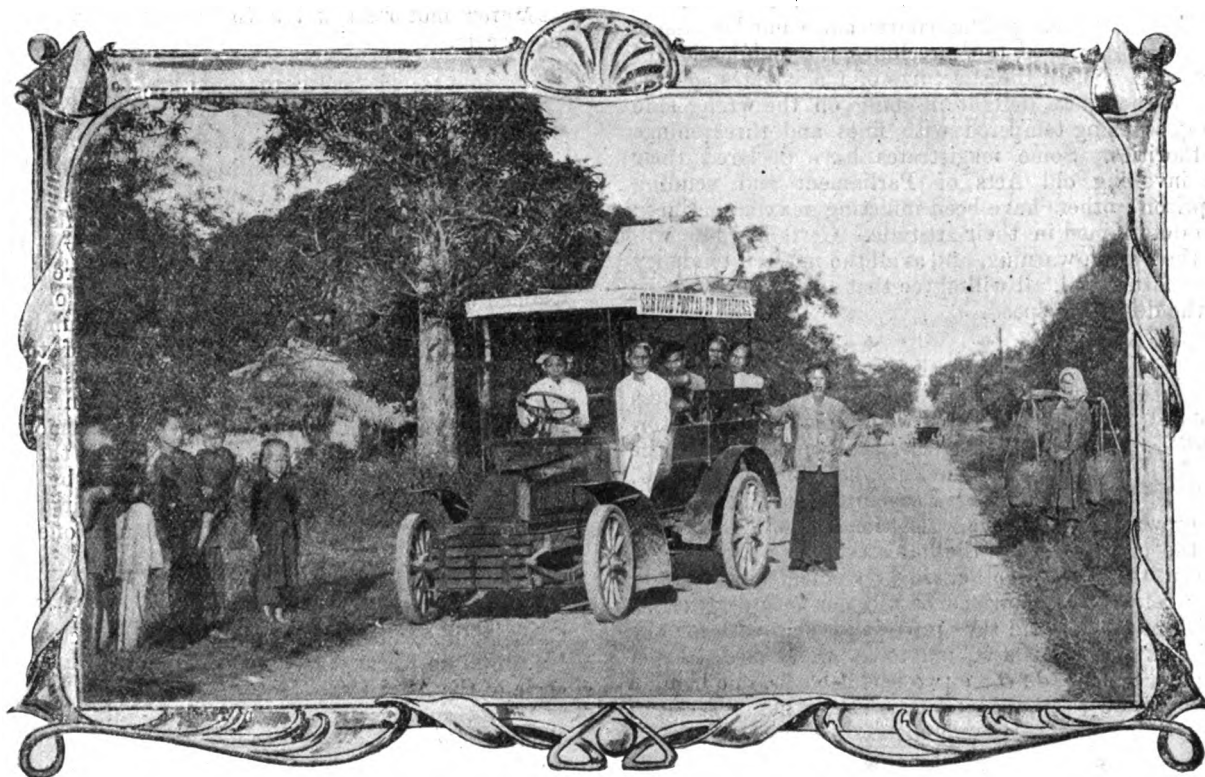
#### Railway Interest.

MENTION of the Irish Trials is appropriate in view of the statement made by the Hon. R. H. Nugent at the meeting of the Midland and Great Western Railway Company of Ireland last week, that the company has decided to open a motor garage at each of its hotels, and, although not inclined to regard with favour the motor-car as a competitor in their traffic receipts, is determined to cater for motorists in order to compensate in some little measure for the loss otherwise sustained. The railway companies continue to develop the working of motor-buses, and although the North-Eastern

receipts. Last half-year, for instance, the Great Western Railway Company carried 612,873 passengers by motor-car on the road.

#### Motor-Car Imports and Exports.

THAT the shrinkage in the imports of foreign motor-cars into this country which occurred in May last was a temporary one, due to the labour troubles on the Continent, is indicated by the returns for July, which show that the trade has once more resumed its normal condition. During last month no less than 582 cars, valued at £262,621, were imported into this country; parts were responsible for a further sum of £154,193, giving a combined total of £416,814, which compares with only £349,706 in July, 1905. As regards the imports during the first seven months of the current year, these have amounted to 3,799 cars, worth £1,561,883, and parts to the extent of £1,165,012, the aggregate of £2,726,895 contrasting with only £2,114,630 in the first seven months of last year, or an increase of roundly £612,000. Turning now to the exports



A Peugeot Car among the Natives in Cochin China.

Railway Co. is not making much money from their automobile traffic, the Rt. Hon. Lloyd Wharton, the chairman, has declared that the directors think it is the right policy, as it is by this means that the company is able to obtain compensation for the decrease of traffic receipts. There are now in active N.E.R. service seven motor-buses, sixteen motor wagons, and nine motor char-a-bancs. The Cambrian Railway Company has just made a successful start with a couple of motor-omnibuses between Pwllheli and Nevin, but they will doubtless find the steep gradients in their district a matter of some anxiety. At the Falmouth Chamber of Commerce it has been mentioned that the Great Western Railway Company intends to establish a motor-car service when they can obtain the necessary vehicles; and in Bedfordshire a meeting was held last week to discuss a proposal of the Midland Railway to run a regular motor service to collect milk and market garden produce from the villages. The point that must strike every observer is that each half-year brings with it growing evidence to the railway companies of the value of the motor-vehicle in compensating them for decrease in traffic

of British motor-cars and parts, these, during July, amounted to £54,131, an increase of £22,522. For the first seven months of 1906 the shipments comprised 577 cars, valued at £205,768, and parts estimated at £152,471, the total of £358,239 representing an increase of £162,460.

#### Change in Procedure.

THERE is added interest just now in observing the character of the cases against motorists in the police-courts, and that of the Hon. Geoffrey Howard, M.P., at Penkridge the other day, affords an illustration of a change in procedure suggested by the Royal Commission which is calculated to act more harshly upon the owner of the car than the present regulation. Three weeks after he passed through Weston-under-Lizard the motoring M.P. received a summons charging him with driving to the common danger. He attended the court, and testified that at that length of time from the occurrence he could not say who was driving—his chauffeur or himself. Neither could the police officers who were in charge of the trap

in which he was caught. Therefore the case was dismissed for want of identification. Now, should the recommendations of the Royal Commission become law, a dismissal in such circumstances would be impossible, for the owner as well as the chauffeur would be held liable to conviction, and so, we suppose, either or both might be convicted.

#### Another Association.

DURING the last few weeks we have received several circulars relating to a Dustless Road Association being formed in Birmingham. It is to be hoped that with the multitude of counsellors confusion will not result; the Roads Improvement Association and other organisations are already doing good work, and the proposed association, of which Mr. C. F. Vaughan, of Birmingham, is the hon. secretary, might well become a branch of the older association.

#### Off Side.

It is absolutely impossible for us to chronicle all the cases against motor-'bus drivers which have been heard in the metropolitan courts since our last issue. Space, too, precludes the publication of half the strictures of magistrates against the drivers of 'buses whose delight in going on the wrong side of the roadway is being tempered with fines and threatenings from the authorities. Some magistrates have declared their intention of invoking old Acts of Parliament and sending offenders to prison; others have been inflicting maximum fines; all have been determined in their attitude. Certainly few will quarrel with their stern warning, and as all the modern tendency is in favour of fast travel, all will agree that safety must not be sacrificed in the desire for speed.

#### Automobile Handbooks.

OUR bookshelves are being rapidly filled with volumes of more or less practical value with regard to the motor-car. This week's accessions are all of the commendable kind, headed by Mr. R. J. Meekedy's "Encyclopædia of Motoring," which has grown out of the "Dictionary of Motoring," published in the earlier days of the industry. The idea of the work has been to bring together in convenient form, easily accessible for reference, definitions of all the technical terms associated with motorism, and thus provide a guide both for the novice and the expert. It is a volume to be commended. From Messrs. Iliffe and Sons, Ltd., come two useful books, one being a "Handbook or Guide to the Motor-Car," the other a series of "Useful Hints and Tips for Automobilists."

#### The 'Bus Driver.

MUCH of the romance is going out of the lives of the people with the growing encroachment of mechanical things on the business and the pleasures of this workaday world. There was a splendour and a vim about the old stage coach, with its spanking horses and its halo of excitement, that is absent from its successor that runs on rails, and we are not wholly disposed to believe that even the motor-car will adequately restore the gaiety of those pre-Victorian days. And now the motor-cab is to enter into competition with the jaunting car, and the ancient 'bus driver, with his shiny silk hat, who was wont to form an intermediate link of conversation between all sorts and conditions of men, is to be relegated to the limbo of forgotten worthies. He will be but a memory, and, like many of the characters of Dickens, a relic of the past; or, to be more correct, the passing. The old-fashioned 'bus driver was proud of his horses, of his loquacity, and of his seat of eminence amid the common traffic of the town. But the new driver knows no such elevated view; he more often looks to the ground than the sky, and his place is a secluded spot between the passengers and the engine, right out of sight and sound, so far as the passengers

are concerned. No new race is coming along that will continue the old conditions that have given the 'bus driver a popular place in the public esteem.

#### "Trust Hotels."

WE have received a list of the hotels under the management of the Trust Companies, recently formed as a result of Earl Grey's propaganda on behalf of his scheme of "disinterested management." In addition to being merely a list of such places in the Home Counties, some of the historical notes will be of interest to Southern motorists. In Surrey there are seven hotels under the management of the County Public House Trust Company, and these include that at Burford Bridge, which was a favourite resort of Nelson, and where Keats wrote his "Endymion." Grayswood, Ockley, and Wisley have hotels belonging to this trust, all being provided with motor garages and petrol stores. At Puttenham, between Guildford and Farnham, on the main Hog's Back road, is another inn with ample accommodation for motorists; in fact, this seems to be one of the features of these Trust establishments, viz., that they cater for motorists and have plenty of accommodation for motor-cars.

#### In the Cape Colony.

WHILE Imperial legislators are digesting the proposals of the Royal Commission as a first step towards future regulation in Great Britain, the members of the Cape House of Assembly have been dealing with proposals definitely made as the basis of new legislation in that colony. The Bill before them provides that every motor-car shall be registered with the Council of the division in which the owner of the car resides, and every Council shall assign a separate number to each car. A mark indicating the registered number of the car and the Council with which the car is registered must be affixed to the car. A fee of £1 will be charged by the Council for the registration of cars and 5s. for the registration of motor-cycles. The question of a speed limit is left open, but the punishment for exceeding the limits of reason, as defined by either police or public, is a fine not exceeding £10 for the first offence and not exceeding £20 for the second or subsequent offences.

MR. S. MERCER has purchased the sole rights in the Ailsa Craig Motors, and will carry on the manufacture of the same at his new works at Strand-on-the-Green, Chiswick, under the style of the Ailsa Craig Motor Company.

THE speed indicator entered by Mr. R. B. Kirby in the Automobile Club's speedometer trials, and for which he was awarded a special gold medal for excellence of design, accuracy, and workmanship, was one of Messrs. S. Smith and Sons' pattern with certain improvements designed by him. The judges placed this indicator first in order of merit, but the Automobile Club Committee properly ruled that, as the "Kirby" was an experimental instrument, they could not, therefore, give an award on the same basis as the other indicators. The improvements on the present indicators carried out by Mr. Kirby will be embodied in all Messrs. S. Smith and Son's instruments.

CALLING in at the depot of the Farman Automobile Company, Ltd., in Long Acre, W.C., the other day, we had an opportunity of inspecting the chassis of the 28-h.p. Zusta car, which had just arrived, and for which they hold the British agency. An illustration and brief description of the vehicle, which is of Italian construction, was given in the *M.C.J.* of May 19th last, but we may add that while, generally speaking, the design of the new car follows the lines adopted in the well-known Mercedes type, there are many points of interest comprised in it, the adjustment of the rear brakes being particularly neat. The flywheel, the arms of which are made to act as a fan, is of extra large size, while the change-speed gear is of the type giving a direct drive on top speed through a separate pair of bevel pinions to the differential shaft.



## THE CIRCUIT DES ARDENNES RACE.

BASTOGNE, Sunday.

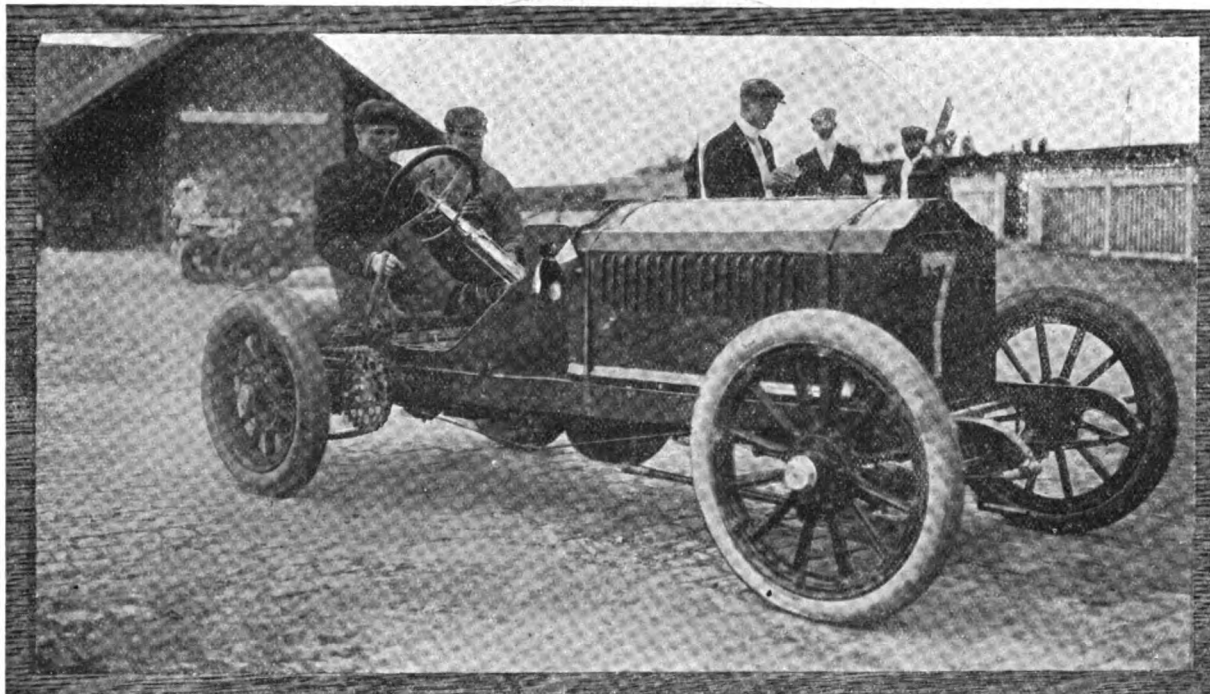
Great excitement prevails here in anticipation of the annual Circuit des Ardennes race, which is to be held to-morrow. The weighing-in operation took place to-day in the goods yard of the local railway station, the scene being an animated one. Thirty entries were received for the event, but the Panhards, Hotchkiss, the Gobron, and two of the Gregoires were withdrawn, leaving a total of twenty-one. Of these, all but two duly put in an appearance, the absentees being Foxhall Keene (Mercedes) and Pilette (Gregoire). The latter went out for an early spin this morning, and met with a nasty skid near Longlier. The car collided with a wall and was damaged, while Pilette sustained a broken arm and other injuries. In the 1905 event there were fourteen competitors (thirteen heavy cars and one light racer), and in the 1904 race twenty-eight.

With one exception, all the competing cars took part in the recent Grand Prix race. The exception is the Corre, of which illustration is given on page 525, and which will be driven

the contest. No soldiers being available for the guarding of the course, railings have been erected at all the dangerous points and an excellent medical service has been arranged, a doctor being stationed at every ten kilometres. The start will take place at 7 a.m., the competitors being despatched at two minutes' intervals. The appended table shows the order in which the competitors will be despatched, this having been decided by ballot:—

Order of Startg.	Driver.	Car.	Order of Startg.	Driver.	Car.
1.	d'Hespel	60-h.p. Corre.	13.	Hanriot	125-h.p. Darracq.
2.	Hemery	125-h.p. Darracq.	14.	Garcet	125-h.p. Clement-B.
3.	A. Clement	125-h.p. Clement-B.	15.	Salzee	120-h.p. Mercedes.
4.	Jenatzy	120-h.p. Mercedes.	16.	Pierry	110-h.p. Brasier.
5.	Barillier	110-h.p. Brasier.	17.	Gabriel	120-h.p. De Dietrich.
*6.	Pilette	70-h.p. Gregoire.	18.	Demogeot	125-h.p. Darracq.
7.	Duray	120-h.p. De Dietrich.	*19.	Foxhall Keene	120-h.p. Mercedes.
8.	Wagner	125-h.p. Darracq.	20.	Bablot	110-h.p. Brasier.
9.	Villemain	125-h.p. Clement-B.	21.	Sorel	120-h.p. De Dietrich.
10.	Mariaux	120-h.p. Mercedes.			
11.	Baras	110-h.p. Brasier.			
12.	Rouglie	120-h.p. De Dietrich.			

\* Non-starters.



Duray, the Winner of the Race, at the wheel of his De Dietrich Car.

by Count d'Hespel. This is the first racer built by the Corre Co., and is fitted with an engine having four cylinders 150 mm. bore by 150 mm. stroke, constructed by Messrs. Farcot Freres. Although nominally rated at 60-h.p., it will, of course, develop a much greater power. Three speeds forward and a reverse are provided, the transmission being by a cardan shaft and bevel gear on to a live axle. As a result of the experience gained in the Grand Prix race, it is not surprising to find that the majority of the competing cars are provided with *jantes amovibles*, or detachable rims, they being fitted to the Clement-Bayard, Mercedes, Brasier, De Dietrich, and Corre vehicles.

The circuit over which the contest is to be held measures 86.7 kilometres (53½ miles), and as it has to be covered seven times, the total distance is, roundly, 600 kilometres, or 375 miles. The starting point is at Bastogne, where a grand stand has been erected, and the chief places on the route are Longlier, Habay-la-Neuve, Corne du Bois des Pendus, and Martelange. There are no controls or neutralisations, so that it will be possible for the competitors to cover the whole 600 kilometres without a stop. A maximum of seven hours is allowed for the race, any competitor occupying more than that time being held to be out of

## THE RACE.

BASTOGNE, Monday.

The start of the great race duly took place this morning, Count d'Hespel, on his Corre, being the first to be despatched. The only change from the programme was that Burton took the wheel of the Mercedes (No. 10) in place of Mariaux, who was unwell. Hemery (No. 2) was the first to complete the first round, but his pace was not so fast as the majority of the competitors. The best time for the lap was made by Wagner (No. 8), who covered it in 45 min. 29 sec., Salzer (No. 15) being second in 47 min. 15 sec. Altogether seventeen finished the round, the missing ones being Count d'Hespel, who broke a pinion on his Corre car, and Baras (Brasier), who abandoned owing to rim troubles. The second lap was interesting, as it witnessed a struggle for the 100-kilometre record. This fell to Wagner (Darracq), his time being 52 min. 49 sec., as against a previous best, held by himself, of 55 min. 18 sec. Duray made the fastest time in the second circuit, 46 min. 18 sec., a performance which brought him into first place, from which, as the result proved, he was never displaced. Those who retired at this point were Burton

(Mercedes), owing to change-speed lever troubles; Pierry (Brasier), pump troubles; and Demogeot (Darracq), owing to a broken dumb iron. The fastest lap of the day was the third one, which was covered by Jenatzky in 44 min. 37 sec. Duray still led, but only by a minute, Hanriot being close on his heels. The number of competitors was reduced to thirteen, Hemery having retired on account of pump and clutch difficulties. The fourth and fifth rounds saw no change in the first three places, held respectively by Duray, Hanriot, and Clement. In the sixth round the latter had trouble, falling back to seventh place, while the chances of the Brasier team were further cut down by the retirement of Bablot, whose change-speed gear somehow went wrong. In the last round Hanriot made a big effort to overhaul Duray, as will be seen by the fact that he reduced the latter's lead from four to less than two minutes. The fight for the third place between Barillier and Rougier was also exciting, the De Dietrich driver gaining the place by only 16 sec. The appended table shows the total times of the twelve competitors who finished:—

Order.	Driver.	Car.	Time.
			H. M. S.
1	...	Duray	5 38 39
2	...	Hanriot	5 40 21



The Scene at the Weighing-in at Bastogne.

3	...	Rougier	...	De Dietrich	...	5 50 11
4	...	Barillier	...	Brasier	...	5 50 27
5	...	Gabriel	...	De Dietrich	...	5 52 14
6	...	Clement	...	Clement-B.	...	6 2 55
7	...	Sorel	...	De Dietrich	...	6 4 38
8	...	Wagner	...	Darracq	...	6 14 46
9	...	Salzer	...	Mercedes	...	6 14 50
10	...	Jenatzky	...	Mercedes	...	6 15 9
11	...	Villemain	...	Clement-B.	...	6 32 40
12	...	Garret	...	Clement-B.	...	6 51 37

Duray's average speed works out at 106 kilometres or 66½ miles per hour. In last year's event, which was won by Hemery on a Darracq, the winner's time was 5 hr. 58 min. 32 sec., or an average of a little over 63 miles per hour; while in 1904 the contest was won by Heath on a Panhard, in 6 hr. 30 min., or about 57 miles per hour. The event was a victory for the De Dietrich firm, for not only did Duray win, but all the four cars entered finished the contest, securing first, third, fifth and seventh places. The Clement-Bayard team of three machines also went through the race successfully.

A MOTOR torpedo-boat built by Messrs. Yarrow has been inspected by the King in the Solent.

## USEFUL NOTES.

THERE is sometimes a doubt, in the case of a new car, as to which is early or late firing. It should always be remembered that when the contact-breaker is moving in the direction the cam-shaft turns it is moving to "late-firing."

WHEN new cars are brought away for the first time from the works there are usually several little troubles, but by far the most common one is dirt in the carburettor, and as soon as irregular running commences it is as well to take the cover off the carburettor and see if there is any dirt.

A CHATTERING brake is a great nuisance, and often puzzles many people. There are two things which cause a brake to chatter: (1) Badly fitting on drum, and touching unevenly when on; (2) loose connections where it is anchored. The remedy in both cases is obvious.

THE bearings—in plain bearing cars—of the countershaft bracket of a chain-driven car usually show wear as soon as any part, and it is a good tip before replacing them to turn them

round. It is obvious that, owing to the pull of the chain, the wear comes in one place, and consequently by simply turning the bush round it has a new lease of life.

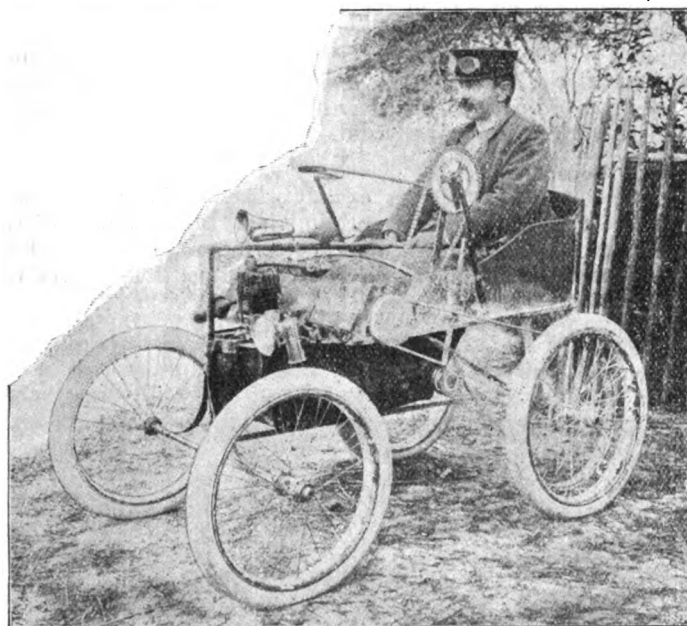
SOME motorists run the sprockets of their chain-driven cars with scant attention, and find eventually that wear has taken place, and that all the teeth are pointing one way, just like a ratchet wheel. It should be noted that, bad as they are, they need not be scrapped, as by changing them over another 1,000 miles, at least, can be got out of them.

SOME clutches, particularly those with broad leathers, are always fierce, in spite of continual dressing. There is, however, a positive cure that is worth knowing. The clutch must be removed, and small flat springs about three inches long should be fixed under the leather in front, i.e., at the nose of the clutch. Three or four of these are required, according to the size of the clutch. These springs can easily be arranged so that they are secured in their centre by one of the clutch leather rivets. The idea of the arrangement is that the springs push the leather up slightly in front, and so allow the nose of the clutch to engage first.

## CONTINENTAL NOTES.

## A Cripple's Motor-Car.

Filled with a desire to enter the ranks of motorists, an ingenious watchmaker of the name of Utikal, of Krelov, near Olmutz, Moravia, who is unfortunately lame on both his legs, has recently built for himself the little car illustrated herewith. The motive power is supplied by a Laurin-Klement 1½-h.p. air-cooled engine, which drives through gearing on to a counter-shaft, and thence by a belt on to a pulley connected with one of



the rear wheels. To start the engine, and also to assist it in climbing hills, the driver is provided with a double-crank handle which operates the chain drive seen in the picture. Steering is effected by means of a tiller, while a hand lever at the side works a jockey pulley, by means of which the belt is slackened and the engine put out of gear. The whole machine weighs less than 1 cwt., and Herr Utikal not only uses it locally but also undertakes long journeys on his novel little car.

## A German Light Car Trial.

The German Motor Cyclists' Union of Munich is organising a reliability trial for light cars for the 23rd, 24th, and 25th inst. The vehicles will be divided into classes on a price basis as follows:—Category 1, from £180 to £250; Category 2, £130 to £175; Category 3, cars up to £125; and Category 4, motor tri-cars and side-cars. On the first day the run will be from Gotha to Luneburg, over a 319 kilometre course; on the 24th inst., from Luneburg to Bielefeld, via Hanover, 244 kilometres; and on the 25th inst. from Bielefeld to Cologne, via Essen, 242 kilometres. The total distance to be covered is thus about 500 miles. On the second day the maximum speed of the competing vehicles is to be timed over a measured distance.

## The Coupe de "Matin."

The reliability trial for the Coupe du "Matin," which started on the 2nd inst., is still in progress. With the arrival at Biarritz on the 10th inst., which completed the ninth stage and the 1,918th kilometre of the tour, the competitors had been reduced from forty-nine to thirty. Unfortunately but little interest is being taken in the event. So far as can be learned there were, on the arrival at Biarritz, sixteen cars without penalisation, and fourteen with a greater or less number of points against them. The two Siddeleys, in the category for four-cylinder cars, max. bore 140 mm., had lost 24 min. and 2 hr. 40 min. respectively. On the 11th the run was to Pau, 170 kilometres, on the 12th to Bagneres-de-Luchon, 137 kilometres, and on Monday, the 13th inst., to Carcassonne.

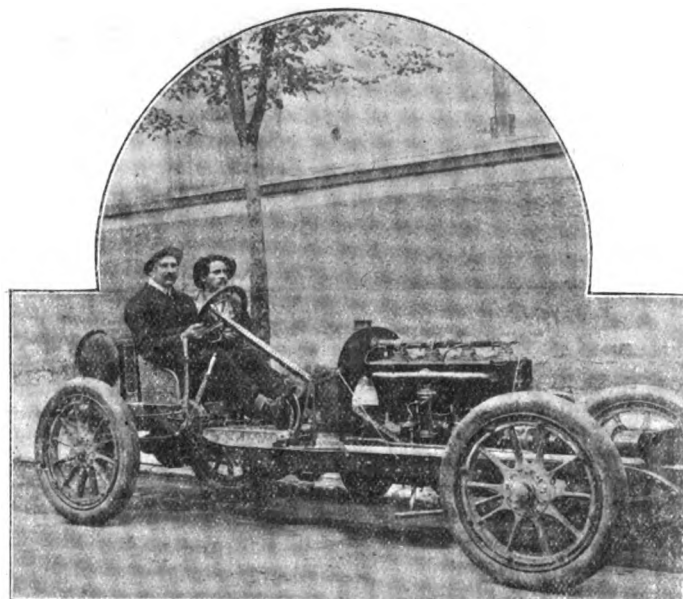
## The Liedekerke Cup Contest.

The contest for the Coupe de Liedekerke, organised by the Automobile Club of Belgium, was held on Tuesday on the Ardennes Circuit, five laps of which had to be made, giving a total of, roundly, 268 miles. The contest is open for fully-equipped touring cars having a maximum cylinder capacity of 3½ litres—equal to about 24-h.p. While Belgian car builders were conspicuous by their absence in the Circuit des Ardennes race, they were well to the front in the Liedekerke contest, as will be seen from the following table, which shows the competitors and their order of starting:—

Order of Starting.	Car.	Driver.
1 ...	Metallurgique	Wilhelm.
2 ...	Germain I.	Baron de Caters.
3 ...	Minerva I.	Barbasson.
4 ...	Aries I.	Baron Petiet.
5 ...	Pipe I.	Hautvast.
6 ...	Vivinus I.	Fischer.
7 ...	Metallurgique II.	Baron Reinhardt.
8 ...	Germain II.	Ohlendorf.
9 ...	Minerva II.	Porlier.
10 ...	Aries II.	Coquar I.
11 ...	Pipe II.	Jenatz.
12 ...	Vivinus II.	Kuhling.
13 ...	Metallurgique III.	Bruckhardt.
14 ...	Germain III.	Perpere.
15 ...	Minerva III.	Jacobs.
17 ...	Pipe III.	Kinet.
18 ...	Vivinus III.	Baron P. de Crawhez.

The start was fixed to take place at 4 a.m., the competitors being despatched at minute intervals.

As we go to press we learn that the race was won by one of the Metallurgique cars, which are of the standard 24-28 h.p. type, in 5 h. 27 min., the average speed working out at about 49 miles per hour. Last year the event was a victory for Hautvast, on a Pipe, in 6 h. 51 min. 12 sec., an average of nearly 39 miles.



The Circuit des Ardennes Race. Count d'Hespel on the new Corre Racer.

## Miscellaneous Items.

The trophy known as the Coppa d'Oro, which was won by the Fiat Company in the great Italian reliability contest in the spring, no longer exists, it having been destroyed in the recent fire at the Milan Exhibition.—Some experiments with motor-cars in the collection of letters are about to be made by the postal authorities at Gratz, Bohemia.—The special prize presented by the King of Italy in the Motor Omnibus Competition which has been in progress at Milan for two months, and which terminated on the 31st ult., has been awarded to the Darracq-Serpollet steam omnibus.

## SOME CURRENT TOPICS.

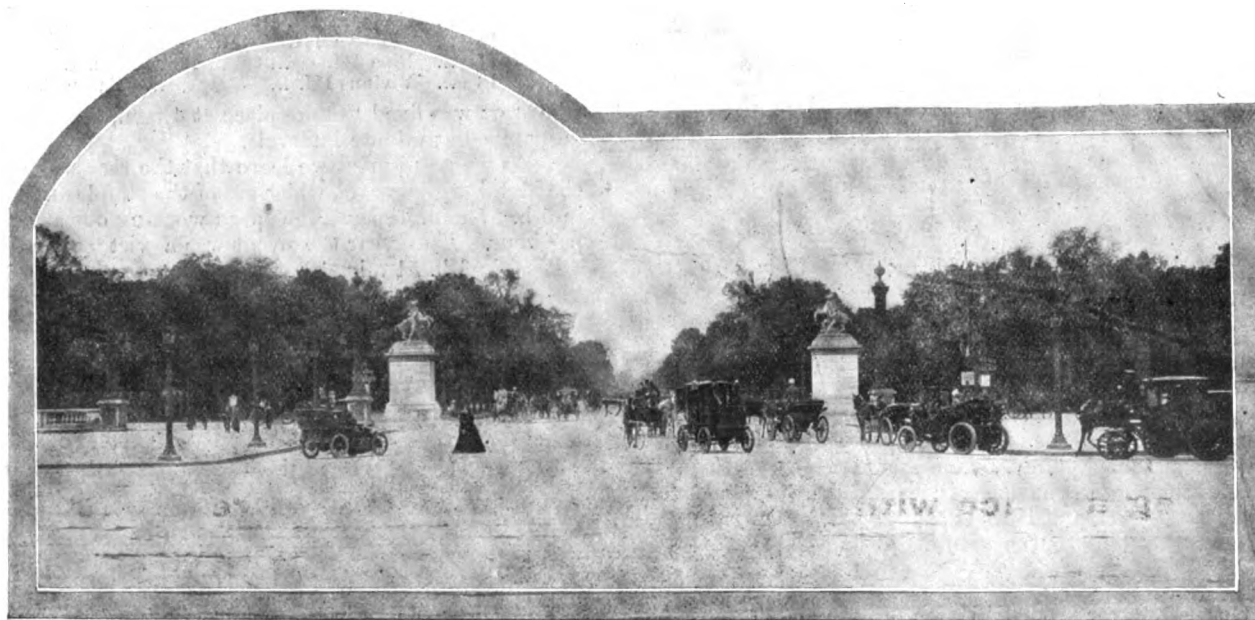
### The Dust Nuisance and the Construction of Roads.

At the final meeting of the Engineering Section of the British Association at York last week an interesting paper was read by Mr. Douglas Mackenzie on "Waterproof Roads as a Solution of the Dust Problem." The author contended that there was only one solution of the problem which was satisfactory and permanent, and that was to have a road made of proper dustless material. The foundations of roads should be so strengthened as to be immovable even by the heaviest traffic. Then the surface, which ought to be perfectly smooth as well as waterproof, would be less likely to crumble. The result of this would be a reduction of the highway rate, because of the lengthened life of such properly made roads. Painting by distilled tar, which had been recommended as a solution, was at the best only a palliative. It was desirable to have very

miles one can run on a gallon, and whether the vehicle is performing as well as usual. Sudden changes of condition in the car, evident losses of power, manifested in decreased speed and hill climbing power, are readily noticed as they occur and may usually be traced to their sources by characteristic symptoms. On the other hand, the gradual deterioration in the condition of a motor-vehicle which comes about through extensive use may be hardly noticeable from day to day, but may amount to a very material difference in the quality of its running during a period of several months. The loss of power may have been so gradual during the period that the increased consumption from day to day has been imperceptible, but, in point of fact, the additional amount of petrol required may be very considerable. Very often a motorist is quite impressed with the speed and power of his new car, but after a little while he becomes used to it, its capabilities seem more ordinary to him, and he often thinks it is not doing as good work as it originally did.

### Keep a Record.

If, however, he knows exactly what was his mileage and fuel consumption during a certain trip at the beginning of the season, he has a measure of the car's performance with which he can at any time compare its later condition, if he drives the



Motoring in France—The famous Champs-Élysées, Paris.

exhaustive tests made in continuous lengths of road and under identical conditions as to traffic. This would afford data as to the cost and life of road materials, and in that way the best material would be determined. Arrangements had been almost completed for such a trial to be made on one of the roads of the county council near London. In the districts where roads had been painted with tar the greasy mud which arose from the tar paint was far worse for side slips than anything else which motors had had to encounter, and it had a deleterious effect on cars and carriages. It also treaded into the house and ruined mats and carpets, while household linen acquired a colour which no washing would remove. The cause of that was that the tar adhered to the dust which was already on the road, and in due time, under the influence of the weather, particles of the tar in the dust found their way into the houses.

### Fuel Consumption as a Criterion of a Car's Condition.

The expense entailed for petrol is so small a factor in the total cost of running a petrol car that, as a rule, motorists do not keep a very close record of the rate at which it is consumed in regular use. Nevertheless fuel consumption furnishes a valuable indication of the condition of a car, for it will show the number of

vehicle over the same route under as nearly as possible the same conditions. If the later test shows a greater consumption of petrol he may be sure that the car is in some way not so well "tuned up" as it was at the time of the first run. In this connection the table of the results of the Scottish Reliability Trials, given in the *M.C.J.* of August 4th, will be found to afford some useful information, one column showing the fuel consumption in miles per gallon of the competing cars during the test, which extended over a distance of, roundly, 670 miles. Motorists owning vehicles of any of the types which took part in the competition thus have a means of comparing their fuel consumption, and of ascertaining whether they are obtaining economical results from their own particular machine. At the same time, the very hilly nature of the course followed in the trials in Scotland must not be overlooked, so that in the case of a car used in a fairly level district it should show even a better mileage than that obtained in the event referred to above.

MESSRS. FRANK LITTLE AND Co., 19-21, Westgate Road, Newcastle-on-Tyne, are anxious to communicate with manufacturers of two and three-ton three or four-cylinder motor lorry chassis, designed to meet their special requirements.



MR. H. SEYMOUR, of Norfolk Lodge, Cobbs Hill, near Bexhill-on-Sea, sends a prospectus of a motor-racing track suggested at that seaside resort.

A RULE has been made by those responsible for the management of the King's motor-cars that no vehicle is to remain unused for any length of time, so that the risk of breakdown through inattention to details may be obviated.

THE Weights and Measures Committee of the East Sussex County Council is about to hire a motor-car for the use of its officers, by way of experiment.

MESSRS. THORNYCROFT AND CO. have instructed "The Motor House" to dispose of their stock of 1905 and other models, as they are desirous of making room for their new patterns.

A MOTOR-CAR—a double-cylinder Darracq—valued at £375, belonging to Mr. Hodge, of The Homestead, Bishop's Avenue, East Finchley, has been stolen from a private garage in Baronsmere Road. Mr. Hodge has offered a reward of £50 for the discovery of the thief.

THE operation of cutting wheat at night with a motor lighted by acetylene lamps has been performed on Mr. G. Pope's farm at Biggleswade. A good crop was cut by the Ivel agricultural motor, which hauled two binders at one time and cut thirty-two acres in rather over thirteen hours.

THE Portsmouth road has, now that police traps have been nearly abolished by the scouts of the Automobile Association, many attractions for motorists, who will be interested in the handbook by Mr. C. G. Harper just published by Messrs. Anthony Treherne and Company as a companion volume to that on the Brighton road, recently noticed in our columns.

MR. CHANDOS ELLETON, of Porro Hall, Knott End, was motoring towards Lancaster when the car ran into a swarm of bees. The chauffeur being stung, took his hands from the steering-wheel in order to knock the bees from his face, the result being that the car swerved upon the footpath and collided with a lamp-post. The car was damaged, but the occupants escaped injury.

THE "Mentor" is a classified vocabulary of "words and verbs" in the French language, by Mr. G. B. Wilmot, who acknowledges that the book "explains nothing." Otherwise we should have asked whether "Verbes at the infinitive" is good or bad English, and whether "pardessus" is really the French for "top hat," as the author suggests. Messrs. W. Cuthbertson and Co., of Edinburgh, are the publishers of the little volume, which will require some revision for the next edition.

THE 14-h.p. Pope Tribune car, for which the Civil Service Motor and Cycle Agency, Ltd., are the British agents, is being fitted with an ingenious design of automatic oiler. The device, being mechanically operated off the engine, does not require any attention on the part of the driver, and it is so made that the flow of oil can be exactly regulated to the requirements of the different bearings, so that the possibility of over-lubrication is entirely avoided. The faster the engine and bearings are running the greater the flow of oil, and when the engine stops the supply of oil also ceases. Furthermore, as the oil is absolutely forced into the bearings, there is no danger of insufficient lubrication.

AN extraordinary attack by five men on Captain C. J. Lynch, of Parkgarraffe House, Monkstown (Ireland), who, with Mrs. Lynch, her sister, and a chauffeur, was motoring near Macroom on Tuesday, is reported. The attack occurred while Captain Lynch was changing the accumulator, and he and the chauffeur were badly beaten. Mrs. Lynch and her sister pulled off some of the assailants, and Captain Lynch rushed to the motor-car and got his revolver, when four of his assailants ran into a house. Three policemen were brought by the chauffeur in the motor-car from Macroom, while Captain Lynch kept guard over the house. Three of the men were arrested, the others having escaped.

## HERE AND THERE.

THE Duke of Connaught was riding in a car hired from the Monmouth Motor Car Company on the occasion of his recent accident.

WE regret to hear of the sudden death of Mr. Graham Notley, of the Waterloo Motor Works, Chicheley Street, London, S.E. The business is, we learn, to be carried on as a limited liability concern, under the management of Mr. Colin Defries.

MR. PERCY LINDLEY'S beautifully illustrated "Summer Holidays" is a cheerful guide to the places of pleasant resort reached by the service of the Great Eastern Railway Company. It is thus a companion to those who tour in the eastern counties, and will be appreciated by a wide circle of readers.

WE are now able to give an illustration of the new Argyll cab which, as stated in our last issue, has just been subjected to a run from Glasgow to London. The vehicle, which has a wheel base of 6 ft. 6 in. and a track of 4 ft. 4 in., is fitted with a 14-16-h.p. Argyll four-cylinder engine, the cylinders being 90 mm. bore by 120 mm. stroke. The cab is geared to twenty-two miles per hour, and on the way from Glasgow an average speed of eighteen miles per hour was maintained. As will be seen from the illustration, the driver's seat is arranged above the



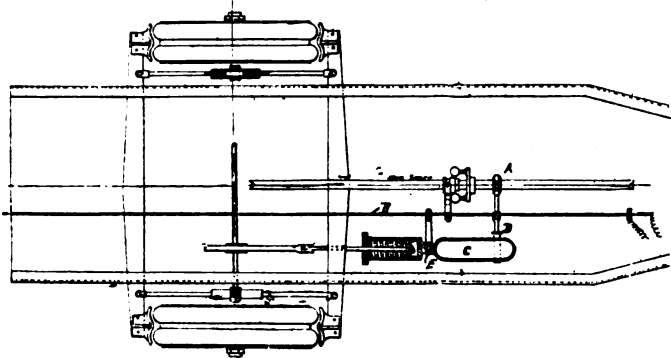
engine; the seat and floor boards can be readily removed to permit of free access to all the mechanism. The cab itself is comfortably seated for four persons and can carry five without inconvenience, while in addition the roof is arranged for luggage. A feature of the upholstery is that the whole of the trimming can be removed to permit the body to be readily cleaned and disinfected, a necessary point in connection with public service vehicles. The cab has been submitted to a London Syndicate, which proposes to test it, and, if found successful, will place a large fleet of these vehicles in service on the London streets.

AT their new depot at 161, Castelnau, Barnes, Messrs. Boon and Porter, in addition to garage work, are now able to carry out all classes of repairs to motor-cars, a number of special machine tools, electrically-driven, having been installed for the purpose. The premises are opened day and night, and a large stock of petrol, greases, motor accessories, and tyres is being kept on hand.

A NEW motor horn or alarm has lately been put on the market by Cairn's Patents, Ltd., of Alderman's House, London, E.C. It is arranged to be operated by means of the foot, and consists of a small pump or bellows located under the footboard and actuated by a small push button; it is so arranged that it can be connected up to any ordinary horn, or is supplied complete; one of its great advantages is that it leaves the driver's hands entirely free.

THE New Century Company has opened a repairing depot for motor-cars at 8, Greville Street, Holborn, E.C.

IN our last issue we briefly referred to a self-acting safety brake for motor-buses which is being introduced by Messrs. Ellis and Taylor, engineers, Southend-on-Sea. We are now able to give an illustration of the arrangement, from which it will be seen that the brake is adapted to act automatically on the tyres of the rear road wheels of a runaway bus or other vehicle. It can also be used by the driver in emergency by slight foot pressure, or by the conductor or other person at the rear of the vehicle by a gentle bell pull, the engine being at the same time stopped by the automatic switching off of the ignition.



Although the device can be arranged to suit any type of vehicle, the illustration shows the design adopted for use on motor-buses in which the transmission is by a cardan shaft. It will be seen that an eccentric A mounted on the latter actuates a pump B, which compresses air into the cylinder C. Between the latter and the plunger, by means of which the brakes are applied, is a tap E that can be opened through the lever D either by pedal by the driver, by a bell push by the conductor, or automatically by a centrifugal governor on the shaft. The governor is so arranged that it can be set to come into action at any speed.

AT the meeting of the London Road Car Company, on Tuesday, Mr. J. H. Moore, the chairman, referred to the smell of the motor-bus as "a new one, to which we had not yet become inured."

AT the concluding meeting of the Engineering Section of the British Association's gathering at York, Mr. Douglas Mackenzie read a paper in condemnation of the usual methods of road making.

A MOTOR ambulance fitted with a 12-14-h.p. Cottureau motor has been supplied by Messrs. Wilson and Stockall, of Bury, to the Purdysburn Fever Hospital at Belfast. It has accommodation for two recumbent patients. The ambulance is fitted with Gaulois tyres.

THE advance in the price of petrol which has lately occurred suggests the necessity of the organisations interested in the automobile movement taking counsel with their members as to the future of the industry. Compared with the rates ruling two years ago the present prices show a considerable increase.

ON Thursday last week the Rykniel Motor Company, Ltd., of Burton-on-Trent, gave a demonstration in Leeds of the braking capacity of their 40-50-h.p. motor-bus, both on the level and on hills. A large party left the Queen's Hotel in the vehicle recently delivered to the Silsden Motor Omnibus Co., Ltd., for a run through some of the heaviest traffic to be found in Leeds, and the ease of manipulation, the rapidity of picking up speeds, and the power of the brakes created a most favourable impression. After lunch, an excursion into the country was made. The route lay along the Headingley Road, and the vehicle climbed the long rise in excellent style. Before reaching Otley the main road was left, and the steep Poole bank descended. All the brakes were tried in turn, and each proved fully capable of holding the heavy vehicle on the steepest gradient. On the return journey, by the Chevin bank, a good impression was caused by the bus surmounting this long pull on top gear at a speed fully up to the legal limit.

AN egg-collecting society in Suffolk intends to adopt the motor-car in its work next year.

A "LONDON MOTOR-BUS GUIDE" has been published by Messrs. Spicer and Co., Southampton Street, Strand, W.C.

UNDER the title of "The Brooke Car of Silent Speed" Messrs. J. W. Brooke and Co. have just issued a catalogue of their new 25-h.p. six-cylinder car.

THE members of the A.C.G.B.I. have been enjoying the hospitality of the Devonshire Club, their own premises in Piccadilly having been closed for cleaning and renovating.

THE Continental Tyre and Rubber Company have issued a 1906 edition of their "Continental Handbook for Motorists." The Gazetteer section seems to be very complete, and the map showing British roads is a useful feature of what has become a standard publication.

THE motor-bus delivered by the Maudslay Motor Company to Sir Marcus Samuel, to which reference was made in a recent issue, is fitted with Continental 930 by 150 mm. round tyres to the front wheels, and the rear pair are shod with 1,035 by 165 mm. steel armoured non-skid tyres of the same make.

AN automobile bridge, stated to be the first of its kind, has recently been erected by the Roswell-Torrance Mail and Passenger Stage line, in New Mexico, to span the Macho, a creek on the route. The bridge is so constructed as to prevent the passage of cattle, consequently there is no floor, the cars crossing by means of narrow tracks like troughs, one on each side.

QUITE a stud of racing cars may be seen at "The Motor House," Euston Road, London, N.W., just now. Included in the display are the 110-h.p. Star that twinkled brilliantly in the Circuit Ardennes; the 90-h.p. monster of the same make whose record boasts fourth place in the Gordon Bennett Eliminating Trials in the Isle of Man; a 90-h.p. Darracq racer, a 60-h.p. Fiat, and a 60-h.p. Mercedes.

A NEW concern—Commercial Cars, Ltd.—has established works at Biscot Road, Luton, for the construction of industrial vehicles. For the present attention is being centred on a chassis to carry either a lorry body of  $3\frac{1}{2}$  tons capacity or a motor-omnibus to carry thirty-six people. The motive power will be supplied by a four-cylinder engine, 115 mm. bore by 140 mm. stroke, which at a speed of 850 revolutions per minute develops over 30-h.p. A feature of the design is found in the change-speed gear-box which has no sliding teeth, the change of gear being accomplished by means of a series of dog clutches, thrown into action by a combination of springs and cams.

A FEW days ago, at the Charing Cross Hotel, W.C., we had an opportunity of inspecting a new radiator for petrol cars which Mr. P. O. Serck is introducing into this country. The feature of the apparatus, which is made by Dr. Zimmermann, of Ludwigshafen-am-Rhein, Germany, is that no brazing or solder-

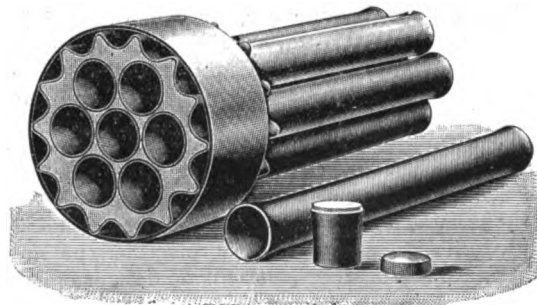
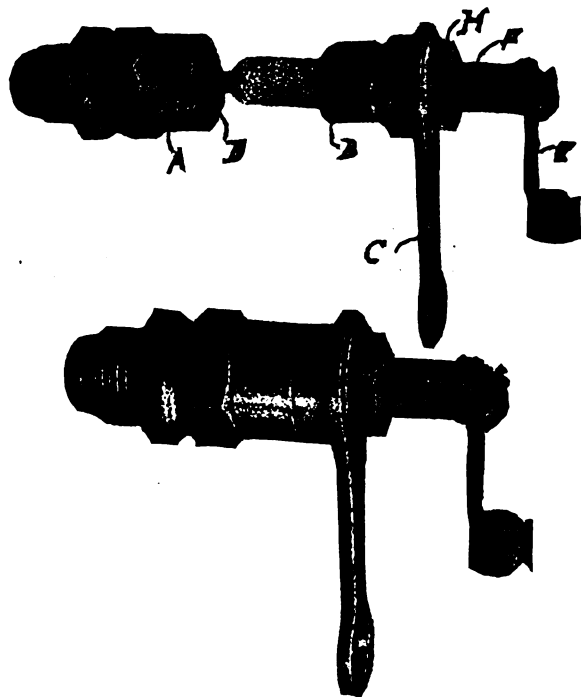


Illustration showing arrangement of Tubes.

ing is employed in its construction. The cooling tubes, which are circular in section, are arranged horizontally, and are homogeneously attached to cast metal ends. Within the radiator there is a water space of 1 mm. between the tubes, the ends of which are, however, slightly opened out so that they practically abut against each other in the metal pieces. Not only is the radiator claimed to be proof against leakage, but the cooling efficiency, owing to the employment of circular tubes, is stated to be much higher than in the case of hexagonal or square tubes. The water tank, which is combined with the radiator as usual, is also worthy of notice, it being made in one piece and galvanised.

## A NOVEL SPARKING PLUG.

WE illustrate herewith a novel sparking plug known as the "Breech Block," which has lately been introduced by Mr. A. R. Garnett, the successor to the firm of Messrs. Lamb Bros. and Garnett, in place of the "One Year" plug, which enjoys a very favourable reputation in motoring circles. It will be seen that the new plug is constructed on the principle of the breech block of a gun; it is built up of three main parts—the hollow metal base A, which is screwed into the plug-hole in the engine cylinder in the usual way, the breech block B, to which the lever C is rigidly fixed, and the porcelain and central rod F, which is held in place in B by the screwed nut H, no cement being used. The part B of the plug, as will be seen, is not threaded right round, but is divided into three portions, leaving an equal number of plain spaces between them, which have a level coinciding with the bottom of the threads of the screwed portion. The inside of the base A is formed in a similar manner, so that B can slide down into A, and by turning the lever C about a sixth of a turn the threads on B engage with the internal screwed portion D of A, and lock up tight like an ordinary screw. It is claimed that there is no danger of it jarring loose, or of any loss of compression, the joint being capable of withstanding a pressure of 2,000 lb. per square inch. The spark jumps across from the central wire to the side of the plug shell, through which a small hole is drilled, the wire passing centrally through it. A quick detachable wire terminal E is also supplied with the plug, this slipping under a small knob at the top, a spring clip holding it in position. The operation of examining or cleaning the plug is thus rendered

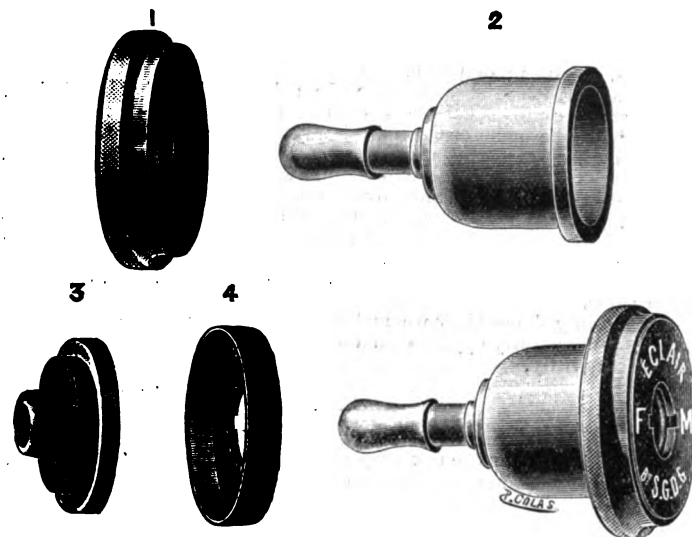


Figs. 1 and 2.—Detail and General Views of Plug.

exceedingly simple, while it can be performed within a few seconds. In fact, one of the claims for the plug is that four of them can be detached, cleaned, and replaced in sixteen seconds. The terminal is first pulled off, then the lever C given a sixth of a turn by the hand, when it and the part B are instantly withdrawn and cleaned. The base A rarely needs removal, and with the central portion taken out may be used for injecting paraffin into the cylinder to clean the walls of the same. The plug is well made, and the ease with which it can be detached should render it equally as popular as the one it has replaced.

## AN INSTANTANEOUS PUMP CONNECTION.

THE accompanying illustrations show the details and also a general view of a new instantaneous pump connection which is being introduced into this country by Mr. H. J. Harding, of 211, Northumberland Park, Tottenham, N. The device, which is known as the "Eclair," is of French manufacture, and is designed to do away with the troublesome work of screwing on the ordinary pump connection to the tyre valve, and also of carrying adaptors where tyres not having the standard form of valve are used, the attachment being made instantly to any valve by pushing the connector on to the stem, from which it



Figs. 1 to 5.—Detail and General Views of Pump Connection.

can just as readily be removed. Referring to the illustrations, it will be seen that it consists of a bell-shaped piece, 2, one end of which is adapted to be fixed in the rubber tubing of the pump, the other forming an air chamber, in which is placed a rubber washer, 3. The latter, which is held in place by the looking rings 1 and 4, is of a special shape, having two inturned lips, the inner one of which is pushed over the valve stem. It will be seen that when the pressure from the pump reaches the air chamber it instantly makes the valve connection perfectly airtight by means of the inner rubber lip being held, by the pressure, firmly round the valve; and also, for the same reason, the outer lips on the rubber washer prevent any air escaping at the joint. The only part subject to wear is the washer, which, after the pump has been used from 4,000 to 5,000 times, may require to be renewed, an operation which can be performed in less than half a minute and at the cost of a few pence. We may add that the connection is made in two sizes—one for motor-car tyres, and the other for bicycles and motor-cycles.

THE West Suffolk County Council is making application for a L.G.B. regulation limiting the speed of motor-cars to ten miles an hour over certain roads within the urban district of Newmarket. Objections should be made to the Clerk to the County Council by the 23rd inst.

MR. W. POYNTER ADAMS has written a book on "Motor-car Mechanism and Management," dealing with the petrol vehicle. Later volumes will treat of the electrical and the steam vehicle respectively. The elementary sections of the subject are dealt with in an extremely comprehensive style, which has the merit of clearness. When treating of gears, Mr. Adams might have usefully included diagrams in his excellent treatise, which contains a glossary of terms with well-condensed definitions, in which accuracy has not been sacrificed, as is too often the case, in such efforts of securing *multum in parvo*. Messrs. Charles Griffin and Co., Ltd., are the publishers.

## CORRESPONDENCE

Letters to the Editor should be addressed to the offices,  
87-88, Charing Cross Road, W.C.]

### THE REPORT OF THE ROYAL COMMISSION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to Mr. W. Bentley's letter in the last issue of the *M.C.J.*, I should like to say that I am quite in sympathy with him in his views as to the proposed taxation of motors. I go further than he does, however, and consider that if this proposal is carried out it is nothing short of rank injustice and further persecution of the motorists, and one of the greatest blows struck at motoring generally since the passing of the Act. I am certain that it will cause hundreds of persons with limited incomes, who now keep cars, to give up doing so.

We motorists are at present taxed much more heavily than is just, comparing us with other users of the roads. That all taxes upon motors should be spent on the roads is quite right, and what we have all been asking for for years, but that we, who do no damage to the roads, should be taxed in this vindictive manner while the owners of horses and iron-tired vehicles, the real destroyers of roads, should get off practically scot free, is utterly unreasonable. If road users are to be taxed to keep the roads in order, by all means let them all pay their fair share, which in justice should be 50 per cent. more in the case of horse-drawn and iron-tired vehicle owners than that of the motorists with their expensive rubber tyres.

I can only hope that we motorists are now numerically strong enough to successfully oppose such a one-sided suggestion from becoming law.—Yours truly,

J. BRYANT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I think that the tax proposed for motor-cycles is too heavy, especially when the annual expense of the driving licence and registration fee is taken into account. Now that such machines can be picked up cheap for a few pounds, the suggested taxes will fall heavily on the working man, and I think it would be good policy to try to get the Labour Members of Parliament to see this. I do not see any reason why an effort should not be made to get motor-cycles exempted, so that no registration or driving licence would be necessary in their case, as they do not travel very fast, like large cars. At any rate they ought to be exempt from all taxes, and only bear the cost of registration and drivers' licences, as they do not throw up much dust, so as to require roads to be tarred for them. If a tax must be imposed, let it be a lump sum, like the playing card tax, and not a troublesome annual tax. Could not this principle be applied to all carriages alike?—Yours truly,

CECIL JACKSON.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We wish to direct your attention to what we consider is a very glaring omission in the report and recommendations of the Royal Commission on Motor Cars. That is the entire absence of any reference to or provision for danger boarding and warning boarding the roads of the country. Quite apart from the fact that if the speed limit is removed there will be an absolute necessity for some scheme of the sort, the decay into which the very valuable series of danger and caution boards erected throughout the kingdom by the joint efforts of the C.T.C. and N.C.U. (and at the expense of these bodies) have fallen is a serious danger, not merely to motorists and cyclists, but to the entire public. Some time since those bodies decided that the time had arrived when the onus of safeguarding the roads in this particular fell upon the road authorities, as it was a public duty, and they appealed to the various district and county councils to take over and maintain the boards which they had erected. How that appeal had been answered the dilapidated and useless condition of these warnings show. Is it too much to ask that both the cycling and motoring authorities should combine at the present moment to have this serious defect remedied in any legislative result of the Royal Commission on Motor Cars?—Yours truly,

THE BOWDEN BRAKE CO.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice the letter of Mr. Bentley in the last issue of the *M.C.J.* re the Motor Commissioners' recommendations, and entirely agree with him that the proposed taxation of cars is much too heavy, and will especially hit hard the man of moderate means. If you take the case of a man who wants a moderate-speeded car, to take his wife and one or two children out, he must have a four-seater, which would either bring him in for the £5 5s. tax, or, if cars were lessened in weight to bring them in for a lower tax, they would probably be scamped and lead to accidents. Mr. Bentley's proposal is quite sufficiently heavy.

The Commissioners' suggestion that rear lights should not be required

except to light the rear number, and that no other vehicles need show rear lights, is also a great mistake; if we are to minimise accidents in the future, it is absolutely necessary that all vehicles, without any exception, should show a red light to the rear, and I feel sure that if the Commissioners would try riding in a car on a dark night along narrow and tortuous highways, and with many other vehicles about, they would be the first to recognise the absolute necessity of rear lights to all vehicles, if accidents are to be avoided.—Yours truly,

G. S. P.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The feeling in Lincolnshire re the Royal Commission report seems to be that it is on the whole good. Owners of medium-sized cars, such as 10-12-h.p., object strongly to the proposed increase of tax. Medical men especially say that it would entail great hardships on them; many about here have two cars, and an increase from £4 up to £10 or £12 is a serious matter. They hope, however, that some alteration or abatement may be made in their case. The abolition of the speed limit is universally applauded, though we have had no trouble with that hereabouts.—Yours truly,

GODFREY LOWE.

### A STEAM CAR CHALLENGE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I understand that the reason Mr. Edge has declined to accept my challenge is his fear that he would break the law by so doing. I note that he suggests that the match be decided in the Graphic Trophy contest, if the permission of the Automobile Club can



A motor-vehicle service has lately been started in Swaledale for the conveyance of passengers and the mails between Reeth, Richmond and Darlington. Our illustration shows one of the cars at the Post Office at Richmond, Yorks.

be obtained. I think the simplest way to obtain this will be for him to enter the car which I have already specified in the contest for the Graphic Trophy, and if the Graphic Trophy is to be run for over a course which I consider a good hill climb, I shall certainly enter my 18-h.p. White car. If he enters the 60-h.p. car which I have specified, and I run my car in the Graphic Trophy contest, I shall be willing to match my car against his for £100 a side. So much for that contest. With reference to the Mont Ventoux Hill Climb, I do not care to enter into a competition against racing cars, for my car is a *bona fide* touring car.

Mr. Edge says in his letter that he wants to "compare the price list" of my car "with what actually does take place in practice." What it actually does in practice as to the accumulation of high steam pressures is an amplification and justification of the statements in the price list description of the White generator, in the sense that what I have done in that particular with my car in hill climbs can be done with any other White steam car in the country, whether it is of 18-h.p. or 15-h.p., for that matter.

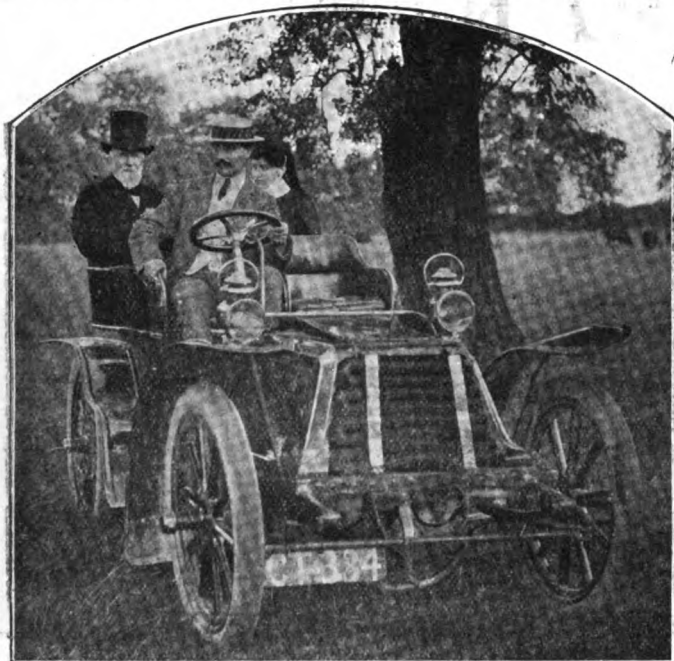
Mr. Edge is correct in stating that the engine is a compound engine with a 3 in. bore high-pressure cylinder, and a 5 in. bore low-pressure cylinder with a stroke of  $1\frac{3}{4}$  in. I know no 18-h.p. White steam car which has different engine dimensions than those quoted. They are certainly the dimensions of the engine in my own car. To state that at a steam pressure of 400 lbs. and at 400 revolutions the engine indicates 23-h.p. is very misleading, as the temperature of the steam must also be taken into consideration. Where Mr. Edge falls into conspicuous error, however, is in saying that my engine was worked as a simple engine in the recent hill-climbing competitions. Anyone who knows anything about the White steam car knows that the only reason the engine is ever made a simple one is to assure



ts not being on centre in starting. As soon as the engine is actually turning the starting pedal is released and the engine becomes compounded. To try to climb a hill on a simple engine would be suicidal as far as obtaining speed is concerned. The White generator is not constructed in such a way that it could feed two high pressure cylinders with sufficient steam to keep the car moving at a good speed more than a comparatively few number of yards. In other words, Mr. Edge attempts to make out that I use my engine as a simple engine in hill climbs and thus double its horse power. The fact is, as all who are familiar with the White cars know, I do not use it as a simple engine except to start from a standing position, just as I do each and every time the car is started from a standing position. Mr. Edge's exaggerated figures of 50-h.p. and 150-h.p. are indicative of a most comprehensive and well-developed imagination.

In my opinion, to start an ordinary touring car, well loaded, at the bottom of a steep hill, move it from a standing position just as fast as one can move it, and rush it all the way up the hill is not running a car under ordinary touring conditions. Does Mr. Edge argue that racing a petrol engine at the start of a hill climb to such an extent that one cannot hear oneself think is starting a car under ordinary touring conditions? No hill climbing event which I ever have seen required that one should run his car under ordinary touring conditions, but merely required that his car should be an ordinary touring car.

The 18-h.p. White car which Mr. Edge wants to dub a 150-h.p. vehicle can very easily be made to show 1,200 lbs. on the steam gauge by intentional manipulation of fire and water. When I say this I mean that



Mr. Thomas Lawrance, of Haccenby Hall, near Bourne, who is only a couple of years off being a centenarian, took his first ride in a motor-car the other day. He has since been taken for several spins by his nephew on a 16-h.p. Panhard, and enjoys motoring immensely. Mr. Lawrance is a cousin of Mr. Justice Lawrance, and at one time was largely connected with public affairs in Lincolnshire.

any 18-h.p. White car can be made to do this. I see no reason why any car which has this capability should not be allowed to exercise it in case it wishes to start from a standing position at high speed. Mr. Edge says that a vehicle which enables one to store up power and use it practically like an explosive for starting purposes is not running under *bona fide* conditions. I consider that he is all wrong unless his definition of *bona fide* conditions would be such that no White car can start under any conditions which could not be attained by a Napier car.

When Mr. Edge advises me to declare the actual horse-power of my car, my mind goes back to the 20-h.p. Napier in the Bexhill races of not many years ago. When it suited Mr. Edge's book to declare low horse-power and defeat cars of higher-horse power, I had occasion to ask him personally his views on the subject. He most ably defended the practice of declaring his higher-powered car as 20-h.p. at that time. Mr. Edge has invited the suggestion that when the shoe is on the other foot his opinions change. Has the fact that his higher-powered cars are to-day beaten by cars of lower declared h.p. been one of the chief factors in making him change his mind?

Mr. Edge states that I should be ashamed of using my engine under such conditions as to cause it to break down. This, from a gentleman of his experience with motor breakages in prominent motor competitions, appals one when one ponders over the amount of contumely which he must have heaped upon himself during the years of his connection with the motor movement.

Finally, I revert to the statement made in the early part of this

letter with reference to the Graphic Trophy. If Mr. Edge does not care to race me up Porlock Hill, and the Graphic Trophy is held on a course which is a sufficient hill-climb to allow me a fair advantage over a car which I recognise to be much faster on the level than my own car, let us enter our respective cars, put up our £100 each, and abide by the result of the competition.

I proposed the match purely on account of Mr. Edge's statement to the effect that my car could not maintain its speed for other than a very short distance. That is really the bone of contention, and to that question he has avoided any reference in his letter answering my challenge.—Yours truly,

FREDERIC COLEMAN

### WHY IS A SILENCER NECESSARY?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to "Enquirer's" letter regarding the elimination of silencers, in the *M.C.J.* of the 11th inst., the advantage of greater expansion of a given charge, and most of the other advantages of the special forms of expansion engine, can be obtained by using a motor of somewhat greater capacity than would ordinarily be required, designed with a rather small clearance space but otherwise on ordinary lines, and running it well throttled down. This is practically what is done with a certain make of motor-cycle. The machine is fitted with an exhaust cut-out which can readily be opened or closed while riding. I find when riding along a good level road, with the motor well throttled but with the spark advanced, that upon opening the silencer cut-out I notice no increase in the noise of the exhaust, nor, on the other hand, do I notice any increase in speed. This proves, to my mind, that under these circumstances of expansive working, while the silencer does no good, it also does no harm, so it is just as well to let it remain on the machine. This method of securing greater expansion of the charge with an engine of the ordinary type has the advantage over the specially-designed expansion motor that one may, in case of necessity, utilise the entire capacity of the engine as in starting, hill climbing, &c. However, if this form of motor is designed to get the best results from the expansion of the charge, it will be found that, when running at its full capacity, the compression will be somewhat excessive and that the motor will show signs of overheating, if run on full throttle for very long. Under these circumstances, of course, a silencer would be found quite desirable at times.—Yours truly,

R. WORTHINGTON.

### A SMALL CAR OWNER'S EXPERIENCE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As an example of what an old-fashioned car will do if well looked after, the following may be interesting to some of your readers. The car is an old style single-cylinder Wolseley, rated at 5-h.p., 760 by 90 Michelin tyres on front wheels, 2½ in. Sirdar solids at rear. Although the car is nominally a three-seater, the load on the trip outlined below comprised myself, my better half, three children, our Skye terrier, and a large hold-all. Left Somersetshire July 31st, first night put up at Birmingham, second Sheffield, third arrived Scarborough. Ran a little in advance of our time table all the way; two involuntary stops, the first due to a leaky join in tube of front tyre, second to old patch breaking out afresh. No punctures. Timed car on level stretches several times when travelling at its best, and found it doing the miles almost exactly three minutes every time. Petrol carefully noted all through, result thirty-three miles to the gallon. Always drove down hill declutched and braking with engine where possible.

Car has run over 20,000 miles now, has worn out two sets of solid tyres and has had one new sliding-gear sleeve. Upkeep is wonderfully small; indeed, if it were not, I could not afford to keep a car.

I am not interested in the motor trade in any way, nor in the Wolseley Company, and, in fact, do not think I should have another Wolseley, as my old "Warhorse" is somewhat noisy. We all feel, however, that we would not part with our old servant unless to a kind home, as the dog advertisements say. I am a civil engineer, and take a keen interest in my machine, and try as far as possible to anticipate its wants before it makes them known.—Yours truly,

Y 35.

### THE ARMY MOTOR RESERVE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—An Army order has recently been promulgated which disbands the Motor Volunteer Corps and substitutes, in its place, an Army Motor Reserve, composed entirely of officers. The Motor Volunteer Corps, after three years' hard trial, has proved beyond dispute both the utility and necessity of a Motor Corps as a unit of His Majesty's Forces, but certain points in its constitution rendered it expedient that some changes should be made. The corps had only an establishment of forty-five officers, and an apparent disinclination on the part of owners of suitable cars to be enrolled as "privates" was noticed, whilst the fact that the Volunteer Act is inapplicable to Ireland prevented the recruiting of members in that part of the kingdom. With a view to removing these obstacles, I suggested to the Army Council that the change now announced should be approved.

There has been no failure on the part of the Motor Volunteer Corps to render itself of the greatest use to the country, whilst the enthusiasm

and energy displayed by its members have been at all times most conspicuous, and have always earned the highest praise from the military authorities. In reality, therefore, there is merely to be a reconstruction of the corps. Nothing is being destroyed, and the first Motor corps ever formed in any army is now placed on a sounder basis, with the object of still further increasing its great usefulness. The constantly growing demands on the resources of the corps have, however, now rendered it essential that an effort should at once be made to augment its numerical strength. It is in this direction that I venture to solicit the assistance of your valuable paper, and to appeal, through your columns, to the patriotism of my countrymen. There are a great number of motorists in the United Kingdom who have ample time at their disposal, and who, I feel sure, will readily respond to an appeal to render some service to their country. The fact that such an excellent opportunity now exists cannot, however, be more successfully brought to their notice than through the medium of your journal.

I may, perhaps, be permitted to state briefly the leading points connected with the Army Motor Reserve. Gentlemen will be given commissions in the regular forces and be passed to the reserve of officers. Their duty is entirely in connection with the staff of the Army, and, though this duty is of a most responsible nature, it is at the same time most pleasant and interesting and by no means arduous, being limited, in time of peace, to six days' compulsory duty annually, though fifty-six days may be performed voluntarily. Allowances are made at the following rates:—Daily allowance, 30s.; allowance for each night necessarily detained from home 12s. 6d., and 4d. per mile petrol allowance. In time of national emergency officers of the Army Motor Reserve, called to army service, will receive special rates of pay and allowances. The provision of a service dress, costing about seven guineas, is the only requirement as regards uniform, and the annual subscription is small. A thoroughly efficient car and a practical knowledge of it are two essential conditions, while a knowledge of military matters is not at all necessary. Compulsory retirement does not take place until the age of sixty. The headquarters of the corps are at 29, Sackville Street, Piccadilly, W., where there is also a spacious club-room for the use of officers. Gentlemen owning motor-cars and desiring to apply for commissions in the Army Motor Reserve are asked to send their names, particulars of their cars, experience, &c., to me at the above address. Apologising for the length of this letter and thanking you in anticipation for the courtesy of its insertion,—Yours truly,

MARK MAYHEW.

Lieutenant Colonel  
Commanding the Motor Volunteer Corps.

### THE MOTOR YACHT CLUB TRIALS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be obliged if you would allow me to explain, through the medium of your Journal, the reasons why Scout III. and IV. failed to be in the No. 4 dock, Southampton, on the evening of July 31st by 8 o'clock, and were consequently disqualified from the above trials by the Committee, who stuck fast to the rules they laid down. I should like to see other club committees take the same course and abide by the rules they lay down, then motor competitions of the day would be worth entering for. Referring to the two "Scout" boats, the engines of which were running well on the day before the trials, they failed to be in the dock by the appointed time owing to Mr. Silk, who was in charge of Scout III., having taken the boat over to Cowes during the afternoon of July 31st, for its spray hood in case of bad weather during the trials. On his return journey the reversing propeller broke near Calshot, and consequently he was unable to repair same in time to enter the dock by the appointed hour. The same evening Mr. Burden, who was in charge of Scout IV., misread the rules, thinking it was nine instead of 8 o'clock that the boats had to be in the No. 4 dock. On entering at 8.10 p.m. he was somewhat surprised to learn that he was disqualified. I immediately entered for a long distance trial over the same course under the official observation of the Motor Yacht Club, which takes place this week.—Yours truly,

J. PERCY DEAN.

### BRAKES FOR MOTOR-BUSES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have read the letters in recent issues of the *M.C.J.* with interest, and would like to point out that in the 40-h.p. Brotherhood car, the designs for which were got out twelve months ago, both hand and foot brakes operate on the rear road wheels. The arrangement we have is that the foot brake is of the internal expanding type, whilst the hand brake is of the external contracting type. In actual use on the road with this car, I have found this braking system to be a great improvement on the popular type, where the foot brake is fitted somewhere on a driving shaft, and it has the advantage that nothing short of the collapse or breaking of the road wheel itself can put the brakes out of action, whereas in the popular method of arranging the foot brake, should either of the chains break or the cardan shaft give way, the foot brake is immediately rendered useless, whilst at all times, when it is employed, it is putting an unnecessary strain on the driving gear, which is put there to transmit the power only to the road wheels and should not be subjected to braking strains.—Yours truly,

PERCY RICHARDSON.

### A CAR FOR DOCTOR'S USE.

TO THE EDITOR OF *The Motor-Car Journal*.

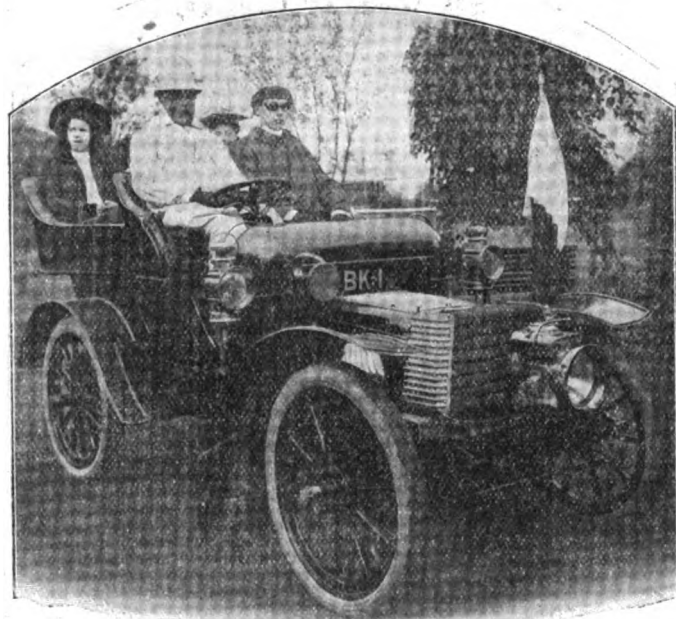
SIR,—I am a medical practitioner, and have worked my practice during the past five years by means of petrol cars. I find the noise made by the engine a great drawback, as I have not been able to afford one of the latest four-cylinder cars in which noise is reduced to a minimum. I thought of trying a steam car, say a White or Gardner-Serpollet. Can any of your readers give me any information as regards the cost of running as compared with petrol cars of same horse-power? I have always driven my cars myself, and should like to know if steamers are difficult to drive and if the mechanism is complicated.—Yours truly,

OLIVER SMITHSON.

### HOW ACCIDENTS OCCUR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—During a visit to Sandbanks, between Bournemouth and Poole, I noticed a motor-bus, E.L. 316, running with the near side hind wheel in a very shaky condition. The hub of the wheel was working in the spokes to the extent of three-eighths of an inch, and all the bolts were loose enough to tighten by the thumb and finger. I called the driver's attention to the fact, but the only remark was that it had been running for the past four days in that condition, and it was all right so long as it got no worse. To make matters worse, both of the side brakes were



Alderman T. Scott Foster, of Southsea, on his Daimler Car.

disconnected, so only leaving the foot brake for action. As there are several sharp hills to be travelled in doing this journey, I consider this vehicle running in the condition I saw it to be a source of danger to the general public, even if not plying for hire. What I should like to know is, who is responsible for this gross negligence, the owner or the driver?—Yours truly,

H. J. TAYLOR.

### EXPLOSION AND EXHAUST PRESSURE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As an earnest reader of your valuable paper, I would like to ask a question to which I trust you or some kind motorist will be so good as to give me an answer. What is the pressure per square inch at the explosion of petrol on the piston; also the pressure per square inch of the exhaust gas at the cylinder before entering the silencer?—Yours truly,

EXHAUST.

[The pressure per square inch at the explosion is approximately three times that of compression, which decreases from 2 to 3 lbs. per square inch before entering silencer, in the exhaust.]

FOUND.—A large hub cap on the Bath road, between Theale and Aldermaston, on Tuesday, the 7th inst. Owner can have same on application to Mr. E. P. Stephens, Taplow Priory, Bucks.

MESSRS. FRISWELL, LTD., ask us to warn motorists against drivers who allege connection with their firm without being able to prove *bona fides*.

## FROM GLASGOW TO LONDON BY MOTOR-CAB.

BY E. H. WATSON.

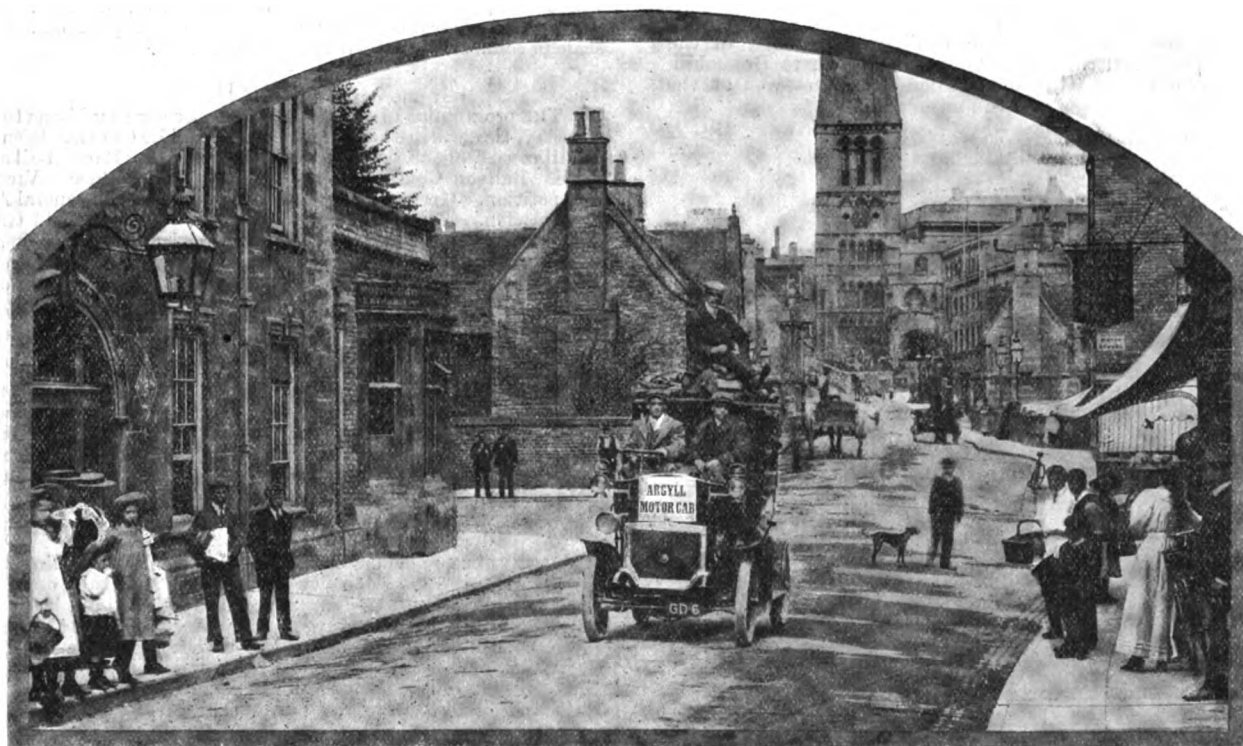
"It doesn't always rain in Scotland—sometimes it snaws," sapiently quoth one of the Argyll Alexandrians as he drove myself and party round the lovely lake of Lomond on Bank Holiday. We were in "bonny Scotland" to attend the trial of the first all-British four-seated motor-cab ever built, and, as the run was to be from Glasgow to London, we were naturally anxious for kindly weather. Fortunately the pessimism of our friend was not supported by fact, for the start was eventually made from the Queen's Hotel, Helensburgh, in sunshine typically tropical.

It may be well to consider what must be the chief characteristics of a British-built motor-cab if it is to make a bold bid for public favour in this country. Primarily, it must be reasonably priced. It must be roomier than the doomed "growler"; it must be smart in appearance and small enough to take up less space than a horse-drawn vehicle; it must be of sufficient power to tackle the most vicious hills, yet to all intents and purposes it must have sufficient flexibility of engine to drive on the top speed whether on long, stiff gradients, or in traffic when a walking pace becomes a necessity. The new Argyll cab which has been designed to meet these requirements is arranged with the engine underneath the driver's seat and footboard. The motor is the standard 14-16-h.p. Argyll, having a bore of 90 mm.

kept. Another advantage it possesses is that when reversing the driver can see behind him. Every sanitary precaution has been taken in designing the interior. The upholstery is detachable, so that it can be taken out and thoroughly cleansed at any moment. By means of a speaking tube, the occupants can communicate with the driver, beside whom is also a seat for a footman or fifth passenger.

The 400 mile journey from Glasgow to London was no light task; we had an untried vehicle, and there were four heavy passengers besides the driver and much impedimenta; in fact, the cab when loaded scaled 37 cwt. Imagine setting out for the far south under such conditions in an ordinary one-horse "growler." Right from the start the run was as successful as we could have wished in our most sanguine moments. We found the cab attained a speed of about 20 miles an hour, and was most comfortable to ride in. Notwithstanding the flexibility of the engine, we did not hope to make the through run without changing speed, but we tried to get as far as Kendal on our "top," and succeeded. Considering our total weight, I think this was a performance to be proud of. When we began the long, wearying ascent of the celebrated Shap Fell, we knew that we were asking the utmost of our sturdy little engine. Without so much as a falter, however, the cab climbed the last gradient to the apex of the moorland height, and we could not resist sending up a cheer of satisfaction. Not only were we the first motor-cab to undertake so long a journey, but in all probability we were the first to mount the Shap.

From Glasgow to London we only changed to our second speed



The Argyll Cab passing through Stamford.

and a stroke of 120 mm. The inlet and exhaust valves are placed on the opposite sides of the cylinders, the latter being cast separately. Ignition is by means of battery and coil, the latter being placed on the dashboard and easily accessible. The normal speed of the engine is 1,100 revolutions per minute, and it develops a maximum of 18 brake h.p. An exceptionally large radiator is fitted, the water circulation being maintained by means of a centrifugal pump. The whole of the gearing for driving the two half time shafts, the pump and the commutator is enclosed in a grease-tight case at the front of the engine. The lubrication of the latter is on the splash system, a sight feed lubricator being placed on the dashboard immediately in front of the driver. The gear-box is exactly similar to that used on all Argyll vehicles, and is of the well-known Govan type, giving three speeds forward and a reverse. The clutch is of the multiple disc type, and the transmission is by means of live axle, the power being conveyed to the latter from the gear-box by a special universal joint. 815 mm. by 105 mm. tyres are fitted, those on the rear wheels being provided with non-skid bands. The body has comfortable inside accommodation for four passengers, or, in fact, for five on an emergency. Ample provision is made for the conveyance of luggage on the roof, while in the interior of the cab there is ample space underneath the front seat for the carrying of a number of small parcels. The weight of the cab complete with equipment, tools, &c., and fully charged with water and battery, is 26 cwt. The engine being beneath the driver's seat, the 3 ft. 6 in. of bonnet space is saved, and this makes the cab so handy that it can be garaged in any building where an ordinary horse-drawn vehicle has been

twice. We drove on top from twenty miles an hour in the open country to four in the jostling traffic of Oxford Street. Once we got on to our second down a particularly vicious hill, and found the cab under perfect control without the use of brakes. And so, to cut a long story short, we travelled from Glasgow to London by motor-cab. We did not hurry, but took many interesting photos *en route*, and rambled around such quaint old-world towns as Carlisle, Kendal, and Stamford. Neither tyre nor mechanical troubles marred the pleasure of the excursion, and we got home to Newman Street, W., thoroughly satisfied with our run, our cab, and ourselves.

## CLAIMS AGAINST MOTORISTS.

As the result of a collision between a motor-car and a market-gardener's horse and van, near Botley (Hants) on the night of June 22nd, Dr. March, of Amesbury (Wilts), has been ordered to pay £29 damages to the owner of the horse, the animal having to be destroyed in consequence of the accident. In giving judgment, Judge Gye said that it was a legal injury which had not been proved, but his Honour said he would take the first opportunity of proving that it was. He granted costs on scale "C," and allowed extra solicitor's fee, "because it was a case of public importance, and he never lost an opportunity of impressing upon motorists the necessity of the greatest care and caution in driving a dangerous machine."



## CLUBS AND ASSOCIATIONS.

### MIDLAND.

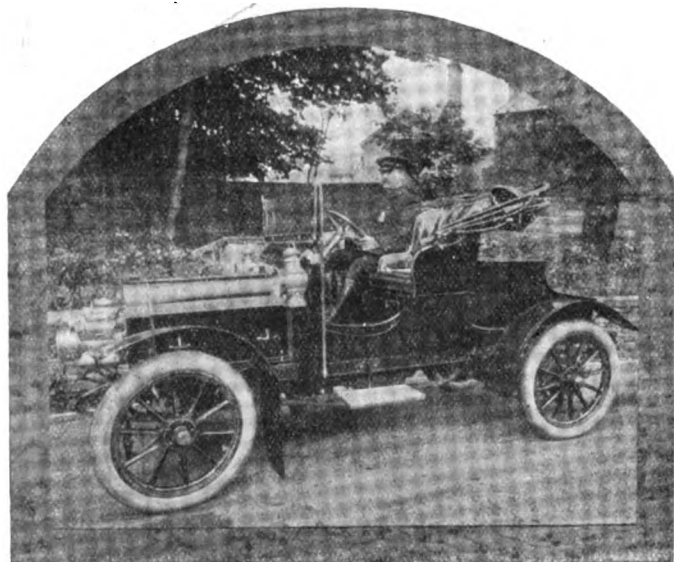
THE following gentlemen have been elected members of this Club:—Messrs. James C. Bent, Edgbaston; Philip Graham, King's Lynn; Frank J. Hughes, Edgbaston; Arthur Pilkington, Wyde Green; J. McGlashan, M.D., Redworth; Leo Myers, Edgbaston; Norman Tailby, Edgbaston; Thos. Barclay, J.P., Bromsgrove; and Joseph Freedman, Birmingham.

The following are candidates for election:—Messrs. Arthur Oliver Holbeche, Great Malvern; William John Whiting, Handsworth; Christopher Bryant, Small Heath.

The consumption trial and brake, smoke, appearance, silence, and vibration tests organised by the club are to be held on Saturday, the 25th inst.

### KENT.

MEMBERS of the Kent Automobile Club are reminded of the invitation of the president, Sir David Salomons, Bart., to Broomhill, Tunbridge Wells, for to-day (Saturday), when the prizes won at the recent hill-climb and gymkhana will be presented.



The 12-14-h.p. Aster-Teco Car recently completed by the Thornton Engineering Company, Bradford, for a local motorist. As will be seen, the body, which was designed by the owner, is a two-seater and is fitted with wind screen and Cape cart hood.

### BERKSHIRE AUTOMOBILE CLUB.

THE concluding summer meeting of the Berkshire Automobile Club was held on the 7th inst. at Greenham Lodge, Newbury, when Mr. and Mrs. Lloyd H. Baxendale were at home to members of the club and their friends. Greenham is situated at the western end of Crookham Common, about 400 feet above sea level, and commands a magnificent view of the surrounding country, including the adjacent Newbury racecourse, to the successful establishment of which Mr. Baxendale's efforts and support have so largely contributed. During the course of the afternoon an informal gymkhana was held, but, owing to the attractions of the beautiful grounds, gardens and vineries, the events were cut down to only three. A novelty was introduced in the shape of two races for chauffeurs, and this feature proved to be greatly appreciated. Eight competitors started in the lady passenger race, these being:—the Rev. J. D. Ouvry (15-h.p. Darracq); Mr. Sydney a Court (14-h.p. Renault); Mr. C. D. Leng (18-h.p. White steam car); Mr. E. P. Stephens (7-h.p. Panhard); Mr. C. H. Dodd (8-h.p. Renault); Mr. D. D. Coath (15-h.p. Panhard); Dr. J. Hopkins Walters (15-h.p. Darracq); and Mr. Haviland (8-h.p. Cadillac). After an exciting series of heats, the Rev. J. D. Ouvry proved the winner, with Mr. E. P. Stephens a good second. The potato race was won by Mr. G. B. Tydd's driver (24-h.p. Richard-Brasier), with Mr. C. H. Dodd's driver second. Other competitors in this race were Mr. A. Wombwell's driver (24-h.p. Delahaye); Mr. J. F. Hawkins' driver (16-h.p. Clement); Captain J. T. Wigan's driver; and Mr. E. P. Stephens' driver. The race was twice round the course, with eight potatoes, four flower-pots being arranged close to the line of spectators. The glass of

water competition, in which each of three passengers had to carry a full glass of water during one round of the course, was won by Mr. C. H. Dodd's driver, with Mr. G. B. Tydd's driver second. The passengers in the winning car lost no water at all, and covered the 300 yards in 1 min. 22 sec., whilst the greatest loss of water was 2.16 oz. The other competitors in the race were:—Mr. J. F. Hawkins' driver; Mr. E. P. Stephens' driver; Captain J. T. Wigan's driver; and Mr. A. Wombwell's driver.

The races were arranged round the cricket field, as close as was permissible to the pitch, the total length being exactly 300 yards, and the course was indicated by a central white line, which turned off at the finishing point to give the competitors a clear run out. Mr. Baxendale officiated as starter, with Mr. C. R. De la Salle, Mr. Sidney a Court, Captain W. Waring, and Mr. Shrapnell Smith as stewards.

### DERBY.

It is satisfactory to note that the Derby and District Automobile Club have been enabled, as a result of their gymkhana at Burton-on-Trent on July 14th last, in aid of the Mayor of Burton's Distress Fund, to hand over the substantial sum of £25 8s. 2d. to the Mayor. The officials responsible for the arrangements are to be congratulated on the success attending their efforts in the first gymkhana held under the auspices of the club, particular credit being due to Mr. L. P. Mell, the Burton representative on the committee, for his invaluable assistance. It is hoped to repeat the function next year on a much larger scale in connection with all the Midland clubs.

### IRISH.

THE programme of events for the motor-car gymkhana to be held on Tuesday, the 28th inst., by the Irish Automobile Club has been arranged: it will consist of the following events:—Bending Race. Ball and Bucket Race. Balloon Competition. Glass of Water Race. Victoria Cross Competition. Gretna Green Race. Tortoise Race. General Appearance Competition. These last two events will be held should time permit. Full particulars and entry forms are being sent to members, and those whose intention it is to compete in all or any of the events should send in entry forms without delay, as entries at single fees close on the 21st inst.

### YORKSHIRE.

A PROVISIONAL arrangement has been made whereby the headquarters of the Yorkshire Automobile Club (in consequence of the fire at the Great Northern Hotel) will now be at the Hotel Metropole, Leeds, Room No. 40. A general meeting of the club will be held on the 20th inst. for the purpose of confirming the affiliation of the Barnsley Automobile Club. Arrangements are being made for an inter-club meet with all the branches, at Ripon, on the 15th prox.

### NEWCASTLE M.C.C.

SEVENTEEN members of the Newcastle Motor Cycling Club had a journey from the Tyneside city to Edinburgh and back on the 12th inst. The outward route was by way of Morpeth, Alnwick, and Berwick, returning via Lauder, Jedburgh and Otterburn. The leaders, making excellent time, reached Newcastle in the following order:—Messrs. G. W. Raper, G. Rickard, J. Feather, R. Atkinson, J. N. Gray, A. D. Nicholson, V. Corbett, L. Rosenvinge, J. Lucas, S. W. Carty. Hart and Mills fell out at Edinburgh, Parkin at Berwick, Elliot at Jedburgh, Smith at Earlstown, and Garbutt at Dunbar. The judges' car—an 18-22-h.p. Sanderson-Aster—under the control of Wm. Bracewell, a driver in the Paris-Madrid race, rendered invaluable assistance to the judges, and also to competitors rendered *hors de combat*. The failures of the trial were considered solely attributable to the very adverse conditions met with, the rain rendering belt troubles more frequent than any other, while, though on the whole the roads were excellent, the surfaces throughout were most treacherous. Mr. G. W. Raper will be awarded a cup as winner of the event.

### AUTO CYCLE CLUB.

DURING this season there have been several hill-climbing competitions for motor-cycles, but what should be the most important and interesting will no doubt be that which the Auto Cycle Club is promoting up Birdlip Hill, near Gloucester, on Saturday, September 8th next. This famous hill is one of the steepest to be found in England, and the length of the course which will be used on this occasion is 1 mile 140 yards. In this distance there is a rise of 700 feet, the average gradient over all being 1 in 8. The competitors in the Auto Cycle Club's trials in 1905 had to climb this hill in the course of their second day's run, and the fact that only two out of the thirty motor-bicycles that started on that day succeeded in climbing the hill without being assisted by pedalling, whilst others failed altogether, will show the severity of the gradient.

### PUBLIC MOTOR SERVICES.

THE Clacton-on-Sea Motor Omnibus Co., Ltd., having applied for licences for two motor-coaches, the Highways Committee of the Urban Council recommended that the licences be granted. At the meeting of the Council Mr. John James moved that the recommendation be struck out. In his opinion motor-buses were abominable nuisances and



unnecessary, for people did not visit Clacton to ride on them. Mr. A. E. Doubleday seconded. He said it might not seem hardly fair to grant licences to the G.E.R. and refuse them to a private company, but they could not help themselves in regard to the G.E.R., although he thought that the town would be better without them. Eventually the licences were granted, subject to the buses being approved by the Council.

A MOTOR char-a-banc service has been started from Knott End to Lancaster in connection with the Blackpool tramway service.

THE Worthing Town Council are recommended by the General Purposes Committee to direct that every person applying for a licence as a motor-car driver shall be required to submit a certificate of efficiency from the Automobile Club or other Association of equal authority and standing. The Brighton, Hove, and Preston United Omnibus Company have notified their acceptance of the terms and conditions imposed with respect to licences for motor-omnibuses running between Worthing and Brighton. The Council have now been recommended by the Committee concerned to grant two additional motor-bus licences, permission to be given for such omnibuses to run, in addition to the three previously licensed for Bank Holidays and other special occasions when the traffic is heavy.

A MOTOR-OMNIBUS service has been established between Angel Road, Edmonton, and Waltham Cross.

THE directors of the London Road Car Co., Ltd., have reported that their revenue has suffered from the low earnings of the horse-drawn buses and the competition of motor-buses.

THE Commissioner of Police has placed policemen in plain clothes along Edgware Road, W., to check the motor-bus racing that is alleged to take place in that busy thoroughfare.

At Willesdon three motor-bus drivers have been fined 20s. and costs for reckless driving; seven others 5s. to 20s. each at Kilburn; and four at Marylebone from 20s. to 40s. for driving to the common danger in Chalk Farm and Forbes roads; fourteen summonses have been issued against motor-bus drivers at the Westminster Court.

SOMETHING of an innovation with regard to the public control of motor services is suggested by a resolution of the Watch Committee of the Southport Corporation, which declares that "the fare to be charged by the owners of motor-cars for the circuit of the Marine Drive should be fixed at 3d. per head." Usually the fare charged has been sixpence.

THE motor-omnibus service between Hasland and Chesterfield, inaugurated by Mr. C. P. Markham, J.P., has commenced running, and has been well patronised during the week.

### THE BRITISH INTERNATIONAL MOTOR-BOAT RACE.

ON Wednesday of last week the eliminating trial to select the team of three British motor-boats to compete for the British International Cup presented by Baron Northcliffe was held in Southampton Water, resulting in the victory of the following boats:—

Boat.	Owner.	Helmsman.	Total time five laps. h. m. s.
1. Yarrow Napier ..	Lord Montagu ..	Lord Montagu ..	1 29 37
2. Rose en Soleil ..	Lord H. de Walden ..	Mr. Fentiman ..	2 1 47
3. Daimler I. ..	Lord H. de Walden ..	Lord H. de Walden ..	2 15 36

The race for the British International Cup on the following day was robbed of its international character by the non-appearance of Dixie, the boat with which the Motor Boat Club of America had challenged. An Italian F.I.A.T. had been notified by telegraph on July 31st, but as that date was about a month after the closing of the entries, the committee were compelled by the rules to refuse it. Thus the race resolved itself into a contest between the British representatives. It resulted in an easy victory for Yarrow Napier, which gained on each round and eventually even overlapped Rose en Soleil. The course was the same as that for the eliminating trials, a distance equivalent to about 32 nautical miles.

The times were:—

	h.	m.	s.
Yarrow Napier (Club's Gold Medal) ...	1	30	8
Rose en Soleil (Club's Silver Medal) ...	2	0	1½
Daimler I. ...	2	7	25

### ROAD REPORTS.

FINCHLEY.—The district council has found the use of "Akonia" very effective in laying the dust on the main roads, and at the last meeting sanctioned the expenditure of £60 on a further supply.

BETTER ROADS.—Mr. A. Pimm, 76, Stoke Road, Guildford, sends a circular he is issuing on the dust question, in which he advocates the disuse of natural stone, and the formation of a better shape of the road with harder material, especially iron for wheel tracks.

HORSHAM.—Half a mile of roadway at Billingshurst, on the main road to Portsmouth, has been treated with tar, with very satisfactory results. At the meeting of the Horsham Rural Council it was stated that all the week motor-cars were continually running through to Goodwood and back, and there was no dust.

STAFFORDSHIRE.—The County Council has declined to accede to the request of the Blore Heath Rural District Council to place danger boards at certain places within its district. They intend to inquire into the ways and means of widening the bridge over the river Dove about

1½ miles from Uttoxeter on the main road to Derby. Several accidents have been only narrowly averted there of late, there hardly being sufficient room for a horse and cart to turn round—a danger appreciated when they are met by motor-cars.

HIGH WYCOMBE.—With the object of minimising the dust created by the passage of motor-cars through the town of High Wycombe, which is situated on the main London and Oxford road, the authorities are having the principal streets laid with tarred material, which is steam-rolled, thus also having the advantage of providing an easy running surface for motor traffic.

### ROAD MAXIMS FOR MOTORISTS.

IN order to prevent careless driving of motor-cars and consequent accidents the Massachusetts Automobile Club, through its Runs and Tours Committee, has recently issued the following "Road Maxims for Motorists":—

1. Drive slowly—
2. Through towns and villages.
3. When approaching cross roads or turning corners.
4. When passing schools, cottages and churches.
5. On dusty or muddy roads when passing cyclists or pedestrians.
6. When meeting or overtaking lady cyclists; and do not steer too close to them.
7. When entering a main road from a side road.
8. When you see a drunken man on the road.
9. When passing any live animals on the road—cows, sheep, dogs, &c.
10. Stop—
11. When an accident of any kind occurs, whether your fault or not. Render all the assistance in your power, and as a safeguard against



The above illustration depicts the "Adams-Hewitt" Landulet, one of the latest productions of the Adams Manufacturing Company, Limited.

1. future proceedings ascertain the names and addresses of a few witnesses.
2. When you see any likelihood of a horse becoming restive. If necessary, do this even before the driver holds up a warning hand. Always assume—
3. That other road users may do the wrong thing, i.e., a driver may pull the wrong rein, or a pedestrian may hesitate and try several courses.
4. That it is your business, not the other man's, to avoid danger. The road is free for all; therefore be courteous and always drive like a gentleman.

### TOWN CARRIAGE COMPETITION.

WITH reference to the A.C.G.B.I.'s Town Carriage Competition, mentioned in our Comments, the following points will be taken into consideration in making the awards, viz.:—

- A. General design of complete car (chassis and body).
- B. General appearance and finish of body work.
- C. Absence of smell and smoke; proper direction of exhaust vent.
- D. Absence of leakage of lubricant.
- E. Absence of noise with car stationary or running.
- F. Absence of vibration with car stationary or running.
- G. Smoothness of running and comfort of passengers. An examination will be made as to the use of adequate tyres, size of wheels, spring suspension, and means of preventing road shocks.
- H. Ease of cleaning (a) exposed metal work and coach work, and (b) machinery (including oiling).
- I. Ease of access for repair (removal of body, access to important working parts, access to tools, to lubricating holes and Stauffers, &c., removal of undershields, access to concealed gear).

A skilled man (who may be the driver) shall be in attendance t

dismantle or detach or adjust any part of which he may be called upon to display the accessibility.

- K. Ease of starting (a) cold, (b) after recent use, with relation to smooth action of clutch (if any) and to smooth yet rapid acceleration.
- L. Ease of stopping and speed changing without jerks or noise. An examination of the brakes will be made both as to their efficiency and design.
- M. Ease of manoeuvring.
- N. Comfort of passengers in relation to cushions, folding seats (if any), &c., number of passengers carried exclusive of driver, access to interior by side entrance, exclusion of rain, storage place for tools and parts.
- O. Comfort of driver in relation to easy manipulation, shelter from wind and rain, ease of signalling to other vehicles (without special mechanical devices being required for this latter purpose).

The entry fee will be £5 5s. for each vehicle, and the trial will not be held unless a minimum of ten vehicles are entered on or before October 1st, on which date the entries will close.

### THE STORAGE OF PETROL.

MR. SEDGWICK CURRIE, of Salisbury Road, West Kilburn, was summoned at the Marlborough Street Police Court, London, W., last week for keeping petrol without a licence, owing to his licence lapsing by reason of being violated, at No. 50, Brooks Mews, Bond Street, W. Mr. Chilvers, who prosecuted on behalf of the London County Council, said that the defendant held a licence for 12 gallons of petrol at Brooks Mews, but it lapsed owing to his not having complied with its terms by failing to fix a ladder for the escape of persons sleeping in the upper part of the premises, in case of fire. The place was an old coach-house, and when the inspector visited it on July 21st he found over 60 gallons of petrol there, a large quantity of it being stored under the staircase. Mr. Morell, for the defendant, said that the petrol was only at Brooks Mews for two hours, having been sent from Mr. Currie's other establishment, where his licence permitted him to store 100 gallons. If the inspector had called about an hour later he would have found none there. It was only there as visits from the Duke of Portland and other titled customers were expected, and was all to be immediately used in charging cars. Mr. Currie was a large contractor, and wished to comply with the law in every respect. The licence had not been kept away from him for anything to do with petrol, but because his ground landlord, the Duke of Westminster, declines to agree to alterations of the premises. Mr. Kennedy.—There is no licence. This is a careless and very wrong thing to do. He must pay £10 and £3 3s. costs.

At the Sheffield Police Court, Messrs. Thomas Hague and Co., Ltd., electrical engineers, of West Street, Sheffield, and the secretary of the company, Sydney F. Walling, were summoned under the Petroleum Act of 1871 for keeping on their premises a quantity of petroleum in excess of what they were licensed for. Mr. H. L. Coath prosecuted on behalf of the Sheffield Corporation, and Mr. Ernest W. Clegg defended. Mr. Coath said that although two summonses were issued he did not ask for or expect a conviction in both cases. The reason for summoning the company and the secretary as well was in order to avoid the difficulties that sometimes arose in fixing the offence where limited companies were concerned. A licence was granted in October empowering the company to keep two 5-gallon tins of petroleum, but when an inspector visited the firm's premises on June 13th he found twelve 2-gallon tins in addition to the amount allowed by the licence. The inspector gave corroborative evidence, and stated that the secretary told him the twenty-four gallons of petroleum were only there awaiting being fetched away by a customer. A short time afterwards when he called the petrol had been removed. For the defence Mr. Clegg did not deny that the quantity of petroleum stated by the prosecution was on the premises. He submitted, however, that the case did not come within the section quoted of the Act of 1871. They were charged in the summons with having 24 gallons of spirit kept without a licence. Looking at the facts from a common-sense point of view, were they keeping the petroleum without a licence? It had been ordered for a customer, to be delivered at 3.30, and about 4 o'clock, a few minutes after the inspector had called, the customer had fetched it away, as had been arranged. That, he contended, was not keeping the spirit there within the meaning of the Act. The law must be read reasonably and in a common-sense way—the Act meant in a permanent sense, not keep it there for a matter of a few minutes. A fine of 10s. was inflicted upon the company.

### CASES AGAINST MOTORISTS.

MRS. LOCKE KING, of Brooklands, Weybridge, has appeared at Kingston to answer a summons accusing her of exceeding the twenty mile speed limit at Portsmouth Road, Walton. According to the police, defendant drove her car at a speed equalling 30½ miles an hour. When asked to produce her licence she said she had forgotten to bring it with her. The defendant was fined £2 and costs.

At Calne Petty Sessions, Hugh Jones, chauffeur, in the employ of Prince Hatzfeldt, of Draycot Park, Chippenham, was charged with driving a motor-car to the danger of the public at Cherhill early on the morning of July 23rd. Another summons charged him with exceeding the speed limit. The Bench decided that there was not sufficient evidence of the car being driven to the danger of the public, and

dismissed the case on that charge, but they thought that the defendant had to some extent exceeded the speed limit, and for that offence he would be fined £2 and costs (14s. 3d.).

THE chauffeur of Mr. Joseph Nicholson, of Wheatfield, Headingley, Leeds, was charged at Leeds with exceeding the speed limit on Mr. Nicholson's 60-h.p. Napier, the allegation being that he covered the distance of 220 yards at the rate of twenty-eight miles an hour. The car is provided with two of Messrs. S. Smith and Son's speedometers, one of which has a tell-tale hand thereon, and this indicated nineteen miles an hour. Upon this evidence being given the stipendiary magistrate suggested a test of the accuracy of the speedometers, which was duly carried out, and on their being found accurate he dismissed the summons, stating that in his judgment a mechanical instrument of this kind was more reliable than the observation of police officers, as, without casting any imputation as to their veracity, the human element thereby introduced was more capable of error than a reliable instrument.

At Lancaster, five motor-car drivers have been summoned for exceeding the speed limit. All were fined.

THE motor trap at Eggborough, near Snaith, led to seven motorists being fined in the aggregate £25, at Snaith Sessions.

At Cromer the chauffeur for Miss Edna May has been fined £7 and costs for driving a motor-car at a speed of twenty-six miles an hour.

THE driver of a motor-lorry was severely lectured by the magistrate at the Tower Bridge Police Court on Monday for being drunk while in charge of his vehicle. After the stern bearing of the magistrate a fine of only 10s. must have been a great relief.

SEVERAL motorists were summoned at Solihull (Birmingham), the other day for dangerous driving, exceeding the legal limit, failing to produce licences, &c. Convictions followed in eight cases, one was adjourned, and one was dismissed. In the latter Mrs. Lizzie Fox, Birmingham, was summoned for riding a motor-cycle at a dangerous speed. Police-sergeant Tuckwell said that he was riding his bicycle on the Coventry road, Sheldon, on July 12, when he saw defendant, who was riding a motor-cycle, come round the corner of the road close to the footpath on her wrong side. He estimated the speed at thirty-five miles an hour. He jumped off his machine, and tried to take the front number, but was unable to do so, and took it from the back. The defendant said that she had an accident to her chain at the time, and was going along carefully. She had ridden a motor-cycle for fourteen months. She had to lean forward to oil the engine, and she also had to hold the levers of her carburettor, which were loose, but she always had a full view of the road. The Bench said they thought it a proper case to bring before them, but there appeared to be some doubt about it, and defendant would have the benefit of it. The case would be dismissed.

At Beaconsfield Court the police have sadly confessed that in attending to one motorist caught in their trap several others escaped. The gross return to the revenues of the Court that day was only one fine of £3 and costs.

### POLICE TRAPS.

A TRAP was in operation on Sunday, the 5th inst., on the Ipswich-Colchester road, between the seventh and ninth milestones from Ipswich. Policemen in plain clothes stood about 200 yards on the Ipswich side of these respective milestones and took times, but apparently did not stop cars.

A CORRESPONDENT writes:—"I have authentic information of a trap on The Fairmile (not Cobham) five miles from Lewes and six from Eastbourne. It is an electrically worked one, and is in operation every Sunday.

MR. OSBORN, of Messrs. Osborn and Company, Ltd., writes:—"Just a line to notify you that there is a police trap of which, unfortunately, I was a victim, about three miles beyond Colchester on the Yarmouth side."

BETWEEN Great and Little Marlow the police are amusing themselves and annoying motorists by a timing arrangement.

THE Lake District is becoming a danger spot; no fewer than four traps have been reported between Keswick and Windermere.

THERE is a police trap in Bromley Road, Greenwich.

### TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

# THE Motor-Car Journal.

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## A PRIZE COMPETITION.

### FOR THE BEST AUTOMOBILE "LIMERICK."

OUR readers are familiar with the form of the "Limerick." We shall be pleased to offer a prize of one guinea for the best original example, and two second prizes of half a guinea each. The theme is to have reference to a motor-car, motorist, club or association concerned with automobilism, and the matter must be original and not ill-natured.

Last week we announced that the Limericks must be sent to the office of *The Motor-Car Journal* not later than to-day (Saturday), on postcards, with the author's name and address clearly written. We have decided to extend this time to Monday, the 27th inst.

The winning examples will be published in the same issue of the *M.C.J.* in which the announcement of the award is made; and it is also our intention to publish a selection from the unsuccessful competitors. The Editor's decision will be final.

We give an example of the Limerick as a suggestion to competitors:—

A Commission by law was decreed  
Before which car-owners could plead,  
They said their full say,  
Waited many a day;  
And now! Good bye to the limit of speed.

## COMMENTS.

### Looking after the Roads.

Now that it has become, in a special sense, the guardian of the roads, protecting users from the provocative methods of the police and advising motorists where danger lurks, the Automobile Association might well extend its activities to urging landowners to keep the hedgerows near sharp turnings and at dangerous corners well trimmed. There is also useful work to be done in the erection of notice boards where the supineness of local authorities knows little regard for the safety of those who use their indifferently-kept roads. Touring throughout the country, we have lately been impressed with the tantalising condition of many of the notices that were placed on the highways in the early days of cycling. These have become weatherbeaten, and are now rusting to decay in many places; and the extension of a scheme of warning boards throughout the country would be generally welcomed by motorists and the public alike.

### The Automobile Association.

We mention the Automobile Association in this connection because of its growing favour among those who use the road. Already its membership is well on the way to 2,000, and at the meeting of the committee on Tuesday 270 new members were elected, including Earl Roberts, Lord Blythwood, the Duke of Buccleuch, Viscount Castlereagh, Viscount Churchill, Lord Willoughby de Eresby, M.P., Sir Lionel Darell, Bart., Sir Neville Gunter, Bart., Baron Pierre de Gunsburg, Lord Iveagh, Lord Kenyon, Lord Yarborough, Lord

Londonderry, Viscount Ridley, and the Hon. G. Keppel. Ladies, too, are giving their influence to the Association. Other recent accessions to membership include H.H. Princess Toussoun, Countess Ilchester, Lady Hothfield, Lady Gunter, and Lady Waterlow.

### Local Feeling.

SOMETHING of the danger that would attach to any regulation leaving the local authorities responsibility for fixing the speed limit is seen in the discussion at the last meeting of the Warwickshire County Council. Mr. W. Johnson, M.P., mentioned that sixty-one parish councils within the area of their jurisdiction had suggested the limitation of the speed of motor-cars in their villages to eight miles an hour. We believe that fifteen other councils in Warwickshire have since memorialised the County Council to the same effect. Under such circumstances scarcely a road in the county would be free from the obstruction of these prejudiced persons. It is certainly a state of things which should convert any wavering motorists to the view that all regulations with regard to speed should be left to the central rather than the local authorities.

### Motor-Cars and the Post Office.

It is not generally known that there are fourteen postal motor services in operation between more or less distant towns, besides a number in London. In his annual report the Postmaster-General says that the service between London and Brighton, which was established on June 1st, 1905, has so far worked smoothly, and, as this is one of the longest and heaviest of the existing road services, its success has gone far towards demonstrating the possibility of establishing a really satisfactory motor mail service. It is hoped to establish several additional services during the current year, the most important of which are: London and Hastings, with a branch from Tunbridge Wells to Eastbourne; London and Colchester, with a branch from Chelmsford to Southend-on-Sea; London and Hitchin, and Leeds and Huddersfield. A considerable financial saving is estimated to result from this encouragement of the mechanical vehicle.

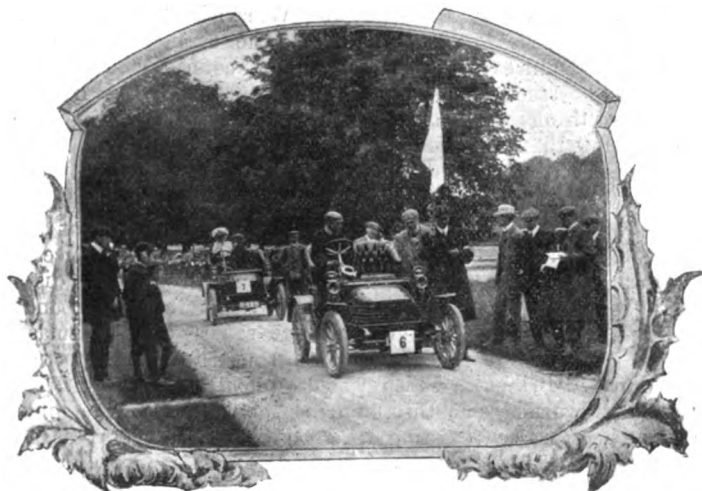
### On Perceiving what is not seen.

A NEW sense is now required of motorists, who, to the faculties of being able to taste, smell, hear, feel, and see what is actually in existence, are expected—by the Newcastle magistrates at least—to perceive what they do not see. This interesting dictum has occurred in a case heard on Saturday, when the driver, A. H. Jones, to Lord Lonsdale was fined 20s. and costs for negligently driving a motor-car. The constable said he held up his hand for the driver of the car to stop in Grainger Street, but the chauffeur disobeyed the signal, and drove straight over the proscribed crossing. In defence the driver said he did not see the constable's hand held up. He was accustomed to policemen on point duty, having driven the King, the Duke of Connaught, and other royalties, and he was in the service of the Earl of Dudley for five years. Lord

Elphinstone gave evidence to the effect that he was in the motor-car on the day in question. They proceeded up Grainger Street at a walking pace, certainly not more than four miles an hour. A tramcar was at a standstill, when Jones went quietly past the crossing with the motor-car. There was no question of accident at all. After he had passed the tramcar he heard a shout. He noticed a policeman, who was about level with them on the road. He was not holding up his hand, nor was he beckoning for the car to stop. If he had they could have stopped in half a yard. As the officer made no sign for the car to stop, they went straight on. His lordship added that he had driven in motor-cars many times in London, and he was used to policemen's signals, and always stopped at once. The chairman of the Bench said they believed the constable held up his hand—although no witnesses were called to support that suggestion—and "if the defendant did not see it he ought to have seen it." They declined to raise the fine to a guinea, so as to allow of appeal, and altogether proved their capacity for sitting on the Surrey Bench.

### The Great North Road.

EVERY year the motor-car traffic on the Great North Road grows in volume, rendering increasingly useful the operations of the Automobile Association in convincing the police that the setting of traps is a foolish pursuit. Elsewhere we publish an article on the condition of the road, which, be it noted, is "subject to market fluctuations," by which we mean



The Syston Park Hill-Climbing Competition.—Sir Hickman Bacon's 6-h.p. Wolseley Car, the winner in Class A, is in the foreground. (See page 550.)

that traps are subject to changes and may be varied, as the police find their set purposes frustrated by publicity. Anyhow, motorists journeying that way, or likely to use the highway to the North during the next few weeks, will be forewarned—and that may save fines.

### Motor-'Buses.

WHILE Sir Devereux Pile, as chairman of the Great Eastern Motor Omnibus Company, was last week dilating upon the future of the motor-'bus, one of the vehicles of his company was making a somewhat disastrous onslaught on a house facing Wanstead Flats. The roads around this district are being largely used as testing grounds for such motor vehicles. So long as they keep to the highway, little complaint is likely to be made, but if many of these erratic wanderings take place some adverse comments will probably be heard in the district. Sir Devereux made mention of the petition which has lately been signed by many eminent people, as well as some who have no claim to distinction, pointing out that a great many of the signatures were those of owners of cars. We hardly see the application of such an observation, for there is no doubt that the noise and rattle of the motor-'bus will have to be con-

siderably reduced ere London reaches anything like that quietness which was once her pride. The first thing that strikes a provincial man or woman coming to town is the extraordinary noise of London traffic, and when to this is added the monotonous whiz of the steam cleanser, cleaning the walls of London offices, the noise nuisance becomes as intolerable as is the dust cloud in the country.

### A Motor-'Bus Trial Wanted.

NOT often do motor-'buses ride on to the pavement, although they have been known thus to leave the commonplace track. At the same time the risk that such may happen suggests whether it would not be possible to have a real test of the merits of the various types now running upon the streets. The organisers of motor-'bus services would doubtless lend their support to the scheme if it were developed under impartial auspices, for they are extremely desirous of ascertaining the relative merits and finding out the comparative defects of those types now in service. Fortunately they are recognising more than was the case a few months ago that the conditions of urban and rural traffic are essentially different, and that they must not expect the vehicle that is suitable for the easy level running of the City to be equally serviceable in long distance pleasure trips over hilly ground and stiff places.

### Irresponsible Horses.

REALLY the time is coming when motorists will have to include horses among the offenders of the highway whose assaults have to be made the subject of criminal proceedings. Lately the Motor Union has been compelled, by the seriousness of some attacks upon its members, to institute legal proceedings and secure the conviction of persons who have not only been unruly on the highway but have assaulted them as well. Now comes the case of a horse making a most unprovoked attack on the unoffending motor-car. The vehicle belonged to Mr. W. H. Jackson, of Halifax, and was left standing in front of the Post Office at Selby while the driver sought the services of a repairer. About the same time a cab drove up to a butcher's shop. This vehicle had already pulled up when the horse, which is supposed to have been stung by a wasp, plunged and ran off in the direction of the motor-car, with which it collided. A hind wheel of the trap was smashed, as well as both shafts, while the horse was injured about the legs. The motor-car had a back wheel smashed to pieces, the lamp broken, and other damage done to it. The automobile is not the only form of traffic which occasionally runs amok.

### Getting Cars to the Isle of Wight.

THE value of Press publicity is being more and more realised by railway managers, and has received good illustration from the experience of the London and South-Western Railway in connection with motor-car traffic between the mainland and the Isle of Wight, near Lymington. Last summer they carried about a dozen cars, this season they have up to the present dealt with close upon a hundred, consequent, we are informed by the officials at Lymington, on the attention drawn in our own and other motor journals to the facilities offered. In most cases owners have volunteered testimony as to the convenience of that route to the island.

### Steam Road Wagons.

DEALING with the heavy steam motor-wagon exclusively, the book which Mr. William Norris, A.M.I.C.E., has written, and Messrs. Longmans, Green and Co. have published, is likely to be regarded as a standard volume on the subject. Care has been taken to include particulars of the latest, and—by reason of the 1905 Board of Trade Regulations—important modifications and designs of heavy steam road wagons, and to give an accurate and impartial analytical account of past and present practice. With this object illustrations and drawing,



necessary to explain the text are extensively made use of, and the publication should serve a purpose alike useful to manufacturers and users, as an intelligent aid to design and as a medium to enable firms intending to start with motor traction to select the best possible vehicles to fit their particular requirements. Particular attention has been devoted to constructional details to show what has been attempted in the past, the shortcomings which experience manifested, and how and what improvements have from time to time been made to overcome, one by one, the difficulties and deficiencies as they arose. The majority of the outline technical drawings have been made under the author's own supervision, and are new, the experience of Mr. Norris being a valuable factor in his qualifications for writing such a standard volume.

**Adjustments not  
Always Necessary.**

LOOKING back to the days of the Liverpool trials in 1889 and again in 1901, real progress has, of course, been made, the two most difficult problems that have been encountered being the designing of a suitable boiler and proper road wheels. In planning a road wagon regard must be paid to the persons into whose hands it was likely to be entrusted. If

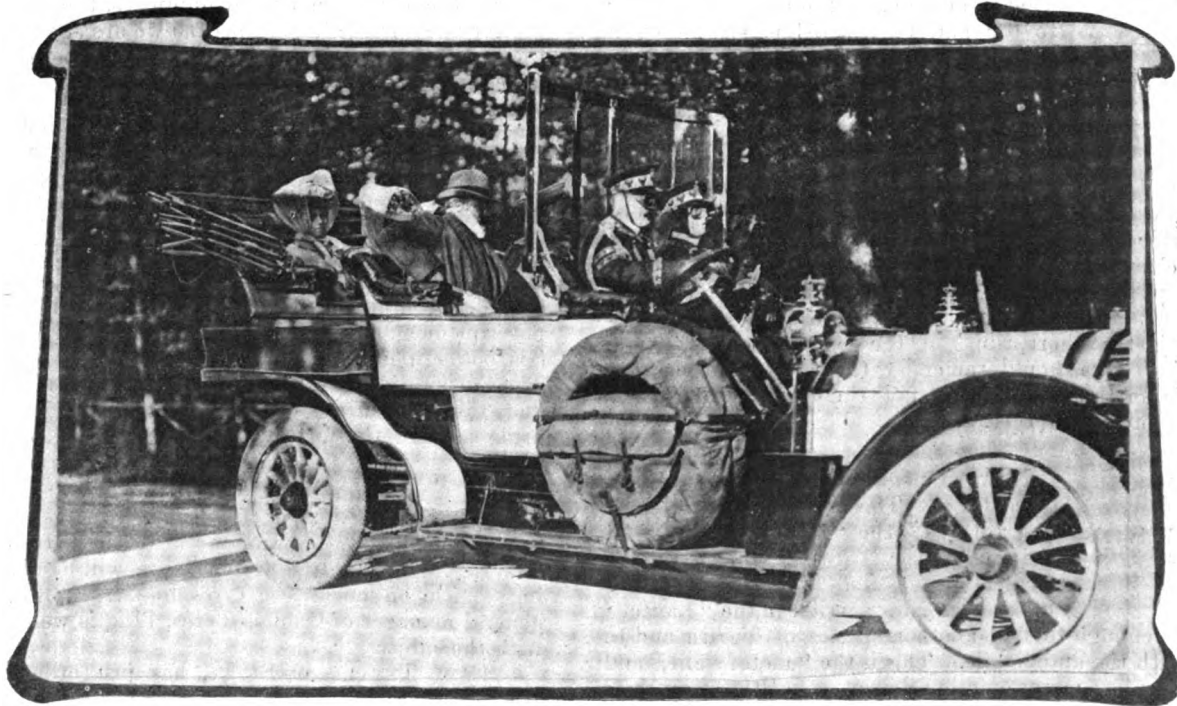
matters went wrong the owner's mechanical knowledge sufficed to effect a remedy. But the car was always ready for the road, and managed to keep going when there.

**The Protection of  
Motorists.**

THOUGH "Defence, not Defiance," might be regarded as the motto of the Motor Union, occasions have arisen when it has been found necessary to assume an aggressive attitude in safeguarding the interests of members. Recently action has been taken by this powerful organisation in three cases of assaults on motorists, in a like number of instances of obstruction, and in one case of stone-throwing. In all these instances useful local lessons were taught which should have the effect of deterring such offences in the future.

**Coaching by Car.**

ON the banks of Lake Quinsigamond, where the great Yale-Harvard boat races were rowed in former years, Mr. G. Taylor, one of the best known aquatic coaches of America, may be seen training crews from his automobile—a Pope-Hartford car, be it noted *en passant*. With one hand on the



King Edward and the Kaiser enjoying a spin on one of the German Royal Cars at Saalburg.

designers could rely upon the engines being systematically overhauled, run and adjusted by skilled mechanics, as are railway locomotives, there would be scarcely any limit to the refinements which might safely be introduced. It is the practical experience of Mr. Norris that refinements in details in motor-wagon construction—no reliability can be attached to securing really first-class men as drivers—can be extended to limits overrunning the advantages which would accrue by such refinements if under skilled supervision. Much trouble has been occasioned by allowing the driver opportunities of making his "adjustment." If bearings are made with ample surfaces, and are provided with a continuous supply of lubricant, adjustment is not necessary for some years. The same experience has been found in connection with the driving of light cars. One prominent London motorist was continually having trouble owing to the way in which his driver was always adjusting and altering the mechanism; at the same time the body work was generally in a dirty condition. So our friend advertised for a coachman who was in a nescient state with regard to motor-cars. He was trained to drive the car, and when mechanical

steering wheel and the other holding his megaphone he manages to coach his crews. There were men who said it would be impossible to do such work from an automobile, but this instance leads to the question—What cannot the motor-car do? Certainly a good car and a good driver are two factors that constitute the means for almost any achievement.

**New London Electric  
Ambulanc. s.**

A BEGINNING has been made with the installation of the new City of London motor ambulance service, which is expected to be in working order before the end of the year. In addition to the two central stations—at Bishopsgate Street and St. Bartholomew's Hospital—where the ambulances will be housed, there will be over fifty call stations. These will be distributed over the City, and will be similar in appearance to the existing fire alarms. The purchase of two electric motor ambulances is provided for by the scheme, but only one, which is to cost between £400 and £500, has so far been ordered, being considered desirable to gain some experience in working

before a second is acquired. It is proposed to retain the present hand ambulances as auxiliaries to the new service, the working of which will be regarded with universal interest.

#### A Thief with Humour.

To steal a car may be regarded as a piece of impudence; but then to hire it out as a means of profit casts a gleam of humour over the business which the rightful owner is not likely to appreciate. However, we congratulate Mr. Hodge, of East Finchley, on the discovery of his car. It was found on Monday at Horton, near Banbury, where the thief had been letting it out on hire at 5s. for the afternoon. The son of the vicar of Edgehill was one of a party that had engaged the vehicle, and, noticing that certain obliterations had been newly made, telephoned at once to Messrs. J. Keele and Co., who were quickly able to identify the vehicle. The car remains, but the thief has disappeared.

#### Borrowing and Lending Cars.

THE advice of Polonius to Laertes with regard to borrowing and lending is as applicable to motor-cars as to bank notes. There is danger in the practice—danger to car and to friendship, for, although the driver may be careful and the passengers have regard for the appearance of the carriage work and upholstery, there is always the chance of something going wrong and the owner fancying that the car never runs so well after its return. So much for the loan of vehicles to friends—a course only to be permitted on rare occasions. Shakespeare's immortal philosophy is always to be observed in the relations between master and man. Unless engaged on some definite mission the chauffeur should never be allowed to take the car out; on his part, the driver should never desire to run the vehicle without authorisation. The invitations of friends to give them "just a short run" in the car should always be declined, and drivers should remember that although they may be responsible for the vehicle it is not their own property—a fact many are prone to forget.

#### The Motor Driver's Spine.

NEW ailments are constantly being discovered. The "motor throat," the "petrol eye," the "steering hand," and the "oily face," are all known to the medical profession and the motoring fraternity. Now a writer in the "Lancet" has been good enough to find another species of disease and to associate it with the automobile. This is the "motor spine," and the first victim was a motor-omnibus driver—a healthy, temperate man. On the day previous to his illness a certain part of the mechanism of the vehicle he drove acted badly, and each time it stopped it had to be restarted by the patient, who thus used a considerable amount of physical energy. After a wearisome period of duty he was in a highly nervous state, and his sufferings were so intense that he received hospital treatment. He complained of acute pain in the right hip, of a dull, aching pain across the loins, and of a right leg so painful that he could scarcely bear the weight of the bed clothes upon it. Moreover, owing to the tenderness of his back, he could not rest upon it. And to this the name of the "motor spine" has been given.

#### The Dangers of the Road.

A SAD accident which has taken place in Pontefract illustrates one of the dangers to which motorists are subject on the road. An elderly man was riding a motor-cycle—proceeding very carefully on his right side of the road—when a lad who was learning to ride an ordinary bicycle collided with him and, falling heavily on his head, the motorist was killed. A medical man who saw the occurrence said there was no child, dog, or other obstruction to cause the deceased to swerve, but there was a sort of magnetic influence which attracted young or

nervous cyclists to rush towards any obstruction that came in front of them. The motorist was travelling about ten miles an hour, and when the lad swerved it was practically impossible for the deceased to pull up. Deceased did all he could to avoid the collision, and he (the doctor) considered that the hill was not a suitable place whereon cyclists should learn to ride. Unfortunately novices on the wheel are not always as careful as they should be in the selection of their trial grounds, and public roads, with every kind of traffic claiming its share of the highway surface, are certainly not the safest places for early efforts.

#### Irish Roads.

MENTION may be made of the many motor-car services which have been established in Ireland, and which are doing something to hasten the prosperity of a land where privation has hitherto hung about like a pestilence. What is now wanted to enable the people to secure the full benefits of the new locomotion is that the local authorities should recognise the uneven surfaces of many of their highways, and learn to understand the association of good roads with national welfare and comfort. Just as in the old days of the turnpike and before railways caused the desertion of the highways, the care of roads was a matter of supreme importance, so we are again recognising that they are the avenues to prosperity—both individual and collective.

#### The Next Motor Union Meet.

AN opportunity for discussion will be provided at the next provincial meet of the Motor Union, to be held at Scarborough on the 22nd prox. This venue has been selected on the invitation of the North Yorkshire Club, and a welcome characteristic of the county will doubtless be given those who attend. Birmingham, Harrogate, Chester, and Bath have all left pleasant memories of the peregrinations of the Motor Union, and Scarborough is not likely to fall behind these in its cordiality. The Corporation of the town is associating itself with the matter, and the Yorkshire Club should find it a good opportunity to bring some of the unattached motorists of the county into membership.

THE last day for sending rhymes in the Limerick competition—see page 537—is Monday next, the 27th inst.

ELSEWHERE in the present issue will be found an interesting article on pneumatic tyres by Mr. F. J. J. Glynn, who, as general manager of Gaulois Tyres, Ltd., is well qualified to deal with the subject.

EARL TEMPLE, of Stowe, has just ordered from Messrs. Ducros Mercedes, Ltd., a 35-h.p. Mercedes car, fitted with Roi des Belges coachwork, the upholstery being carried out in the familiar Mercedes red.

ACCORDING to Mr. G. Bernard Shaw the motor-omnibus is "cheap, swift, clean, humane, interesting, and pleasant," yet he would "be glad to see them made less noisy, and driven by men who would not burn their lubricating oil as well as their petrol."

THE recent fire at the carriage works of Messrs. W. and F. Thorn did not seriously interfere with their business arrangements, as the men were transferred to their other branches and got to work again within a week. The premises in Great Portland Street, W., will be rebuilt and extended this year, giving further facilities for motor body work, in which they have been engaged since the beginning of the motor industry.

THE Darracq-Serpollet Omnibus Company, Ltd., have arranged with the Scottish Automobile Club for the official observance by the Club of a trial of their Darracq-Serpollet steam omnibus. The trial will embrace considerable parts of the Scottish Reliability Trial route, and will include the following towns:—Glasgow, Kilmarnock, Ayr, Dumfries, Moffat, Edinburgh, Stirling, Perth, Dundee, Aberdeen, Huntly, Elgin, Grantown, Pitlochry, Stirling and Glasgow. It will start from Glasgow about the 24th inst. and will extend over eight to ten days.

## THE GREAT NORTH ROAD.

**T**HOUGH there is not that infinite variety of scenery on the Great North Road within every fifty miles which makes the Ripley road dear to the southern motorists, for a "direct drive" to Scotland it has many admirers, and with reason. If the trip be divided into two good long days there is a pleasant certainty of finding excellent food and much comfort at the hotels *en route*. For instance, on the first day a reasonably early start will, in the ordinary course of events, plant the motorist at the Old Bell, Barnby Moor, in time for as well cooked and served a lunch as can be found in the London cab radius. Taking chances for tea, a meal of minor importance, the day's run should end at York in time for dinner at the Station Hotel. On the second day lunch at Newcastle, after which a determined attack upon the last long stretch will bring the traveller within a mile of Edinboro' toon.

The route is as follows:—Barnet, Hatfield, Hitchin, Biggleswade, Buckden, Stilton, Stamford, Grantham, Newark, Tuxford, Retford, Bawtry, Doncaster, Wetherby (turn off here for York), Boroughbridge, Catterick, Darlington, Ferry Hill, Chester-le-Street, Newcastle, Morpeth, Felton, Alnwick, Belford, Berwick, Cockburnspath, Dunbar, Haddington, Musselborough, Edinburgh.

Just now the roads are splendid, and one can drive a

In Buckden itself the trap is rendered quite abortive for all but the most reckless drivers—who deserve to be caught—by large yellow warning notices at either end of the village, recently erected by the Automobile Association in the teeth of local opposition.

At Alconbury traps are worked up and down the hill, according to traffic. Through Stilton what is simply rabid prejudice demands that cars shall pass at a pace less than ordinary horse traffic; police opinion as to "the common danger" is elastic to the point of absurdity. Just outside Stilton the Norman Cross trap vies with Buckden for the number of its victims.

All these, of course, are not worked at one time. Past Stamford there has lately been working a trap which, in the opinion of many who know the subject, is the least unfair of all. It is a mile long, measured from brow to brow of two hills, in the valley between which nestles the village of Casterton. There being no call for excessive speed here, but, on the contrary, a real necessity for caution, motorists who follow the dictates of courtesy and consideration for others have nothing to fear.

This applies right through the county of Nottingham, until the persecution begins again at Bawtry, in Yorkshire. Between there and Doncaster (two miles out of Bawtry, to be exact) rumour has it that a gentleman whose house is for him



The Circuit des Ardennes.—Rougier taking a nasty corner near Longlier on his De Dietrich Car.

hundred miles without meeting those necessary but murderous heaps of unrolled metal. For the most part hedges are low and all danger spots are protected by triangles, except in one glaring instance at Carlton-on-Trent, in the borough of Tuxford, about 130 miles out from London. Here there is a particularly nasty S-shaped curve, with no signs of any description. We commend this to the leading associations, motoring or otherwise, for their immediate attention. Triangles should be placed there without delay, and, let it be hoped, before instead of after a terrible accident occurs.

On the vital question of motor traps we incline to the belief that the Great North Road is somewhat misjudged. There are plague spots without doubt, and the following authentic information will be of value to every considerate motor-car driver. Compared, however, with the Portsmouth road, whose round dozen of "measured distances" in the first forty miles are unpleasantly familiar to us, the record of five traps in four hundred miles appears mild.

Briefly, after the six-mile trap, which begins at the London side of Hatfield and ends on either the Hitchin or Stevenage roads beyond Welwyn, the way for any but a hooligan driver is the reverse of hard up to the sixty-first milestone, marking the notorious village of Buckden. From here to Stamford a state of war, intermittent but determined, exists.

unpleasantly near the main road aids and abets the trappers wherever possible. Distances of a quarter, half, and three-quarters of a mile are marked out, and the trappers pretend to work at wood-chopping, while their scouts watch for the approach of likely victims.

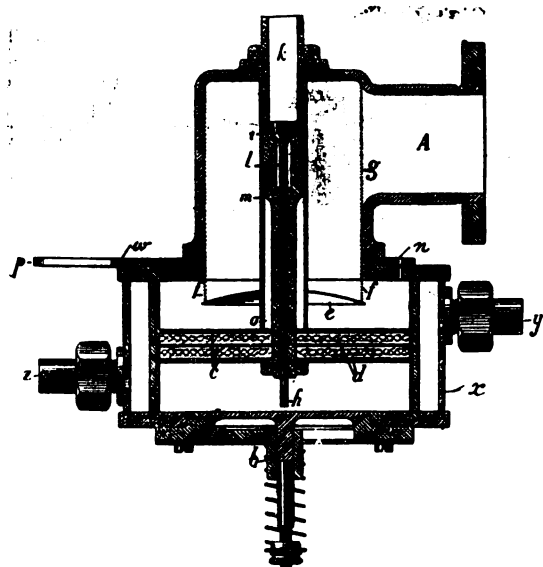
We may predict a warm week's work for them, and on all the big roads leading into Doncaster, during the race week. Indeed, the motor-car traffic may fairly be estimated to reach five times the amount of that during the opening of the grouse season, from the fact that shooting men reach Scotland by various routes, and the traffic is very evenly distributed in consequence.

From Doncaster to Boroughbridge the roads in themselves are not too good, but trapping is the exception rather than the rule. Boroughbridge is a noted place, and great care is necessary. This warning applies between Morpeth, Felton, and Alnwick, from which town the run to Edinburgh is almost devoid of untoward incidents.

IN view of the popularity of side-entrance cars, users of old-type Darracqs may be interested to learn that Messrs. H. E. Hall and Co., of Tonbridge, are making a speciality of lengthening such vehicles and converting the bodies into side-entrance.

## THE "GALLIA" CARBURETTOR.

A SOMEWHAT novel form of carburettor for petrol motors has recently being devised by M. C. De Clercq, and put on the market by Messrs. Michaud and Co., of Lyons and Paris. In the early days of the movement, when the surface type of carburettor was in vogue, several attempts were made to overcome the defects of these by the introduction of carburetting devices in which the mixture was obtained by drawing the air over or through a wick kept saturated with petrol. They were known as wick carburettors, and, while most of them were satisfactory in use, they had the drawback of being somewhat bulky in size. About this time the spray type of carburettor sprang into prominence, since which all attention has been devoted to the improvement of this variety. The latter, however, is not without its drawbacks, many motorists having suffered from carburettor troubles due either to the blocking up of the small petrol outlet at the spraying nozzle or to the float failing to act properly. Mr. Worby Beaumont, in dealing with the subject of carburettors in his work on "Motor Vehicles and Motors," remarks that "one of the most perfect would be the application of capillarity and of other simple means of securing automatically petrol-wetted surfaces. A carburettor box might, for instance, be filled with



Section of "Gallia" Carburettor.

plates so placed that they are occasionally awash, and are kept moist always at the lowest part by capillarity, the air being forced to traverse the greater part of their surface. It is obvious that if these plates were perforated they would present larger surfaces, and that if wire netting like that used for sieves, with, say, 300 to 400 holes per square inch, were employed the wetted surface presented to the moving air in quite a short path might be very large. A carburettor on this system would be of small dimensions as compared with most of those in use, and petrol in them would be uniformly evaporated if there were no outlet for the carburetted air except that to the motor."

The requirements of an evaporation or wick type of carburettor thus set out by Mr. Beaumont appear to have been carried into effect in the "Gallia" apparatus, of which we are now able to give general and sectional views. Referring to the latter, it will be seen that the air is drawn in through a valve *b* at the bottom of the apparatus, the valve being opened by the suction of the motor. The air thus drawn in is forced to pass through the wire gauze discs *c*, between which are layers of spongy material *d*, causing it to be impregnated with petrol vapour; in rising the carburetted air meets the cap *e*, which deflects it sideways through the gauze *f* into the chamber above, and thence, through another gauze *g*, into the

admission pipe *A* to the engine. The flow of petrol to the discs *c* is automatically regulated. It will be seen that as the air valve *b* is raised by the suction stroke of the motor, it bears against and lifts the stem *h* of a valve *l*; this permits the petrol in the pipe *k* to enter the space *l*, the spirit then finding its way to the gauze discs by the passages *m* and *o*.

The apparatus is intended to be mounted at a lower level than the main petrol tank, from which it is fed by gravity. The pipe is provided with a feed regulating valve the position of which can be regulated once and for all in the following way. After first closing the valve completely it is opened to the extent of a quarter of a turn and the engine started up. If misfiring ensues, notwithstanding that the ignition apparatus is known to be in perfect order, it is an indication that the flow of petrol is insufficient. The valve is consequently given another quarter of a turn, which will in all probability give rise to a smoky exhaust. Then by very gradually reducing the petrol flow by screwing down the valve until all signs of smoke in the exhaust have disappeared, the point will be obtained where the motor will give its maximum of efficiency with a minimum of heating. This once obtained, a mark may be made on the stem of the valve, so that when used to shut off the petrol supply the right degree of opening can again be easily obtained. A throttle valve can be arranged on the admission pipe *A* in the usual way, while the quality of the mixture may be varied by admitting more or less fresh air through holes *n*, which can be opened to any desired extent by the regulating disc *v* controlled by the lever *p*. A jacket *x* is provided through which part of the exhaust gases can be circulated in order to heat the evaporating chamber in cold weather, the gases entering the jacket at *y* and emerging therefrom at *z*. In summer it is unnecessary and undesirable to heat the chamber, so that a tap should be provided on the pipe *y* in order to shut off the exhaust gases. In contradistinction to the usual opinion that a smoky exhaust is due to over lubrication, Messrs. Michaud state that it is the result of an excess of spirit introduced into the explosion chamber, and that by reducing the supply of petrol until the smoke disappears a great economy of fuel is effected. In addition to the advantages claimed for the apparatus in the way of its reliability and regularity of action, owing to there being no small passages to become blocked, the makers claim that there is no danger of fire, owing to the reduced amount of spirit contained in the carburettor. We may add that the apparatus, which is made in a variety of sizes in order to render it suitable for motor-cycles and cars of different horse-powers, was awarded a silver medal in the competition of carburettors organised last year by the French Automobile Club.

ALREADY motorists are thinking of the Isle of Man, where the Trophy Race will be held next month, and several of the Douglas hotels, including the Villiers, are reminding us of the welcome that awaits motoring visitors to their hospitable quarters.

WE learn from Turner's Motor Manufacturing Company, Ltd., that they are now fitting to the Turner-Miesse steam cars a new burner regulator which enables the heat of the generator to be regulated to any desired extent when the car has to stand for half an hour or more, or when waiting about whilst the passengers are shopping. The main burner itself is instantaneously turned down, and consequently there is no need when standing of any pilot light, which is always liable to get blown out in a high wind, while the car is always ready for an immediate start. The new regulator, which was suggested to the firm by Mr. W. Hill, of Aldeburgh, an enthusiastic user of a Turner-Miesse car, has been subjected to exhaustive trials, and obviates the complaint that has occasionally been made in the past that a steam car is unsuitable for shopping because of the difficulty of maintaining the generator at the requisite temperature to enable an instantaneous start to be made.



## SOME CURRENT TOPICS.

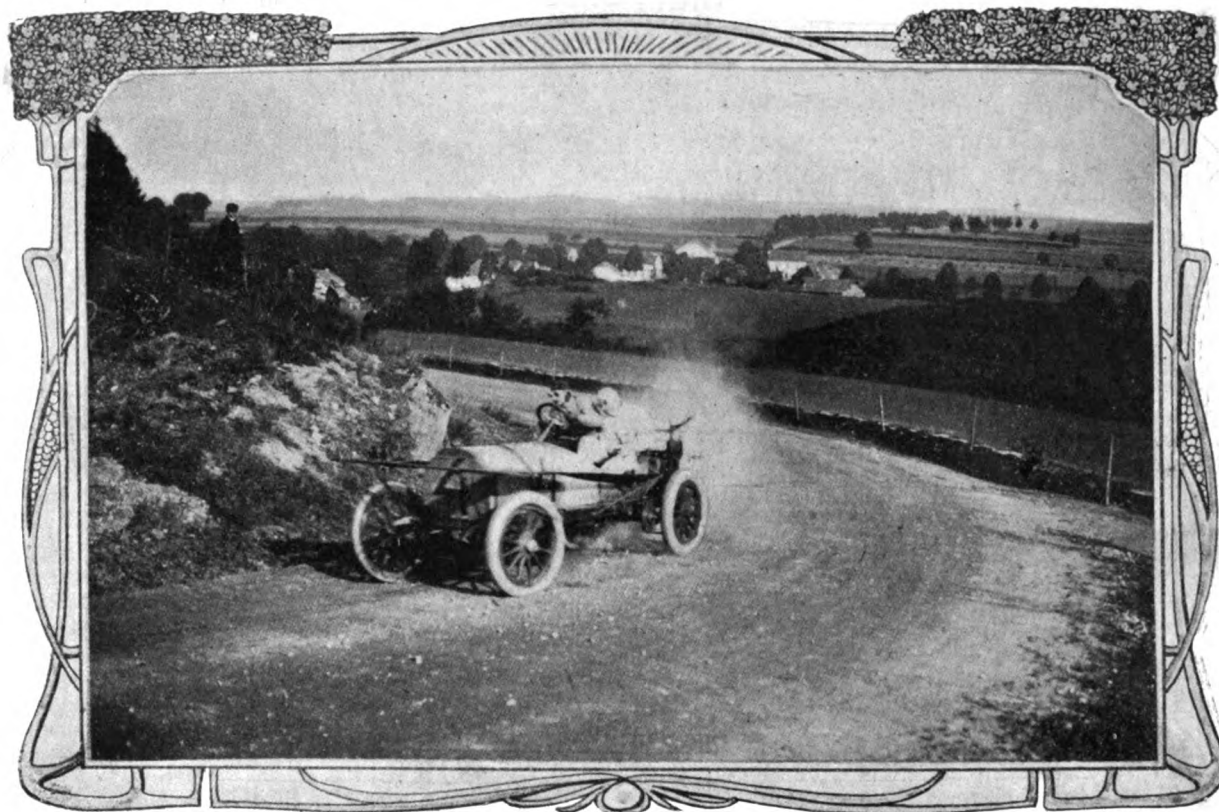
### The Horse Power of Motor-Cars.

Some weeks ago (see the *M.C.J.* of July 21st last) we gave the formula which has been adopted by the Verein Deutscher Motorfahrzeug Industrieller, or German Motor Manufacturers' Union, for estimating the horse-power developed, not by the engine, but at the road wheels of the car. The formula, which has been adopted by the German Government in connection with the new scale of taxes on motor-cars based on the horse-power of the vehicles, is as follows:—

$$N = 0.3 \times i \times d^2 \times s,$$

where  $N$  = horse-power,  $i$  the number of cylinders,  $d$  the diameter of the cylinder in centimetres, and  $s$  the stroke in metres. In connection with this matter, Mr. T. Blackwood Murray, of the

in mesh, the requisite pair of gear wheels being made to transmit the power either by means of clutches or sliding feathers on the shaft, but so far the *train balladeur*, or sliding pinion type of change-speed gear, although it has always been condemned by engineers, still continues by far the most largely used type. In view of the rapid increase in motor-buses, and the frequent stops and re-starts these vehicles are required to make, there would certainly appear room for some improvement in the change-speed gear, and in this connection the brief particulars that have reached us of one in which the gear changes automatically to suit the road conditions, and which is being fitted to an American car, are of interest. Broadly speaking, the gear is of the type in which the pinions on one of the shafts run loosely, being locked thereto by means of individual clutches, the latter being of the multiple disc variety. A series of weights, arranged on the centrifugal governor principle, rotate with the engine shaft inside the hollow flywheel. When the shaft begins to rotate the governor weights commence to fly outward, but the engine runs free until the speed reaches about 300 revolu-



The Circuit des Ardennes.—Jenatsy rounding the bend at Longlier on his Mercedes.

Albion Motor-Car Company, Ltd., in a letter to us on the subject, remarks that "a glance at the formula shows that the rating of the car varies directly as the stroke of the engine, and as no account is taken of the engine speed it will be a direct incentive to the German manufacturers to make short stroke high speed engines, as these, for the purpose of taxation, will, according to this formula, be rated much below their actual horse-power. Most engineers are agreed that the rating of motor-car engines should be based on a fixed piston speed, namely about 800 to 900 ft. per minute; the formula as decided upon would only be correct for motors having a stroke about 15 centimetres. A much simpler and more reliable formula would be:—

$$N = .043 \times i \times d^2,$$

where  $N$  = horse-power,  $i$  the number of cylinders,  $d$  the diameter of the cylinder in centimetres."

### An Automatic Change-speed Gear.

Many efforts have been made to bring about the general adoption of change-speed gears the pinions of which are always

tions a minute, when fingers actuated by the weights press the plates of the low-speed clutch together and the low gear takes up the drive. The plates of the clutch of course slip at first, but take hold firmly as the speed of the motor increases and the governor weights act more strongly. If the throttle is further opened so as to increase the engine speed, the governor weights will fly out still further and compress the spring which has hitherto kept the clutch for the next higher speed out of engagement. As the higher speed gears take up the drive, the lower speed gears overrun on silent ratchets. As the engine speed falls, on the other hand, the gears automatically change down by reversing the process, and let go altogether before the speed falls to a point where the motor would come to a stop. The car on which this transmission is fitted is controlled entirely by the throttle, the gears taking care of themselves, no change lever being provided. It will be interesting to watch how the idea—which is not altogether new, it having been shown by M. Megy at the Paris Salon some years ago—will work out in practice.

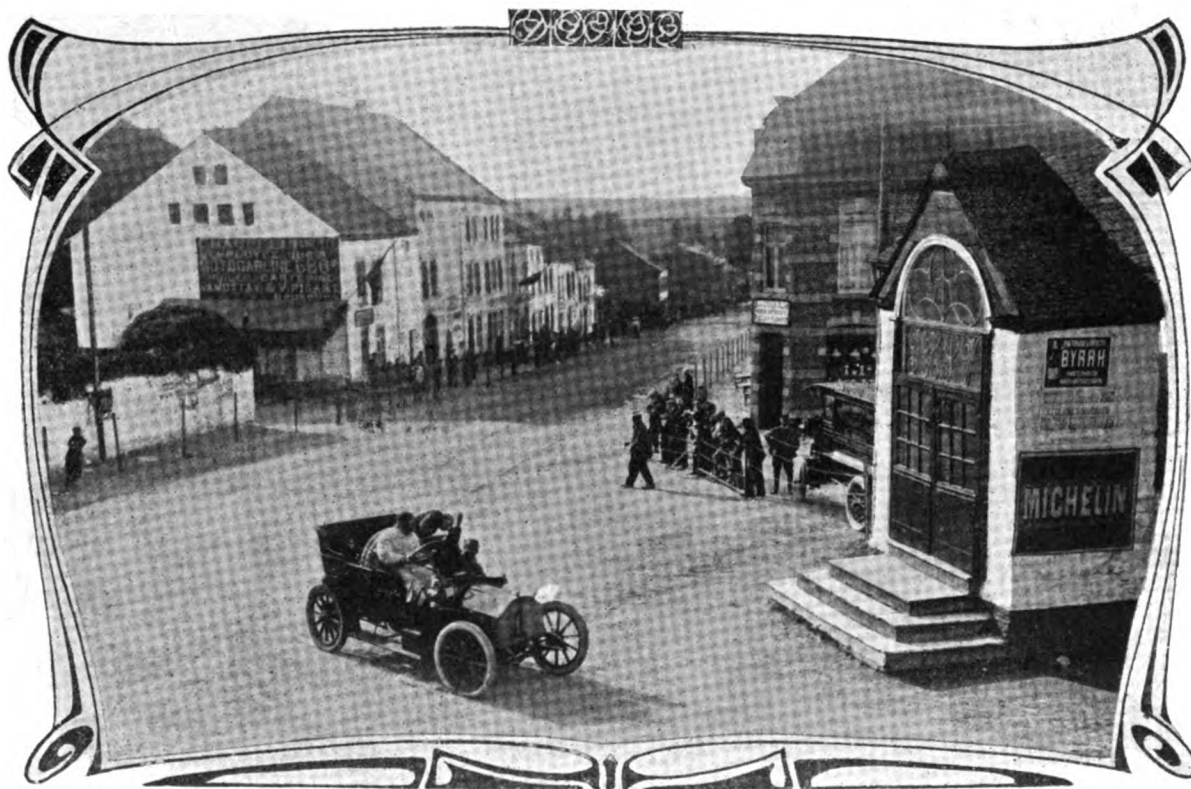
## CONTINENTAL NOTES.

**The Coupe d'Auvergne.**

The Automobile Club d'Auvergne is organising a touring contest for the Coupe d'Auvergne. The event is to be held from the 3rd to the 8th September next, and will comprise classes for motor-bicycles, motor-cycles, single-cylinder cars up to a maximum bore of 120 mm., and capable of maintaining an average speed of 25 kilometres per hour; two-cylinder cars, maximum bore 120 mm., or four-cylinder cars, 90 mm., maximum speed 30 kilometres per hour; four-cylinder cars, 120 mm. bore, 35 kilometres per hour; and four-cylinder cars, 140 mm. bore, 40 kilometres per hour. The daily runs are as follows:—September 3, Clermont-Ferrand, Chateau-neuf-les-Bains, Vichy, 182 kilometres; September 4, Exhibition at Vichy; September 5, Vichy, Ambert, Le Puy, 199 kilometres; September 6, Le Puy, Saint Flour, Aurillac, 200 kilometres; September 7, Aurillac, Condat, Brionde, 181 kilometres; September 8, Brionde, La Bourboule, Clermont-Ferrand, 168 kilometres.

capacity of  $3\frac{3}{4}$  litres, equal to about 24-h.p. Altogether there were eighteen starters—three each Aries, Germain, Metallurgique, Minerva, Pipe, and Vivinus—and of these sixteen finished, the withdrawals consisting of a Germain and an Aries.

Order.	Driver.	Car.	Bore and stroke in mm.	Time.		
				H.	M.	S.
1.	Wilhelm	Metallurgique	102 by 114	5	27	38
2.	Perpere	Germain	102 by 112	5	29	51
3.	Brabazon	Minerva	106 by 106	5	39	49
4.	De Caters	Germain	102 by 112	5	41	20
5.	Burckhardt	Metallurgique	102 by 114	5	42	2
6.	Pierry	Minerva	106 by 106	5	48	32
7.	Kinet	Pipe	99.7 by 120	5	53	34
8.	Reinhardt	Metallurgique	102 by 114	6	1	6
9.	Fischer	Vivinus	106 by 106	6	11	55
10.	Hautvast	Pipe	99.7 by 120	6	12	30
11.	Petiet	Aries	95 by 130	6	15	5
12.	Kuhling	Vivinus	106 by 106	6	35	31
13.	De Crawhez	Vivinus	106 by 106	6	36	26
14.	Jenatzy	Pipe	99.7 by 120	6	51	23
15.	Jacobs	Aries	95 by 130	7	4	48
16.	Porlier	Minerva	106 by 106	7	20	4



The Coupe de Liedekerke.—Wilhelm, the Winner of the Race, passing through Bastogne on his Metallurgique Car.

**The Coupe de "Matin."**

The Coupe de "Matin" reliability trial, which commenced on the 2nd inst., is drawing to its end. After covering about 3,300 kilometres, the competitors reached Vichy on Friday, the 17th inst., and were quite ready for the rest which was accorded them on the following day. Out of the 49 which started, only 28 are still in the event, and of these, on the arrival at Vichy, only eleven have a clean score. The two Siddeley cars are still in the running, although, like the majority of the vehicles, they have lost a number of marks. On the 19th the run was to Lyons, 202 kilometres, and on Monday, the 20th, to Aix-les-Bains, 185 kilometres.

**The Liedekerke Cup Contest.**

As briefly recorded in our last issue, the contest for the Coupe de Liedekerke, organised by the Automobile Club of Belgium, held on Tuesday, the 14th inst., was won by Wilhelm on a Metallurgique. The race, which consisted of five laps of the Circuit des Ardennes, giving a total of 268 miles, was for fully-equipped touring cars having a maximum cylinder

The times per lap of the winning car were remarkably even, they varying only from 1 h. 5 min. 4 sec. to 1 h. 5 min. 46 sec., a difference of only 40 sec. The average speed, too, was exceedingly creditable, Wilhelm's time being equivalent to a rate of about 49 miles an hour. The Germain cars did well, as not only did one of them secure second place, but Perpere made the fastest lap of the day, covering the distance of  $53\frac{1}{2}$  miles in 1 h. 3 min. 46 sec.

**Miscellaneous Items.**

The Mors Company have just completed a 28-h.p. 3- $\frac{3}{4}$  ton petrol lorry for the French military authorities, for use in the commissariat service.—Caillois and Le Blon left Paris on Saturday last en route to the United States, where they will drive Thomas cars in the forthcoming Vanderbilt Cup race.—A motor-car service has been established between Boulogne, Le Touquet, and Paris Plage.—A public motor-car service has been started between Domodossola and Bognanco, Italy.—The report that the Coupe d'Or trophy was destroyed in the recent fire at the Milan Exhibition is denied.

It is proposed to hold an automobile meeting next spring at Bexhill, for which Earl De La Warr has offered the use of his private motor track.

THE value of the exports of motor-cars and parts from the United States during June last amounted to £107,853, as against only £62,699 in the corresponding month of 1905.

THE car which nightly rushes on at the Oxford Music Hall (London) through a wooden fence into a garden in Harry Tate's sketch, "Gardening," is a Peugeot.

MR. W. RIPLEY, of the Tharrawaddy District, Burma, has had a 2½-h.p. Brown motor-cycle for the past three years. He has ridden it practically every day.

THE East Grinstead Rural District Council has adopted a resolution in favour of an eight miles an hour limit for motor-cars when passing through villages.

THE Pembroke Technical Schools, near Dublin, have a firm of motor repairers in occupation of their workshops, thus giving them varied facilities for the instruction of students in automobilism.

THE London Motor Omnibus Company have received a writ in connection with the motor-omnibus disaster at Handcross. The plaintiff is the executrix of Mr. W. E. Bailey, and this will probably be regarded as a test case.

THE Chief Constable of Herefordshire, "as a matter of courtesy," has withdrawn the charge of negligent driving preferred against Walter Henry Hood, the chauffeur in charge of Major Borrodale's car, which collided with the Duke of Connaught's car.

M. A. GODIN, of 1, Red Lion Square, W.C., whose attractive album of motoring personalities has already been eulogised in our columns, will be pleased to send a copy on receipt of 2s. to cover cost of carriage, &c. It is both a tribute to the excellence of the Ducellier lamps and an interesting record of the men engaged in the motor-car industry.

JUST after midnight on Tuesday the Royal Mail motor-van LC 4,972, from the G.P.O. to Redhill, broke down on Blackfriars Bridge owing to a snapped axle. Less than half an hour elapsed between the breakdown and the arrival of another car to take its place. Its ten bags of mails were transferred, and the people of Redhill received their letters at the usual hour.

TO obviate the inclusion of no fewer than five level crossings in the course selected for the International Tourist Trophy race in the Isle of Man a shorter circuit will be followed on the 27th prox., which will necessitate an extra lap to complete the full distance. The main point of interest in the new route is the avoidance of Castletown and the run to Peel, which has been somewhat neglected in the past.

IN consequence of numerous complaints of the difficulty of hiring motor-cabs experienced by visitors staying at hotels in the neighbourhood of Northumberland Avenue and the Strand, W.C., the City and Suburban Motor Cab Company, Ltd., has made arrangements to place six of their well-known "Unic" landaulets on the rank at the corner of Duncannon Street and the Strand. The telephone number of this rank is 5232 Central, and orders received on the telephone will be immediately attended to.

MESSRS. DEAN AND BURDEN BROS.' motor-boat Scout IV, which is 25 ft. in length and 5 ft. 6 in. beam, and fitted with a 12-h.p. four-cylinder "Scout" motor with reversible propeller, was last week submitted to a long distance trial under the official observation of the Motor Yacht Club. This test trial commenced at 7 a.m. on the 14th inst., and finished at 7 a.m. on the 16th inst. The vessel ran the whole 48 hours without a single mechanical delay, the only stops during the trial being 13½ min. through water in the petrol, and 5 sec. for an accidental stop in avoiding running into a mooring in the dark. The weather was distinctly unfavourable, a strong south-west wind blowing on the 15th inst. with occasional heavy showers. The boat ran constantly and steadily throughout, and the "Scout" engine was in perfect order at the end of the trial.

## HERE AND THERE.

A RACE meeting on the Exhibition track was recently held by the Winnipeg Automobile Club.

THE Worsley District Council has resolved to draw the attention of the Lancashire

County Council to the dangers arising to the public through the lack of proper supervision of wagons and trailers attached to heavy motor-cars.

HALLEY'S INDUSTRIAL MOTORS, LTD., Glasgow, have secured an order for several 40-h.p. single-deck 'buses, to carry eighteen passengers, from Canada.

THE KNOX MOTOR TRUCK COMPANY, of Springfield, Mass., U.S.A., have just completed a 24-h.p. motor mail van for use in connection with the postal service in Mexico.

A TRIAL was made at New Scotland Yard of twenty-five new motor taximeter cabs on Saturday, and they were all passed as satisfactory for service in the Metropolis.



General View of "Gallia" Carburettor. (See page 542.)

92 AND 94, MITCHELL STREET, Glasgow, have been opened by the New Arrol-Johnston Agency, Ltd., for the sale of New Arrol-Johnston cars. Mr. E. A. Rosenheim has been placed in charge.

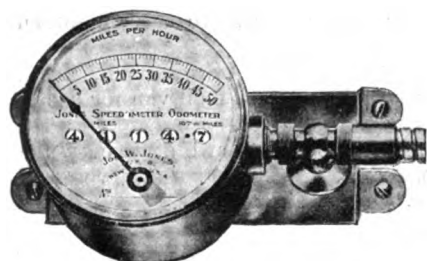
IN our report of the Scottish Reliability Trials reference was made to the uniformly good performances of the Continental tyres therein. Of the twenty-nine cars that started thus fitted an equivalent of 66 per cent. finished without the tyres being touched.

MESSRS. CANNON AND CO., of the Penton Carriage and Motor Body Works, Watson Street, Newington Green, N., and Mildmay Avenue, Mildmay Park, London, N., have excellent facilities for the building of all kinds of motor bodies. Their experience as carriage builders is of long standing and they have studied the details of automobile construction with a view to catering for all classes of motor-car work. They are specialising in aluminium construction and are prepared to work to customers' designs or suggest ideas for high-class work.

AN Army journal suggests that the difficulty of securing recruits for the Army Motor Reserve might be overcome if subordinate ranks of certificated drivers were established.

THE garage of Messrs. A. W. Chapman and Co. in Friars Street, Inverness, is open all the twenty-four hours of the day for the convenience of motorists in the Highlands. Repairs are also executed there.

IN the A.C.G.B.I. Speedometer competition the Jones speedometer did so well that many of our readers may be interested in the illustration herewith. This type registers the



season's mileage travelled up to 9,999 9-10 miles, as well as the speed in miles per hour. It is made in two sizes, that with a 3 in. dial showing the speed up to 50 miles per hour; that with a 4 in. dial indicating up to 60 or 100 miles per hour.

The Jones speedometers and odometers are intended for attachment to the dashboard, and are actuated by means of a flexible shaft attachment to one of the wheels of the car. The driving gear consists of a large gear attached to the hub of the wheel, and a small gear carried by a ball-bearing shaft at the end of the flexible cable and supported on the steering knuckle by means of a bracket. The ball bearing shaft is provided with a swivel base, which permits the gears to separate and dislodge any obstacle that may come between the teeth, thereby preventing damage to the gears. The spring in the swivel base operates automatically to bring the gears back into mesh. The flexible shaft consists of a woven steel wire cable enclosed in a strong brass casing. This is partially filled with a composition of graphite and cosmoline, which works down and lubricates the ball-bearing small gear shaft. Centrifugal force, the principle on which the speedometer is based, admits of a simplicity of construction resulting in compactness, durability and positive and permanent accuracy—points upon which Messrs. Markt and Co., 6, City Road, E.C., the British agents, will be pleased to assure inquirers.

MOTORISTS should know by this time that the speed limit in Richmond Park is ten miles an hour, and that those who exceed that are not wise. The local police are watchful, and the Kingston magistrates are unmerciful to drivers who are alleged to go beyond that speed.

FACING Big Ben and Westminster Abbey, the new home of the Reo Motor Co. occupies one of the most distinguished positions in London. Behind the Canning statue, and practically adjoining the Middlesex Guildhall, is a building erected about a century ago for one of the first national schools in the country. This has just been adapted for a very modern purpose, viz., the exhibition of an up-to-date motor-car, favourably introduced to the British public in the late Scottish Reliability Trials, when a 16-h.p. Reo car gained 798 out of 800 marks for reliability, the trivial loss being due to ignition. On the hills it achieved distinction, being the second speediest in its class up Cairnwell and round the Devil's Elbow. It has a horizontal opposed double-cylinder engine, with change-speed gear of the planetary type, giving two speeds and reverse, the final drive being by a single chain on to a live axle. On Tuesday we had a run out on the car, with Mr. Gordon Sharp at the wheel, and were much struck with its quiet and vibrationless running. The outline of the body gives it a good appearance, and the advent of the Reo to the British market adds to the selection of desirable cars at a moderate price. The 16-h.p. is fitted with a tonneau body, and the 8-h.p. is a two-seated vehicle with a rear folding seat, useful when a third passenger is to be carried. Reverting to the new dépôt in Broad Sanctuary, Westminster, here the Reo Motors, Ltd., will have ample garage and workshop facilities, and will carry a full range of spare parts, so that purchasers of cars therefrom will experience no delay in securing replacements. Such, however, are not likely to be in great demand, the workmanship of the car being of no ordinary calibre.

CAUTION boards have been erected at Ranvilles Corner, near Romsey, on the London to Bournemouth road, by Messrs. Mitchell Bros., of the Romsey Motor Garage.

WE learn from the London and Parisian Motor Co., Ltd., that the Hotchkiss Co. are building a large number of 10-14-h.p. four-cylinder motor-cabs for service in Paris.

MR. ERNEST B. VOISIN informs us that the 7-8-h.p. Swift purchased by him a year ago has been running continuously without trouble, covering from ten to twelve thousand miles.

MR. HENRY MOORE, of Brighton, has driven his 16-20-h.p. Argyll, fitted with the Moseley Perfect tyres, 2,879 miles in the course of the daily runs he has been making during the season.

A NUMBER of non-commissioned officers and men of the 3rd Battalion Coldstream Guards have sat for the A.C.G.B.I. examination. This is now being held every Wednesday at 119, Piccadilly, W.

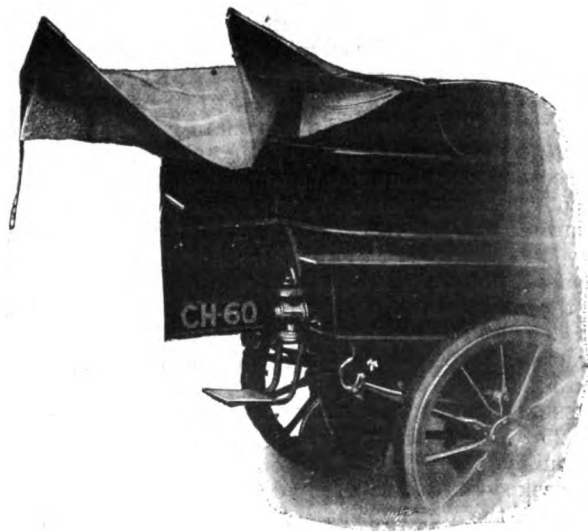
THE L.G.B. inquiry into the application of the Carnarvon County Council for the limitation of the speed of motor-cars to ten miles per hour in the district lying west of Vaughan Street, Llandudno, will be held on the 12th prox.

THE Battle Urban Council has appointed a special committee to draw up particulars of dangerous spots in the locality where the speed limit for motor-cars ought to be reduced, the suggestions to be afterwards forwarded to the county council.

THE Lancashire Steam Motor Co., of Leyland, has lately completed a 35-40-h.p. double-deck bus for public service in the Orkney Islands. The body has a seating capacity for forty passengers, and is so designed that no conductor is required, the entrance being towards the front end, near the driver.

SEVERAL folding screens for motor-cars have been brought out by Messrs. Lowe, Bevan and Co., of Birmingham. Their "Metallic" folding wind screen has a frame constructed entirely of metal, and is fitted with their patent Simplex fittings. These screens are of the folding type, and characterised by neatness of design as well as by excellent workmanship.

A DUST-SCREEN known as the "Quick Fit," and much seen upon the roads during the season now closing, is that shown in the accompanying illustration. It is specially designed for cars with tonneau bodies, the intention being to overcome the difficulty of passengers alighting when a screen is in use. There is only one thumb screw forming the attachment, and this should be arranged so as to come in line with the back hinges as nearly as possible. The two bottom ends of the screen



are merely buttoned by straps to two buttons on either side of the tonneau body. Exit or entrance is provided by undoing the left hand button, and when the door is opened the whole half of the screen comes back with it, as shown in the illustration. After taking a seat in the car and closing the door all that the passenger need do is to pull a strap round the tonneau, fastening it on the button on the side, when the screen will assume its normal position for combating the dust that rises from our roads. Messrs. Gamage are putting it on the market.





Letters to the Editor should be addressed to the offices,  
87-88, Charing Cross Road, W.C.]

### THE SUPPLY OF PETROL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Messrs. Thompson and Hunter, the well-known petroleum mining experts, have lately prepared for me a report on the output of crude oils throughout the world, and they have specially noticed the petrol question. With their kind permission I am giving a few extracts from their report, which may be of interest:—

The following are the figures relating to motor spirit (nominated benzine in the official returns) imported into the United Kingdom during the last two and a half years, giving also the country of origin of the large amounts:—

	1904.	1905.	1906.
	Imperial	Imperial	(6 months)
	gals.	gals.	Imperial
			gals.
United States ... ..	5,960,701	10,409,200	5,591,140
Sumatra and East Indies (except			
Borneo) ... ..	4,420,250	7,827,930	2,069,410
Roumania ... ..	980,000	—	591,980
Borneo ... ..	—	—	4,369,450
Other countries ... ..	611,508	421,261	8,160
	11,972,459	18,658,391	12,630,140
1906.—Half year, 12,630,140 imperial gallons; one year, 25,260,280 imperial gallons.			

We had only yesterday an interview with a distinguished Wall Street merchant who is acquainted with the oil business of the United States, and he affirms confidently that the shortage of motor spirit is so great in America that it will be necessary to import it into the country before long unless new oil fields yielding oil of a lighter grade are found very soon. At the moment, spirit is only exported from America, as the land freights far exceed those of water. The bulk of Californian petroleum yields scarcely any benzine, and the same can be said of the majority of Texas oils, so that our chief sources of supply must be looked for from the East Indies and Roumania. Roumania is not a reliable source, as Germany and Austria, being near neighbours, will naturally import the spirit in large quantities as the motor trade develops.

Summarising, we find that American supplies of light spirit are diminishing, and likely to disappear; the Russian is scarcely worth consideration, and Roumanian and Galician outputs are likely to be entirely consumed by Austria and Germany, leaving the East Indies together with certain small oil fields, whose joint output of crude is but 7·2 per cent. of the world's supply, to furnish Great Britain and Western Europe with spirit. The imports of benzine into Great Britain were about 56 per cent. more in 1905 than in 1904, and the last half year's return indicates that the total imports this year will far exceed 25,000,000 gallons. An almost corresponding increase in demand will arise in other countries of Western Europe.—Yours truly,  
A. DUCKHAM.

### A CAR FOR DOCTOR'S USE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to Dr. Oliver Smithson's letter, I should strongly recommend a 10-h.p. Turner-Miesse steam car as being most suitable for his requirements. Speaking from my own experience, I have driven my car about 3,000 miles and have never had a mishap or breakdown of any sort whatever. It is quiet, free from vibration, smokeless, and is also most economical to run, as my expenses work out at slightly less than 4d. per mile. This does not include tyres, of which I have just bought a new pair for the back wheels. I have had only two punctures, although the roads in my district are very loose. Apart from tyres I have not spent a penny in repairs, and I think the car goes better than ever.

A new burner regulator has just been brought out, by means of which the furnace can be turned up or down like a gas stove, so that the car can be kept waiting about and yet be ready to start at a moment's notice. I look after the car myself and give it reasonable attention, and, as I said before, have never had a breakdown of any sort or spent a penny in repairs.—Yours truly,  
BJ-72.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I want a small light four-cylinder car, reliable, silent, flexible engine, about 10 or 12-h.p., side entrance, with neat body and as short a wheel base as possible, length over all about eleven feet. If any of your readers would kindly give me the name of a car meeting the above

requirements, I would feel greatly obliged. The 10-12-h.p. Rover and the 10-12-h.p. Coventry Humber are too big for my purpose.—Yours truly,  
M D., BELFAST.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR.—I notice in the *M.C.J.* of the 18th inst. Mr. Smithson complains about the noise made by petrol cars. Surely if he had an up-to-date car this complaint would not be possible. I am driving an 8-h.p. two-cylinder car which will average, with four up, 22 miles per hour on give and take roads, and is as silent as any four-cylinder car.—Yours truly,  
G. H. WAIT.

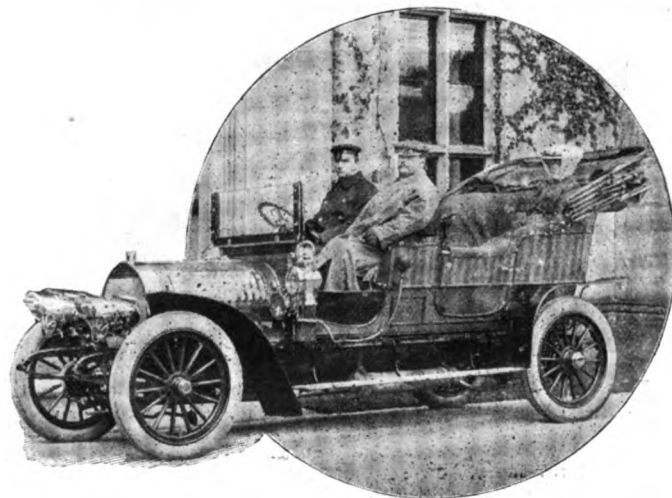
### THE TENTH EMANCIPATION ANNIVERSARY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In this year falls the tenth anniversary of Motor-car Emancipation Day (November 14th, 1896) and the repeal of the prohibitory statutes.

The occasion ought not to pass unrecognized, and we suggest a gathering limited to the pioneers of November 14th, 1896—a gathering essentially in the nature of a family party for the re-telling of old tales and not for purposes of advertisement.

If our idea finds a responsive echo in the hearts of the gentlemen referred to, will they communicate with us to Dacre House, Arundel Street, Strand, expressing their willingness to participate and making suggestions as to a fitting form of celebration? A small working committee will, of course, be needed.—Yours truly,  
C. McROBIE TURRELL.  
CHAS JARROTT.



Mr. H. Graystone, off Hay, Herefordshire, on his 25-38-h.p. (Spyker Car).

### DUSTLESS ROADS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to your paragraph upon the subject of the Dustless Roads Association in your last issue, I think that if you duly appreciated our objects and methods you would agree that no other body is doing the work we have set out to do and would endorse our claim upon the support of motorists.

At present the public are content to abuse motorists as solely responsible for the dust nuisance. But what if the whole weight of public opinion were directed to the true remedy, the provision of roads suitable for modern traffic conditions? Our object is to lead the public to view the matter in that light and to afford them opportunities in each district throughout the country to actively agitate for the application of the real remedy. It is perfectly true that the Roads Improvement Association and other organisations are doing good work, but not this work; and they are all ineligible to undertake it, for the simple reason that they are motorists' associations. Even the R.I.A. is handicapped by reason of their secretary being the motorists' very worthy champion. It is clear that the movement we have initiated can only be conducted by a peoples' association. Our mission is, briefly, to organise the public to bring pressure to bear upon the road authorities with regard to the making and upkeep of the roads. Other bodies may be supplying those authorities with the necessary technical data, but no other association is attempting, nor qualified to attempt, to turn into a useful channel the enormous force now awaiting utilisation. It can, of course, be appropriated by the Anti-motorist Highways Protection League, but are you content that this should happen?—Yours truly,  
CHAS. F. VAUGHAN, Hon. Sec.

[We shall be pleased to receive the names of the committee of this Association and a copy of the rules and other printed matter, to add to

our library of the literature of Associations. Unfortunately Mr. Vaughan's letter is vague, and his efforts lack the practical nature of the work of the existing societies which, by experiments, are really educating the authorities and the public.]

### THE REPORT OF THE ROYAL COMMISSION.

TO THE EDITOR OF *The Motor-Car Journal*.

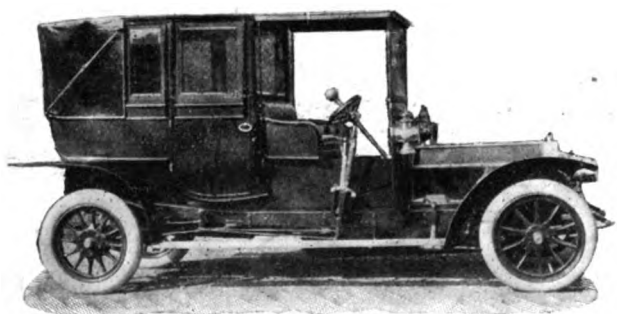
SIR,—If the taxes are increased as proposed, I for one shall have to give up motoring. There is a limit that one must abide by, and to pay five guineas annually for a small car is past my limit, and I consider it will be a heavy blow to manufacturers. Tyres are bad enough, then the rise in petrol adds up also, and it will decide many a prospective motorist not to be one.—Yours truly,

LIMITED.

### STARTING ON THE SWITCH.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—There is much of interest to motorists in your correspondence column of the *M.C.J.* of the 11th inst. I am sure motorists generally will be pleased to know of any genuine improvement in the direction of silence, sweet running, and economy of fuel. I know of a car in my district that has been made to start practically always on the switch that never would before, even when delivered new, made ever so much more silent and elastic or flexible. Also another with magneto ignition, which would never start on the magneto, but which now starts on first half turn. In both cases the result is obtained by a most simple little device. Still another has a much-improved brake which is more certain in action both ways and leaves the driver's hands free for management of the steering wheel in case of need. The arrangements are undoubtedly of great interest to all motorists, and are fitted by a very modest motor mechanic, who



The New Arrol-Johnston 24-30-h.p. double Landulet, which in all accommodates nine persons, seven inside and two on the driver's seat.

does not, I am afraid, possess that egotism of making a big noise about an improvement, however meritorious. His place is quite a modest one on the Bawtry Road, Doncaster, and I think, without exaggeration, motorists will find there something to be obtained to their general advantage.—Yours truly,

ONE WHO BELIEVES IN GENUINE MERIT.

### BRAKES FOR MOTOR-BUSES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The writer of the letter in the *M.C.J.* of the 11th inst., signed R. Henderson, may be interested to know that his suggested arrangement of motor-bus brakes is already used on the Pioneer vehicles. Another point is that although no cable is used with this brake its compensating action may be safely relied upon. I believe the only good quality a cable brake is supposed to possess over rigid connections is that it is "compensating." My opinion is that after being in use a short time the cable beds itself and does not give one way nor the other. Possibly some reader can give some information on this matter.—Yours truly,

H. B. K.

### A NOVEL SUGGESTION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I do not know if many motorists have a large scrap heap. If their experiences coincide with mine they must have many souvenirs of pleasant roadside stops, and of interesting hours spent in the motor pit or in some such comfortable position, removing defective parts, &c. Now my object in writing is to suggest that a special exhibit might be organised at the next show at the Agricultural Hall, at which private owners of cars be invited to show spares or old parts illustrative of the merit or the reverse of their respective automobiles. Personally I can contribute a crank which broke after the maker's guarantee had expired, also a clutch fork made of gun metal which opened out after three

weeks' use, a cast change-speed lever, a gun metal gear striker and many other examples doubtlessly worthy of exhibition as samples of "British engineering." I enclose my card and remain,—Yours truly,

A MEDICO MOTORIST.

### SELF-STARTING DEVICES FOR PETROL CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—What has become of the many self-starting devices for petrol cars of which so much was heard on the occasion of the last Paris Salon? At that time it looked as if a self-starting boom was setting in, but it seems to have fizzled out quickly, and the motorist still has in the majority of cars to go through the operation of starting the engine by means of the handle in front before climbing into his seat, just as his predecessor did ten years ago, when the petrol vehicle first began to assume encouraging proportions. It is true, of course, that many motors of the multi-cylinder type can be relied upon to start on the switch, but the time is evidently ripe for the inventor and the designer who is of an inventive turn of mind to bring out a simple and effective self-starting arrangement for single and double-cylinder cars.—Yours truly,

W. H. HARRIS.

### SPEEDOMETERS FOR THE PUBLIC.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—So many variations with regard to the speed of motor-buses appear in evidence at the London police courts that it is becoming increasingly necessary to have speed indicators fixed in such a position that drivers and conductors may know when they are exceeding the legal limit of speed. Everyone knows the difficulty of gauging the rate of travel, and this is not decreased when the person making the estimate is seated on the car driving. In London traffic, with its constant halts, each providing a strain on the nerves of the drivers, it is almost impossible to expect the driver to know if he is going too fast.

Cannot the public be let into the secrets of speed and a corresponding dial shown within the bus, so that both driver and public may know the rate of travel? Or, failing that, could not we have a speed indicator with a face on the obverse side? If this were fitted on the dashboard the driver would find it useful, while passers by might catch a glimpse of the speed, and so tend to check the illegalities of the drivers—illegalities often unintentional.—Yours truly,

W. B. RIDER.

[The idea suggested by our correspondent has been anticipated by Messrs. S. Smith and Son, who have brought out a speedometer for the dashboard with the face indicating the speed to the driver, and a "telltale" dial facing the public.]

### A DE DION CAR QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a two-cylinder 12-h.p. De Dion car, with expanding clutches. The car runs well with light load, say two passengers, on level or hilly road, but with five passengers the engine seems to lose power on hills and sometimes starts knocking, although racing on the level. The compression is perfect, lubrication all right, batteries new, non-trembler coil new; in fact, the engine seems to run as good as new when the car is standing. The striker for the make and break on the contact breaker rocks slightly and the cams are slightly worn. Would this have any effect? I should be delighted if any kind friend would help me out of my difficulty.—Yours truly,

E. B. D.

[We should imagine our correspondent's trouble to be due to the worn cams, as he suggests. No doubt, if these be renewed, the sluggishness will be overcome. It would also be advisable to somewhat tighten the contact breaker, as this might not give good contact at a slow speed, although at high speed the contact may be perfect.]

### MOTOR CARS ARRIVING IN ENGLAND.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As a subscriber of your journal, may I ask you to inform me whether steps are necessary for legalising my car on landing in England, as I hope to drive from here (Barcelona) in a few weeks' time? I refer to such matters as number, licence for driving, and how to arrange as regards duty (if any), that such may be refunded on leaving the country again.—Yours truly,

BARCELONA.

[Cars have to be registered and drivers licensed in the ordinary way. No duty is payable.]

SOLS PETROS.—The inquiry in our issue of the 11th inst. has elicited the information that this is supplied by Mr. George Dean, Foley, Longton, for the prevention of incrustation of boilers.

HOW ACCIDENTS OCCUR.—The Canford Cliffs Motor Omnibus Company, Limited, Bournemouth, write:—"Referring to the letter on the above subject appearing in the last issue of the *M.C.J.*, as our cars cover a portion of the route between Bournemouth and The Sandbanks, and have done for close upon seven years, we ask for an opportunity of saying that the car E.L. 316 is not owned or run by this company."

## THE CARE OF PNEUMATIC TYRES.

By F. J. J. GLYNN.

I THINK a note of warning should be given to motorists concerning the use of their pneumatic tyres, as it is apparent from the writer's observation that they are not doing all they could do to preserve the life of the same and get adequate service by so doing. The writer's experience in connection with tyres is a long one, and dates from the inception of the general use of pneumatics, and from his observations the remarks he is about to give apply to all makes—and none in particular—of motor tyres; and his only hope is that they will be of pecuniary benefit to automobilists, as well as removing a great deal of misconception that exists in their minds as to the cause of the premature failure of tyres.

The fundamental principle of the pneumatic tyre is to hold compressed air of such a volume that it will support the walls and maintain its circular shape in the transverse direction when carrying a load. The accepted method of obtaining this result when the tyre is applied to the wheels of an automobile, is to employ five components:—The rim, the air-chamber and valve, the cover, and the security bolt.

**The Rim.**—The standard rim used on automobiles throughout the world is designed to securely hold the cover by the beads or lugs on same, and for that purpose it has inturned edges or lips. The rim is manufactured of steel and forms the periphery of the rigid part of the wheel, whether made up in the "Artillery" pattern or with wire spokes.

The air chamber is an annular tube of india-rubber with a non-return valve. It is elastic and expansible in all directions, and is only held within circumscribed limits—when under the process of inflation and after—by the inextensible cover or envelope as fitted to the rim. Its purpose is to contain the compressed air, and for that reason the india-rubber must be of such a quality that it will keep air tight when inflated. The non-return valve is fitted into the air-chamber, so that by its medium the air can be introduced, and when fully compressed it will not leak from within the air-chamber, and thus reduce the efficient air pressure which supports the load carried by the tyre.

The cover or envelope is annular in its circumferential direction and is arch-shaped in its section, having beads or lugs which fit into the inturned edges or lips of the rim. It is composed of fabric and india-rubber. The method of construction and selection of materials is all important in the production of a successful motor tyre. The fabric is generally of woven cloth, the threads of which are of such strength and character that when sufficient layers, or plies, of cloth are superimposed upon one another, they will withstand the air pressure within; transmit the power developed by the engine into locomotion; and resist the frictional wear of the threads upon one another, so that adequate service may be obtained by its use. The employment of rubber is supplemental in a sense; alone it would be useless as a pneumatic tyre, for by reason of its elasticity in all directions air could not be sufficiently compressed within it to support the load that a tyre has to carry when used with an automobile. India-rubber is used with a cover so that the various plies of fabric shall be homogeneous with one another, and as a sheath to the fabric to protect it from the wear of the road.

**Security Bolts.**—Besides the rim, the air-chamber, and the cover, security bolts are employed. These bolts have an elliptical or elongated mushroom head covered with leather, and the shank of the bolts passes through holes in the base of the rim with the mushroom head of the bolt inside the cover. To the other end of the bolt "butterfly" or winged nuts are provided, so that when the tyre is fully inflated the winged nuts are screwed tightly towards the base of the rim, and thus clamp the edges of the cover securely thereto and prevent the cover from "creeping" or moving in a circumferential direction in the rim, when the power is being transmitted to the road wheels.

The foregoing explanation of the components of a pneumatic motor tyre is made so that the reader may realise the functions of the various parts. Taking each unit separately, he must admit that they have every appearance of being fragile, when the work they are put to is considered. But the possibilities of design and manufacture accomplished by some makers of motor tyres has overcome this apparent frailty, and when properly used in combination, they form the most efficient and economical method of tying a wheel yet placed before the automobile world. However careful the manufacturer may be in the selection of the materials and the workmanship, it finally remains with the user to maintain the efficiency of the tyre so that adequate wear shall be obtained. The writer, from his long and intimate experience of tyres and their users, regrets to have to state that motorists are very negligent in the upkeep of their tyres, and fail to give the necessary simple attention to them when most needed. The simplest and easiest attention to tyres is to see that they are sufficiently inflated, and amongst tyre manufacturers it is an established fact that 98 out of 100 causes of premature failure in pneumatic tyres is traceable their having been used insufficiently inflated.

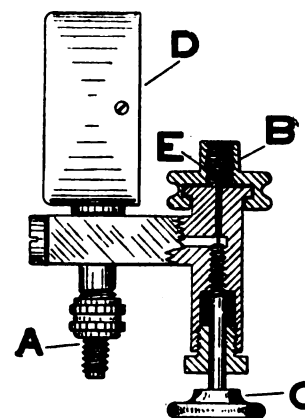
When working under a load the walls of the tyre need to be supported by a volume of compressed air within, so that it will not lessen the curvature of the tyre at its point of flexion and make a sharp curve; if so, the threads of the fabric will unduly rub in frictional contact with one another, and prematurely saw themselves through, and weaken the tyre to such an extent that a burst is inevitable, whereas, if a correct pressure of air had been maintained within the tyre, the threads would not have rubbed themselves through at the points of

flexion, and there would not have been any acute curvature in any part of the tyre. Motorists are not purposely negligent, but theoretically they are. They honestly believe they have sufficient air pressure in their tyres because they do not show any undue deflection when standing. A very small pressure of air to the square inch will prevent the tyre "bulging" when standing or running over a smooth surface, and they forget that when passing over unequal surfaces the tyre is continually withstanding the force of severe impacts which momentarily flatten the tyre to an abnormal degree, and these impacts occur so frequently and rapidly that the fabric at the point of flexion wears out as much in ten miles as would have carried it one hundred miles if correctly inflated. Besides, when under inflated the threads of the tyre are in unequal tension to transmit the power into locomotion and those threads, few or many as the case may be, that are in greatest tension do all the work and prematurely break through overstrain, after which additional work is thrown on the other threads, and in their turn they are unequal to the task, and break, causing a burst.

One naturally asks, "How am I to ascertain if I have the correct pressure in my tyre?" The pump I use has a pressure gauge, and surely that is sufficient?" The reply is, "There is not a more fallacious method of ascertaining the pressure within the tyre than having a pressure gauge at the pump end of the flexible connection. It only registers the pressure that is momentarily made at the end of the stroke when pumping, and does not indicate the pressure inside the tyre. Ninety-eight out of one hundred motorists are using their tyres under the honest belief that they have 70 lbs. to 80 lbs. pressure to the square inch, when they really have anything from 15 lbs. to 20 lbs. less.

The only accurate means of verifying the pressure in the tyres is to use an instrument such as the "T. and M. Tyre Tester," which has come to the writer's knowledge, and he has obtained from the manufacturers an illustration which is reproduced herewith.

The device has a Schaffer and Budenberg gauge (D) registering with undoubted accuracy, and it has a union (B) to attach to the



tyre valve in the same way as the flexible pump is attached. A pin (E) having at its end a milled nut (C) passes through a stuffing box and lifts the stem of the plunger in the valve proper by turning the milled nut from left to right. Directly the pointer in the gauge has moved from zero, just give a half-turn of the milled nut C and the valve is completely open, and the gauge then accurately registers the pressure per square inch within the tyre. Do not continue turning the milled nut C after this, as you are likely to bend the stem of the valve plunger and thus cause a bad seating and subsequent escape of air through the valve. Should the pressure of air not be sufficient, according to the table of pressures issued by each tyre manufacturer, within the tube, then attach the nozzle of the flexible pump connection to the supplemental non-return valve A and inflate in the ordinary way. As the pressure increases, the gauge will indicate the same during the process of inflation, and when you have obtained sufficient pressure turn the milled nut C from right to left, so as to permit the plunger in the valve proper to obtain its seating. Remove the tester from the valve and refit all the pieces of the latter, and you have accomplished a correct pressure within the tyre.

The tyre should not be over-inflated, as it is nearly as bad as under-inflation. It puts an undue tension on the threads of the fabric, bringing them very near their "breaking point," and then one has only to let in the clutch violently a few times to cause a rupture of the fabric. With this clever device a motorist can test his tyres every day, or as many times a day as he likes according to the development of his bump of carefulness—with very little trouble, for such a little time is needed that it should never be neglected—and the time spent means a considerable saving of £ s. d. in the tyre bill at the end of the year. After the introduction of this device there will be no excuse for motorists if they use their tyres incorrectly inflated, and tyre manufacturers cannot be blamed if they attribute negligence in the use of a tyre, should they show signs of want of inflation, or over-inflation, and repudiate any responsibility. Motorists will be safeguarding their interests by its use, and there will be less complaints generally of premature failure in motor tyres if motorists will see to it themselves daily that correct pressure is maintained.

## CLUBS AND ASSOCIATIONS.

### NOTTS A.C.'S HILL CLIMB.

ON Saturday the Nottinghamshire Automobile Club held a successful hill climbing competition at Hazlewood Hill, which was policed by Captain Holland, the Chief Constable of Derbyshire—an act much appreciated by the organisers. The arrangements were of the admirable nature invariably associated with the gatherings of the Notts Automobile Club, and reflected great credit upon Mr. Booth Granger, the hon. secretary. Mr. Charles Hardy, the president, acted as judge, Mr. A. R. Atkey as starter, and Mr. G. H. Kirk as clerk of the course, while Messrs. Albert Osborne and H. Perry were the timekeepers.

There were two sections, the first being the handicap and the second a racing section, in which the prize was awarded to the car doing the actual fastest time up the hill. In the former the best performance was that of Mr. F. A. Bolton, whose 35-45-h.p. Daimler tore up the hill in 1 min. 12-5 sec., or ten seconds faster than was accomplished by any other competitor in the same class. Another Daimler, driven by Mr. W. M. Hutchinson, and of 30-40-h.p., was the nearest to this, the time recorded being 1 min. 23-5 sec., while Mr. J. Doran, on a 22-h.p. Minerva, came third with 1 min. 48-2 sec., and Mr. J. Truman, on a 28-36-h.p. Daimler, fourth with 1 min. 58-1-5 sec.

The following are the details of the events:—

Owner.	Car.	Time.	
		Min.	Sec.
F. A. Bolton...	35-45-h.p. Daimler	1	12-5
W. M. Hutchinson...	30-40-h.p. Daimler	1	23-5
J. Doran...	22-h.p. Minerva	1	48-2
J. Truman...	28-36-h.p. Daimler	1	56-1-5
R. Cripps...	16-20-h.p. Argyll	2	28-1-5
H. Belcher...	16-20-h.p. Humber	2	35-2-5
Dr. R. G. Hogarth...	12-16-h.p. Clement-Talbot	2	44-2-5
G. H. Kirk...	16-20-h.p. Richard-Brasier	2	58-4-5
Spencer Downing...	10-h.p. Alldays and Onions	3	46-3-5
R. S. Clifford, jun.	12-h.p. Georges Richard	4	55-4-5

#### FASTEST TIME.

Cecil Edge	90-h.p. Napier (first run)	1	4-1-5
	(second run)	1	0-1-5
F. A. Bolton	35-45-h.p. Daimler (first run)	1	6-4-5
	(second run)	1	6-1-5
J. Doran	22-h.p. Minerva (first run)	1	23-4-5
"	" (second run)	1	22-3-5

### AERO.

THE Aero Club has issued the preliminary rules governing the long distance prize given by Miss Krabbe for competition during the autumn months of this year. It will be given to the competitor who, in a single trip, covers the greatest distance. This must be traversed over Great Britain only.

### KENT.

ONCE again the members of the Kent Automobile Club enjoyed the hospitality of their President, Sir David Salomons, at his residence, Broomhill, Tunbridge Wells. The weather fortunately kept fine and a very large number of members were present. Sir David Salomons presented the prizes obtained at the recent hill climb and gymkhana and also the gold medal awarded to Mr. T. H. Nash by this club for the special certificate for mechanical proficiency obtained by Mr. Nash at the Automobile Club's examination held at Maidstone.

After the presentation of the prizes some interesting pictures were shown on the cinematograph of the earthquake at San Francisco and also of the eruption of Mount Vesuvius. Then the members were invited to stroll about the beautiful grounds and also to inspect the stables and motor houses and workrooms, in which there are scientific instruments and tools of every kind.

Among those present were the following:—Dr. Firth and Mrs. Firth, Sir Alfred and Lady Watkin, Col. Henderson, Mr. and Mrs. J. W. Orde, Mr. and Mrs. Bernard Arnold, Mr. and Mrs. Preston, Mr. and Mrs. Huntly Walker, Mr. and Mrs. Shirley Price, Mr. and Mrs. Waddington, Mr. and Mrs. C. J. Morgan, Mr. and Mrs. Nash, Miss Nash, Mr. and Mrs. Austin, Col. E. Latter, Mr. and Mrs. Martingell, Mr. and Mrs. Darwin, Mr. and Mrs. Gardner, Mr. E. B. Gardner, Miss Queenie Arles, Dr. and Mrs. Dowding, Mr. and Mrs. Wright, Mr. and Mrs. Laslett, Mr. and Mrs. Symmonds, Mr. Crook, Mr. and Mrs. Batchelor, Mr. and Mrs. Baily, Mr. and Mrs. Killick, Mr. H. W. Killick, Mr. E. and Mrs. St. John Brice, Mr. and Mrs. Johnson, Mr. and Mrs. White, Rev. Cotton, Mr. H. Cosh, Mr. W. Stevens, Mr. and Mrs. Bolton, Dr. Holroyd, Mr. and Mrs. Shrubsole, Mr. Neate, Mr. Granville Kenyon, hon. sec., and Mrs. Kenyon.

### LINCOLNSHIRE.

THE Syston Park Hill Climb, promoted by the Lincolnshire A.C., was favoured with fine weather on Saturday last. Sir John Thorold had granted the club the use of his picturesque park, and the stiff hill along the private road made a capital spot for the trials. The total distance of the hill was about 660 yards, with an average gradient of 1 in 9-5, and a maximum gradient of 1 in 7. The meeting attracted motorists from all parts of Lincolnshire and adjoining counties, and from 300 to 400 people watched the events. In addition to prizes offered in three events special prizes were also awarded. The handicapping formula proved very satisfactory and everybody spoke highly of it. Appended are the results:—

CLASS A.—For cars not exceeding 10-h.p.

Name.	Make of Car.	Handicap figures.	Time-sec.	Marks.
*Sir Hickman Bacon	6-h.p. Wolseley	205-0-4		= 225-
+Dr. E. H. Cragg	Baby Peugeot	211-1-5		= 197
{Mr. G. E. Sanders	4½-h.p. De Dion	211-1-5		= 172
{Mr. J. E. Withers	6-h.p. Wolseley	211-1-5		= 172
Dr. White...	6-h.p. Wolseley	211-1-5		= 158
Dr. F. W. Mason	7-9-h.p. Peugeot	211-1-5		= 147
Dr. Stitt-Thomson	8-h.p. De Dion	211-1-5		= 141
Mr. P. H. Mays	8-h.p. Cottereau	211-1-5		= 140
Mr. C. Vincent-Smith	7-h.p. Swift	211-1-5		= 134
Mr. W. B. Parish	6-h.p. Rover	211-1-5		= 112
Mr. R. Purves	De Dion	211-1-5		= 112
Dr. W. F. Miller	7-h.p. Peugeot	211-1-5		= 110

\* Winner of first Club prize, also the Newsam Challenge Cup for the best performance on the handicap.  
† Winner of second Club prize.

CLASS B.—For cars not exceeding 20-h.p.

*Mr. T. W. Mays	10-12-h.p. Humber	118-0-0		= 160
+Mr. W. B. Jevons	10-12-h.p. Humber	118-0-0		= 158
Mr. B. Gibson	12-h.p. Richard-Brasier	118-0-0		= 153
Mr. P. Wright	10-12-h.p. Humber	118-0-0		= 151
Mr. E. M. Symson	10-12-h.p. Humber	118-0-0		= 139
Mr. T. W. A. Damon	10-12-h.p. Humber	118-0-0		= 135
Dr. W. J. Gilpin	12-h.p. Richard-Brasier	118-0-0		= 153
Mr. W. A. Tomlinson	10-12-h.p. Humber	118-0-0		= 132
Mr. W. J. Newsam	15-h.p. Panhard	118-0-0		= 122
{Mr. W. J. Gent	10-h.p. National	118-0-0		= 106
{Rev. T. A. Stoodley	10-h.p. De Dion	118-0-0		= 106
Rev. M. C. Wilkins	10-12-h.p. Argyll	118-0-0		= 86

\* Winner of first Club prize; also the first prize offered by the Humber Company.  
† Winner of second Club prize and second prize offered by the Humber Company.

CLASS C.—For cars exceeding 20-h.p.

*Capt. H. E. Newsam	35-45-h.p. Daimler	118-0-0		= 175
+Mr. A. A. Padley	16-20-h.p. Humber	118-0-0		= 155
Major J. A. Cole	16-20-h.p. Humber	118-0-0		= 151
Sir Hickman Bacon	18-h.p. Wolseley	118-0-0		= 145
Major F. H. Goddard	16-20-h.p. Clement-Talbot	118-0-0		= 115

\* Winner of first Club prize, also the Lincoln Member's prize for making the actual fastest ascent.  
† Winner of second Club prize.

At the close of the contests, Lady Thorold presented the prizes to the successful competitors. She said she did not know much about motor-ing, but it gave Sir John and herself much pleasure to have them in the park, and they had been much interested in what they saw. On the motion of Sir Hickman Bacon, seconded by Major Cole, Sir John and Lady Thorold were thanked for their assistance. Dr. Gilpin was an ideal secretary of the meeting, and others who assisted were:—Starter, Mr. W. R. Pennell; timekeepers, Messrs. T. Chambers and T. E. Foster; clerks of the course, Sir Hickman Bacon, Major Cole, Mr. A. A. Padley, and Mr. C. W. Pennell; marshal, Capt. C. J. F. Parker.

### LIVERPOOL AND MANCHESTER M.C.

MOTOR-CYCLING matches between teams representing the Liverpool and Manchester Motor Clubs were held on the New Brighton track on Saturday. Eight heats each with two competitors were run, and in seven the Liverpool rider was successful, that team being adjudged the winner. The best time over the two mile course was made by J. Edge on a 5-h.p. Vindec.

### IRISH MOTOR UNION SPEED TRIALS.

The Dublin centre of the Motor Cycle Union of Ireland held the third of the season's speed trials on Saturday at Portmarnock. A suitable course was selected for the ten miles handicap, a stretch of sand half-a-mile long being worked out, over which the competitors rode on the out-and-home principle, and thus covered the required ten miles. The Wheatley Bowl, the principal item on the card, was won by C. B. Franklin, the holder, who now retains the cup by virtue of the third win in succession, his mount on this occasion being the 8-h.p. J.A.P. which he rode in this year's International contest; the time returned is not a fair indication owing to the presence of some three water cuts crossing the stretch of sand on which the straightaway mile course was mapped.



out for this event. The arrangements were up to the usual standard, and the times were taken by Messrs. T. W. Murphy and Colman O'Connell, and the former started. Appended are the details:—

One Mile Novice Handicap.

No.	Name.	Cycle.	sec.
1.	E. Hurse...	2½-h.p. F.N.	15
2.	E. Cannon...	2½-h.p. Minerva	20
3.	C. Kavanagh...	3½-h.p. Morehampton	5
4.	E. Bannister...	4-h.p. Minerva	scratch

Won by five yards; a good third. No time returned.

One Mile Members' Handicap.

No.	Name.	Cycle.	sec.
1.	E. Hurse...	2½-h.p. F.N.	20
2.	W. H. Guilfoyle...	2½-h.p. Minerva...	20
3.	B. Dumphy...	2½-h.p. Minerva	10
	C. Kavanagh...	3½-h.p. Morehampton	scratch
	W. Jacques...	3-h.p. Alecyon	scratch
	C. B. Franklin...	3-h.p. Triumph	scratch
	A. J. Armstrong...	3½-h.p. Swallow	5
	J. G. Drury...	3-h.p. Triumph	5
	C. G. H. Lewis...	2½-h.p. F.N.	5
	R. Howison...	2½-h.p. F.N.	10
	E. Cannon...	2½-h.p. Minerva	15
	W. Ladley...	2-h.p. Morehampton	30

Won by ten yards, five yards between second and third. No time returned.

MOTOR RACES AT SKEGNESS.

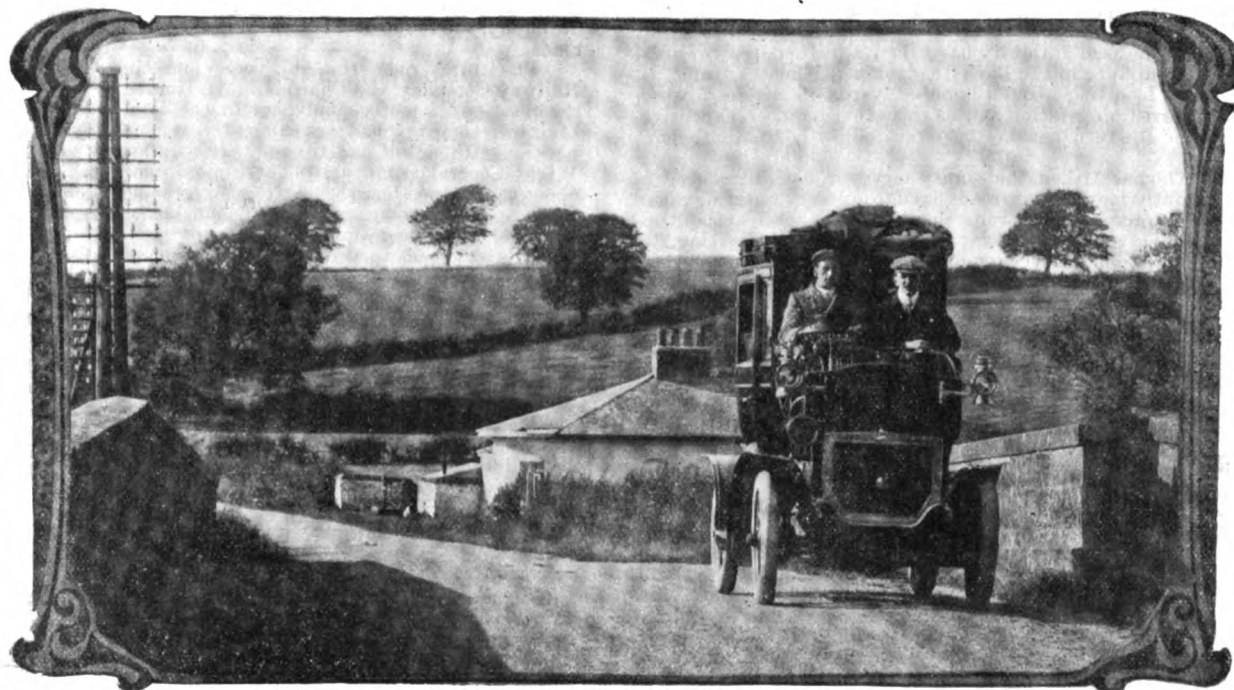
THE date selected for this year's meet of the Nottingham Automobile Club at Skegness is Saturday, the 8th prox., when the tide will leave a good clear hard track, and a most interesting programme has been arranged.

The appearance competition will be held in the morning, at 11.30, on the promenade, the races commencing at two o'clock. The kilometre handicap for the Wilson cup, run at Welbeck on May 5th, is to be re-run as a mile kilometre race.

Entries close on Saturday, September 1st, to Mr. Booth Granger, hon. sec. of the Notts. Automobile Club, 12, Beastmarket Hill, Nottingham. A very efficient staff of officials have already been elected, and a strong committee has been formed at Skegness, with Mr. S. Coetmore Jones, Earl Scarborough's estate agent, who did so much for the meeting last year, as chairman.

MOTOR GYMKHANA AT SAXMUNDHAM.

ON Wednesday of last week a motor gymkhana was held at Hurts Park Hall, Saxmundham, in aid of the Soldiers' and Sailors' Help Society. Miss Forster, the hon. secretary of the East Suffolk branch of the society, enlisted the help of Captain F. Vernon Wentworth, R.N., and Mr. W. A. Milner-Gibson, who arranged a programme of seven events. The judging was undertaken by Lord Rendlesham, Lord Huntingfield, Sir Fredk. Adair, Bart., and General Sir Ronald Lane



The Argyll Cab on the Boundary Bridge between England and Scotland, near Gretna Green.

Ten Miles Go-as-you-please Handicap for Shaw Cup.

No.	Name.	Cycle.	min.	sec.
1.	C. G. H. Lewis...	2½-h.p. F.N.	(45 sec.)	18 0
2.	H. Quinn...	3-h.p. Triumph	(2 min.)	20 3
3.	C. B. Franklin...	3-h.p. Triumph	(scratch)	18 41
	W. Jacques...	3½-h.p. Alecyon	(20 sec.)	—
	C. Kavanagh...	3½-h.p. Morehampton	(30 sec.)	—
	J. A. Armstrong...	3½-h.p. Swallow	(1 min. 40 sec.)	—
	W. H. Guilfoyle...	2½-h.p. Minerva	(2 min.)	—
	R. Howison...	2½-h.p. F.N.	(2 min. 30 sec.)	—
	R. Hurse...	2½-h.p. F.N.	(3 min.)	—
	W. Ladley...	2-h.p. Morehampton	(3 min. 30 sec.)	—

One Mile Scratch Wheatley Bowl (holder, C. B. Franklin).

No.	Name.	Cycle.	min.	sec.
1.	C. B. Franklin...	8-h.p. J.A.P.	1	18 4-5
2.	C. Kavanagh...	3½-h.p. Morehampton	1	25 3-5
3.	J. G. Drury...	3-h.p. Triumph	1	27 2-5
	W. Jacques...	3½-h.p. Alecyon	—	—

"M.C.J." PRIZE COMPETITION.

WE offer prizes for the best Limericks of automobile interest. They should preferably refer to a motor-car, motorist, or Association, and reach the office not later than the 27th inst. Further particulars appear on page 537.

K.C.V.O., C.B. Besides Captain Wentworth and Mr. W. A. Milner-Gibson, the duties of marshals also fell upon Colonel Sir Richard Martin, K.C.B., Mr. W. E. Long, Capt. W. Wilmer, and Lieut. Mure, R.N.

In the coach-house competition Mr. E. R. Holland won on an 8-h.p. De Dion, Mr. A. S. Garrett (8-h.p. Alldays) being second. Mr. J. A. Cooke, on a 16-h.p. Isotta Fraschini, was successful in the passenger race, Mrs. C. S. Bowyer (16-20-h.p. Argyll) being second. Mr. F. Garrett (8-h.p. Alldays) took first prize in the bending contest; Mr. J. A. Cooke in the starting and stopping race; and Mr. A. S. Garrett in the balancing competition. The programme concluded with musical chairs, the nine competitors including Mr. W. Milner-Gibson, on his 28-36-h.p. Daimler. The first prize fell to Mr. W. Hill, and the second to Mr. J. A. Cooke, who owed their success in the main to the sprinting abilities of the young ladies who accompanied them. Lady Beatrice Pretymann, who was accompanied by Mr. E. G. Pretymann, distributed the prizes.

MOTOR-BUS MISHAPS.

MR. SCHRODER, the St. Pancras coroner, has held an inquest on James Tombs, who died on the 7th inst. at University College Hospital from internal injuries due to being run over by a motor-omnibus belonging to Mr. Turner, of the Atlas and Waterloo Association. The evidence was highly contradictory, four to fourteen miles an hour being variously given as the speed of the omnibus. The jury returned a verdict of "Accidental death," and added that, owing to the conflicting

evidence, the cause of the accident was not clear. They recommended that the speed of motor-omnibuses at the spot where the accident took place should not exceed five to six miles an hour.

### ROAD REPORTS.

**DERBYSHIRE.**—The Derbyshire Association of Urban District Councils' Surveyors has sent to the urban councils of the county a series of resolutions urging the improvement of the roads. Mr. W. H. Grieves (surveyor to the Buxton Council) and Mr. W. Jaffray (surveyor to the Matlock Bath Council), as chairman and secretary respectively of the Association, point out that the main roads throughout Derbyshire do not compare favourably with those of other counties in England. Among other things the authorities are asked to seek from the County Council a larger allowance than £20 per mile for scavenging main roads and an allowance (not at present made) for watering main roads, the latter in view of the motor dust nuisance and the fact that the County Council receives a large sum in motor licence fees.

**LONDON.**—A short length of road is about to be made in Islington with Crempoid, and a dust laying experiment with the same material will shortly be carried out in Kensington.

**NOTTINGHAM.**—For three months past the Corporation of Nottingham have been experimenting with calcium chloride as a road dressing. The total cost of keeping a forty foot road free from dust by this means—if the dressings be given monthly—would be about £60 per mile per annum, inclusive of labour, cartage, chemicals, and water; but as there are several months when no sprinkling is required, it is estimated that the expense will not be more than that of the old method.

**HOUNSLOW.**—The local authority has taken a further step towards relieving the dust nuisance in the Bath road, on which motor traffic is extremely heavy. Last year about a hundred yards of the road were made up with a tarred preparation, but as this proved rather expensive a further section of the road has now been treated with a patent composition.

**FIFE.**—Mr. Thomas Aitken, the county surveyor, has introduced a tar-spraying apparatus for macadam roads fixed to ordinary watering vans. Its adaptation to motor watering vans should enable local authorities to tar long stretches of country roads expeditiously and with economy.

**SURREY.**—The Egham surveyor has reported to his council that the tar surface on the main road, which had been placed for a certain distance, was breaking up. The chairman of the council pointed out that several members of the Highway Committee were anxious to see experiments made of rolling in the material dry. There was a long and animated discussion on the subject, and in the end a motion was carried by a majority of one that on a portion of the main road which it was proposed to repair granite only should be used and properly rolled and watered, but that the mud scraped off should be carted away.

**WARWICKSHIRE.**—At the last meeting of the Warwickshire County Council petitions from the parish authorities of seventy-six villages were presented, entreating the superior body to compel motorists to reduce their speed when passing through villages. The Council decided that they could do nothing.

**FINCHLEY.**—Mr. Wakeham, the surveyor to the Middlesex County Council, has just presented plans of a bridge to be erected at the Dollis Ford, Finchley. This water splash, as it is called, in storm flood runs with six feet of water. Now that motor-car traffic is increasing the work has been taken in hand. Finchley, Hendon, and the County Council will each contribute towards the cost of the bridge, which is to be of iron girders.

### PUBLIC MOTOR SERVICES.

*We shall be pleased to receive the published time tables, list of fares, etc., of Public Motor Services for notice in this column.*

**THE red flag is now carried on the automobile, and not before it as in the old day, before such vehicles became recognised as legal traffic. At least, such is the case in the south, where the carrying of a red flag by a motor-bus signifies the ownership of the Sussex Motor Road Car Company, which has services between Pulborough, Littlehampton, Arundel, Steyning, Brighton and Worthing. The manager is Mr. W. Flexman French, whose headquarters are at the Railway Hotel Garage, Worthing. A time-table, with its week-day and Sunday services, has been prepared, and we notice that dogs are charged for at passenger rates. Passengers' luggage up to 14 lbs. in weight is carried free, and parcels weighing over 1 cwt. are refused. Mr. Arthur Stubbs, 26 Grafton Road, Worthing, is the secretary, and the company is to be congratulated on the conduct of its services during the season now waning.**

**AN hourly motor-car service is being run between Southport and Ormskirk.**

**THE motor rail service which it was proposed to run between Peterborough and Sleaford has been indefinitely postponed.**

**THE managing director of the Indian Cycle and General Engineering Company is organising a motor service from Mysore to Mercara. This is to meet the requirements of planters and to replace the tonga service now existing. It should form a satisfactory means of coping with the Coorgorango transport question.**

**SPEAKING at the meeting of the Cambrian Railway Company recently, Mr. Bailey said the company had two motor-cars running in**

**the neighbourhood of Pwllheli which were answering admirably. They had the accident at Handcross Hill before their eyes, and that was what they feared in Wales, where the roads were terrible, some of the gradients being as much as 1 in 6. To insure greater safety they had carried out a new idea, namely, to have a brake independent of the driver, and worked by the guard.**

**THE Southwick Urban District Council have favourably entertained an application from the Brighton, Hove, and Preston United Omnibus Company, Ltd., for licences to two motor-omnibuses for use in emergency on their Kemp Town to Worthing route and for additional Bank Holiday traffic. They have also granted licences for two further motor-omnibuses to be run by an hourly service between Holland Road, Hove, and Worthing.**

**A LOCAL company is about to be formed to run a service of motor vehicles from Hendon Station to the tube railway at Golder's Green, which is shortly to be opened.**

**THE London County Council has served notices on the London motor-omnibus companies prohibiting the discharge of petrol or any product liable to give off inflammable vapour into the sewers.**

**OWING to the electrification of the North London lines of the London County Council the tram service is curtailed to a minimum, with the result that there is quite an invasion of motor-omnibuses. Following close on the new service between Kingsland Gate and Hammersmith there has been inaugurated a series of motor-omnibuses between Camberwell Green and Dalston Junction, via the Elephant and Castle, the Borough, London Bridge, and Cornhill, Liverpool Street, Shoreditch, and Kingsland Road.**

**THE Great Western Railway Company are prepared to run motor-omnibuses from Lampeter to Aberayron and from Llandysul to Newquay, the county council making the necessary improvements on the roads.**

**PRESIDING over the half-yearly meeting of the Isle of Wight Railway Company, the Chairman (Mr. Horace F. Tabourdin) referred to the question of motor-omnibuses in the Isle of Wight. He said that their own company had not suffered very much from this class of competition, although it had to some extent affected adversely the Isle of Wight Central Company. These motor-omnibuses had been running about the island, but they were now gradually disappearing from its roads and were going over to Portsmouth, and he did not suppose that it was likely that they would see much more of them in the future, because the hills and roads in the Isle of Wight possessed such gradients that it was not possible to work the motor-omnibuses at a profit.**

**THE London and South-Western Railway have decided to take over the motor-bus service established by Messrs. Thornycroft and Co., between Farnham and Haslemere, via Hindhead.**

**OWING to the society which a large number of motor-busmen had joined having recently fallen through, a number of the men approached the Amalgamated Association of Tramway and Vehicle Workers with the idea of joining that body, and a meeting was arranged at Whitfield's Tabernacle, Tottenham Court Road, on the 17th inst., for the purpose of having the association's objects explained. Only about twenty men, however, attended.**

### NEW COMPANIES REGISTERED.

**H. FLEMING AND Co.**—£10,000. To acquire the business carried on in the United Kingdom and British dominions as Fleming and Co., of 361-3, City Road, London; to adopt agreements (1) with the said company and (2) with A. O. McKee, and to carry on the business of manufacturers of and dealers in motor and cycle specialities and accessories, &c., 361-3, City Road, London.

**THE Automobile Agency and Auctions, Ltd.**, has issued a prospectus. The share capital is £5,000, and the solicitors are Messrs. Weldon and Edwards, 3 and 4, Great Winchester Street, E.C.

**M. DE BROU AND COMPANY.**—£5,000. To acquire the agency for the United Kingdom and colonies for the sale of Florentia chassis and touring cars, and to adopt an agreement with Maurice de Brou. First directors, M. de Brou and C. B. White, 76, Beaufort Mansions, Beaufort Street, Chelsea, S.W.

**FLEXIBLE CLUTCH AND GEAR SYNDICATE.**—£3,000. Manufacturers of motor clutches and gearings, &c.; to acquire a patent (provisionally applied for) on the terms of an agreement with Mr. R. H. N. Mintorn.

**LAW, CAR AND GENERAL INSURANCE CORPORATION.**—£100,000. To carry on all kinds of insurance (except life insurance). 24, St. Martin's Lane, Cannon Street, E.C.

**BALA MOTOR COMPANY.** £1,000 (£1). Astitle. Registered without articles.

**BRIGHTON AND SOUTH COAST MOTOR-BOAT COMPANY.**—£1,000. To take over the business of a motor-boat proprietor carried on by Mr. G. Hill at Brighton. No initial public issue. First directors: Messrs. A. Gorham, W. Hodgkinson, G. Hill, J. H. Thompson, W. P. Dare, and E. Webb. 2, Chanctonbury Road, Hove.

**ADRIA MOTOR COMPANY.**—£5,000. No initial public issue.

**THE BRITISH MOTOR-BOAT CLUB PROPRIETARY (GLASGOW BRANCH).**—Registered without capital, being limited by guarantee of its twenty members, to conduct a club for the encouragement and development, in and around the British Isles, of motor boating and of industries affecting the same.

**MALCOLM FRASER WHEEL SYNDICATE.**—Capital, £10,000. To

acquire and work Mr. A. R. Hubbard's inventions for improvements in tyres. Broad Street House, E.C.

**MIDDLETON PNEUMATIC HUB COMPANY.**—Capital, £80,000. To adopt an agreement with the Middleton Pneumatic Hub Syndicate, Ltd., and to carry on the business of pneumatic hub manufacturers, &c. First directors: Messrs. A. N. Argenti, J. Davis, and H. Fladyer. 21 to 23, Cale Street, Chelsea, S.W.

**REO MOTORS.**—Capital, £10,000. To acquire all or part of the business, assets, and liabilities of the Anglo-American Distributing Syndicate, of London and New York, and of Mr. J. E. Lambie, of 31-33, High Holborn, W.C., and to carry on the business of manufacturers of motors, cycles, boats, launches, &c. No initial public issue. First directors: Mr. J. E. Lambie (managing director) and others to be appointed by the signatories. Little George Street, Broad Sanctuary, Westminster.

### INGENIOUS FRAUDS BY A MOTOR-CAR DRIVER.

A MOTOR-CAR driver named Josiah Daggett Hibbert, alias Charles Lilburn, at the Surrey Quarter Sessions at Kingston, was indicted for stealing a motor-car accumulator. Mr. W. B. Campbell, who prosecuted, said that Hibbert presented himself in motoring attire to Mr. Turner, of Chertsey, and, representing that he had had an accident with his motor-car, asked for an accumulator, which was given to him, and which he subsequently sold for 14s. An officer said that Hibbert had been going about the country obtaining goods and money by falsely representing that he was a motor-car driver. The chairman described it as a very ingenious piece of trickery, and sentenced the prisoner to three months' hard labour.

### SEQUEL TO AN UNAUTHORISED TRIP.

ALBERT ROCKELL, an eighteen-year-old chauffeur, was charged at Marylebone on the 14th with stealing a motor tyre, valued at £6, the property of Mr. Isaac Zalic Davis. It was stated that Rockell was formerly in the prosecutor's service. Recently Mr. Davis took his car to a garage to be sold. It was alleged that Rockell went there under the pretence of speaking to Mr. Davis on the telephone, and obtained possession of the car and took it out. With three other youths, he went on a motor tour through the Thames Valley, sleeping at night in the car. After two days the vehicle broke down. The next two days were occupied in repairing it, and when at last they succeeded in getting it to go again Rockell brought it back to London and returned it. A motor-car dealer at Maidenhead said Rockell obtained from him a quantity of petrol and the loan of 10s., leaving the tyre in question behind as security. Mr. Paul Taylor sentenced Rockell to two months' hard labour.

### OBSTRUCTING THE HIGHWAY.

AT Nottingham, Thomas Hutchinson and Thomas Dobbs were charged with being drunk and disorderly on the highway at Gotham, Notts, on the 2nd inst. Mr. C. E. Wells Lucas prosecuted, instructed by the Notts Automobile Club. Superintendent Harrop, of the Notts Constabulary, was in Mr. Stafford's motor-car driven by the owner. When approaching Gotham Dobbs threw in front of the car a large bundle of herbs. Mr. Harrop got out to expostulate with him, and pointed out the danger of such an act. The other prisoner thereupon set upon him with a heavy stick, and Mr. Harrop promptly knocked him down. He took both the prisoners to the police station at East Leake, and handed them over to Sergeant Brown, who stated that they were both drunk. Mr. Lucas said that the practice of throwing missiles at passing motor-cars was on the increase. The Notts Automobile Club thought it a proper case for them to take up, and they asked the Bench to make an example of the two prisoners as a warning to others that this sort of thing could not be tolerated. The Chairman said this was a very serious matter, and might lead to an accident, and must be stopped. Taking into consideration that the prisoners had been in custody two days, and that the elder prisoner had been somewhat punished by Superintendent Harrop, they would fine them 15s. or seven days.

Two labourers were summoned before the magistrates at Blofield, Norfolk, last week, for assaulting Dr. Frank Ehrke, of The Firs, Kempsey, Worcester. While driving his motor-car Dr. Ehrke saw on the road a wagon loaded with hay, drawn by two horses. The driver of the team pulled properly to the side of the road, but the leading horse turned and tried to go back. The complainant got out of his car, and suggested that someone should go to the head of the leading horse. A torrent of abuse was the only reply. When he inquired the name of the owner of the wagon, the defendants, who were drunk, attacked him and knocked him down. Each of the defendants was sentenced to two months' hard labour for the assault on Dr. Ehrke, and another month for assaulting a man who came to his assistance.

### CASES AGAINST MOTORISTS.

AT the Kingston County Bench, Dr. Ross MacMahon, of 1, Upper Phillimore Place, Kensington, W., was summoned for assaulting William Herridge on August 3. The complainant said he was employed to keep the lodge gate leading on to Coombe Warren, Kingston Hill,

and on the date in question the defendant drove up in a motor-car, in which a lady and another gentleman were seated, about half-past ten o'clock at night, and asked him to open the gate and let him through, as he had taken the wrong turning, and could not get his motor-car back. The witness told him he could not come through the gate at that time of night, and refused to open it. The defendant thereupon knocked the staple out of the gate, and, when the witness interfered, struck him on the head. He drove the car through the gate. The defendant denied the assault. He tried to persuade the complainant to let him through, he said, telling him who he was and where he lived, but he would not consent, so he opened the gate himself. The chairman said he thought the complainant ought to have allowed the defendant to pass, as he gave him his name and address, and the summons would be dismissed.

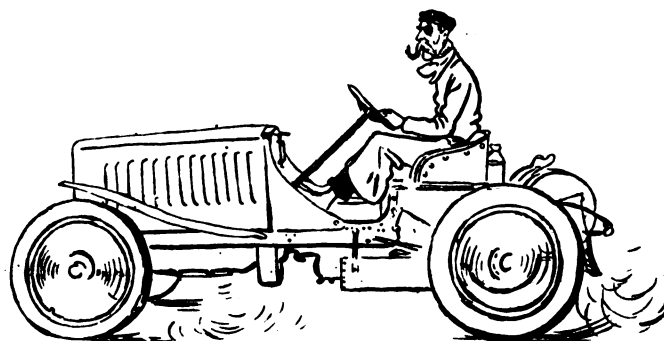
A CONTEMPORARY regretfully announces that only six motorists appeared before the county justices at their last sitting at Guildford.

AT the Bray Petty Sessions, John Farrell, licensed motor-car driver, Dublin, was prosecuted for not having a proper rear light to his car. The magistrates decided to impose the reduced fine of one shilling. Subsequently, it having been mentioned to their worships that the imposition of a fine would necessitate an endorsement on the defendant's licence, the chairman said that he would be merely cautioned.

A BATCH of cases was recently heard at Bath, many fines being imposed. At Kingston one day eleven motorists appeared, leaving behind them more than £32 in aid of the county funds.

AT Malvern two motorists who were fined for leaving their cars unattended while they had refreshment made defence to the effect that they were permitted to do so in Birmingham.

FOUR motorists appeared at the Battle Petty Sessions on the 14th inst. Fines aggregating £25 and costs were imposed. In the case against Frederick Phillips, who was summoned for driving to the public danger, one of the witnesses, Arthur Goulder, Ewhurst, when pressed, said he could not say the car was being driven to the danger of the public. Witness said when he was served with his subpoena the constable read over the statement he had taken down, but witness replied: "I did not say all that." He had never said anything



Heath on the Panhard on which he finished sixth in the Grand Prix Race.

[From a Caricature in *Le Chauffeur*.]

about thirty miles an hour. On entering into conversation, the sergeant remarked, "Can we make a case of this?" and then asked for their names and addresses. Defendant said the car was descending the hill by its own weight. There were no side turnings, and witness could see over the hedges if anyone had been coming across the fields. The indicator showed the car proceeded at sixteen miles an hour down the hill, and it could have pulled up easily in five yards. The curves were very slight, and one could obtain a good view of the road. Witness's companion was smoking a cigarette, which would not have been possible had they been travelling at thirty miles an hour. The Bench fined defendant £10 and costs.

MR. WILLIAM JACKSON, J.P., was summoned, at Highgate, for driving a motor-car to the danger of the public in the Great North Road, Whetstone, on July 9. William Hills, a coal carman, said he saw Mr. Jackson's car going towards High Barnet. In order to pass another car the first car went on the wrong side of the roadway, and knocked a three-year-old child down, seriously injuring him. Sergeant Pargiter said that after the accident Mr. Jackson admitted that he was on the wrong side of the road, and that the child ran in front of the car. Mr. Jackson had just returned from India, and said the Great North Road was strange to him. He was not travelling at a greater speed than five miles an hour. Owing to a block in the traffic he went to the wrong side of a tramway centre pole at Whetstone. The child ran into the roadway, and was knocked down. The Bench, after a consultation in private, dismissed the summons.

A KENDAL motor-cyclist has had to appear before the Lancaster bench, to show cause, &c., for not having an identification plate fixed to the trailer attached to his motor-bicycle. The motor-cyclist admitted that there was no plate, but pointed out that the "trailer" consisted simply of a rider of a push bicycle, whom he had given a "friendly lead" up a hill, the means of attachment being just a little piece of string. The string was held in the hands of the two riders. The Inland Revenue claimed that this made the attached cycle a "trailer," under section 2, sub-section 2, of the Motor Car Act. The Bench rightly dismissed the charge; which, in our opinion, was too silly to have ever been brought.

### MAGNETO IGNITION.

UNDER the auspices of the Manchester and District Cycle Trades' Association an interesting lecture on the Simma-Bosch magneto ignition was recently given by Mr. R. Lascelles, who remarked that the use of magneto ignition for petrol motors had been greatly retarded by the fact that its principles were not understood, and that consequently many motorists and motor dealers fought shy of it. The magneto ignition system was no longer an experiment; it had proved satisfactory for nearly ten years, and had been greatly improved of late. Early magnetos in 1898 weighed as much as 4½ lbs., but they had been reduced to a few pounds. In reply to questions, the lecturer stated that the average life of the magnets is two years—some last even longer—and they can be magnetised by the makers at a very small cost. To find out if magnets require attention, all that is necessary is to turn the armature with the fingers; if a distinct pull is felt, the magnets are in good order. It is advisable to cover the instrument with a leather casing when fitted in an exposed position, as on a motor-cycle. If the magnets are removed, a keeper should always be placed on them until replaced in position. The carbon brushes which convey the current from the armature to the insulated terminal should be kept in perfect contact. When taken off the machine temporarily, the north and south poles of the magneto should be locked or keyed together until replaced.

### CASES DISMISSED.

CAPTAIN W. H. DARELL, of the Coldstream Guards, was summoned at Marlow recently for driving a motor-car at twenty-six miles an hour near Marlow on July 22nd. A police sergeant and a constable swore they "trapped" the defendant at 3.15 in the afternoon. Defendant swore the time was 4.15, and the police-books, produced by order of the Bench, showed the captain's statement to be correct. Under the circumstances the magistrates dismissed the case.

A BATCH of well-known motor-cyclists have appeared as defendants at Banbridge (co. Down) Petty Sessions to answer summonses for having, on 9th June, "driven motor-bicycles on the public highway recklessly or negligently, or at a speed or in a manner which was dangerous to the public, at Ballyvalley and Banbridge." The defendants were—Thomas Ireland, 53, Donegall Street, Belfast; Thomas Greer, Lissan, Cookstown; Lawrence Wickham, 51, 53, and 55, Mount Merrion Avenue, Blackrock, Dublin; Charles H. Lewis, 5, Windsor Road, Rathmines, Dublin; and Alexander Bullick, Erin Cottage, Andersonstown, Belfast; and the complainant in all the summonses was Sergeant Abraham Wishart, R.I.C. The prosecution arose out of the reliability run for the Triumph Cup between Belfast and Dublin. The Bench held that the cases had not been proved, and dismissed them.

### MOTOR-CAR ACCIDENTS.

AT Totnes, Mr. Hacker, coroner, has held an inquest on the body of Mrs. Boucher, of Bristol, who was killed in a motor accident at Hood Bridge on Thursday of last week, when she was thrown over the bridge and fell a distance of 30 ft. on the bank of the river Dart. Mr. William Lewis, the driver of the car and son-in-law of Mrs. Boucher, explained that they were returning from Paignton to Ashburton, and he failed to take a sharp turn at Hood Bridge. The road was strange, and he must either have underrated the turning or was going faster than he thought. He approached the bridge at about sixteen miles an hour, but slowed up considerably before he reached it. The car grazed the side of the bridge wall, and he was afraid to put on the brake full for fear they would be unseated. He did not feel any jerk, and all he saw was Mrs. Boucher's back and legs going over the wall. The coroner remarked that the lanes of Devonshire were very different from those "up country," and there were complicated turns and twists approaching the bridges. Sixteen miles an hour was a big speed. A verdict was returned of accidental death.

A TERRIBLE motor-car accident occurred at Leeds on Friday of last week, one person being killed and five others injured. The car was on a trial run and was being driven by Mr. Tom Herbert Atkinson, of the firm of Atkinson and Co., Kirkstall, towards the centre of the city, when, at the junction of Harehills Road and Roundhay Road, a collision took place with a horse and cart. The passengers on the car were employees at the Queen's Hotel, Leeds, and one of them, John T. Ring, was killed. Another passenger, Mr. W. Saxton, was seriously bruised and cut, while the driver of the cart received similar injuries and also had his leg broken. The horse of the cart was killed. The car, after coming into collision with the horse and cart, crashed into a governess car, the occupants of which, three ladies, were thrown out and considerably bruised. The first collision occurred at a junction of two roads running at right angles, so that the drivers were unable to see each other until it was too late to avert a disaster. Mr. Atkinson had a miraculous escape, being only slightly injured. The inquest has been adjourned.

WHILE riding a bicycle from Horsham to Goring on Saturday, a youth named George Smith, living at Park Terrace West, Horsham, was run down by a motor-car. He was found lying unconscious at the side of the road near Washington, in the vicinity of the Postal, with

his machine smashed beside him. A motorist who made the discovery conveyed Smith in his car to the surgery of Dr. W. Lockwood, at Worthing, where it was found that no bones were broken, but that the lad was very badly shaken. He was subsequently taken by P.C. Merritt in a cab to his friends at Goring, and is progressing favourably.

THE self-sacrifice of Baron Ad Kerdyn de Lettenhove averted a catastrophe in North Devon on Thursday of last week. While the baron and his chauffeur were motoring from Bournemouth to Ilfracombe, having recently crossed from France, they met a four-wheeled conveyance containing three ladies and a gentleman. The horse became frightened and swerved, and a disaster appeared inevitable, but without hesitation the baron ordered the chauffeur to steer into the hedge. He at once did so, and the car dashed into a piece of stone wall and completely pitched the occupants into the road. The motorists could speak but little English, which made it difficult for the ladies and gentleman in the other conveyance to render assistance. Fortunately, beyond receiving a severe shock, they were uninjured.

LIEUT. HARFORD, of the 1st Battalion Scots Guards, Aldershot, has been badly injured at Bagshot, Surrey, his motor-cycle colliding with a motor-car. He was pinned between a lamp-post and the car, and sustained a compound fracture of the leg, together with a serious scalp wound, in addition to minor injuries, and was removed to the Cricketers' Hotel in a somewhat critical condition.

MR. H. B. SEWELL, coroner for West Kent, held an inquest at Bromley on Monday concerning the death of Susanna Wallis, of Croydon, who was killed while on a visit to Bromley on Friday of last week through a horse bolting on being frightened by a motor-wagon. The jury found that it was a case of accidental death and that no one was to blame. They added a recommendation that, having regard to the large amount of motor traffic and the consequent danger of frightened horses bolting, the wheels of standing horse vehicles should be chained or that a van-boy or some one should be in charge when a driver had relinquished the reins.

### POLICE TRAPS.

IN a case heard at Wymondham, Norfolk, a police constable has described a trap. He and another constable were on duty in private clothes watching for motor-cars, as there had been complaints about the speed at which they travelled through the town. A quarter of a mile was measured, and witness took up position at one end and Locke at the other. Just before seven o'clock in the evening he saw a motor-car approaching, and as it entered upon the measured distance he signalled to Locke. The car covered the quarter of a mile in 35 sec., which was at the rate of twenty-five miles an hour. His colleague corroborated, but said he made the time 33 sec., which would give a speed, at the rate of twenty-seven miles an hour. Both he and the other constable used stop watches, and he attributed the difference of 2 sec. to the loss of time caused by the signalling.

OFFICIALS of the Automobile Association have discovered a cunningly-devised police trap on the Great North Road near Bawtry. The distances marked out were a quarter, half, and three-quarters of a mile. Some men who were apparently peaceful labourers working in a field proved to be in reality constables, who on a signal from a look-out man scrambled to positions behind a hedge to time the unwary motorist.

A THREE mile stretch on the Hoole road is being used by the Chester police for the trapping of motorists.

THE Lancaster police have revived the trap on the Burton road, Warton, with which they replenished the county funds some time ago.

### TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case; other wise no liability will be accepted.



# THE Motor-Car Journal.

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## M.C.J. PRIZE COMPETITIONS.

### FOR MOTORING EXPERIENCES.

THE proprietors of the *M.C.J.* offer three prizes—one of a guinea and two of half-a-guinea each—for the most humorous motoring experience, limited to 100 words, and to be written on a postcard. It must be concisely worded, and should be a record of something that has actually happened. The last day for receiving competitions will be Saturday, September 15th. All entries must be sent to the *M.C.J.* Office, 27-33, Charing Cross Road, W.C., and the Editor's decision will be final. A selection of the unsuccessful experiences will be given in the same issue as that in which the awards are announced.

### AUTOMOBILE PHOTOGRAPHS.

Three prizes are also offered—one of a guinea and two of half a guinea—for the best photograph in which a motor-car figures. In making the award regard will be paid to the public interest of the picture, as well as to its artistic merits; hence, photographs of cars outside historic buildings or monuments will be as welcome as those of vehicles in pleasant places.

Only original photographs may be submitted, the copyright of which belongs to the competitor. The winning photographs will be published in the *M.C.J.*, and the Editor reserves the right to reproduce, without special payment, a selection of those not successful in the competition. The dates for sending in photographs, and further particulars of this competition, will be announced in our issue of the 8th inst.

## COMMENTS.

### Brakes on 'Buses.

It will be reassuring to the public to learn that the police recognise the necessity of insisting that the bus companies now running motor vehicles in the Metropolis shall conform to the regulations with regard to brakes. We understand an officer has been specially deputed to watch this matter, and already action has been taken. Unfortunately the fines are visited on the driver; but the fact that the police are now watchful is of importance to the companies.

### The Motor Union at Scarborough.

YORKSHIRE motorists were interested in our announcement last week that the Motor Union proposes to hold its next provincial gathering at Scarborough on Saturday, the 22nd inst., when it is expected that automobilists from all parts of the country will congregate and carry out the interesting programme which is now being arranged. The Corporation of Scarborough have extended to the Union a hearty invitation to hold its meeting in that town, and have promised to do all in their power to make the gathering a success. Among other attractions, a garden party will be held in the afternoon. Some members will, no doubt, travel to Scarborough by train, and for their convenience arrangements are being made with the North-Eastern Railway Company for a special train to be run on the

Sunday afternoon from Scarborough to York, to connect with the north and south dining-car expresses, so as to enable members to get home to all parts of England on the Sunday if they so desire. One of the interesting functions at these gatherings is the dinner, which on this occasion will be held at the Grand Hotel, Scarborough, with Lord Wenlock (President of the North Yorkshire Automobile Club) in the chair. Motorists who desire to attend the gathering can obtain full information from the Secretary of the Motor Union, Mr. Rees Jeffreys, 1, Albemarle Street, Piccadilly, London, W.

### Proposed Race Meet at Blackpool.

THOUGH the luxury has hitherto proved a somewhat expensive one, there are some people at Blackpool who wish for another motor meet there. The local automobile club is moving in the matter, and, in conjunction with the mayor, have prepared a scheme for a race meeting in October. Mr. Huntley Walker, as president of the Blackpool and Fylde Club, is taking great interest in the matter, and Alderman Bickerstaffe is seeking to arouse local interest. He cannot yet hazard an opinion as to whether there will be another motor meet in Blackpool or not, but if there is, it will have to be considered simply as a motor meet, and this would involve the question as to whether or not it will be beneficial to the other interests of the town. We notice that Mr. J. C. Derham, the Chief Constable, was among those at the preliminary meeting, and trust that his presence there was evidence of his intention not to harass the local motor trade in future. That is even more important than being armed with "a little brief authority" at motor meets.

### International Trophy.

Now that the entries for the International Tourist Race in the Isle of Man have closed, we may inform our readers that forty-nine cars have been entered, the entrants since the publication of our last list being the Florentia, Vici, S.C.A.R., Academy, Rapid, and Armadale. In addition to these the participants in the event comprise cars of the following makes, viz., Metallurgique, Straker-Squire (2), Gladiator, Bianchi, Hardman, Swift, Climax, Speedwell, Star (2), Scout, Deasy (2), Thornycroft, Berliet (2), Siddeley (2), Peugeot, Rover (2), Arles (2), Humber (2), Pipe, Clement, Brown, Argyll (2), Arrol-Johnston (2), James and Browne, Minerva (2), Rolls-Royce (2), Darracq (2), and Vinot (2). It has been decided that the cars must be presented for weighing and examination on the 25th inst. at the Club Enclosure in Alexander Drive, Douglas.

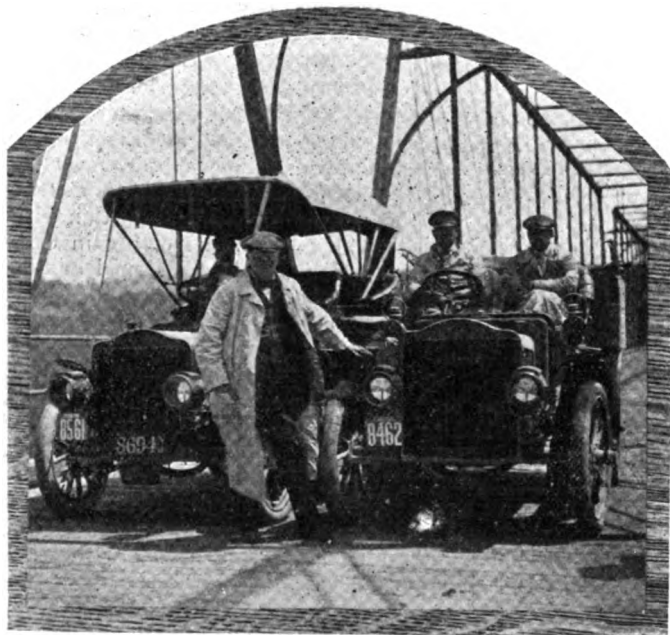
### The Economy of Speedometers.

A NORTHERN J.P., whose driver has just appeared before the Lancaster magistrates for driving too rapidly over a distance marked by the police for trapping purposes, has been fined a reduced amount because he showed a desire to keep within the law. In giving evidence, Mr. Porritt, J.P., said he had the best and most reliable speedometer he could obtain

fixed on his car, because he did not want to break the law, and travelling over the road in question frequently he knew of the existence of traps between Preston and Milnthorpe. He kept his eye on the speedometer all the way on the journey in question, and at the time of the alleged offence it registered between 19 and 20 miles an hour. He was quite certain they were not exceeding the speed limit. The Bench imposed a fine of £2 10s. and costs, the Chairman stating that they had not imposed the usual fine of £5 and costs because Mr. Porritt had obtained the speedometer with the object of keeping within the law. The magistrates, however, took the police watches to be more correct than a speedometer. Upon this latter point two opinions may be allowed.

◆ ◆ ◆  
**Mr. Edison  
and his  
Steam Car.**

WHILE his fame rests almost entirely upon his work in the electrical field, Mr. Thomas A. Edison has long been a consistent user of White steam cars. His recent journey through the South in search of cobalt was made with two of these cars. He occupied one with his son, and in the other rode two of his laboratory assistants. The tonneau was removed from this second car and a platform was built in place



thereof. On this was carried a complete camping outfit, so that the party were enabled to put up for the night at any point desired. There was also a complete laboratory equipment, so that analysis of mineral deposit could be carried out on the spot. Mr. Edison, although interested commercially in the development of the electric vehicle, has used White cars exclusively for some few years on all of his tours. While he never takes a vacation in the true sense of the word, several times a year, when his business takes him to various parts of the country, he travels in his automobile.

◆ ◆ ◆  
**Above the heads  
of the People.**

GENERAL BOOTH'S motor-car tour has been favoured by fine weather and good vehicles, with the result that it has proved the most enjoyable trip he has yet undertaken. But he must not be too venturesome. At Chard, the other day, he told the Mayor and Town Council that other religious organisations were copying the methods of the Salvation Army. He should, however, still keep in advance, for, if they went motoring, he should take to ballooning. Therein, however, lies the danger; for the world might then regard it as soaring beyond "the heads of the people," which it has refrained from doing up to the present. No, General, you had better keep to the motor-car.

◆ ◆ ◆  
**The Scottish  
Club.**

It was a very satisfactory report that was presented to the members of the Scottish Automobile Club at their meeting in Glasgow on Thursday, the 30th ult. The active membership on the 16th ult. was 620, to which the Eastern Section contributed 179 and the Western 441, the cash balances of each being on January 31st £253 and £377 respectively. Substantial augmentations have since been made in each division. Reference was made to several applications for restriction of speed and to others that are pending at Kinross, Renfrew, Stirling, Wigtown, Ayr, Dollar, and Paisley. With regard to the development of the commercial vehicle north of the Tweed it was mentioned that a series of such trials will shortly be organised in Scotland. Naturally satisfaction was expressed with regard to the recognised position of the Club as a governing body for automobilism in Scotland. Another question of policy has lately occasioned much thoughtful consideration, viz., the unification of the two sections into which the Club has hitherto been divided. The General Council has come to the conclusion, and, we believe, wisely so, that the work of the organisation might be usefully extended by the abolition of the sectional idea and welding all in one association. There is no doubt the united strength would contribute to the general power of the Club and help the further development of the movement in North Britain.

◆ ◆ ◆  
**An  
Impasse.**

THE desire of the Scottish Club authorities to organise a trial of commercial vehicles will be regarded with some amount of uneasiness in Piccadilly, where matters are not running smoothly concerning the similar contest which the A.C.G.B.I. has been seeking to hold for some months, we had nearly written years, past. There seems a curious habit of postponement about the English Club's trial of commercial vehicles, and unless something definite is settled ere long makers of delivery vans will be sending their entries northward, to the isolation of the Piccadilly Club, which seems to have come to an impasse in the matter. The story of the difficulty is set forth in the letter of Col. Crompton on another page, and there will be a considerable feeling of sympathy with the Motor Van, Wagon and Omnibus Users' Association. After all is said on behalf of the attitude of the Automobile Club the public will continue to recognise that the Association is the body most likely to understand the working conditions of motor vehicles; and, unless some sort of representation is accorded to it on the committee responsible for the trials, it would appear that the long-expressed resolution of the A.C.G.B.I. to organise such trials may be again deferred. The decision of the Scottish Club at such a juncture to hold a trial of commercial vehicles is interesting, and may provoke a suggestion of joint action with the London Association of Motor Vehicle Users in regard to the same. Such can, however, be averted by the A.C.G.B.I. descending from its pedestal.

◆ ◆ ◆  
**A Society of  
Alcohol Research.**

FEARS of a steady rise in the price of petrol seem to have laid hold of the motoring public, and it is well that recent advances took place at the end of the season rather than at the beginning. But what of the future? That will doubtless provide topics for discussion at various gatherings of automobile clubs, and as alcohol is certain to be proposed as an alternative, the necessity of obtaining more expert knowledge on the subject than is now available is urgent. Hence the opportune moment seems to have arisen for the ventilation of the idea of a separate Society to seriously investigate the possibilities of alcohol in connection with Motorism. On this subject Mr. Radford Cooke contributes an interesting article to our present issue, which should prove the initiation of a profitable discussion to the automobile industry.

**Alcohol—its  
Practicability and  
Price.**

DEALING with the point which is often raised as to the comparative prices of alcohol and petrol, it seems to us that a great mistake is being made in attempting to compare the prices of these fuels, more especially at the present time. What we are, or should be, most concerned about for the moment is the practicability of alcohol as a motive power for high-speed engines. If that vital point is first settled, the time may then be ripe for the question of the comparative prices to be considered. Making these comparisons now appears to be putting the tonneau in front of the bonnet, for until the actual permanent practicability of alcohol is conclusively demonstrated the price consideration cannot apply. When once its practicability is proved here the question of cost can be dealt with. Probably it will be found, when the demand, production, and distribution have been established, that the price will compare very favourably; but, even taking the other view, that it may be the same or a little more, should not the patriotic and economic considerations that the millions going

unfortunate humanity. He, too, might claim exemption from taxation on a similar plea. Unfortunately, the Episcopal Bench is not sufficiently devoted to motoring to institute its own committee of defence on this subject; but the claim may well be made on its behalf. This and similar instances which might be adduced suggest that the Doctors are wise in bringing the matter forward; they will add to their reputation for sagacity by impressing upon the A.C.G.B.I., the Motor Union, and the Automobile Association, the necessity for an early conference on the whole subject of the taxation of cars.

**A Conference  
Needed.**

MEDICAL men have been the first to indicate their dissatisfaction with the proposed taxation scheme of the Royal Commission on Motor Cars, and on their behalf it has been suggested that the vehicles used by them for professional purposes should be classed as trade cars at half rates. Doubtless commercial travellers, and those who employ motor vehicles for the ordinary purposes of their work, will be equally sugges-



The Adler Fahrradwerke Gesellschaft, the makers of the Adler Cars, have recently established a large open-air motor-driving track in Frankfurt-am-Main. One of its features is a series of panoramic pictures representing the humorous side of motoring and cycling, by Herr Emil Kneiss, a well-known artist of Munich. The picture reproduced above is that which has for its subject the Herkomer Trophy Contest.

out of the country, into foreign hands for fuel will be spent in the country, to the advancement of home industries and to the solving of the increasing unemployed menace, be decisively weighty in its favour?

**Taxes on  
Doctors' Cars.**

RECENTLY a Committee of Medical Men using Motor Cars was formed, with Dr. Bruce Porter as hon. secretary, and some important information was placed before the Commission. The Doctor has such a busy life and so few opportunities of seeing his family that he very often takes one of them out with him on his rounds, and this would prevent his machine being called a "trade one." Considering the amount of service rendered to the State by the doctors who give their services free to hospitals and to the poor outside hospitals, some professional men reasonably think they might be treated under a special clause, and can doubtless make out a strong case. But what of the Bishop who uses a motor-car in his diocesan visitations, and who is equally charitably disposed as the doctor towards

tive with regard to improvements in the equity of the proposed Act. We agree that there is much to be said in favour of the exceptional treatment of cars for medical men, and if ministers are to claim a rebate from income tax assessment on rooms used as studies, doctors may well claim preferential rates for cars engaged in their rounds. But, before any definite plan of campaign is evolved in this direction by the medical profession, it may be well to await the full consideration of the whole subject by the authorities of the automobile movement.

**English and  
American Roads.**

"Two Americans in a Motor-Car" is the title of a brochure published in Brooklyn descriptive of a rambling journey in Wales, England, France, Belgium, Holland, and elsewhere by Mr. H. F. Gunnison. To this is added some suggested tours in Great Britain, by Mr. E. A. Rosenheim, whose name is well known among motoring circles in the north. One of the most characteristic notes of the work is the tribute paid to our roads as compared with those tracks that are called

by a similar name in the States. "Right here," says Mr. Gunnison at the beginning of his work, "I should say a word about the roads of England. In our entire trip we did not find a bit of road that was not far better than any portion of the Merrick road, on Long Island. Our patriotic Americans like to criticise European ways, but they are compelled to hang their heads in shame when they compare American roads with those in the old country. It is true we haven't been in the business so long, but it is also true that the inhabitants of the United States do not appreciate the necessity for smooth roads and attractive highways." Even England, however, is not yet perfect in this respect. Some day the wisdom of rounding corners and straightening the crooked ways will be apparent to those responsible for the conduct of national and county affairs.

#### Crying in the Wilderness.

THERE is a member of the Cheshire County Council plaintively bewailing the fact that the Report of the Royal Commission on Motor Cars is not altogether to his liking. Amid the chorus of approval with which the judicial pronouncement has been received Dr. Hodgson appears like one crying in the wilderness. According to him, the report is "a disgraceful failure to grasp the situation." The poor man was unable—according to his own confession at the last meeting of the Council—to find words strong enough to use about the matter. He appealed to the Main Roads Committee of the Council to do something practical to deal with the dust raised by the "blessed bounders" who motored. "If they will only do something I will forgive them," he sweetly pleaded, "but"—and we can imagine the doctor drawing himself to his full height and intoning with a splendid passion—"if they do nothing I will never forgive them." We trust something will be done, although we are somewhat indifferent as to the form it will take.

#### Stone Throwing.

It is gratifying to find educational authorities throughout the country are impressing upon the teachers the advisability of drawing the attention of their pupils to the folly and danger that lurks in the practice of stone throwing at automobiles. Lancashire, Lincolnshire, Herefordshire, Oxfordshire, and Nottinghamshire authorities have been most friendly disposed towards the suggestion of the Motor Union that the head teachers should have instructions on the matter, and in all those counties satisfactory warnings are being given. Although the Surrey Education Committee is cognisant of the evils of the habit they will take no direct steps; still they have no objection to the head teachers being circularised on the matter. Other authorities, like the education committees of Essex and Buckinghamshire, have decided to take no action, and motorists in these areas who can give the Union information of any cases of stone throwing should forward such without delay. A few examples brought to the notice of the County Councils would provide the Motor Union with a strong plea for a reversal of the policy of inactivity.

#### The Expedition of Theft.

A NOVELIST some time ago pictured the advantage of the motor-car as an adjunct to the plant of a high-class burglar, and now some motoring thieves have taken to scaring the good people of the villages between Chelmsford and Braintree out of their beds. In fact, so great is the alarm created by the nocturnal visitants that many peace-abiding citizens have not sought their beds at all, but have lain in wait armed with heavy bludgeons of dubious invitation for burglars who motor by night. It appears that one night last week a couple of thieves managed to steal in half a dozen villages, covering a distance of a score miles or more. This opens up a new terror for the lonely residents in the country. How to deal with it is a problem beyond ordinary ken.

#### Motorists' Clothing.

At length one of the organs devoted to the clothing industry is calling on its readers, in the words of the Prince of Wales, to "wake up," and realise the profit that might be made by selling clothes to motorists. A few firms in some of the large towns have been able to obtain quite a monopoly of this business, whereas there is room in every small town and large village for an enterprising clothier to cater for the needs of the wealthier class of residents. We notice that most of the leading clothing firms are appointing agents for special designs in motor clothes, liveries, &c., in much the same way as makers of accessories have agents for their productions in every place of importance. Only one or two have appointed direct agencies. This question of agency for motor-clothing may become a matter of burning politics in the motor world—occasional rumblings already foretelling a storm.

#### A Rustic's Suggestion.

THE letter signed "Rustic," which some good people have taken seriously, mainly because it appeared in the columns of the usually sedate "Morning Post," may be regarded as the *reductio ad absurdum* of rural prejudices. This sapient person advocates the erection of gates in narrow places and at dangerous corners, so that the speed of motor-cars could be checked. The expenses of maintenance might, he opines, be met by a small toll levied upon the motorist—just as if that personage was not already taxed and rated enough. Any margin of profit after the expenses of the tolls had been met should be devoted to the improvement of the road. By this plan it would be possible to secure a return of all cars passing through any particular district, and work could be found for discharged soldiers and sailors as gatekeepers. "Rustic" must be a really delightful person, and, if he has a voice, might prove an amusing addition to the programme of a Surrey J.P.'s garden party.

A COMPREHENSIVE list of marine motor victories won on "Shell" spirit has been issued by the General Petroleum Company, who inform us that the Wasp, which gained the gold medal for seagoing results in the Motor Yacht Club's Reliability Trials, this year was run on their "Silver Spray."

MESSRS. W. LECOQ, MCBRIDE AND CO., of 67A, Shaftesbury Avenue, London, W.C., have taken up the British agency for the Cinogene automatic starting apparatus for petrol motors. Some particulars of the device, which, jointly with the Mors Co.'s apparatus, secured the first prize in the competition held by the French Automobile Club last year, were given in the *M.C.J.* of December 30th last.

WE learn from Mr. A. R. Garnett, of Shaftesbury Avenue, London, W.C., the sole concessionaire for National cars, that for the 1906-07 season Messrs. Rose Brothers, of Gainsboro', the makers, are bringing out two new models of four-cylinder cars which will closely follow the Mercedes design. They will be of respectively 24-h.p. and 40-h.p., the engine of the former having cylinders 4½ in. bore by 5½ in. stroke, and the latter 5½ in. by 6 in. Hoffmann ball bearings will be fitted throughout, including the crankshaft of the motors.

MOTORISTS who tour will find the new pamphlet, "Sunshine and Storm," a useful work of reference. It is published by the Lacre Motor Car Co., Ltd., whose business comprises everything ranging from an overcoat to high-powered cars. Among the touring necessities illustrated in these well-arranged pages are some good types of hoods designed for the convenience of passengers mounting and dismounting, as well as for protection from dust and storm. A telescopic luggage guard is one of the novelties described, this consisting of a strong, yet light, tray held by straps for supporting the weight at the further end. It can be slid under the floor board of the tonneau out of sight, and is easily brought into use when travelling. A new claw tyre bracket is also illustrated, and the pamphlet reveals a variety of really high-class designs.



## ON THE EAST COAST.

THE Essex County Automobile Club is having a meet to-day (Saturday) at Frinton, a delightful and modest resort on the east coast, lying between Clacton and Walton-on-Sea. They will be entertained to luncheon at the Grand Hotel by Mr. E. A. Serre, and doubtless those who can find the time will have some good spins on the stretches of level road round about. Frinton has no great reputation, is not even mentioned in some automobile handbooks, and yet deserves recognition as a place of recuperative merit, with accommodation for cars. In fact, Messrs. Ratcliffe Bros., who are the motor people of Frinton and Great Holland, a neighbouring hamlet growing into big type, have known of motorists avoiding their little resort simply because rumour, often a discreditable piece of anonymity, said there was not accommodation for cars. And yet Messrs. Ratcliffe Brothers have a motor-car garage there 100 ft. by 40 ft., with repair works of good size and modern equipment, including an inspection pit 48 ft. long, and extending 10 ft. into the garage, for the use of chauffeurs.

Frinton was mentioned in Domesday Book under the name of Frietuna, but of history it has none of considerable interest. One point of interest is that a few years ago all the hedges between the town and its mile-away neighbour of Walton were done away, leaving a clear view of the sea—and of the road ahead. There have been more motor-cars in and about Walton this season than ever before. Mr. J. C. Moreland has good accommodation for storing and washing down cars in the High Street, and the hotels have also garage accommodation at standard rates. The climate is singularly dry and sunny, with a minimum rainfall. The country in the neighbourhood is level, and the roads, though at present rather loose owing to dry weather, are generally good. Still, despite its popular attractions, Walton with its evidences of sea encroachments is a drab sort of place, with nothing of especial interest to cause motorists to rest there, while a half-hour's run will take them to Harwich, and ferrying across the Orwell will land them at Felixstowe, a sunny little spot with a new pier, new hotel, and generally modern idea of itself—a charming centre for trips by road. Being but eighty miles from London, it is just a nice run from town, and motorists will have a good reception at the Felix Hotel, which has a garage capable of accommodating between thirty and forty cars. Felixstowe is trying to establish a winter season, and here its sunshine record should prove of value, for last year 1,802.1 hours of bright sunshine were recorded, as compared with 1,680.5 at Eastbourne, and 1,776.5 at Torquay.

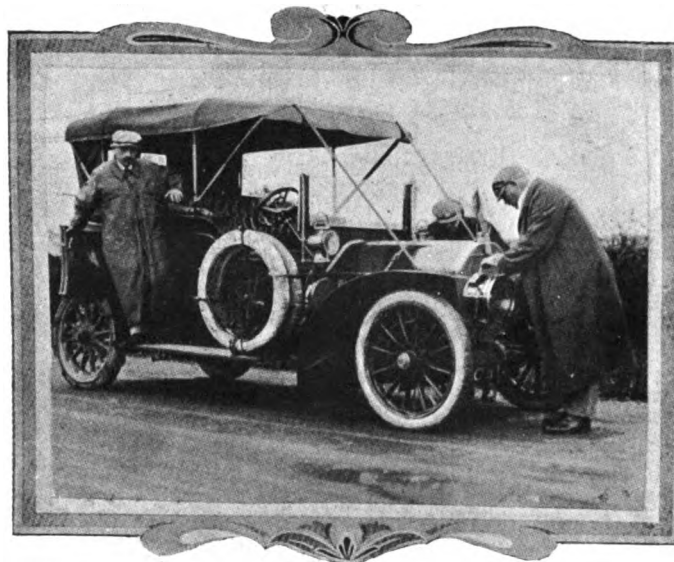
Clacton-on-Sea, which was visited on Sunday last by the Essex Motor Club, some of the members of which stayed over till the following day to participate in the carnival connected with the regatta, is another popular east coast resort. There cannot be any doubt but that a very much larger number of motorists have visited the town during this season than at any time past (excepting perhaps the days in September, 1904, when Clacton was invaded from the sea during autumn manoeuvres, and there were 500 cars in the town on one day). There are excellent roads in the town; the County Council have recently laid a stretch of "tarmac" as an experiment for a short stretch in Pier Avenue, and experience has quite justified the venture. The main road from Colchester is also an excellent one, and the alternative route *via* St. Osyth, and direct roads to Walton, Frinton, Harwich, Manningtree and Ipswich are also features to attract motorists. Messrs. F. W. Lewellen and Co., whose place is in the Public Hall Buildings, are in a position to do any description of repair and provide all accessories as well as four different brands of motor spirit. There is also ample accommodation for cars at the various hotels in the town.

Quite three times the number of motor-cars have visited Lowestoft than was the case last year—and the number is always very great. The district is full of special features to attract the motorist. Lowestoft is a most interesting place and makes a remarkably fine centre. It is the headquarters for yachting and for the Broads; the roads are all remarkably good and there

are no hills of any moment. The hotels in the town are good and the local entertainments are all run on the best lines. Facilities are provided for sea-trips up and down the coast, the shipping is always interesting and the enormous fishing fleet of over 100 boats during October and November, when the town gets some of the best weather, is almost unique. During these months, too—in fact, after the end of August—the sea fishing starts from the beach, boats and piers, and this has created quite a second season in the town, a large number of the best-class people motoring down for the purpose of this sea fishing.

With regard to accommodation for cars, at the south end of the town there is a garage and repair shop run by Messrs. Smith, Savory and Co., who are able to charge accumulators and do all kinds of repair work in a well-equipped workshop. They have also accommodation for fifty motor-cars. The Empire Hotel has its own garage, as also the Royal Hotel, and lock-up accommodation is always in the Royal stables right opposite the pier. At the north end of the town there is the garage of Messrs. J. W. Brooke & Co., Ltd., which is of the very best type with a large accommodation, and where, of course, every type of repair can be undertaken.

It is a merry run from Lowestoft to Yarmouth. We remember the first time we did the journey on one of the early Brooke cars, accompanied by Mr. E. Estcourt, who has a delightful place near by, on his trusty Daimler. The breezes blow strongly at times—but of that the motorist takes no heed.



Inspecting the Automobile Association's Scouts on the Great North Road. Col. W. J. Bosworth (Chairman), and Mr. L. Schlenheim (Treasurer), call a halt at Dunbar.

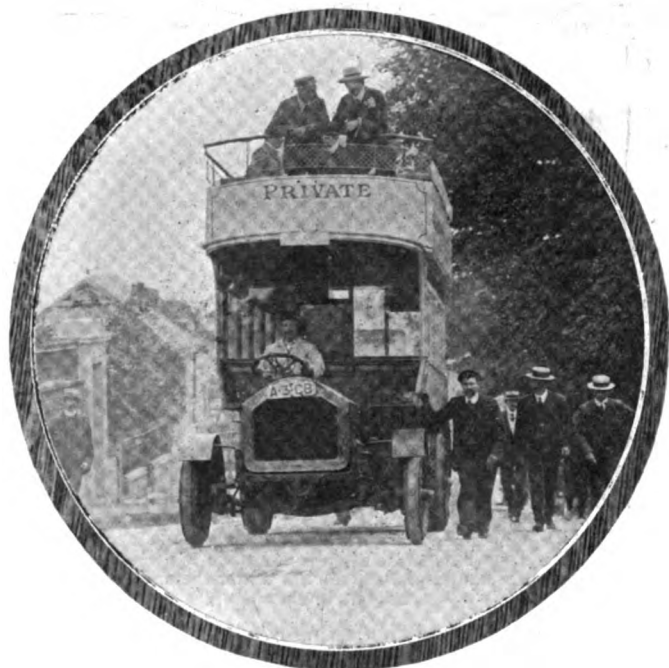
Unfortunately there are police traps about, and last week some Lowestoft owners fell into one between the seventh and eighth milestone from Yarmouth on the Potter Heigham-Cromer road. There is, however, a motor freemasonry in East Anglia, and news of the police device was freely circulated among the hotels and garages where motorists congregate. At Yarmouth Major E. Durian has cars on hire for visitors, and often assists motorists calling at his place in St. Peter's Road, but what is wanted there is a large and well-arranged garage.

Though the places we have named have each their joys and pleasures, the town of Cromer claims to have merits above them all, one of which is that it affords a pleasant centre from which the motorist can visit the Norfolk Broads, Sandringham, Norwich, Lowestoft, Yarmouth, &c. During the present season nearly twice as many motorists have visited Cromer as compared with last year, and there is plenty of accommodation for cars at local hotels and garages. The Hotel de Paris is the appointed headquarters of the A.C.G.B.I. in Cromer. All these resorts have recognised the value of the motorist as a visitor, and those who journey that way need have no fear as to the welcome they will meet in the way of accommodation for man and car. The police, too, are generally friendly disposed towards motorists.

## SOME CURRENT TOPICS.

### The B.A.C.S. Motor-'Bus.

Some few months ago we announced that the British Automobile Commercial Syndicate were bringing out a new design of motor-'bus chassis. The first of the new vehicles has now been completed, and on Tuesday, last week, was subjected to a severe test of its hill-climbing capabilities. The frame of the 'bus is of very strong construction, being built up of pressed steel, with a sub-frame of channel steel, on which the engine and gear-box are supported. The motive power is supplied by an Aster-30-h.p. four-cylinder engine, a feature being the arrangement of the pipes to ensure a good water circulation. Two forms of high-tension ignition, magneto and coil and accumulators, are provided, these being controlled by separate levers. The gear-box, which is adapted to give three speeds forward and a reverse, is located well forward and is connected with the differential shaft by a universally-jointed shaft, on both ends of which large contracting brakes operated by one pedal are mounted. The final drive is by side chains to the rear road wheels, the hubs of which are fitted with hand-controlled com-



pensated brakes. The latter are so arranged that the bands can be readily removed and renewed without disturbing any other part. The change-speed pinions are unusually wide, while the axles are also of liberal dimensions; in fact, the various parts have been made sufficiently strong to allow of an engine of from 40 to 50-h.p. being fitted, where the vehicles are intended for service in difficult districts. On the trial trip alluded to above the 'bus carried nearly a dozen passengers and about two tons of ballast, so as to bring up the weight to that of the full complement of thirty-four persons for which the double-deck body has accommodation. From Long Acre, W.C., the vehicle made its way steadily through the traffic to the foot of West Hill, Highgate, one of the stiffest rises in North London. The hill is about three-quarters of a mile long, and, beginning with a grade of 1 in 17, it gradually becomes steeper up to a bend in the road, two-thirds of the distance, where the gradient is stated to be 1 in 6 for a hundred yards or so to the finish. The accompanying illustration depicts the 'bus on the hill, the steepness of which will easily be noted. Slowly but surely the vehicle wended its

way to the top, where the appearance of a motor-'bus for the first time attracted considerable attention. On the return journey, with the view of testing the efficacy of the brakes, the vehicle was brought to a stop on the steepest part. Altogether the demonstration was most successful, and should go a long way in inspiring confidence in the new B.A.C.S. 'bus.

### The Popularity of Motor Touring.

One of the striking features of the present motoring season has been the great popularity of touring by automobile. Right through the summer there has been an outpouring of motorists all over the country, each intent upon driving his car to some favourite objective point—whether at the seashore or to inland waters, to the mountain resorts or to the seclusion of the woods; while not a few have taken their vehicles over to the Continent, with the object of visiting some of the old-world places there to be found, and also of indulging in a spin along roads where the freedom from police traps enables one to enjoy the pleasures of motoring to the full. In this connection we learn that the work in the touring department of the A.C.G.B.I. has recently been exceptionally heavy. Special attention is given to assisting members—not only of that body, but of the Motor Union and affiliated societies—with information and advice in mapping out tours; and, as showing the extent to which this department is taken advantage of, we may mention that during the course of the other week more than £1,840 was deposited with it in connection with the special Continental Customs facilities, and over £60 worth of maps sold.

### The Corrosion of Accumulator Terminals.

In our correspondence columns the question is raised as to preventing the terminals of ignition accumulators from corroding. The corrosion is caused either by acid acting on them and producing an action between the lead and the brass, or, if thick brown paste is formed, the cause is due to an electrolytic action taking place. When acid moisture is collected to any extent on the top of a sealed accumulator, it will allow the passage of a current across the top of the cells, from one terminal to the other, the effect of this current being to gradually dissolve the lead and convert it into peroxide of lead in a pasty form. To remove this, the terminals and lead connections should be cleaned with warm water, and then ammonia and water, until they are perfectly clean, and no trace of corrosion or acid remains. All the traces of ammonia should also be cleaned away, and the terminals then anointed with vaseline. To prevent a recurrence of this, the sealing compound all round the terminal lugs should be melted by a hot iron, and all moisture removed as far down as possible. Then clean and keep dry the top of the cells, always endeavouring to prevent anything in the nature of a circuit getting across through moisture, dirt, etc. Corrosion on terminals is not a sign of decay; it sometimes occurs with new cells, and is always a thing to be carefully guarded against and arrested as soon as it is noticed. It is not absolutely preventable, as it is due to natural causes, which only care can counteract.

A MOTOR-CAR testing plant has recently been installed at the Saxon Imperial Testing Establishment in connection with the Technische Hochschule et Dresden.

THE "Brown" motor-cycle, which has succeeded in winning so many important events this season, is the subject of a new catalogue by Messrs. Brown Bros., in which its many excellent features are illustrated and described with exceptional fulness. This list also has some hints on the management of motor-cycles, and will be of value to all motor-cyclists.

THE Bowden Patents Syndicate, Ltd., have been awarded a gold medal at the Milan Exhibition for an exhibit of the various applications of the Bowden mechanism to motor-cars, marine engines, &c. It is interesting to learn that the novelty which appeared to attract the greatest interest was an exhaust cut-out operated by the Bowden mechanism from the dashboard, a device which is meeting with some disfavour in this country.

## THE ACTION OF A PETROL MOTOR.

UNDER the title "A Busy Man's Text Book on Automobiles," the Olds Motor Works, the makers of the Oldsmobile vehicles, have lately issued an interesting pamphlet explaining the functions of the various parts of a motor-car. The action of the four-cycle petrol motor is now fairly well understood by motorists, and it may seem somewhat late in the day to refer to it now, but the ranks of automobilists are extending so rapidly that the following extract from the booklet referred to

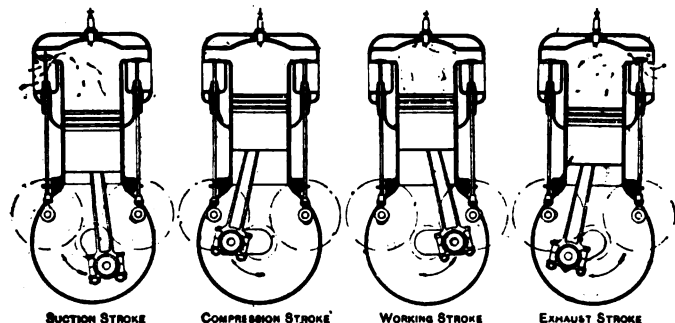


Fig. 1.

above may not be without interest, especially as the subject is dealt with on somewhat novel lines. Nothing could be simpler in operation than a petrol engine; in fact, nearly everyone is familiar with its action, although probably it has never been fully realised. A gun, for instance, is nothing more or less than a four-stroke cycle motor. As is well known, it requires four operations to go through one set of changes or "cycle" as it is technically termed, viz.:-

Introduction of Charge.	Explosion of Charge.
Compression of Charge.	Cleansing of Barrel.

This same set of conditions is effected in a petrol motor by four strokes of the piston—two in each direction, up and down:

Suction stroke.	Introduction of Gas.
Compression stroke.	Compression of Gas.
Working stroke.	Explosion of Gas.
Exhaust stroke.	Removal of Burnt Gases.

Now, to carry the comparison further, let us assume that the bullet in the gun is connected with the ramrod, and that the other end of the ramrod is fastened to a crank connected to a wheel, and that the travel of the bullet is limited, so that the bullet does not leave the barrel. If, now, we assume that the gun is a repeater, and equipped with a device which will intro-

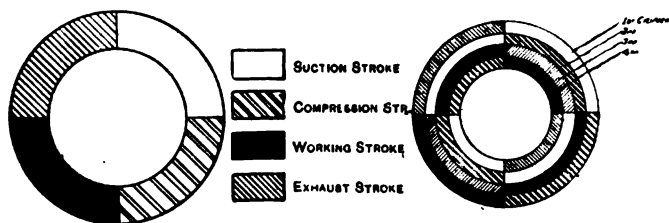


Fig. 2.

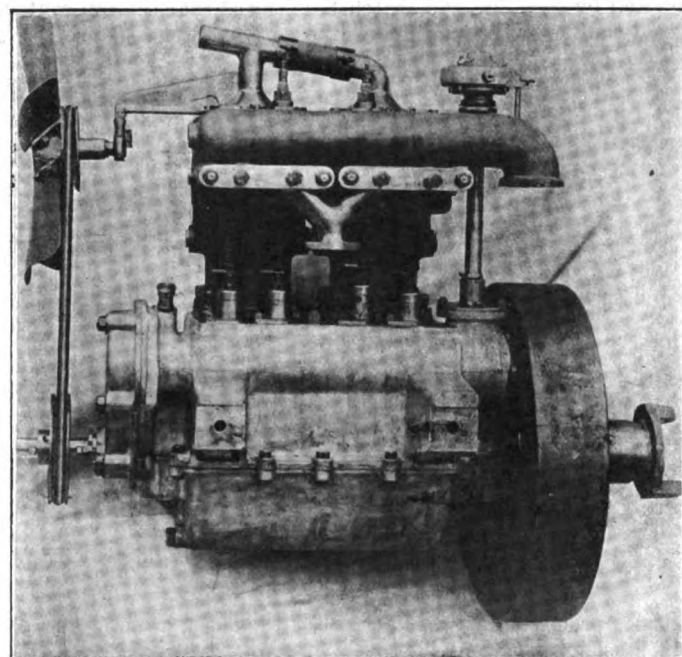
Fig. 3.

duce and fire charges at regular intervals, we will virtually have a typical four-stroke cycle motor. In order to fix the succession of changes in the mind more thoroughly, reference may be made to the diagram shown in Fig. 2, from which it will be seen that once around the circle—representing two revolutions of the crank shaft—brings one back to the starting-point; the first quarter representing the suction stroke; the second, the compression stroke; third, the working stroke (indicated in black); and fourth, the exhaust stroke. Keeping this in mind, it is an easy matter to make a diagram which will show exactly what is happening in each cylinder of a four-cylinder engine. Fig. 3 represents such a diagram, from which it can be readily seen when the working stroke occurs, and that in a four-cylinder motor two impulses are given to the crank shaft at each revolution of the same. Noting the cross sections which are used to represent the various strokes, it will be observed that when

the charge is being fired in cylinder No. 4 the exhaust gas is being expelled in No. 3, the new gas is being compressed in No. 2, while in No. 1 the fresh charge is just being drawn into the combustion chamber.

## THE SWIFT 9-10-H.P. MOTOR.

WE are able to illustrate herewith the double-cylinder motor which the Swift Motor Company, Ltd., are fitting into their 9-10-h.p. car—a model to which they intend to devote considerable attention during the 1907 season, as the result of its success in the recent Scottish Reliability Trials, when it will be remembered that the Swift Company secured the gold medal in Class 1 for cars the chassis of which did not exceed £200. As will be seen, the two cylinders, which are 90 mm. bore by 110 mm. stroke, are cast separately; the valves are all located on the left-hand side of the engine, and operated off a single cam shaft, the gear wheels driving which are entirely enclosed. The contact maker is conveniently located, it being mounted on the upper end of a vertical spindle driven by bevel gearing off the cam shaft. The base chamber is, as usual



of aluminium, a large inspection cover being provided on one side to enable the big ends of the connecting rods to be readily examined. The fan for inducing a current of air through the radiator is driven off the crank shaft by a belt; provision for keeping the latter taut is made by mounting the fan spindle eccentrically. The aim of the makers has been to produce an engine which shall combine simplicity with great strength in all the working parts, an object which, as the illustration shows, would appear to have been fully attained.

THE Earl of Derby's motor-car was being driven from the moors to Crag Hall, six miles from Buxton, when, in descending a steep hill, the chain broke, and the car ran into a wall and upset. Mr. Wyndham Hall, steward, and others escaped with a shaking. The Earl of Derby himself was not in the car at the time; he, fortunately, happened to be walking.

AT the Cokermouth Rural District Council a request was received from the Embleton Parish Council asking that the Council take steps to close the district roads in the parish to motor-cars, on the ground that there was a serious danger and inconvenience to farmers by motor-cars being allowed on these roads. Mr. Wallace moved that they adopt the proposal. The matter was referred back to the Works Committee.

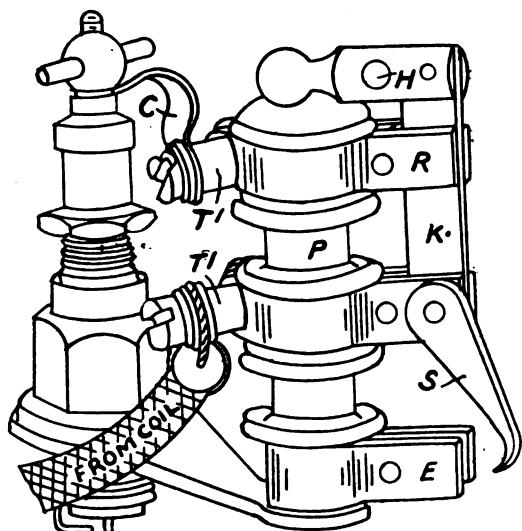
## A NOVEL SPARKING PLUG TESTER.

**A**N exceedingly useful and ingenious spark and sparking plug tester, of which we give an illustration herewith, has lately been introduced by Mr. Bourne-Dale, of High Lane, Chorlton-cum-Hardy, Manchester. The fitting consists of a porcelain insulator P mounted upon a bracket adapted to be either fixed under the sparking plug or to be screwed to the dashboard of the car. Attached to the insulator are three contacts, R, E, and T, respectively. The middle contact is connected to the usual plug wire from the coil, the plug now being connected to the top contact T, instead. The bracket under the plug completes the "earth" connection to the contact E.

To locate a faulty cylinder in a multi-cylinder motor, each switch should be opened separately by the insulated handle H while the motor is running; the cylinder that makes no difference in the running when cut out is the faulty one.

To test whether current is passing through the plug, the switch K should be slightly opened, and the spark between it (K) and contact R noted.

To test whether the current passing through the plug is producing a spark at the points, and that they are not short circuited by soot, &c., the switch K is closed into the top contact R, and the finger S brought close to the earth contact E. If a



spark is produced at the latter point (the current also being free to pass through the plug by the switch K), it shows that a spark is being produced at the plug points; for if the points of the plug are touching or "sooted up," thus short circuiting the coil, no spark could be got to the earth contact E. The strength of the spark at the plug and the distance between the points is indicated by the strength and length of the spark between S and E. The two sparks will not occur together, but the current will jump the shortest gap; therefore, as the battery has not to supply two sparks at the same time, the value of the test is, the maker claims, in no way jeopardised.

To test whether the coil is producing a spark the switch K is pulled out of the top contact R, and either it, K, or the finger S is turned round within sparking distance of the earth contact E and the spark noted.

Briefly stated in electrical language, the tests which can be made by the device are (1) A spark in series with the plug shows that there is current passing through the latter; (2) A spark in parallel or in shunt with the plug shows that there must be sufficient resistance at the plug points to maintain the necessary pressure to create the shunt spark.

The attachment can be employed in connection with either battery or magneto ignition and single or multi-cylinder motors; it enables the plugs to be tested under working conditions without removing them from the cylinders, while it also enables the working of the coil to be verified.

## USEFUL NOTES.

WHERE rubber hose is used to make connections in the water circulation pipes of a petrol motor, and has bends in it, a good plan is to reinforce it by a brass coil spring which is a good fit inside. This prevents any flattening at the bend and cracking, resulting eventually in a leak.

ANY small leak which appears in connection with the water circulation should be repaired as promptly as possible, for it quickly grows to a large one, which is much harder to repair. Nothing looks worse, nor, unfortunately, is more common, than to see a pool of water under a car which has been standing for some time.

SOME carburettors have a fine gauze covering over the extra air inlet, and it will often be found that this device is apt to cause the engine to work indifferently, owing to the fact that the gauze sometimes becomes completely choked by dust and dirt. The best way to remedy this, if the trouble is encountered when on the road, is to pierce fair-sized holes in the gauze with some pointed instrument.

IF rubber hose connections are used anywhere in the water-circulating system they had best be renewed at the beginning of each season, as they deteriorate rapidly, and sometimes the inside layer of fabric separates from the rest and impedes the circulation, without the defect being apparent from the outside. No kinks should be allowed in such connections, and the clamp fasteners should be properly secured.

IT is a bad practice to "race" a petrol motor—in other words, to allow it to run at its maximum speed, especially when the car is not in motion, as it puts unusual strains on many parts of the engine, particularly the reciprocating portions, and tends to wear them out prematurely. The strain on the connecting rods and valve mechanism, for instance, increases very rapidly with the speed. The shocks or hammering borne by the parts is very much greater at high speed than at normal speed, and may result in the crystallization of the parts and their eventual breakage.

BOTH brakes and steering gears are now generally well and safely constructed, but they, like all other mechanisms, warrant the closest scrutiny. Every motorist should assure himself that each nut, bolt, pin, or other device upon which their integrity depends is properly in place, and that nothing is weak or loose. Each brake on the car should frequently be tested upon the steepest available incline to see that it is capable of promptly bringing the machine to rest and holding it from motion in either direction, and, merely because one of the two brakes is little used, it should not be neglected, but kept in perfect adjustment for use in the emergency which its name denotes that it is intended to meet. Attention to brakes and steering gear upon the part of motorists, and the acquirement of a readiness to use them, will prevent all accidents not obviously attributable to recklessness, and dispel the erroneous idea that motor-cars are dangerous.

WHEN flooding of the carburettor occurs in the course of continued regular use, it is most likely due to a defective float. The floats now largely used are made of very thin metal stampings, and as the petrol has some slight chemical action on copper and brass, pinholes will occasionally develop in the float and admit the spirit to the interior, thereby reducing its buoyancy and causing it to maintain a higher level in the float chamber. Petrol is an extremely light fluid, and will gradually ooze through an opening far too small to be detected by the naked eye. The best way to determine whether the float leaks, therefore, is to take it out and shake it, and observe whether there is any noise of splashing petrol produced. An even more common cause of leaks in floats than punctures of the metal wall is the opening up of the soldered joint between the two parts. A leaky float containing petrol is rather difficult to deal with, and the best thing to do is often, in such a case, to get a new one.

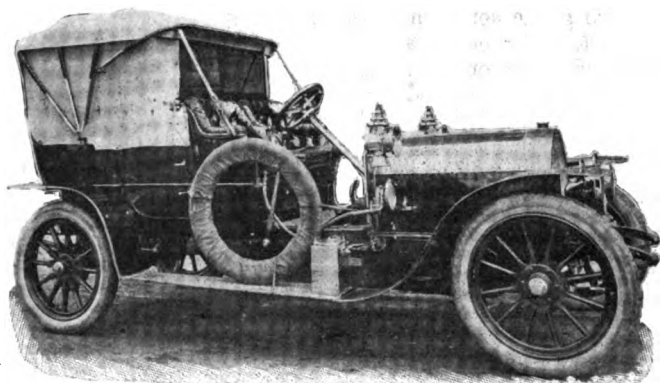


MR. H. O. D. WALTHALL is the proprietor of the Colwyn Bay Motor Garage, in Greenfield Road, in that popular resort.

HENLEY Bridge, which is the only means of crossing the Thames between Marlow and Sonning, is in danger owing to the flood waters beneath and the heavy traction engine traffic above.

THE Palmer Tyre, Ltd., have reduced their charges for retreading tyres, and the alteration will show a considerable saving to users of the Palmer cord tyres.

WE illustrate herewith the 20-32-h.p. Darracq belonging to Mr. Herbert Sullivan, nephew of the late Sir Arthur Sullivan. The car was supplied by the Waterloo Motor Works, Chicheley Street, London, S.E., and the photograph shows it fitted with



Cape hood and wind screen, built entirely at the firm's premises in just a week from the receipt of the order. We may add that Mr. Sullivan, who has never had a car before, has himself driven his Darracq nearly 4,000 miles without a single stop on the road due to any defect or breakdown.

THE Darracq-Serpollet steam omnibus from London, has arrived at Glasgow, having covered the distance of 400 miles in 29 h. 6 min., running without accident or involuntary stoppage.

THE number of automobiles registered in the State of New York, U.S.A., up to August 1 of this year was 32,082. For the first seven months of 1906 the number registered was 8,210, as compared with 6,137 for the corresponding period in 1905—a gain of over 2,000.

A MOUNTED guard of thirty Life Guards was riding along Regent Street, London, when a motor-bus driver tried to pass on the near side, with the result that he broke the ranks and scattered the guards, some of the horses breaking away. Later, he was fined 40s. at Marlborough Street Police Court.

MOTOR horns that make too loud a noise are now under the ban of the police of Washington, U.S.A. Many complaints have been received by the authorities against motorists using whistles and sirens of such noise-producing power that horses and people alike are frightened when a blast is the only evidence of the otherwise silent approach of a motor-car.

WE had a short trial run on Tuesday last on a new French-built four-cylinder car, known as the S.C.A.R., the British agency of which has been taken up by the Central Motor Car Company, Ltd., of Long Acre, W.C. The vehicle is of 18-20-h.p., with cardan shaft transmission. Among the special features are a variable lift to the inlet valves, and thermo-siphon water circulation. We hope to refer to the new car more fully in a subsequent issue.

A PECULIAR accident occurred on Wednesday of last week just outside Scarborough, on the Filey road. Mr. T. H. Woollen, of the Clement-Talbot Co., was motoring to Bridlington when a horse ridden by a groom took fright and jumped almost over the car, breaking the mud-guard and doing other damage. The animal then fell on and rolled over the groom, who sustained a broken leg and concussion of the brain. Police investigation absolved Mr. Woollen from all blame.

## HERE AND THERE.

WE hear that a new British car shortly to be put on the market will be an exact copy of a well-known Italian vehicle.

MESSRS. J. W. BROOKE AND Co., who have lately received an order for one of their 35-h.p.

Brooke cars for Mexico, are informed that this is the first European car to be shipped to that country.

THE NEW SPEEDWELL MOTOR COMPANY, LTD., have acquired the business of the Speedwell Motor and Engineering Company, Ltd., 151, Knightsbridge, London, S.W.

MR. L. L. WHITMAN, who holds the San Francisco to New York record of thirty-three days, started on the 2nd ult. on another trip across the American continent on a 30-h.p., six-cylinder Franklin car.

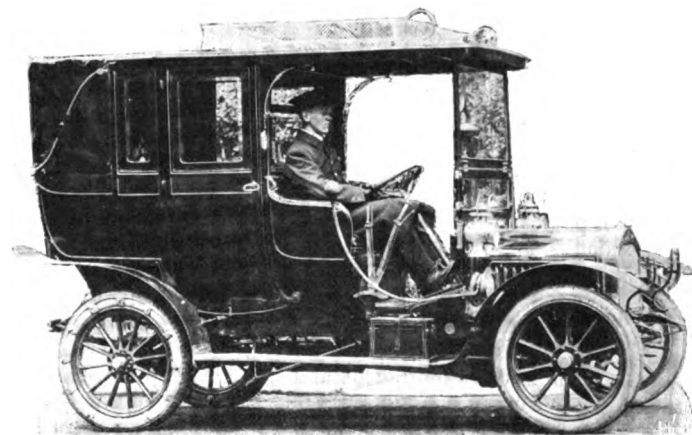
THE new premises of Messrs. G. and T. Brown, in Bridge Road, Sutton Bridge, are on one of the chief motoring roads of the district, and are well equipped to deal with all motor-work that may be required that way.

A FRENCH automobilist paying his first visit to London was perplexed with the notice, "Cars stop here." He is said to have stopped until a passer-by, noticing the situation, told him it applied only to trams.

FROM the Syndicate d'Initiative de Lyon we have received a copy of an illustrated guide to Lyons and neighbourhood, which should prove interesting and useful to anyone contemplating a tour in that district of France.

THE Heaton Norris Council has discussed an application by the Manchester Corporation for a licence to run a motor-bus in Heaton Moor Road. Several members pointed out that motor-buses were unpopular and not desired in Heaton Moor, and the highways sub-committee were authorised to grant licences for horse omnibuses.

THE Academy of Motoring, Ltd., of New Bond Street, W., recently acquired two Metallurgique cars for hiring-out purposes. The two vehicles have been in constant use since the day following their purchase, for periods of a day, week, or month, and have not been idle more than six days during that time. The 24-28-h.p. double phaeton was purchased on April 22nd, and since then has covered over 6,000 miles, having been all over



Scotland; but the record of the 16-20-h.p. landaulet, of which we give an illustration, is even better. Bought on June 4th, in two months it had travelled roughly 4,500 miles all over the country, and has up to date done nearly another 1,000 miles, making a total of roundly 5,500 miles in less than three months. The landaulet has two fold-up seats, so that it accommodates four passengers inside comfortably.

MR. C. FRISWELL is at present enjoying an extensive tour on the Continent on a 30-40-h.p. Peugeot. From a post card from Milan we learn that, travelling *via* Lille, Paris, and Geneva, he reached Italy *via* the Simplon Pass. He describes the dust on the Italian roads as being "awful."

PETROL and motor spirit imported into Cape Colony has now to pay a duty of 1d. a gallon.

THE DAIMLER COMPANY inform us that Lord Leigh has ordered a 30-40-h.p. car of their make.

SIR HENRY KIMBER, Bart., M.P., has lately joined the ranks of motorists and is at present touring in Scotland.

THE Adler Motor Garage is being opened at 1, Church Street, Barking Road, London, E., with Mr. O. F. Hanington as manager.

THE motor-omnibus has already been introduced into Japan. Five are running regularly in Osaka, while an order for twenty-four more has been placed.

SIR DYCE DUCKWORTH has informed the Street Noises Abatement Committee that, in his opinion, the streets are unfit for two totally different kinds of traffic at the same time.

THE Statter quick-lift jack and many other motor-car accessories are now made by the Switchgear Company, Ltd., late Messrs. J. G. Statter and Co., Newhall Street, Birmingham.

WE illustrate herewith the safety motor filler which has recently been put on the market by Pettett's Patent Safety Filler Co., of Regency Square, Brighton. The object of the arrangement is to enable the contents of petrol tins to be emptied into the tanks of cars without danger and without the use of funnels. In the illustration the complete device is shown detached, from which it will be seen that, in addition to the spout, a small air pipe not only passes through it, but also well into the tin. The filler will be found useful in connection with awkwardly situated tanks, and it effects economy inasmuch



that there is no waste of petrol by splashing. Another advantage claimed is that it enables a tank to be filled at night without having to invoke the aid of a lamp, with its consequent danger, it being impossible to over-fill the reservoir, as, when the spirit in the latter comes flush with the end of the spout, the flow from the tin ceases owing to it becoming air-locked. All the petrol passes through a filtering gauze at the end of the filler, which is so arranged that it can be easily detached for cleaning purposes or renewal. Screw adaptors are supplied with the filler, enabling it to be used in conjunction with any of the different firms' petrol tins.

MESSRS. SALSURY AND SON, LTD., of Long Acre, W.C., have just brought out a new adjustable bracket for motor-car head lights. By means of a single nut the two arms of the bracket can be set in a variety of positions to suit any make or size of head light.

CALLING in at the depot of Gaulois Tyres, Ltd., the other day, we had an opportunity of inspecting a Gaulois cover which has been specially designed for use in conjunction with chrome-leather non-skid bands. The firm are also devoting attention to solid rubber tyres for motor-buses and are making one with steel studs with the object of reducing the danger of skidding.

THE Wolseley Tool and Motor Car Company, Ltd., have sent us a photograph of the motor launch Lila, belonging to Mrs. Hoffman, of Pangbourne, Berks. The hull, 35 ft. long by 5 ft. 6 in. beam, was built by Saunders, and is engined with a four-cylinder 16-h.p. Siddeley motor. A striking feature of the vessel is its reliability and silence, while it has attained the satisfactory speed of sixteen miles an hour.

THE MAHARAJAH OF ULWAR has recently acquired a 50-h.p. Brasier car.

THE HON. H. L. BRUCE, heir of the Earl of Aberdare, intends going into the motor-car business.

WE regret to learn of a serious fire at Mr. Max Graddon's motor-car body works in Mildmay Avenue, London, N.

THE Loch Lomond challenge trophy has been won by the 14-h.p. motor-boat Kelvin, owned by Mr. W. M. Bergius, of Glasgow.

SIR THEODORE MARTIN, K.C.B., is still unrepentant with regard to motor-cars, which he regards as "a curse to the community."

MESSRS. OAKES BROS. AND CO., 46, New Broad Street, London, E.C., will be glad to receive catalogues of motor-cars suitable for Madras.

WE learn that Messrs. Jarrott and Letts have received an order to build a special 40-h.p. Crossley landaulet for the President of the Republic of Chili.

CAPTAIN C. G. BIGHAM, C.M.G., who was secretary of the Motor Car Commission, has been appointed secretary of the new Commission on the lighting of the coast.

ARRANGEMENTS are being made for an examination for the A.C.G.B.I. certificates to be held at either Chelmsford or Colchester in the course of a few weeks. The date will be announced in the *M.C.J.*

WHILE a mail van running between Camberley and Windlesham was going towards Bagshot, the horse fell and both shafts were broken. Mr. Percy St. Gerrans took the mails on in his motor-car.

THE Hon. Reginald and the Hon. Sybil Fellowes were being driven in a motor-car over a narrow road near Ramsey, when a horse attached to a farm cart fouled their track. In order to avoid a collision the chauffeur applied the brakes and turned the motor-car into a dyke, the passengers escaping with a slight shaking.

MOTORISTS will appreciate, if it is thoroughly carried out, the new bye-law of the London County Council, prohibiting the throwing or depositing of "broken glass, nails, or other sharp substance, not being road material, on any street or public place." The word street as used in the bye-law "includes any highway, road, lane, path, footway, mews, square, court, alley, or passage to which the public have access for the time being."

A MATCH between an 8-h.p. Rover and a 10-h.p. Turner-Miesse car was run off at Rangoon recently. The local agents for the Rover challenged the representative of Simpson and Co., of Madras, who are agents for the Turner-Miesse, to an uphill test. The steamer was loaded up with five passengers, and ascended the hill easily. The Rover, similarly loaded, then essayed the attempt, and accomplished it after changing gear half way up. The times are given as 40 2-5 sec. for the steam and 53 2-5 sec. for the petrol car.

MESSRS. HALL CAPRIS AND CO. have sent us a copy of a handsomely got-up brochure they have just issued, giving an illustrated description of the Isotta-Fraschini cars, and also of the works in Milan in which they are built. At their depot in Riding House Street, London, W., Messrs. Hall Capris and Co. have just now an interesting range of the Isotta-Fraschini vehicles that have been displayed at the Milan Exhibition. They include 28-35-h.p. and 50-65-h.p. polished chassis, and several finished cars which are well worthy of inspection.

AN alarming accident occurred the other evening at Gorsty Hill, in the Midlands, which lies between Hales Owen and Blackheath. A steam motor-wagon, belonging to the Johnson Iron and Steel Company, of Hall End, West Bromwich, was being driven up Gorsty Hill. After proceeding some distance up the incline the driver stopped the motor-wagon for the purpose of altering the gear. Whilst he was doing this the vehicle jumped the scotches and commenced to run back down the slope at a rapid pace. The driver at once applied the brakes, but these failed to act, and, after traversing a distance of about 150 yards, the motor-wagon dashed with terrific force into a house at the bottom of the hill, knocking out the front of the dwelling and the gable-end.

## CONTINENTAL NOTES.

### The Provence Speed Trials.

The Automobile Club de Salon is organising a series of one and five kilometre speed trials for the 18th inst. The event, which will be held on the Salon-Arles road, will be open for tourists and racers, the usual categories being provided in each class. The big racing cars will compete for the Rothschild cup, while a number of prizes are being offered for competition in the other sections.

### An Austrian Touring Trial.

The Styrian and Carinthian Automobile Club is organising a touring and fuel consumption trial for the 7th, 8th, and 9th inst. The event is open for (1) motor-cycles, (2) single or double-cylinder cars up to 450 kilogs., (3) single-cylinder cars from 450 to 700 kilog., (4) two-cylinder ditto from 700 to 1,000 kilogs., (5) four-cylinder cars up to 32-h.p., and (6) ditto over 32-h.p. The Carinthian competitors will have a run from Klagenfurt to Gratz, 193 kilometres, on the 7th September; the following day there will be a joint run from Gratz to Klagenfurt via Leoben, 214 kilometres; while on the 9th the Styrian section will return to Gratz via Marburg, 193 kilometres. The winners

the touring motor-bicycles will be divided into three categories on a cylinder capacity basis, viz., (a)  $\frac{1}{2}$ -litre; (b)  $\frac{3}{4}$ -litre; and (c) 1 litre. The racers will have to cover three laps and the tourists two, giving total distances of, respectively, 140 and 94 miles. Entries will be received by the A.C.B. at 5, Place Royale, Brussels, until the 5th inst.

### The Coupe de "Matin."

The Coupe de "Matin" reliability trial, which commenced on the 2nd ult., was concluded on Tuesday by a run from Havre to Paris. The final results are not yet known, but, up to Sunday, when the competitors reached Boulogne, out of the 49 which started only 27 were still in the event, and of these only eight had a clean score, these comprising a Darracq, a Cottareau, a Clement-Bayard, a Mercedes, and four De Dions. The two Siddeley cars were still in the running, although, like the majority of the vehicles, they have lost a number of marks.

### A School of Instruction for Chauffeurs.

Messrs. Berliet, the makers of the Berliet cars, have decided to open a school for the instruction of chauffeurs at their works at Lyons. A special engineer, M. Lagier, has been engaged to give lessons two hours a day. The first course, which will last a month, will commence on September 3rd, and it is intended to



The French Military Manœuvres. One of the Motor Lorries (an Orion) employed in maintaining the Water Supply.

in each section will be the vehicles which most nearly approach the limits fixed both as regards average speed and petrol consumption. Thus the cars in Class 4—four-cylinder vehicles up to 32-h.p.—are expected to maintain an average speed of 33 kilometres (20 $\frac{1}{2}$  miles) per hour, and cover 6 kilometres on a litre of spirit, this allowance being equal to about 17 miles per gallon.

### Speed Trials at Marseilles.

On the occasion of the visit of M. Fallieres, the President of the French Republic, a race meeting is being organised to take place at Marseilles on the 20th inst., in connection with the automobile section of the Colonial Exhibition in that city. The races will probably be held on the Prado, over a standing mile and a flying kilometre.

### The Ardennes Motor-Bicycle Race.

The Belgian Automobile Club is organising a motor-bicycle race for the championship of Belgium. It is to be held on the 9th inst., on a 75 kilometre circuit, which, starting and finishing at Neufchateau, in the Ardennes, takes in Florenville, Herbeumont and Recogne. There will be two classes, viz., for racing machines and tourists. The former will be divided into two categories, viz., over 50 kilog. and under 50 kilog., while

start a fresh course at the beginning of each month. For those clients who do not desire to receive instruction in a class, special lessons will be given by arrangement. The lectures, besides being of a general nature, will deal with the different causes of stoppage and bad working of the motor, the taking down, assembling, and general lubrication of a car, the chassis used for demonstration being one of Messrs. Berliet's 1906 models. Special attention will be paid to the subject of ignition, while instruction will also be given in the police regulations and rules governing the road.

### Miscellaneous Items.

Twenty-one entries have so far been received for the reliability trial for the Coupe d'Auvergne, which is to be held from the 3rd to the 8th inst.—A Renard road train has just been put in service between Wimereux, Ambleuse, and Andresselles, near Boulogne.—The Volunteer Ambulance Corps in Munich has recently acquired a 24-h.p. Brasier car fitted with a special ambulance body.—The municipal authorities of Suresnes, near Paris, have forbidden the use of sirens on motor-cars.—All along the Saxon-Bohemian frontier large quantities of contraband goods, and especially cattle, are constantly being surreptitiously conveyed across the frontier. The Customs officers at Ebmath have, however, now been provided with a motor-car to run down the smugglers.

## CORRESPONDENCE

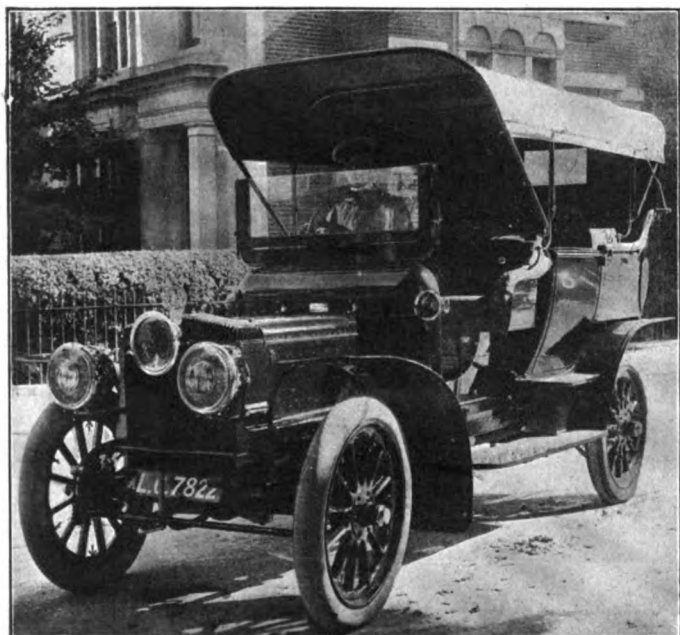
[Letters to the Editor should be addressed to the offices,  
27-33, Charing Cross Road, W.C.]

### THE EVOLUTION OF SPEED.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We are accustomed at the present day to extraordinary speed performances, but I cannot help but think that the achievement of the Dietrich team in the Ardennes race is so remarkable as to receive special mention entirely apart from the mere idea of an ordinary trade advertisement. The evolution of speed in connection with motor-cars during the last ten years has been a remarkable one. Individual performances have from time to time been achieved by various drivers on various makes of cars, but nothing approaching the achievement of the Dietrich men has ever been accomplished in regard to high speed reliability.

The distance of the race was 600 kilometres or about 375 English miles. Duray on his De Dietrich won in 5 hours 38 min. 39 sec. at an average speed of 66.440 miles per hour, Rougier finishing third, 11 min. 32 sec. later, at an average speed of 64.452 miles per hour, Gabriel fifth, 2 min. 3 sec. after Rougier, at an average speed of 63.878 miles per



Sir Horace Marshall's new 30-40-h.p. Daimler Car, fitted with special detachable limousine body by Messrs. Henry Whitlock and Co., Ltd., enabling it to be used as an open car with Cape cart hood.

hour, and Sorel seventh, 12 min. 24 sec. after Gabriel, at an average speed of 61.705 miles per hour, the performance of the latter being very fine indeed when it was remembered that this was his first appearance in a Continental road race.

Taking the average time of the four cars altogether the speed works out at 64.07 miles per hour for the team, the total distance covered by them being 1,500 miles. When it is remembered that three other cars finished in between these drivers it will be seen that the average speed accomplished by these seven men was considerably over that which I have mentioned, and as an evidence of the extraordinary reliability to be obtained from a racing car of the present day I think the result a marvellous one, as also is the performance of Wagner, who accomplished the first round of 85.714 kilometres i.e., 53½ miles, in the extraordinary time of 45 min. 29 sec. Four years ago, viz., in 1902, the average speed of the winner of the same race was just over fifty-three miles an hour, and yet within that four years such is the increase of speed that it is possible for eleven men to accomplish the distance at a much higher rate, and yet not be able to win the race in 1906.—Yours truly,

CHARLES JARROTT.

### THE DUST NUISANCE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR.—So much has been written and said on this subject lately from both the motorists' point of view as well as that of the public, not to mention the local authorities, that one can hardly add any-

thing new. A great many letters are written with strong and bitter prejudice and deserve little or no attention. Let us ask one or two questions and also try to answer them.

Has the motor-car come to stay and be an important means of transport, not a plaything of the rich or the few? If so, are our roads and streets in proper condition to receive this new form of traffic? Does the motor-car make the dust? No, the horses and iron-shod wheels of carriages and carts make the dust, and the motor raises it, and is therefore the immediate cause of the inconvenience or nuisance. Are not our local authorities doing their best to make dust by the constant overwatering of the road, which disintegrates the soil and makes a loose surface?

A great many preparations have been tried on the roads—some with greater success than others. Why not remove the dust by a cyclone cart and use it on the fields for fertilizing purposes? No good end is to be gained by abusing the motorist and the road authorities. Let them lay their heads together and devise some remedy. Difficulties are only made to be got over, and the road question is certainly not an insurmountable one.—Yours truly,

G. W. PATON.

### WEST SUSSEX AND ROAD-MAKING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Those who say that motor-cars are "primarily" responsible for the "dust" nuisance on our roads are misguided individuals. If they would take a ride from West Tarring to Horsham and exercise a little thought, I fancy the following questions would be asked:—

1. How is it that I see lengths of the road in the best of repair, and with practically no dust on it?

2. How is it that I see immediately adjoining these certain other lengths all cut up, and nothing but masses of dust and flints?

3. How is it that, taken as a whole, the part of the road south of West Grinstead (about ten miles) is more or less in a bad state, while north thereof, and right up to Horsham (another ten miles) the road has generally a most excellent surface?

Practically the same motor traffic passes over both stretches of road, and yet they are as different as chalk and cheese. I believe that intelligent observers would come to something like the following conclusions:—

1. Where the road is bad (as the traffic is equal on the bad and good parts) it must be caused by bad and untimely repair of the road, otherwise it would be all bad.

2. As the road south of West Grinstead is made and repaired with some granitic or quartz stone, the great difference in the two must also rest in the material used.

3. If I want good and much less dusty roads, I must make and mend with the material less likely to cause dust, and in a good way, and at that period of the year when they are likely to bind best, and not (by reason of dry weather and baking sun, or soft flints, soaked, and rolled by too heavy rollers) be liable to disintegrate directly they are formed and repaired.

Again, may I say (as the result of observation over some 10,000 miles of roads, including from Worthing to Edinburgh) that the authorities will find that a timely coating of tar on a well-made road will much preserve it, and, besides being a great convenience to all, also in the end, by reason of its "longer life," be little if any more expensive than the present way of making a good road and then leaving it. The Great North Road (running from Barnet to Berwick-on-Tweed), some 300 miles, is mostly made of blue granite, and is tarred over nearly all its surface, and is an excellent and practically dustless road; so it is evident that some authorities know what is right and proper, and it is therefore only for the others to educate themselves up to the same point. When this will be, and the dust nuisance stop, rests with them and their electors, and no one else. Motorists will welcome the happy day as much as others.—Yours truly,

HARRY NYE.

### AN ACCUMULATOR CHARGING QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In addition to a small car, I have an old motor-cycle engine and low tension magneto, which I bought second-hand. I have been wondering whether it would be possible with the small motor and magneto to rig up a set by means of which I could charge the ignition accumulators of the car. I am quite a novice in electrical matters, so venture to ask if you or any reader of the *M.C.J.* will give me any information on the matter.—Yours truly,

NOVICE.

[A magneto machine is not suitable for charging accumulators, as it will only generate an alternating current, being really the simplest form of dynamo machine, in which the magnetism is provided by the permanent steel magnets, and the resulting current consisting of alternations in opposite directions, without any provision being made to commute or change their direction, so as to produce a current flowing in one direction. Though a magneto machine is really a dynamo, it differs from the machines generally described as dynamos in the following way. The field of force or magnetic field of the magneto is produced by permanent magnets, and the currents are not taken from a commutator



which will make them flow in one direction. In the dynamo, the field of force is provided by coils of wire which surround the poles of iron magnets, producing a temporary magnetic effect, when current is passing through the coils, and the commutator provided with such machines collects the currents so that they flow or are delivered to the circuit in one direction. A magneto machine is only suitable for giving a spark or flash].

### THE STEAM CAR CHALLENGE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to Mr. Coleman wishing to race my six-cylinder Napier touring car, which Mr. Cecil Edge drove at the South Harting Hill Climb, it is quite unnecessary for Mr. Coleman to write long letters on the subject. I am prepared to run my ordinary standard six-cylinder Napier touring car as run at South Harting Hill against a standard 18-h.p. steam car, run as run by the ordinary purchaser and not faked in any way, the arbitrators as to both cars being an official of the Automobile Club and a technical gentleman connected with the motor Press.

It must be quite clear that Mr. Coleman's car is to be used exactly as a car is used and sold to the ordinary purchaser.

Mr. Coleman can run off the match in the Graphic Trophy Race if he likes and the Club will allow us to do so, and run it as a private match at the finish of this meeting, or my car can go over to France and

### A PEDIGREE DOG.

TO THE EDITOR OF *The Motor-Car Journal*.

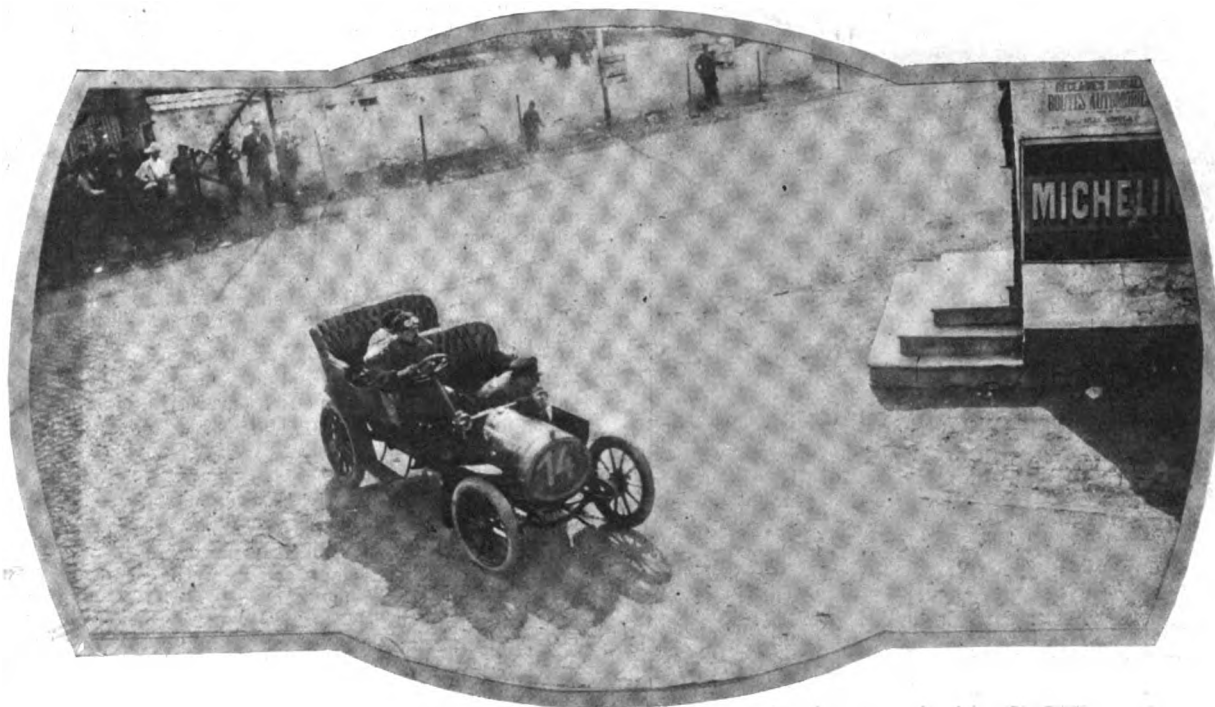
SIR,—Supplementary to the Comment in your recent issue on dogs and motorists let me give my experience. I was unfortunate in running over a terrier, but no blame was attached to me in the matter. I believed that the dog was dead, as it did not move, and a man came up and said that he was the owner, that it was a "pedigree" dog, and that he had just refused a sovereign for it. Well, I do not know much about dogs, but I am sure that its pedigree must have been mongrel for many generations. I refused to give the man any recompense, but handed him my card. I give below an exact copy of a letter which I received from him two days afterwards.

"Dear Sir,—Calling your attention to the accident that occurred on Sunday morning the 5th the expenses were only 5s. but as it spoilt the dogs mouth and like wise the sale of the dog which is a Pedargre dog.—From yours truly."

I thought, however, that the dog must be dead, and that this was a "try on," and therefore communicated with the Chief Constable at R——, saying that if the dog were alive, and that 5s. had been incurred for veterinary expenses, I should be pleased to pay it without prejudice.

The Chief Constable replied as follows:—

"Sir,—I beg to acknowledge the receipt of your letter of the 7th inst., and in reply, to inform you that, from inquiries made, the dog



Perpere on the Germain Chainless Car he drove in the recent race for the Coupe de Liedekerke. The vehicle secured the second place, being beaten by only 2 min. 13 sec., and made the fastest lap in the contest, viz., 53½ miles in 1 hr. 3 min. 46 sec., equal to a speed of just over fifty miles per hour.

run in the Mont Ventoux Hill Climb. This competition seems to be most suitable, as it will give Mr. Coleman what he wants—a ten kilometre hill climb. That is, I understand, where he claims the car excels.

I hope Mr. Coleman will pardon my reminding him that this match is not of my seeking, that he has thrust it upon me, and that he must not complain if I hold him down to genuine touring cars as sold to the public, and not cars such as have been passed in some hill climbs. I feel sure that Mr. Coleman will appreciate my desire that I should not use a faked petrol car such as I believe he has had to run against in some competitions.—Yours truly,

S. F. EDGE.

### AN ACCUMULATOR QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have an accumulator, one of the type usually supplied by the Wolseley Company, viz., two two-volts coupled. Would you or any reader of *M.C.J.* advise me how to prevent the terminals from getting a thick brown corrosion? What is the matter with the accumulator, is it showing signs of decay? Its age is about two years, and it has always been handled with care.—Yours truly,

W. RIDGWAY.

[A reply to the query raised by our correspondent will be found elsewhere in the present issue under the heading Current Topics.]

referred to does not belong to the man. This dog followed him home about a week ago, having been left behind by a ship that was in this port. The dog is still alive, and no expenses have been incurred with a veterinary surgeon. He has only used a little oil on the dog, and it has now recovered.—I am, Sir, your obedient servant, &c."

I think this may be a warning to other motorists to think twice before recompensing anyone who claims to be the owner of a dog which they may have been so unfortunate as to run over.—Yours truly,

A. DUCKHAM.

### THE HORSE POWER OF PETROL CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In view of the great variations which exist among different manufacturers in their methods of estimating the power of their engines and cars, the A.C.G.B.I., or one of the organizations connected with the motor trade, would do a service by establishing a standard brake horse power test, and licensing official testers in various parts of the country, who would make the standard test of any motor for the manufacturer, for a specified fee, and issue a certificate to the manufacturer which he could use in his catalogue. Various methods are now adopted to ascertain brake horse-power, and, notwithstanding the claim made that all engines of a given size should develop and deliver approximately the same amount of power, it is a fact that not only do the motors of different makers vary greatly in the amount of power developed for the same

cylinder dimensions, but all the engines of the same size produced by the same maker do not deliver the same amount of power. There are many conditions besides the size of the cylinder which vary the amount of the power developed. For example, the shape of the combustion chamber, the location of the sparking plug, the strength of the spark, the timing of the ignition, the size, lift and timing of the valves, the size of the fuel supply pipe, the fit of the piston and piston rings, also the type of piston rings, the bearings, the lubrication, &c. As each one of these features has a direct bearing on the power developed, it is impossible to consider that cylinder dimensions or piston displacement are adequate guides to the b.h.p. of any motor. From the best to the worst condition on almost any of these features there may be a difference of 50 per cent. in the power developed.

It is the practice in almost every factory to require petrol engines to develop a certain standard power. That is, the motors are tested under a brake or by some other method, and if they do not come up to the required mark set by the manufacturers, they are overhauled and brought up to the proper power, or, if this is found impossible, rejected as imperfect. This is all right as far as it goes, but each manufacturer has his own way of making his tests, and the difference between the most strict and the most liberal method could easily be from 25 to 50 per cent.

If a standard brake test were established and manufacturers



Duray, the winner of the Circuit des Ardennes, was given a hearty welcome by the workmen at the De Dietrich factory at Luneville. The photograph produced above shows the victorious car under the triumphal arch they erected in honour of his success.

subjected all their engines to the same test there would naturally be more effort towards perfection in all details.

There need be no trouble to induce manufacturers to have their engines tested by official testers, for those makers who have confidence in their product should welcome the opportunity to show the merit of their engines, and after they had started the movement the public would demand that all motors be subjected to the same test before they would purchase. A move of this kind would increase public confidence enormously, and be of great benefit to the trade.—Yours truly,

PRESTONIAN.

#### A NOVEL SUGGESTION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the novel suggestion of a medico-motorist in the last issue of the *M.C.J.*, if inferior workmanship or qualities of metals is the fault of the makers, why not write to them? If they do not treat him fairly, which they probably would, providing that it is a genuine firm, then it would be time to show them up publicly. Probably the breakage of the crank shaft was his own fault; in fact, I should not be surprised to hear of more crank shafts breaking, in view of the way engines are treated. I have seen dozens of drivers, so-called mechanics, &c., racing their engines when the car is stationary, causing unnecessary

wear, tear and strain on the crank shaft. This, I dare say, occurs every day throughout the year, and when you ask them what they are racing the engine for, as I have done on numerous occasions, they say that they don't know.—Yours truly,

H. HUDDLESTON.

#### BRAKES FOR MOTOR-BUSES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Your correspondent refers to the operation of foot and hand brakes on the road wheels as if it were a novelty. I owned a Gordon Bennett Wolseley which was driven in Germany by Mr. Girling, and this car was so fitted, and I believe the Wolseley Company adopted this plan on other vehicles built by them. It is amusing to see how people are discovering and claiming designs of other people.—Yours truly,

W. O. SPILLER.

#### WHISTLES ON CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Will you kindly inform me if whistles are allowed on motor-cars in England and Ireland?—Yours truly,

AN IRISH MOTORIST.

[They are not prohibited by law, but public taste is against their adoption on this side of the Irish Sea. The regulation with regard to the matter is to be found in Art. 3 of the 1896 Act, which says "every light locomotive shall carry a bell or other instrument capable of giving audible and sufficient warning of the approach or position of the carriage."]

#### FUEL CONSUMPTION AS A CRITERION OF A CAR'S CONDITION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was very much interested in your remarks on this subject in a recent issue of the *M.C.J.* In my own experience I have found that one cause of a progressive decrease in fuel efficiency and of power is the gradual wear of the exhaust cam, and the ends of the valve stem and the push rod. The result of this is a reduced exhaust valve lift which throttles the outgoing gases, producing a back pressure of explosion, the consequence being that while the same amount of fuel is burned at a given throttle opening the production of power is reduced. The same reduction of lift, due to wear of the operating parts, may affect the inlet valve as well, with the result that a lessened charge is admitted to the cylinder and less power produced per stroke, but this defect produces the same effect as throttling and has not much influence upon fuel economy.—Yours truly,

W. J. L.

#### MATERIAL FOR VALVE GRINDING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—There seems to be quite a diversity of opinion as to the best material for use in connection with the operation of valve grinding. Some motorists recommend powdered emery, others ground oil stone, and even glass. Still others use a paste formed by mixing the abrasive material with oil, dabbing the face of the valve in one or two spots, while I have heard that in some cases the valve face is covered with oil and then sprinkled with the cutting substance. Then, as regards the best method of valve grinding, I have been recommended to spin the valve backward between the hands, while others tell me to merely turn the valve in one direction a part of a revolution, lifting it from its seat each time. I should be glad if some readers of the *M.C.J.* would give their views as to what they consider constitutes the best practice.—Yours truly,

G. MULLINER.

#### A JERKY CAR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Can any reader of the *M.C.J.* enlighten me as to what may be the cause of the following trouble? When running on top speed, my Darracq car goes with jerks, which most certainly does harm to the mechanism. The second speed is all right; I have altered the clutch spring from tight to slack, but this makes no difference.—Yours truly,

W. JOHNSON.

[We should imagine that the trouble was with the clutch, and would advise treating same. Wash well out with paraffin and put a little fuller's earth on the leather to prevent slipping.]

PARAFFIN BURNER FOR STEAM CARS.—"C. J. H." writes: "Would some reader of the *M.C.J.* give me a design for making a good paraffin burner, suitable for a Locomobile steam car?"

TOOLS LOST.—On August 19th, on the road between Ringwood and Wimborne, an aluminium folding jack, Pullman tyre lever, and tyre gaiter were lost by the bottom board of the tool-box becoming loose. The owner was informed that some of these had been picked up about two miles from Wimborne, but on returning could not discover finder, who is requested to return same to Mr. R. W. Buttemer, St. Mary's, Godalming, when he will be rewarded.

## ALCOHOL AS AN ALTERNATIVE TO PETROL.

BY RADFORD COOKE.

THE subject of alcohol from farm produce as a motive power appeals to me as being one that, in the interests of two important industries—i.e., the agricultural and motor—is neglected in this country. In fact, the alcohol movement seems to be in a state of paralysis, due probably to the fact that, on the one hand, the motor industry is waiting for the active Government lead and encouragement which it is entitled to expect, whilst, on the other hand, the Government is waiting for the problems attending the use of alcohol as a fuel to be solved, when we are promised they will immediately act. It seems to me that in these circumstances it is the Governmental duty to take the initiative by actively encouraging the solution of this extremely important national problem, which is destined in the more or less near future to set in motion such economic and industrial changes as seem difficult to contemplate.

Foreign Governments have for many years been fully alive to the vital necessity for an indigenous fuel which is at the same time inexhaustible, seeing that the progress of the motor industry depends entirely upon the necessary fuel being forthcoming in increasing quantities for many years to come, and when mechanical locomotion has completely established itself the regular consumption of fuel will probably be much larger than is at present realised.

It is to be feared also that the time is within measurable distance when, with the inevitably rapid increase in its consumption for fuel purposes, the output of the petroleum products will be no more than sufficient for the needs of the countries which produce them. It is quite recognised that these changes may perhaps take many years, but the changes to be effected before the home-produced substitute is available in sufficient quantity will also take a considerable time.

We all know how forcibly the German Government realises the importance of this question, and the steps which have been taken towards a solution. The German authorities have actively encouraged experiment and research for many years by subsidising and offering prizes; in fact, so successful have their efforts been that a very considerable and rapidly increasing number of slow speed motors with alcohol as a fuel are at the present moment regularly employed in that country. Agricultural and chemical societies vie with each other in encouraging the production of a suitable fuel for high-speed motors, and at any moment we may hear that the difficulties in the way of a thorough solution have been overcome. They have two societies devoted to the subject of industrial alcohol, viz., the Experimental Fermentation Institute and the Society of Alcohol Manufacturers, and the whole organisation for its manufacture and distribution is complete. In fact, the spirit actuating the whole population, from the Emperor downwards, is that of the higher patriotism.

In France, too, the extraordinary patriotism which this question of alcohol from farm produce as a motive power has evoked is common knowledge. The Government have encouraged its use by every means in its power, nothing daunted by repeated negative results; in fact, at this moment they are more determined than ever in their active encouragement of experiment and investigation. In France, also, the agricultural societies throughout the country have been most active. In all automobile trials and sports, special prizes are invariably offered for the best results obtained with alcohol as a fuel, and at the annual Salon a special feature is regularly made of the alcohol question. This remark applies equally to the agricultural shows throughout the country; in short, every possible opportunity is seized upon to encourage the ideal and to keep it prominently before the public mind. The Government have even gone so far as to organise trials on several occasions, and have provided handsome prizes with the object of encouraging the use of alcohol. Quite recently, also, they have announced an offer of two prizes of £2,000 and £800 respectively for a suitable denaturant. The A.C.F. is responsible for the statement that not only their own laboratory but many other bodies throughout the country are "ceaselessly" experimenting and investigating with the subject of alcohol as a motive power for high speed engines.

The same applies to Austria, where they held the now historical International Alcohol Exhibition in Vienna in 1904; to Russia, where a prize of something like \$5,320 is awaiting the discoverer of a satisfactory denaturant (and this in spite of their many other serious preoccupations of late); to Italy and Belgium, where numerous trials and exhibitions in connection with this question have taken place; to America, even, the home of the petrol monopoly, where the agitation for free alcohol has resulted in a Government Bill being passed by Congress. Thorough investigation of the subject is being conducted on behalf of the Government through the Department of Agriculture; and, further, the Automobile Club of America has announced a special contest for motors using alcohol as a fuel. Surely, if this action is necessary over there, it is quite doubly necessary in this country, importing as we do our petrol supplies largely from America.

What I wish to emphasise is the fact that although to our own insulated knowledge most other countries have seriously taken up this question and every effort is being made to encourage the patriotic ideal of a home-produced fuel, this country has so far not deemed it necessary to move, although the fact remains that, considering the relative positions, we should have been early in the field to consider the situation. On the other hand, not only has nothing been done, but, extraordinarily enough, the Report of the Departmental Committee on Industrial Alcohol, if it did not actually throw cold water on the idea, certainly

did not give much inducement or encouragement to agriculturists and motor manufacturers to put their time and money into it.

This has forced the conclusion upon me that a separate society should be formed to take up energetically this important question and do something to actively interest the country at large, and the agriculturists and motor manufacturers in particular. If we could get the Government Departments which are immediately concerned, viz., the Board of Agriculture, the War Office, the Admiralty, all more or less directly interested in the substitution of alcohol as a fuel, on the one hand, and motorists and agriculturists on the other, to take the matter up seriously the solution would be simply a matter of time, as we have it on the highest authority that the difficulties to be overcome are by no means insurmountable. Let us cease buzzing round this subject and get right into it. Let us collect data from all over the Continent, let experiment and research be actively encouraged by the Government, let us distribute all the information available broadcast, and arrange that no motor, agricultural or chemical show takes place without the subject receiving the prominent attention to which it is entitled. Let us arrange suitable lectures before agricultural, motor and chemical societies, chambers of commerce and other bodies interested throughout the kingdom. Let prizes well worth winning be offered. Let us, with the co-operation of the Press, open an energetic Press campaign.

We know that petrol is cheaper in this country than in most Continental countries, but that price is quickly becoming a serious item, and when it is, apparently without any good reason, increased as it has been lately by twopence a gallon, it should bring home to us how alarming is the situation, seeing that we are perfectly helpless in the matter, and should be equally so if it were to be raised again to-morrow by another sixpence a gallon. We will not dwell on the fact that, apparently, as the price goes up the quality proportionately comes down.

We have it on the authority of Sir Boverton Redwood and others that supplies are by no means inexhaustible, and on the authority of Professor Sir James Dewar that if the use of petrol continues to increase, as it inevitably must for several years to come, the objectionable exhaust gases will become a danger to public health, in which event there would be no alternative for the Government but to step in and prohibit its use.

It is said that a new society is not necessary. With this view I cannot agree. The hands of the Automobile Club are already too full, and the subject is far too important and far reaching to be treated as an offshoot or department. What is more, other interests are concerned besides those of motorists. No one, I think, will contend that the Club is an ideal institution for dealing with agricultural interests, which are those most largely concerned.

Nor can it take into consideration the Colonial possibilities of the situation, by which land at present idle might be made to produce sufficient farm produce suitable for the making of alcohol not only to make the empire independent of foreign supplies, but to be a source of revenue by exportation. It seems to me that, with our colonies, we are in a far better position to produce alcohol from agriculture than any other country in the world, whether the material be potatoes, beet, sawdust, rice, grain, or anything else from which it can be distilled.

In my view petrol should not be looked upon as anything but a temporary makeshift to be used only until the time when a home-grown fuel is available, and I firmly believe that, with the solution of the difficulties which at present attend the use of alcohol as a fuel, the price will be fixed without reference to the price of petrol, seeing that it is but a stop-gap fuel, and as a permanent one is quite out of the question. Probably it would be a good thing if the ultimate outcome were that the Government stepped in at the proper moment and announced a State monopoly of industrial alcohol. This is practically what has been done in Germany. It is with this possibility in view that I urge that the Government should render State aid if necessary at the beginning, and in every other possible way encourage the thing, as they are doing abroad. Now also would be the time for the Government to be laying in skeleton the foundations of this State monopoly. As regards the fears of a decreased revenue, there is no doubt that ultimately, with free alcohol, the revenue would gain considerably by the increased national prosperity following the stimulus to existing industries and the springing into life of new ones.

## NEW COMPANIES REGISTERED.

AUTOFABE.—£1,000. Motors, omnibus, car, van, and cab proprietors. 11, Queen Victoria Street, E.C.

BRITISH DELAHAYE AGENCY.—£50,000. To adopt an agreement with Mr. G. Garnier, and to carry on in Great Britain and elsewhere the business of agents for motor vehicles and motor-boat engineers and builders, &c. 203, Strand, W.C.

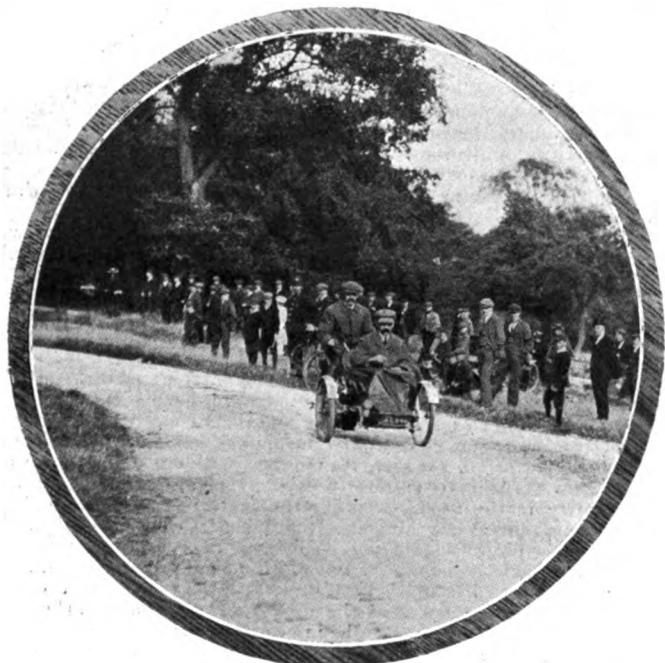
IRISH AUTOMOBILE CLUB.—Registered (members being liable to contribute to assets in event of same being wound up), to establish and maintain a club in Ireland for the encouragement and development of the automobile vehicle and other allied industries, and for accommodation of members of the company and their friends. Registered office, 34, Dawson Street, Dublin.

CAR AND GENERAL SYNDICATE.—£5,000. Agreements with the Pullcar Motor Company and Mr. T. J. Ridge. 3-4, Clement's Inn, Strand, W.C.

## CLUBS AND ASSOCIATIONS.

## MOTOR YACHT CLUB.

THE garden party given by Lord Montagu of Beaulieu to the members of the Motor Yacht Club took place on Saturday last in fine but windy weather. Many members chose to go to Beaulieu by road in preference to water. Dolores started off first, with Mr. Butler steering, and ran nearly down the Solent to Yarmouth before turning back for Beaulieu. Next came Chrysopraxe (Mr. H. Brickwood). He brought up just above Bucklers Hard and conveyed his party the rest of the way in the little motor dingy that has become so familiar in the club handicaps. Sea Urchin (Mr. Stuart Forster) and Controller (Commander Mansfield Cumming) followed soon after, both bringing their passengers up to Beaulieu. Mr. Clift, of Benbridge, also brought the Joan. Close upon 100 members had accepted the invitation, but, owing to the inclement appearance of the weather, only about half that number turned up, thus missing what was undoubtedly one of the most pleasant functions of the Motor Yacht Club's season. The thanks of



The Motor-Cycling Team Competition at Daventry. One of the competitors returning to the Starting Point.

the club are due to Lord and Lady Montagu for so kindly entertaining its members.

## MIDLAND.

THE series of closed competitions organised by the Midland Automobile Club concluded on Saturday last, when the consumption, brake, silence, vibration, smoke, and appearance tests were held at Moxhull Park, the residence of the secretary, Mr. T. H. Ryland. Saturday was a very rough day—almost a gale was blowing—and both the refreshment tent and the scaffolding and covering by the levels where the petrol was measured were nearly wrecked. The results of the competitions are appended.

It is of interest to note that Mr. C. W. Dixon's 12-h.p. Lanchester, which won the consumption trial last year, wins again this year, having consumed 172 ounces of Giant motor spirit over the course of forty-six and a half miles, being at the remarkable average of forty-three and a quarter miles to the gallon. The figure of merit for the consumption trial was arrived at by dividing the weight of each car and load by the number of ounces of petrol consumed.

The difficulty in working trials of the nature of these is to find scientific means of drawing comparisons. The brake trials were determined by means of a machine invented by Mr. F. W. Lanchester (a pendulum accelerometer) which was fixed to each car and showed upon a diagram the maximum braking effort when the car was running at about twenty miles per hour, the brake being applied upon the judges' direction. Each brake was tested separately and then both together, the prize being awarded to the best mean of the three

results in each case. The figures give the negative acceleration in feet-seconds per second in every case.

The remaining trials were judged by the judges, with the exception of the appearance test, which was decided by a ballot of all the officials. The silver cup awarded by the club to the winner of the aggregate of the above competitions and also of the closed reliability trial and hill-climbing goes to Mr. Cecil Edge, Mr. C. W. Dixon received a gold medal for petrol consumption, and silver and bronze medals are respectively awarded to Mr. P. D. Lee and Mr. Cecil Edge. For the brake trial the club's gold medal goes to Mr. P. D. Lee, and the silver and bronze medals respectively to Mr. H. F. L. Hemmings and Mr. G. H. Lanchester. For the silence, vibration, smoke, and appearance tests the gold medal goes to Mr. Cecil Edge, and the silver and bronze medals respectively to Mr. P. D. Lee and Mr. S. C. Harrison.

The thanks of the club are due to the hon. sec. for the use of the ground, and to Messrs. R. M. Greaves and W. Ballin Hinde, the judges, and to Messrs. A. G. Johnson, M. C. Blewitt, E. Fuhrman, Clarke, C. A. Baker, J. Rollason, A. W. Keep, F. W. Lanchester and other gentlemen who were good enough to assist in carrying out the trials.

Details of the contests are appended.

## CONSUMPTION TRIAL.

Driver.	Car.	Weight in lbs.	Spirit Figure in Ounces of Merit
1. C. W. Dixon	12-h.p. Lanchester	3,339	172 19.412
2. P. D. Lee	15-h.p. Siddeley	3,696	252 14.668
3. Cecil Edge	40-h.p. Napier	4,683	357 13.118
4. H. F. L. Hemmings	20-h.p. Lanchester	3,409	348 9.796
5. G. H. Lanchester	20-h.p. Lanchester	3,437	354 9.715
6. S. C. Harrison	16-22-h.p. Isotta Fraschini	3,598	492 7.313

## BRAKE TRIAL.

Driver.	Car.	Marks.			Figure of Merit.
		Both Brakes.	Foot Brake.	Hand Brake.	
1. P. D. Lee	15-h.p. Siddeley	10.6	10.6	7.8	9.66
2. H. F. L. Hemmings	20-h.p. Lanchester	9.3	8.9	8.9	9.03
3. G. H. Lanchester	20-h.p. Lanchester	9.6	7.0	9.4	8.66
4. Cecil Edge	40-h.p. Napier	9.7	11.0	4.3	8.33
5. S. C. Harrison	16-22-h.p. Isotta Fraschini	9.3	7.1	5.8	7.4

## SMOKE, APPEARANCE, SILENCE, AND VIBRATION TRIALS.

Driver.	Car.	Marks.				Figure of Merit.
		Vibration.	Smoke.	Silence.	Appearance.	
1. Cecil Edge	40-h.p. Napier	500	400	500	500	1,900
2. P. D. Lee	15-h.p. Siddeley	400	450	400	472	1,722
3. S. C. Harrison	16-22-h.p. Isotta Fraschini	300	450	375	476	1,601
4. G. H. Lanchester	20-h.p. Lanchester	250	500	350	455	1,555
4. H. F. L. Hemmings	20-h.p. Lanchester	250	500	325	466	1,541

## YORKSHIRE.

A MEETING of the Yorkshire Automobile Club and its affiliated branches will take place at Ripon on the 15th inst., where tea will be served at the Unicorn Hotel, at 5 p.m. Members may leave their cars in the Market Square, in front of the hotel, or avail themselves of the Hotel Garage.

## WEST ESSEX.

A SPEED judging competition was held by the West Essex Automobile Club, over a thirty miles' course, at Upminster, on Saturday, with the following result:—F. A. H. Hardy, Phoenix Antoine tri-car, 1; V. Baldwin, 3½-h.p. Brown, 2; A. Newman, 3½-h.p. Vindec, 3.

## WEST SURREY.

A RUN to the New Forest was held on August 18th, but, owing to the absence of many members during the holiday season, was somewhat sparsely attended. Sixteen members and friends met for lunch at the Black Swan, Winchester, but of these only eight, on three cars, followed the rest of the programme. Saturday and Sunday night were spent at Lyndhurst, the Crown Hotel proving most comfortable headquarters, and Sunday's run including Wimborne, Swanage, and Bournemouth. A visit to Beaulieu Abbey and Lymington preceded the return on Monday. The last invitation meet of the season took place at Rydeshill Guildford, on Saturday, when Mr. and Mrs. Williams entertained over



100 guests, the members present including Mrs. Bullerd, Mr. and Mrs. Buttemer, Mr. Crothers, Col. Elias, Col. and Mrs. Fairtlough, Messrs. Fletcher, Ledebor, Ponsford, and Warne, Mrs. Noble, Miss Houghton, Col. Swaine, and Mr. and Mrs. Pullman.

The remaining fixtures for the season consist of a hill climb for members at Blackdown, to-day (Saturday) and consumption trials on the 15th inst. over a twenty mile course.

### CHINA.

THE Automobile Club of China, which was founded about a year ago by Mr. G. E. Tucker, who became the first hon. secretary, has its headquarters at Shanghai. It has thirty-six members and intends to establish a garage, in charge of an expert from abroad, for the convenience of local motorists.

THE Automobile Club of North Wales will hold a gymkhana at Treborth on the 10th inst.

THE Nottinghamshire Automobile Club is asking its members to drive slowly through the village of East Stoke, near Newark.

ON Sunday, the 23rd, a full assemblage of members of the Essex Motor Club is asked for at Snarebrook, when a photographic group of the club will be taken.

THE Southampton Wheelers' Cycling Club has had a successful motor cycling hill contest, the best performances being made by Messrs. Blois and Winckworth on 5-h.p. Rex motor-cycles and Mr. Prince on a 3½-h.p. Raleigh.

### MOTORING IN ULSTER.

A RELIABILITY run from Balmoral, near Dublin, to Castlewellan, a distance of forty-three miles, under the auspices of the Ulster centre of the Motor Cycle Union of Ireland, took place on Saturday. Four started in the car section and eleven in the single cycle section, no competitors taking part in the third. The afternoon was remarkably fine and the road in good condition.

The following made non-stop runs:—

SECTION A, Cars.—J. N. McCommond, 16-h.p. Darracq; R. Dunlop, 10-h.p. Humber; T. Ireland, 10-12-h.p. Humber; T. Sloane, 8-h.p. Rover, one stop.

SECTION B, Motor-cycles.—G. McGladdery, 3½ h.p. Rover; G. Kirkpatrick, 3-h.p. Rover; H. G. Ferguson, 2½-h.p. Minerva; J. Williams, 2½-h.p. Minerva; J. Stewart, 3-h.p. Triumph. Also competed, J. H. Jordan, 3½-h.p. Bat; A. Bullock, 3½-h.p. Victor Jap; G. Gamble, 2½-h.p. Minerva; H. A. Connell, 3½-h.p. Minerva; W. J. Chambers, 2½-h.p. Minerva; J. Miller, 2-h.p. Peugeot.

### MOTOR VAN AND LORRY TRIALS.

THE following letter has been sent to the members of the Motor Van, Wagon and Omnibus Users' Association:—

Dear Sir,—A somewhat grave situation has arisen between this Association and the Chairman of the Automobile Club, acting on behalf of his committee, in regard to the contemplated commercial motor vehicle trials. In April last I, as your chairman, in conformity with various letters addressed to your committee by users, and after careful deliberation at a committee meeting held here, wrote to the committee of the Automobile Club urging that there should be no further delay over the long-promised trials, and offering the assistance of this Association. The Club committee referred the matter of the trials to its technical committee, and a joint committee, composed of members of that technical committee and members of the committee of this Association, was eventually formed. A programme of trials and rules therefor was then drawn up by this joint committee, and your representatives on that committee were fortunate enough to be able to arrange for the co-operation of two very large users, Messrs. Carter Paterson and Company and Messrs. Pickfords, who agreed to test, under service conditions, a certain number of competing vehicles for a sufficiently long period to prove their durability in regular work.

When the rules were printed in draft form and ready for approval, the Chairman of the Automobile Club wrote to the Chairman of its technical committee stating that the trials could in no event be carried out by a joint committee of the Automobile Club and this Association, and the practical result of this was that the Chairman of the Automobile Club, whilst quite ready to accept the assistance and support of your committee, wished its effective share in these trials, which are obviously of such vital interest to members, to end with the preparation of the rules. In the hope of providing a solution which might be acceptable to all parties, and as proof of the conciliatory attitude which this Association desired to adopt to support the authority of the Automobile Club, a written application was made to the Club for a permit to allow this Association to conduct the trials itself under the competition rules of the Club, but the Club committee refused to grant this permit.

The position in which your representatives on the committee of this Association were thus placed was held by them to be one in which they could not in any way look after and protect the interests of users of commercial motors, and, as Messrs. Carter, Paterson and Company and Messrs. Pickfords stated that their offers would not hold good unless at least half representation on any trials committee was accorded to this Association, I, after consulting and obtaining a unanimous vote of your

committee, was instructed to inform the chairman of the Automobile Club that the only terms on which this Association could co-operate in the trials were in accordance with the following clause, which was to be printed on the front page of the regulations:—

"The following regulations have been prepared by a joint committee of the Automobile Club and the Motor Van, Wagon and Omnibus Users' Association, and the trials will be conducted by a joint committee composed of equal numbers of the committees of both bodies."

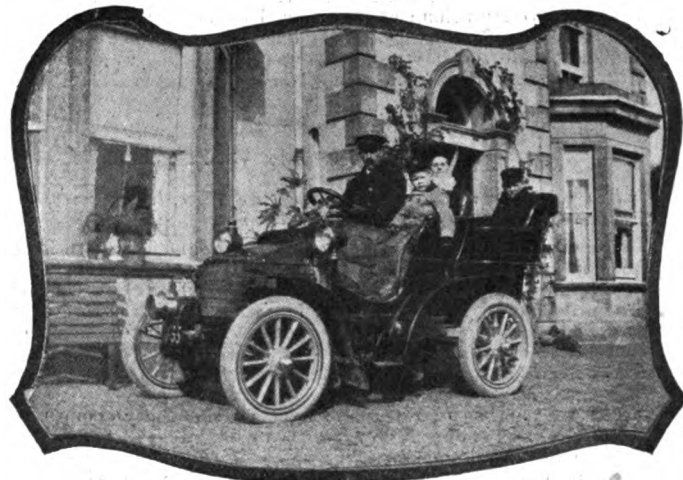
This was refused by the chairman of the Automobile Club, who stated that a joint committee to conduct the trials was out of the question.

I send you this letter in order that I may learn whether the course that has been adopted by the committee of this Association meets with your approval, and whether you think we should take steps to carry out commercial motor trials on our own account, independently of the Automobile Club. I should also value your views as to whether this Association gains by any connection with the Automobile Club of Great Britain and Ireland in matters which exclusively concern business vehicles.—Yours truly,

R. E. CROMPTON, Chairman.

### THE DU PRE COMPETITION.

WE are officially informed that a protest was received in the Du Pre Competition of the Automobile Clubs of Nottinghamshire, Leicestershire, and Derbyshire against Mr. Barron's 10-h.p. Peugeot, on the ground that the size of the bore and stroke were incorrectly stated in his entry form. The clerks of the course have adjudicated upon this protest, and have awarded the cup to Dr. R. G. Hogarth's 12-16-h.p. Clement-Talbot, the car next in order.



Mr. S. Adams, of Moneymore, co. Derry, Ireland, at the wheel of his Wolseley Car.

Mr. Adams, who was quite a novice when he commenced motoring, writes that "from my own experience no man of moderate means, provided, of course, that he has a taste and also time for mechanics, need fear to venture on motoring."

### ROAD REPORTS.

KENT.—Mr. H. P. Maybury, the County Surveyor of Kent, in regard to the dust nuisance, states that the use of the best known macadam for repairs is one of the surest methods of minimising it. The numerous dust-laying experiments he has made are costly. The most effective and permanent of the various experiments is the tar paving of the surface. Considerable damage has been caused to the roads by extraordinary traction engine and heavy motor traffic.

SUSSEX.—The surface of the Petworth and Arundel road is reported to be in a very bad condition.

BUCKINGHAMSHIRE.—At Chesham some discussion has taken place with regard to the condition of the highways leading from that town, and the Buckinghamshire County Council is being communicated with.

BRIGHTON.—The Brighton Corporation have tried tarring one part of the roads with calcium of chloride, carbide, &c., on another, and another preparation on a further portion of the sea front, with the result that now they have practically no dust, to the greater comfort of everyone.

ALDERSHOT.—The War Department are attempting to solve the problem of dust on the main roads near Aldershot, by experimenting with granite laid with a mixture of sand and tar well rolled in. A mile and a half of the main Queen's Avenue is laid in this way, and the results so far have been most satisfactory. The heavy military traffic and constant passing of motor-cars and motor-buses have no effect upon the splendid surface.

CAMBRIDGE.—The Town Council has decided to allocate £35 to the tarring of roads in the borough. In coming to such a decision the

Council was influenced by a letter from the surveyor of Huntingdonshire, who said he considered the life of the road was increased by quite 50 per cent. by tarring.

**PERTSHIRE.**—In their annual report to the Perth County Council the Highland District Committee state they found by experience that binding the road metal with chivers sprayed with hot tar was a success, not only in improving the surface of the roads, but also in saving the wear of the metal, and as materially reducing the dust caused by motor-cars. The principle is now being adopted generally on the main roads in the district.

**TEDDINGTON.**—The District Council has decided to purchase two more tons of calcium chloride with which to further experiment in dust-laying. The utmost satisfaction has been given to the residents in Kingston Road by the adoption of this method of laying the dust.

### MOTOR-CYCLE CHAMPIONSHIP.

THE annual team competition among the motor-cycling clubs took place at Daventry. Five clubs had entered—viz., the Motor Cycling Club, Coventry Motor Club, Birmingham Motor Cycle Club, Cardiff Motor Club, and Naval Motor Club (Portsmouth), but the two latter scratched. The teams each consisted of six competitors—viz., four riders of motor-bicycles and two drivers of passenger machines. The course was to Gibbet Hill and back, and had to be covered four times, making a total distance of one hundred miles.

When fifty miles had been covered S. C. Perryman, 44-h.p. Perryman, of the Birmingham Club, and S. G. Frost (34-h.p. Minerva), of the Motor Cycling Club, had both been put out of the competition through faulty belts, while G. Spicer (34-h.p. Riley), of the Coventry Club, had also retired. W. Gunn (10-h.p. Lagonda), of the Motor Cycling Club, retired at the end of fifty miles with defective water circulation; and J. Van Hooydonk (8-h.p. Phoenix), of the same club, after doing seventy-one miles, was put out through a burst tyre. The result was as follows:—Motor Cycling Club, 457½ points, 1; Coventry M.C., 440 points, 2; Birmingham M.C.C., 433½ points, 3.

### PUBLIC MOTOR SERVICES.

*We shall be pleased to receive the published time tables, list of fares, etc., of Public Motor Services for notice in this column.*

THE motor-omnibus service between Clacton and St. Osyth is being well patronised.

KEEN agitation has arisen in Stretford (Lancashire) in connection with the granting of licences to the Manchester District Motor 'Bus Company. It is understood that a suggestion for a maximum speed of eight miles an hour to reduce vibration has been made to the company, together with conditions as to the time of waiting by the buses at the termini.

A CAB DRIVER has obtained damages at the Marylebone County Court against the London Motor-bus Company, one of whose motor-buses had crashed into his cab. The driver of the bus admitted that he had only been driving the automobile a month when the accident occurred, although he had been learning for some time.

THE recently-formed Timaru (New Zealand) Motor 'Bus Company has just purchased two buses from an Auckland firm.

AN accident has occurred on the motor char-a-banc service between Scarborough, Filey and Flamborough, a vehicle running into a bank in trying to avoid another car.

MR. H. E. BLAIN, manager of the West Ham Corporation tramways, notes that that undertaking has begun to face motor-bus competition on one of its most popular routes, and, owing to the inaction of neighbouring authorities, there is a possibility of such opposition securing the patronage of some of those passengers whose through-running journeys make impossible their conveyance the whole way by electric tramcar. A service of motor-buses between Manor Park and Stratford would probably induce both the East Ham and West Ham authorities to come to terms with regard to the horse tram between Green Street—where the Great Eastern motor-buses are garaged—and Manor Park.

THE Manchester District Motor Omnibus Company has applied for licences for four additional motor-buses to be run to Cheadle from Didsbury. The application is being left for a week by the Manchester Watch Committee while they consider a petition presented by residents along the route, in which the following seven-fold indictment of motor-buses appears:—1. Vibration, extending to the houses on the road. 2. Dust, raised in clouds by the cars. 3. An appalling noise. 4. A most obnoxious and persistent smell. 5. Wear and tear of the roads, causing extra cost to the ratepayers. 6. Depreciation of value of residential property. 7. Late hours at which the cars are allowed to run.

THE motor-bus service between Kirkwall and Stromness has received an important addition in the shape of a new motor-bus which arrived at Stromness last week for Mr. Robertson Grant.

OWING to the lack of public support, the Mid-Sussex motor-omnibus service has just been discontinued.

AT Whitfield's Tabernacle, London, a meeting of London motor-bus workers, convened by the Amalgamated Association of Tramway and Vehicle Workers, has been held to consider the advisability of forming a branch of the Amalgamated Association. The Rev. James Holmes

presided, and addresses were given by Mr. Ben Cooper, L.C.C., and Mr. C. Watson, the organising secretary. The latter said the Association of Tramway and Vehicle Workers had funds amounting to £22,000. The men employed in the motor-bus work in London worked under an enormous strain, and it behooved them to take steps to protect themselves and their interests.

OF the numerous excursions to be made by public motor service about Boulogne, quite one of the most popular is that from Wimereux to Wissant, which latter place is within an easy walk of Cape Gris Nez, the nearest point to the English coast, a grand view of which can be obtained on most days.

ON the 23rd ult. Eugene Lucas, motor-bus driver in the employ of Mr. Patrick Hearn, was summoned by Inspector Blaydon for unlawfully driving motor-bus L.C. 7411 at Westminster Bridge on August 1st without having two independent brakes in proper working order. Defendant pleaded that one brake was effective, but Mr. Horace Smith fined him £5 and costs or in default twenty-one days imprisonment.

### MOTOR-CAR ACCIDENTS.

AT an inquest on George Logan, an old man who was killed by a motor-car while carrying a sack across the road at Norbiton, it was stated that the man lost his nerve and stepped back into the car, which was being driven at about eight or ten miles an hour. The jury returned a verdict of "Accidental death," and exonerated the driver from blame.

A HIRED motor-car, containing Dr. Arthur G. Don, and driven by a chauffeur named Stanley Thurger, of Sevenoaks, turned over between Riverhead and Sevenoaks through a sideslip on the muddy road. Dr. Don was pinned beneath the car, and was killed instantaneously. The chauffeur was only slightly injured.

AT the inquest on Saturday on Dr. Don, of Sevenoaks, who was killed on the previous Thursday in consequence of his motor-car coming in contact with a kerb, the chauffeur who drove him said he was seventeen years old, and received 8s. 6d. per week as salary. He had only had a month's training locally before he started to drive. The Coroner commented on the law which permitted a lad of such an age to take out a certificate without regulation or examination. His certificate virtually made him a competent driver, whereas he might have only a crude knowledge of the machine. The jury returned a verdict of "Accidental death," and added a rider recommending an amendment of the law giving control of motors only to experienced and proper persons. They exonerated the chauffeur from blame.

WHILE a party of tourists from Hamilton, Scotland, were motoring down a rough hill near the Cliffs of Moher, West Clare, on Saturday, a strong wind off the sea caught the canopy of one car, causing it to skid into a ditch. After proceeding a short distance the vehicle turned over into a bog, and all the occupants were pinned underneath. No limbs were broken, but the tourists were badly contused and cut.

AMOS LEE, general dealer, of Shoreham, has died at Hove Hospital, as a result of injuries received in a motor-car accident near Brighton. While crossing the road he was knocked down by a car and dragged along the road.

AN inquest was held on Saturday at Hove Dispensary on the body of the Shoreham man Amos Lee, who was killed through having been knocked down by a motor-car at Fishergate, near Brighton. The evidence showed that the body got entangled with the machinery of the car, which had to be lifted bodily to allow of the extrication of the remains. The jury returned a verdict of accidental death.

### CASE DISMISSED.

DOUGLASS MORTON ELLIS, chauffeur to Mr. Cross, Catthorpe Towers, was summoned at the Lutterworth Petty Sessions for recklessly driving a motor-car on the highway at Catthorpe, on the 6th ult. Defendant pleaded not guilty. After hearing the evidence the chairman stated they had come to the conclusion that defendant was not driving recklessly, but that he took the ordinary precautions. They hoped, however, he would take it as a caution against any suggestion of driving recklessly in the future and always sound the horn at corners and bends in the road. The costs were remitted.

### THE STOLEN MOTOR-CAR.

AT Highgate Police Court, on Saturday, George Keighley, manager to Mr. F. Hodge, of Archway Road, Highgate, and The Homestead, Bishop's Avenue, East Finchley, whose motor-car was stolen from a motor-house in Baronmere Road, East Finchley, applied for warrants for the arrest of two men for the alleged theft of the car. In his sworn information he said that the car, which was worth £350, was taken to the village of Hornton, near Banbury, and left there by two men. One, he declared, was William Hodge, and the other was supposed to be his brother, and both answered the descriptions of men who were seen in East Finchley just before the theft. The men, though bearing the same name, were, however, in no way related to Mr. Fred Hodge. Warrants were granted for the arrest of the two men.

# Our "Limerick" Competition.

THE task of adjudication upon the many hundreds of Limericks received in this competition was no light one; nor was the selection of those which appear on this page much less difficult.

After consideration the first prize of one guinea is awarded to Mr. G. S. Davidson, Saughton Mains, Corstorphine, Scotland, for the following:—

A "Coleman" who stokes on a "White"  
Has challenged a "Napier" to fight,  
But the writer has fears  
That the "car without gears"  
Will soon "Edge" away out of sight.

Below we give a selection from the unsuccessful competitors:—

There was an exhausting "exhaust,"  
By which all the petrol was lost.  
To "advance" or "retard"  
Proved equally hard,  
Which the "spark" only found to his cost.  
W. G., London.

Have you heard of a fellow named Rover,  
Who rode in his car to Andover,  
But his speed had to quell  
When in a police trap he fell.  
And his name he was forced to (H)andover.  
S. J. C., Pimlico.

Since the earlier days of the movement,  
Automobiles now show vast improvement;  
If their cost were but less,  
Nearly all must confess,  
They'd command universal approvement.  
L. L., London.

You've all heard of the Vanguard, I know,  
Whose reputation was checked by a blow,  
But they're doing their best,  
Now their name's at the test,  
To keep all their brakes free from woe.  
W. W., Clapham.

There was a young fellow, a Jew,  
Fell in love with a girl dressed in blue;  
A motor he bought her  
But another man sought her,  
And eloped on the car built for two.  
S. C. H., Nottingham.

A maid and a chauffeur named Wyatt  
Went out for a ride on a Fiat,  
Dogs, chickens, they killed,  
Old ladies they spilled.  
Result—in the village a riot.  
K. G., Newport.

There was a young woman, alack,  
Who thought she could drive a Darracq;  
Though she drove without fear,  
She used the wrong gear,  
And now goes about on her back.  
W. R. S., West Kirby.

There once was an irascible colonel,  
Who had purchased a motor infernal,  
By advice of a friend,  
He his troubles did end  
With a sale through the *Motor-Car Journal*.  
R. D. W., High Wycombe.

I guess you've heard of Staplee Firth,  
Often the cause of glee and mirth,  
If he had his way,  
It is quite safe to say,  
He'd clear all "traps" off the earth.  
C. W. (Coventry).

Buyers went to a show in the autumn,  
And the S.M.M. thought they had caught 'em;  
But Cordingley's art,  
Accordingly smart,  
In the spring sought 'em, taught 'em, and caught 'em.  
M. D., Melton Mowbray.

When up at the Court he was fined,  
He pleaded pure absence of mind,  
He'd lit up in front,  
But allowed—with a grunt—  
He'd forgotten to light up behind.  
L. L., London.

There once was a truthful P.C.  
Who timed a small Benz 3-h.p.,  
He swore that its speed  
Did thirty exceed,  
So the owner paid much £ s. d.  
I. B., Kew.

There was a young man with ambition,  
Who paid for some motor tuition.  
The first job he got,  
He was sacked on the spot;  
Well, his language won't bear repetition.  
T. W. B., Bowes Park.

There was a young man of Belfast,  
Whose pace was so frightfully fast,  
That one day at a curve  
His car gave a swerve,  
And now he's a thing of the past.  
R. R., Melton Mowbray.

There once was a policeman named Hector,  
Who failed as a mere crime detector,  
But you got in a hole  
If you passed his "control,"  
So they made him a full-blown inspector.  
W. A. C., London.

A Minerva was running quite well,  
With a doctor, a mighty big swell,  
There came a collision,  
Which altered his vision,  
And what he saw, who can now tell?  
W. R., West Kirby.

You've all heard of a fellow named Byker,  
Who stopped cycling and went in for a Spyker,  
The dust he can bar  
With that wonderful car,  
And his friends are all getting one like her.  
C. B., Stockwell.

There is an old Motor Car Act,  
It's been a great failure; in fact,  
All men are agreed  
That the limit of speed  
Early next year must be "sacked."  
S. L. W., Frome.

"You horses have all had your day!"  
Quoth the motor while speeding away.  
But the engine broke down  
Three miles from a town,  
And the horse trotted past with a "neigh"!  
I. R. C., Shere.

The two prizes of half a guinea each are awarded to Mr. C. Pittar, 21, Wellington Square, Oxford, and to Mr. H. J. Rogers, of Watford, for the following contributions respectively:—

The Commission deserves an ovation  
For that very sly recommendation,  
The terms of which are  
With big plates on each car,  
To smother its heat radiation.  
(N. B.—This grievance requires ventilation.)  
They travelled along at a dence of a pace  
Through a dusty aroma of bliss,  
When a rock struck the wheel  
Of their automobile,  
And then they were just like this.

Fred Edge to Fred Coleman has stated  
That the steam-car is quite out-of-dated,  
But it beat the Napier  
Up hills far and near,  
So Fred Coleman is somewhat elated.  
C. C., Balham.

There was an old motoring colonel,  
Whose car had some trouble infernal.  
To learn what it be,  
It's quite clear, said he,  
I must write to the *Motor-Car Journal*!  
J. E. H., Battersea.

On main roads round London are seen  
Yellow-armleted scouts cute and keen.  
The A.A., you know,  
Strikes a powerful blow  
Against motor-traps unjust and mean.  
G. M. H., Canonbury.

Oh, motoring's jolly good fun,  
As long as the motor will run,  
But the fun is reversed  
When your tyres are all burst,  
With a noise like the crack of a gun.  
F. M., Huddersfield.

There once was a young road hog named Myer,  
Whose car one day caught on fire,  
The 'bus drivers all chaffed,  
The horses, they laughed  
When the only thing left was a tyre.  
M. J., Streatham.

Said a policeman one day, "I'm not in it,  
My stop-watch is exceeding its limit."  
As a motor passed by  
On the watch cast his eye:  
Just imagine—four miles to the minute!  
G. R. P., Armadale.

There was a young chauffeur named White,  
Who very nearly expired through fright;  
Whilst out for a ride,  
A bobby espied  
His car was without a tail light.  
I. J., Streatham.

A novice who purchased a car  
Said, "I'm told this will carry me far,  
If I keep the clutch easy,  
And the working parts greasy."  
So he smeared them all over with tar.  
C. P., Oxford.

He sat at the wheel of his car,  
When another he sighted afar;  
Then his 60 Mercédès  
He let rip like Hades,  
And now he is "crossing the Bar."  
A. E. N., Earley.

A mechanic, who drove a steam roller,  
Didn't seem to know how to control her,  
So a man on a Star  
Cried, "Take home that car,  
Or some bobby will think that you stole her."  
C. P., Oxford.

## CASES AGAINST MOTORISTS.

At the York Police Court, H. Gautkin, Kensington, London, was fined £5 and costs for driving a motor-car at an excessive speed in High and Low Ousegate, York, on August 9th. The evidence of the police and a local magistrate showed that the defendant came round Spurriergate corner at about fifteen miles an hour and failed to heed the constable's warning to "steady up," and all the traffic in the street had to be "held up" for him.

At Chelmsford, William Clarke, motor engineer, of Chelmsford, was summoned for driving a motor-car in a manner dangerous to the public. A coachman said he was driving a dog-cart in the High Street, when a motor-car driven by the defendant came round the corner from New London Road on the wrong side, and ran into the horse's front legs. Defendant refused to give his name and address. The horse's legs were injured, and both the trap and the motor-car were damaged. Defendant, who pleaded guilty, was fined £5 and costs 13s., or a month's imprisonment.

MOTORISTS driving in South London should be careful. Claude White, of 119, Piccadilly, summoned for driving a motor-car in Lewisham High Road at more than twenty miles an hour on July 22nd, was fined £5, with 2s. costs. At Greenwich, Alfred Greenbourn, of 47, Dover Street, Piccadilly, and Stuart Crole Wyatt, of 24, Palace Court, Bayswater, were each fined 40s., with 2s. costs, for similar offences in the same road. Pierre Dorne, of Avenue Road, Regent's Park, was summoned for driving a motor-car in Loampit Vale on July 23rd at more than twenty miles an hour, for allowing the identification plate at the back of the car to be obscured, and for failing to produce his licence. Police-constable Cook, 592R., stated that the car was travelling at the rate of 26 miles 286 yards an hour. There were some spare tyres at the back of the car and these obscured the number. When witness asked defendant to produce his licence he admitted that it was not in his pocket. It was, however, produced next day. Defendant, who is chauffeur to the chief engineer to Sir Weetman Pearson, whose firm is carrying out the L.C.C.'s sewage work in Lewisham, admitted the excessive speed, and said that having exchanged his clothes he forgot to take his licence out of his pocket. He denied that the back plates were obscured by the tyres. He was, however, fined £6 3s. in all, with 6s. costs.

WILLIAM W. GOSSAGE, J.P., of Woolton, near Liverpool, and a volunteer officer, was charged at Lancaster with traversing a measured distance at the rate of twenty-seven miles an hour. The defendant pleaded that his speedometer fixed to the car only indicated twenty miles an hour at the time in question. He was under the impression that there were "traps" about, and he drove carefully, keeping his eye on the indicator. He was fined £7 10s. and costs, a previous conviction at Stockton Heath having been proved. A charge of failing to produce his licence was dismissed on payment of costs.

At Keswick, on Saturday, Captain W. J. Farrer, Bassenthwaite, who the week previous was fined £15 on a charge of recklessly driving his motor-car, gave formal notice of appeal to Quarter Sessions on the grounds that he was not guilty, that the decision of the Bench was against the weight of evidence, and that the fine was excessive.

A MOTOR smash involving injuries to Manchester men was investigated at Rugby, when George Goldring was summoned for driving his employer's car in a manner dangerous to the public. Two Manchester witnesses, named Gledhill and Lees, said that they were riding motor-cycles at Dunchurch on August 5th, and while they were proceeding at about fifteen miles an hour the defendant with his car dashed into them from behind without any warning, smashing their machines and injuring them. The defendant alleged that the cyclists swerved, and said his master had compensated them. He was fined £5 and costs, and his licence was endorsed.

FRANK EDWARD WALKER, Gilmorton, was summoned at the Lutterworth Petty Sessions for using a motor-bicycle without having it registered in accordance with the Motor Car Act, 1903, on July 30th. He was also summoned for driving the bicycle without being duly licensed, at the same time and place. Defendant admitted the offences, but pleaded ignorance. Mr. G. Rowlatt (deputy clerk to the County Council) prosecuted on behalf of the County Council Committee, and in setting out the facts stated defendant not only rode a bicycle unlicensed, but he had on the machine a number which had no right to be on, thus leading the public to believe it was registered. It was still more serious for a person who might be registered under that particular number. The number on the bicycle was A.Y., D.U., 47. This, he believed, was the registered mark for Coventry. He was informed by the police that defendant's brother, Eli Walker, had a motor-bicycle with the same number on, and on the day the charge was laid the brother was seen with the same number on his bicycle. Consequently both bicycles carried the same number. Defendant had been registered to drive, but the licence expired on the 13th July. To assist all licensees, a month's notice was given them that the licence would require renewal on a certain date, and this was sent to defendant on July 1. He understood that defendant changed his residence in July from Lutterworth to Gilmorton, but still he would receive the notice. Defendant expressed regret, and said he was under the impression that as he and his brother were makers only one number was required. As to his licence to drive, he did not know it had expired, and certainly had not seen the notice. He hoped the Bench would take a lenient view of the case. By Mr. Rowlatt: Cycle makers had a red number, but each machine had to bear a bear a consecutive number. The chairman stated the Bench had

decided to take a lenient view of the case, and defendant would be fined 5s. and 10s. costs on each charge.

## WARNING OF APPROACH.

SHERIFF-SUBSTITUTE MITCHELL has heard evidence in Stirling Sheriff Court in a complaint at the instance of the Procurator-Fiscal of Stirlingshire against William G. Christie, West Point, Saltcoats, for contravening the Motor Car Act by failing to give audible and sufficient warning of the approach of his motor-car at the junction of the Campsie and Torrance roads, near Lennoxtown, this being a place where it was necessary this should be done on account of there being a sharp turn in the road and a high bank and hedges, which prevented him seeing what was coming in the opposite direction. The result of the alleged neglect was that James Gillik, who was cycling down the hill in company with two other wheelmen, was thrown on to the top of the car and rendered unconscious. The accused pleaded not guilty. All the witnesses for the prosecution said that they heard no horn sounded or any noise made by the car before the collision occurred. Mr. Macaulay Smith submitted that his client was not required by the terms of the statute either to ring a bell or sound a horn, but that the cut-off of the exhaust, which made a continuous noise like that of a Maxim gun, was an instrument according to the terms of the section "capable of giving audible and sufficient warning." He also argued that as the County Council had failed to erect danger signposts at this place his client could not be blamed for being ignorant of the fact that this was a dangerous point. A fine of three guineas was imposed.

## OBSTRUCTING A MOTORIST.

At Canterbury, the driver of a cart, named Arthur Amos, has been prosecuted by the Motor Union for wilful obstruction. It was stated that Amos would not allow Mr. Arthur J. Wilson, of London, who was motoring from Canterbury to Herne Bay, to pass him for a distance of half a mile, and that when his name was demanded he threatened Mr. Wilson with the butt-end of his whip. He was fined £3 9s., including costs, or a month's hard labour in default of payment.

## POLICE TRAPS.

THERE is a measured furlong in the Kingston road, Ashford. P.S. WAGHORN, in a case at the Battle Petty Sessions, has been describing a trap at Lunsford Cross, in the parish of Nunfield, as being on the decline and of a winding nature.

ON the Lowestoft road, between Brockdish and Scole, immediately round the corner at Scole Post Office, the police have made a four-mile measured test for motor-cars. It is worked both ways by telegraph from the post offices.

PLAIN clothes constables are working a trap between the seventh and ninth milestones from Ipswich on the road to Colchester.

THERE is a measured distance in the Brompton Road, S.W., over which motorists are timed by the police. In working this variations between the two watches of the police have been noticed, in which cases the police have assured the magistrate at the Westminster Police Court the driver is given the benefit of the doubt.

ON the main road between Lancing and Shoreham there is a measured quarter of a mile. Several motorists have lately been trapped therein. A correspondent suggests that the scouts of the Automobile Association might usefully be put on that road.

A POLICE trap in the Station Road, Arundel, has been much used of late for the discovery of speedy motorists.

THE trap at Chiddingfold has resulted in several motorists being summoned to the Hailsham Petty Sessions.

BETWEEN Walton and Preston Brook, Cheshire, are motor danger spots.

SEVERAL motorists have been trapped on a measured quarter of a mile on the Coventry road, Sheldon. The Warwick road, Olton, is another danger spot.

AT Burnham, on the Bath road, is a measured quarter of a mile where motorists should travel warily.

THERE is a carefully watched police trap on the Chester road, near Birmingham. It occurs near the cross roads at Hardwich.

THE Lewisham High Road has become a danger spot for motorists, and even in Catford there is need of caution.

IN the Bolton Road, Lancaster, is a measured quarter of a mile. Between the signalling and the timing officers are some trees, and the signal between one and the other is the waving of a handkerchief.

## TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notices will be taken of anonymous communications.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.



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## M.C.J. PRIZE COMPETITIONS.

### FOR MOTORING EXPERIENCES.

THE proprietors of the *M.C.J.* offer three prizes—one of a guinea and two of half-a-guinea each—for the most humorous motoring experience, limited to 100 words, and to be written on a postcard. It must be concisely worded, and should be a record of something that has actually happened. The last day for receiving competitions will be Saturday, September 15th. All entries must be sent to the *M.C.J.* Office, 27-33, Charing Cross Road, W.C., and the Editor's decision will be final. A selection of the unsuccessful experiences will be given in the same issue as that in which the awards are announced.

### AUTOMOBILE PHOTOGRAPHS.

Three prizes are also offered—one of a guinea and two of half a guinea—for the best photograph in which a motor-car figures. In making the award regard will be paid to the public interest of the picture, as well as to its artistic merits; hence, photographs of cars outside historic buildings or monuments will be as welcome as those of vehicles in pleasant places.

Only original photographs may be submitted, the copyright of which belongs to the competitor. The winning photographs will be published in the *M.C.J.*, and the Editor reserves the right to reproduce, without payment, a selection of those not successful in the competition. The latest date for receiving photographs will be Saturday, the 29th inst. Envelopes must be marked "Competition" in the top left-hand corner.

## COMMENTS.

L N

As anticipated in a recent issue of the *M.C.J.*, an Order has now been issued by the Local Government Board assigning a new index mark to motor-cars to be registered in future by the London County Council. By the Motor-car (Registration and Licensing) Order, 1903, the letter A was ordered to be affixed to all cars registered in London, and when the numbers came close to 10,000, it was necessary to assign a different mark. L C was chosen by the L.C.C., and a fresh Order issued by the Local Government Board on April 17th, 1905. Now that the numbers are approaching 10,000 the Board has adopted the suggestion of L N as the index mark for all vehicles registered after the first 20,000.

### Consideration on the Road.

ABOUT a third of a mile beyond the twenty-sixth milestone on the Epsom to Guildford road there is situated, on the right hand side, a children's hospital, to the presence of which our attention has been called by Mr. Wilson Noble, of Tangley Park, Guildford. As long as possible many of the children live and sleep on a verandah but a few yards from the road, and at this time of year the little ones must suffer terribly from dust unless motorists are careful to go past the hospital very slowly. It is only necessary to call attention to this for

motorists to crawl by at a moderate pace; for, unfortunately, the house cannot easily be seen until one is upon it, owing to a bend in the road. There will, however, be no difficulty in recognising the locality if its distance from the twenty-sixth milestone is remembered, and also that it is at the summit of a slight hill and just beyond four cross roads; a sign post shows that the right hand road leads to East Clandon. Coming the other way—i.e., from Guildford—the hospital can be seen from a greater distance, and can easily be recognised by its red roof and upper storey, its yellow rough cast on the first floor and red ground floor. Anyone slowing down and giving a passing greeting to the children will be well repaid when he sees the hearty way in which they respond to it.

### The Skegness Meet.

THE Nottinghamshire Automobile Club is responsible for a very interesting gathering of motorists on the coast of Lincolnshire to-day (Saturday), and after a preliminary appearance competition, when good looks rather than qualities of speed will secure recognition, the townspeople will settle down to an afternoon of fine sport. If the weather and conditions are at all favourable an attempt will be made to lower the sand track record made at Saltburn this year. Skegness is on a portion of the coast that has been suffering from the erosion of the sea for many a year. In Danish the name means the promontory of Skaeggi, and the town was of considerable importance in the old days. Leland, writing in 1540, observed, "Went to Skegnesse, sumetyme a great haven towne, a four or five miles from Wilegripe (now almost devoured by the sea). Mr. Paynelle said unto me that there was once a haven and a towne walled and having a castle. The old towne is clene consumed and eaten up with the sea. Part of a church of it stood a late. For old Skegnesse it now builded a pore new thing." Along the coast from Skegness to Grimsby traces of a forest are still to be seen, notably at Friskney, Wainfleet and in the East Fen.

### Dust Experiments.

THOSE who have followed the Road Reports which have appeared in our columns during the last few weeks cannot fail to have recognised the thoroughness with which the local authorities in various parts of the country are endeavouring to deal with the dust that is raised by motor-cars in the only real way, viz., its prevention. At Beckenham, Mr. J. A. Angell, the surveyor to the District Council, has spent much time and money on the work, and his report to the Council deserves the attention of surveyors in other districts as well as councillors anxious to incite their officers to useful and effective work in this direction. He says the tar painting on the main roads was commenced in May, and that so far as can be seen the results are to a great extent satisfactory. Too much, however, should not be expected, for although the formation of mud or dust by the working up of the binding material has been much diminished, to a large extent the abatement of the dust nuisance must, as heretofore, be largely a question of scavenging. In the case of the ordinary macadam or flint roads, scavenging, dry or wet, is practically incessant,

the binding material, and consequently the roadway itself, being carted away in the form of mud or dust. Herein lies the advantage of tarmac and tar-painted roads over ordinary macadam, as the loose binding material either does not exist or its disintegration is prevented. Owing, however, to the smooth surface of the tar macadam or tar-painted roads, the comparatively little dust deposited on the surface is very readily diffused by the wind or passing carts, with the result that unless such roads are daily scavenged the nuisance arising from the diminished, but more readily distributed, dust constitutes an evil to be combatted only by constant scavenging with occasional watering. The watering of tar macadam or tar-painted roads, however, is far more effective than on macadam, the absorption being lessened and each application remaining effective for a longer period than on untarred roads. The Council are spending £1,900 in laying down two short lengths of road with the most up-to-date tar macadam. In dry weather motor-cars raise a slight haze when passing over the tar-coated roads, but on others they disappear in a cloud of dust.

#### Trouble among Cyclists.

◆ ◆ ◆  
THERE is trouble in the ranks of cyclists owing to an endeavour now in progress to alter the basis of the organisation of the Cyclists' Touring Club. It is proposed that this shall be extended to embrace all tourists, whether they motor, cycle or walk. Against this a committee



Mr. E. J. Mitchell, of the Palmer Tyre Company, off for a tour on his 9-h.p. Singer Tri-car.

has been formed which is now collecting the funds for a great defence, so that the original idea of the Cyclists' Touring Club may be preserved. In these transition days the organisation that is not prepared to adapt itself to the needs of the time may be classed among the moribund institutions of the country. For the C.T.C. to hand its signs and warning posts over to the local authorities and allow them to neglect their care and maintenance, so that they are now mostly rusty relics of a most enterprising day, was not wise. At the same time all must recognise that it is now too late to revive the interest in that department of the Club's work, and that, as we have frequently suggested of late, the task of setting up warning notices and the like must devolve upon the associations representing the swifter and expanding movement of automobilism.

#### Road Guidance.

◆ ◆ ◆  
In some parts of the country the county clubs have already done useful service in looking after the roads, inciting the authorities to do their duty, and in other ways assisting motorists generally. But the subject is too important to be made the care of local organisations, and we look forward to the Automobile Association, which has already done such

useful service on the roads, to continue its good work by the provision of signs and finger-posts, such as are familiar in France. It might make a start in some district where the co-operation of the local authorities could be obtained, and thus pave the way for a really comprehensive scheme of road guidance throughout the country. In any case, it can easily demonstrate to the Cyclists' Touring Club that the work of that organisation on the road is over, and that a newer and more active spirit is now in operation on the great highways of the land.

#### Good Work in Middlesex.

◆ ◆ ◆  
At the same time it must be recognised that some of the county authorities are doing good service in the way of denoting dangerous corners, cross roads, precipitous places, and the like, the Middlesex County Council alone having spent £1,662 on such necessary work during the last financial half-year. During the same period its receipts from fees under the Motor Car Act totalled £3,946, so that there was a clear gain to the county. Even there, however, where the Council is evidently solicitous for the safety of the people within its area, there will probably be found scope for suggestions from the Automobile Association as to suitable locations for an extension of the work.

#### Danger Signals.

◆ ◆ ◆  
In connection with this question of danger warnings mention may be made of what the East Surrey A.C. has been doing in its area. By Section 10 of the Motor Car Act, 1903, it is provided that Town Councils and other local authorities shall within their areas set up sign-posts denoting dangerous corners, precipitous places, and cross roads, where such sign-posts appear to them to be necessary. The attention of the Reigate Town Council was drawn to the necessity of danger signals at various points in the borough, particularly at Buckland Corner, by Reigate Heath, but the Council declined to undertake their erection. Thereupon a local resident made an offer (through the East Surrey Automobile Club) to pay the cost of putting up the required signals at Buckland Corner, provided that the Council obtained the necessary permission and maintained them. To this offer the Council has replied giving permission to the Club to erect two danger signals under certain conditions, one being that the Club shall undertake their future maintenance. There is not one danger signal in the borough, although there are several dangerous corners, precipitous places, and cross roads, and yet the Council declines to perform its statutory duty.

#### Regulations with regard to Signs.

◆ ◆ ◆  
As showing how keenly alive to the growing public demand for the provision of warning signs are some of the local authorities, we may instance the case of a Metropolitan borough on the outskirts of London, whose surveyor rang us up on the telephone to inquire as to the requirements of the Act with regard to road signals. The officials apparently had a vague kind of idea that there was a certain amount of latitude allowed in the erection of such signs. This is scarcely the case, the regulations being particularly explicit on the point. These have to be fixed about 50 yards from the spot to which they apply, and the underside of the sign is to be not less than 8 ft. from the level of the ground. Other directions with regard to the circular, triangle, and diamond-shaped boards are generally known to the public as well as to motorists.

#### Love and a Garage.

◆ ◆ ◆  
ROMANTIC associations lurk about the Waterloo Motor Garage in Chicheley Street, York Road, Lambeth, which has come into the possession of the Hon. Henry L. Bruce, whose engagement to Miss Camille Clifford has given a piquancy to the morning's news in a season that seemed duller than usual. Mr. Bruce has high aims for his business, and,

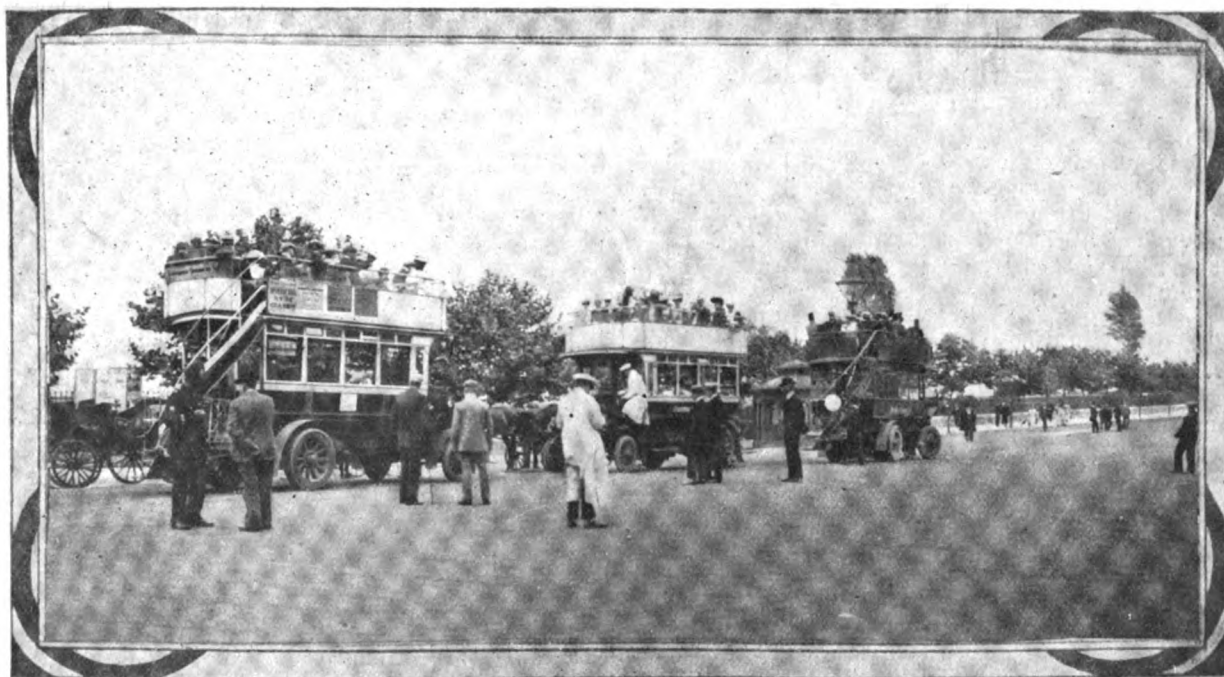
with Mr. Colin Defries as a practical manager, hopes to become an important factor in the motor business of the Metropolis. There are now quite a number of members of the aristocracy in the motor-car industry of London, but Mr. Bruce's entry into that department of commerce has had unique associations. A large connection for repair work among members of the theatrical profession is already assured him. Personally he has great faith in his 40-h.p. De Dietrich car, upon which he has travelled 8,000 miles within the last eight months, driving and looking after it himself all the time.

#### The Blackpool Meet.

ALTHOUGH the General Purposes Committee of the Blackpool Town Council decided against the proposed motor-car meet at Blackpool, the full Council at their meeting on Tuesday approved of the scheme, and the Blackpool and Fylde Automobile Club will now go forward with their arrangements, reference to which was made in our last issue. The Town Clerk has expressed the opinion that the Corporation had no legal power to close the Promenade for such a purpose, but those favourable to the proposal pointed out that the meeting

#### Slough.

ONE of the most popular roads from London is the Great Bath Road, upon which hundreds of motorists travel every week. It runs through the centre of the town of Slough, which is now becoming an important residential suburb of London. The subject of motor traffic in the town is referred to in the current number of the "Parish Magazine," in which the Rector of Slough says:—"It is sad to think that our High Street, of which we are all so proud, should of late become such a source of danger to all, whether on pleasure or on business bent, through the enormous increase of the motor traffic. Of late no less than three deaths in close proximity to our town have been occasioned through the motors, together with several accidents in the High Street, and in some cases attended with serious injury. Of course many motors are driven at a reasonable pace, but there are many others driven through our town at such a pace as to make one wonder whether there is any regard for the life of man or beast." The rector issues a warning to parents to caution their children against playing in the streets, and adds, "Our police, in the face of countless other duties, and the various automobilists' scouts, have indeed a difficult task to perform,



Motor-buses in the Isle of Wight. The inauguration of the new circular route via Shanklin.

would bring a good class of people to the town, and help to prolong the season. These considerations had weight with the Council, and the meet will take place in the second week in October.

#### The Motor-Van Trials.

THE heat engendered between the A.C.G.B.I. and the M.V.W. and O.U.A.—initials that will be quickly comprehended by regular readers—has not declined in temperature in consequence of Mr. J. W. Orde's reply to Colonel Crompton. It illustrates how the endeavour of the Piccadilly Club to completely control the industry is being resented by an important section of the trade, as well as by users of motor vehicles, and how aggrieved is the parent body at the non-submissiveness of the minor organisation fostered under its wing. There are signs, however, that the movement is becoming too general to be restricted to the narrow legislation of a body in which the social element predominates, and that each aspect of Motorism will desire to advance along its own lines, while still willing to work together where the interests have something in common.

and if in the future the speed limit is not to be reckoned with, they will find it more than ever a problem how to protect the lives of people in town and country."

#### The Rise in the Price of Petrol.

THE increase in the price of petrol will be considered by the General Committee of the Motor Union at their meeting at Scarborough, and the organisation will be asked to appoint a Special Committee to inquire what steps can be taken to protect the interests of the private consumer. This subject will doubtless give added interest to the meeting on the 22nd inst., which will be made notable by the invitation of the Earl and Countess of Lonsborough to a garden party at Lonsborough Lodge, Scarborough. Not only will there be a great attendance of motorists from all parts of Yorkshire, but appearances point to the probability of the last provincial meet of the season being not the least important of the year.

MESSRS. ASTER, LTD., having fitted up a special repair shop at their new works at Wembley, are now prepared to execute repairs to motor-cars and petrol engines of all kinds.

## MOTOR SERVICES IN IRELAND.

A FEW years ago those who have watched with sympathetic eye the development of Ireland hoped much from the much-belauded scheme of motor transit associated with the name Iveagh-Pirrie. In some quarters the shortness of vision possessed by local authorities prevented anything like adequate opportunity being vouchsafed to the scheme; the refusal of others to make clear the roads whereon the motor vehicles were to travel, and the supineness of many public men from whom co-operation had been expected, combined to prevent the fulfilment of high hopes.

But while this organised development has been frustrated, there are local services for passengers being established in various parts of Ireland which should do something to add to the delights of travel in the island to which Nature has been pleasant. Here, for example, is an illustration of the modern

opportunities of visiting the Dargle, the Scalp, and other places of popular resort.

The motor char-à-banc seems as though it would rapidly become acclimatised in Ireland, for not only in Wicklow, but, as we pictured on the 12th July, it has become a feature of tourist travel in the north of Ireland. In utilising this particular form of automobile the promoters of the Irish services have escaped the feeling of dubiety with which the suitability of the double-decked motor-bus is regarded in many quarters as a vehicle for the conveyance of pleasure parties in hill country districts.

Now that there is hope of really useful services for the convenience of the public becoming a permanent feature of travel in the Emerald Isle, we would renew the suggestion made some months ago that the county and local authorities should, without delay, put their roads in order. There is no question of the motor vehicle being merely a transient hobby; it is now an accepted factor in the traffic problems, and the Irish authorities may therefore, with every confidence, set about the improvement



The Albion 16-h.p. Twelve-seated Char-a-banc in Service at Bray.

- idea in carrying passengers between Kingstown and Bray. The body of the char-à-banc was built in London by the Lacre Company; the 16-h.p. chassis is by the Albion Company, and the tyres are of the Sirdar type. This vehicle runs between the pleasant Dublin resorts of Kingstown and Bray—the latter a charming place nestling under the great hills of Wicklow and looking out upon the ocean from one of the neatest promenades to be found in all the Emerald Isle. The road between these two places is most delightful, and visitors to Ireland should assist local enterprise while ministering to their own enjoyment by ignoring, for the journey between Kingstown and Bray, the old jaunting car of the Dublin jarvey, and make their way in an up-to-date motor-car. Last year the vehicle ran throughout the season with never a breakdown, the average daily run being more than 100 miles and the consumption of petrol being 13½ miles to the gallon. For the present season, which commenced in July last, another char-à-banc was ordered, and the Kingstown and Bray service has been extended to Enniskerry, allowing

of their roads with a view to the popularisation of hitherto inaccessible resorts with the tourist and traveller. For, just as the privately-owned motor-car has extended the circle of social friendships, so the public service vehicle is capable of increasing the delights of visitors, with consequent benefits to the localities they patronise.

MR. L. L. WHITMAN and C. S. Carris, whose start from San Francisco on a trans-continental trip in a Franklin 30-h.p. six-cylinder car was mentioned in our last issue, reached New York late on the 17th ult., they having made the journey in 15 days 2 hours 12 min.

THERE are some speedy cars in the Motor House in Euston Road, N.W., just now, including a 110-h.p. Star which has been engaged in Continental races, a 90-h.p. of the same type, and a 90-h.p. Darracq. Calling there on Monday we also saw two motor-buses, which, having done good service between Warrenpoint and Rostrevor, are now ready for work elsewhere.



## UNDER THE BRECON BEACONS AND THROUGH MID-WALES.

BY JOHN LL. WARDEN-PAGE.

FOR a person possessed of a fairly powerful car there can be few trips more pleasant than that across Wales—say from Hereford to Aberystwyth. The roads are good; the gradients reasonable; the scenery some of the finest in the kingdom. And we get this scenery from the very start. What can be more beautiful than the road leading from Hereford to Hay with its wooded vales and background of long level upland—the Black Mountains? Of Hereford itself we have no space to write much, but it is an interesting old city, and a pause of an hour or two may well be made to view the cathedral with its sculptured Norman columns and the college of Vicars-Choral hard by, while there are pleasant gardens by the river.

Passing out of the city we notice at about a mile's distance a tall wayside cross, a memorial of the Black Death, a fearful plague which devastated the country in the fourteenth century. But this is the only gloomy note. Presently the road drops to the Wye, our companion, more or less, for many miles.

Picturesque half-timbered cottages appear and disappear, but villages are few. One of the prettiest, I think, is Winterton. But it is approached round some sharp curves; and it was here that the recent sensational motor accident occurred. A chauffeur named Hood, driving his employer's car from Brecon to Manchester, and on the wrong side of the road, rushed into the car of the Duke of Connaught, bound from Monmouth to Rhayader. The results to both cars were dire, and neither could continue its journey. Fortunately his Royal Highness nor any of his suite were injured, and even the offending chauffeur escaped scot-free.

In an hour we reach Whitney Bridge, and the Brecon Beacons come into view closing the valley to the right. Crossing the Wye we enter the village of Clifford, and halt a moment to look at the ruins of an old castle of the Marches, once the home of Fair Rosamund. Of Clifford Castle there is little left, but the situation on a lofty knoll overlooking the Wye is very fine. Everyone, I suppose, knows the story of poor "Rosa mundi non Rosamunda." How King Henry II. loved her; how his Queen (who, by the way, was none too virtuous herself) did not; and how one day her jealous Majesty tracked Rosamund to her bower with a dagger in one hand and a cup of poison in the other and told her to choose. It is said that the frail fair preferred the cup to the cold steel.

Just beyond Clifford comes Hay. Hay is a border town, sleeping below the ruins of another Marches castle. This is better preserved than that at Clifford, and has a fine gateway. Attached to it, evidently built out of the ruins, is a picturesque house of the sixteenth or seventeenth century, with many gates and clustering chimneys. At Hay we enter Wales, and the omens are good, for a fine road stretches away westward,

running parallel with the Wye. We glide easily through the wooded village of Glasbury, with the steep cliffs of the Black Mountains towering over the tree tops on the left, and presently reach that ancient roadside hostelry The Three Cocks, a famous house in the old coaching days and not without repute still. Here for awhile we leave the Wye and follow this good Brecon road for another two miles to Bronllys, where we turn sharp to the left in the village street and descend a steep hill to the little town of Talgarth. Talgarth, which lies almost at the feet of the Black Mountains, is on the route to Llangorse lake, which we take *en route* for Brecon town. The road, though narrow, is fairly good. But beware of thorns! At the end of April we found this road and many other bye-ways strewn with these unconsidered trifles of the hedges. And we cursed them by our gods!

The lake—in Welsh, Llyn Safaddau—comes into sight from the summit of an ascent some three miles from Talgarth. It lies in a pleasant pastureland, with the Beacons rising majestically across the water. To those motorists who delight in the gentle craft I may add that Llyn Safaddau is a favourite among fishermen. There is even a little house by the water where four men may put up and have boats for the pursuit of the fish.

These consist of pike, perch, roach, eels, and a few trout.

Another narrow road strikes westward from Llangorse village to Brecon. Here are more hedge trimmings, and we are glad at the end of a perilous half-hour to emerge upon the wide highway coming up from Abergavenny, where we can enjoy without *arrière pensée* the view of the wooded Usk Valley. Brecon itself is a fine old town nearly 500 feet above sea-level, right opposite the Beacons. Its principal feature, apart from the grand mountain view, is the Priory church, which dates from the twelfth century. It

crowns a wooded knoll above the glen of the Honddu at the far end of the town. The Early English choir is very beautiful; there is a curious old font and many interesting monuments. Just below, in the grounds of the Castle Hotel, are the remains of the Roman castle built by Bernard de Newmarch. Another fragment on the banks of the Usk at the end of the shady Captain's Walk represents all that is left of the town walls.

From a height of nearly 3,000 feet the Beacons look down upon the town. They are well worth climbing, for the view is magnificent, extending from the Bristol Channel to Cader Idris—though I cannot say that I was able to identify the latter among the sea of hill tops to the northward. But they are a good way from Brecon—over five miles as the crow flies, and a bit more as man walks. The motorist, however, may reduce his climb by one half by driving to the Storey Arms Inn, eight miles out on the Merthyr road, with a gradual rise of a thousand feet. I, myself, made the ascent from Torpantau station, a long, easy enough walk, followed by a short, severe climb, so cannot speak of the northern ascent from personal experience.

Geologically the Beacons are of the old red sandstone, the loftiest summits of this formation in Great Britain. The colour-

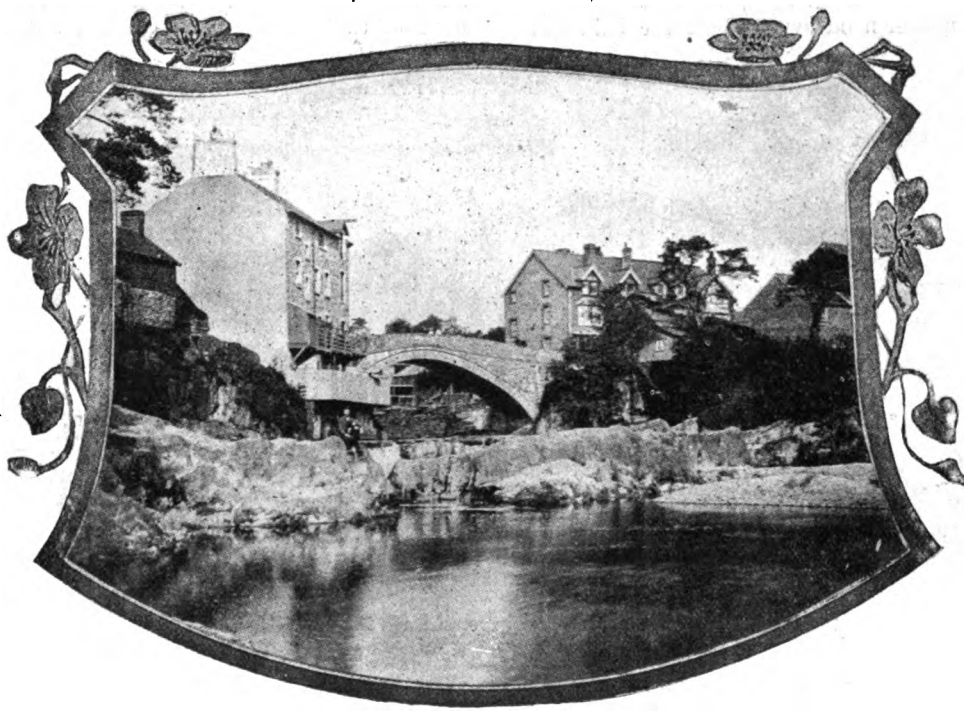


Photo by]

The Bridge at Rhayader.

[Wallace-Jones, Rhayader.

ing is, of course, very rich, and the northern precipices glow with a ruddy light as we leave Brecon and again take the Hay road Wye-wards. A long hill winds up by the glen of the Honddu, and as we rise the mountains emerge above the tree tops, a sight for gods and men. Indeed, we are tempted to look back frequently, for the views over the Usk Valley are delightful. It is not till we approach Pontybat, six miles from Brecon, that the Beacons vanish for the last time. Here we are called upon to decide whether we shall take the short cut up the lane to the left, dropping into the Wye Valley at Llyswn Village, or continue along the high road to Three Cocks, where the road to Builth leaves that to Brecon. This short cut saves three miles and is good enough for a bicycle (though there are some steep hills), but I do not recommend it for a car. It is neither so wide, so well graded, nor so well kept as the highway. Wherefore we return to within a gunshot of the old inn, and there, swinging sharp to the north, enter upon the splendid run by the Wye side. We do not leave it again until its head-waters are reached beneath the bare slopes of Plynlimmon.

At first the valley is of fair width, a green fertile strath shut in by wooded hills. On the left, where these hills rise steep against the sky, and about two miles beyond Llyswn, is Llanerchcoedlan Waterfall, reached by a path through the woods. Then comes the pretty village of Erwood, where the valley narrows, and the Wye in noisier flood sweeps past the bald hill

its name from its situation—Rhaiadr Gwy, the Falls of Wye. The falls, however, are unimportant, except when the river is in flood, when the water roars over the rocky ledges by the bridge in fine form. The town has been very much to the fore lately owing to the opening of the great Elan reservoirs (the water supply of Birmingham) by the King. These reservoirs lie among the mountains, five miles from Rhayader. We have never been up to them; it is a hard climb, but we believe the road is fairly good.

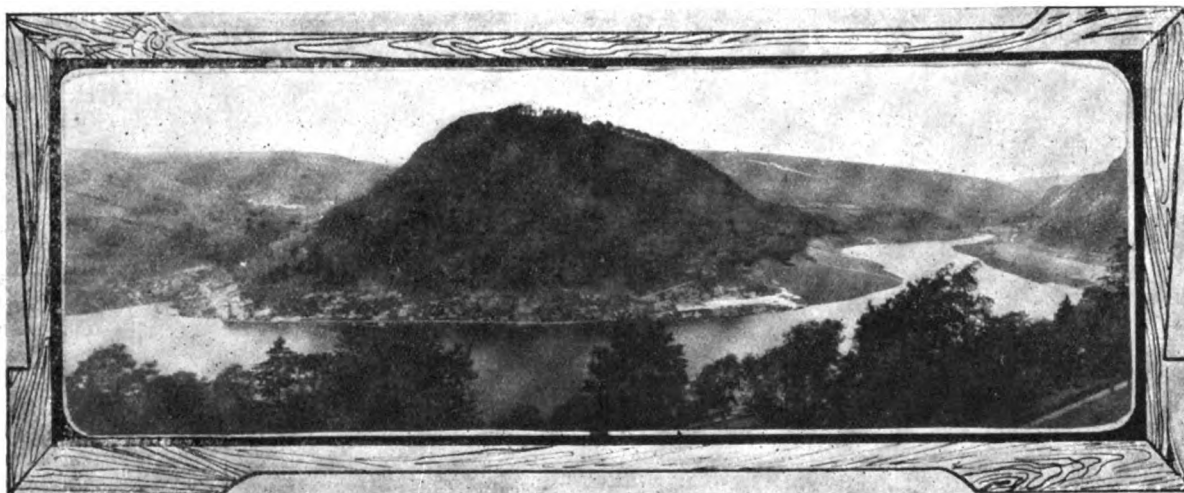
(To be concluded.)

## USEFUL NOTES.

A RUBBER connecting pipe may be repaired, if leaking or burst, with a tyre patch well bound with tape.

A RUBBER MAT exposed to drippings of oil may have its life considerably prolonged by a few coats of slate-coloured paint. The paint will not be conspicuous, and will protect the rubber from the action of the oil.

SYSTEMATIC periodical inspection and tests of the brakes should be a principal point in the routine of every driver. The joints of the operating mechanism should be seen to be intact, and the brakes should be applied and an examination made that none of the parts of the operating mechanism is limited in its



The Birmingham Water Works Reservoirs in the Elan Valley, Rhayader.

of Garth. Between Erwood and Abernant the scenery becomes even lovelier, and there is a magnificent view down stream closed by Lord Hereford's Knob, a summit of the Black Mountains. Across the river, where the little Edw comes down a wooded gorge, the hills descend in rock terraces. These are due to the action of the sea (!), and even now one can detect the scoring of the glaciers which in some primeval age ground along the cliffs. Close to Aberedw village is a cave, said to have been a refuge of Llewellyn when surprised by the English at Aberedw Castle, of which only a bit of wall remains. In the end, the men of Builth shut their gates against him, and he was killed near the Yrfon brook, which joins the Wye about four miles up the valley; wherefore the place is called Cefn-y-Bedd-Llewellyn unto this day.

Builth, a combination of ancient country town and modern spa—and the two blend ill—lies where the valley opens into a sort of amphitheatre. Its waters are said to be very nasty, but of them we have no personal experience. Neither have we sampled those of Llandrindod, which may be easily reached from Builth. We prefer to cross the Wye and keep up the eastern bank to the large village of Newbridge. Now the hills close in and become loftier, with frequent screes and outcrops of rock. Between them the road winds onward, sometimes high above the river, to Rhayader, a pleasant little town which takes

motion, except by the abutment of the braking surfaces against each other.

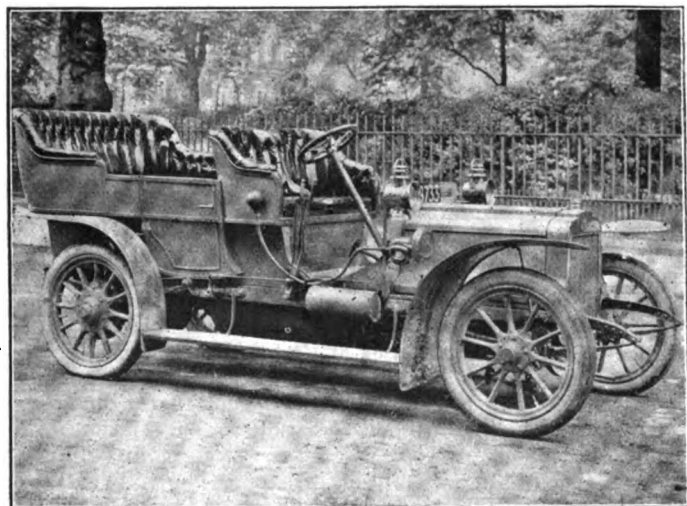
THE thumb-screws on the security bolts of a tyre sometimes work loose in the most persistent manner. Ordinarily a rubber washer is placed next the rim, then a metal washer, the thumb-screw following. The squeezing of the rubber washer is usually sufficient to act as a spring and a vibration destroyer. If, however, it does not answer, a light steel spring washer fitted between the ordinary washer and the thumb-screw should effectually hold everything tight.

To grind in a valve is an operation that requires care and skill. The accepted practice among experienced drivers and repairers is as follows:—Place on the valve a small quantity of very fine emery powder, such as Davies'. Use sufficient oil to make a thin paste, being very careful not to allow any of the paste to run into the cylinder. The valve should then be rotated and firmly pressed against its seat at the same time. A screw-driver inserted in the slot in the valve head is easy to use, or a brace and bit is even more convenient. When the grinding is completed wipe every particle of paste and grit out carefully. It is a good plan to stuff a piece of waste into the parts to prevent any grit from entering the cylinders, as a little of the emery will go a long way in scoring the cylinder walls.

## THE S.C.A.R. CAR.

WE briefly alluded in our last issue to the new French-built car known as the S.C.A.R., which is being introduced into this country by the Central Motor Car Company, Ltd., of Long Acre, London, W.C. The vehicle is the product of La Societe de Constructions de Automobiles de Rheims (Rayet, Lienart and Co.), a new concern, which has recently established works at Witry-les-Rheims, and appears to be of sound construction. Generally speaking, the design follows the lines of the modern live axle car; the frame is of pressed steel construction, narrowed in front to increase the lock of the steering wheels, and supported on the axles through five long springs. The engine, which is of the high-speed type, the normal being 1,400 revs. per minute, is rated at 18-20-h.p. The cylinders, which are separately cast, are 90 mm. bore by 100 mm. stroke. The valves are mechanically actuated off separate cam shafts, the inlets being provided with a variable lift obtained by means of wedges sliding between the cams and the valve push rods, and controlled by a lever working on a fixed sector above the steering wheel. An automatic governor acting directly on the carburettor is also provided, the action of which can be cut out as desired by means of the accelerator pedal. The ignition is by means of a gear-driven high-tension magneto, while the water circulation is on the thermo-syphon principle, no pump being employed. The radiator is of the frame ribbed tube type, a current of air being drawn through the same by means of a fan, which is not belt-driven as usual, but is operated off the crankshaft through bevel gearing. The lubrication of the motor is maintained by means of a small positive pump driven off the rear end of the inlet valve cam shaft.

The clutch is of the leather-faced cone type. The operating spring does not surround the clutch shaft, but is located to one side in such a position that its tension can be readily adjusted. From the clutch the power is transmitted by a short jointed shaft to the gear-box, and thence by a cardan shaft and bevel gear to the rear live axle. Three speeds and a reverse, with direct drive on the top speed, are controlled by a single lever. The cardan shaft is enclosed in a sleeve, which takes the place of the usual torsion rod, and which is supported towards its forward end by a stirrup, so that, should anything go wrong with the cardan joints or the shaft itself, the latter would not fall on the ground with consequent risk of doing much damage. The usual foot and hand-operated brakes are provided, these

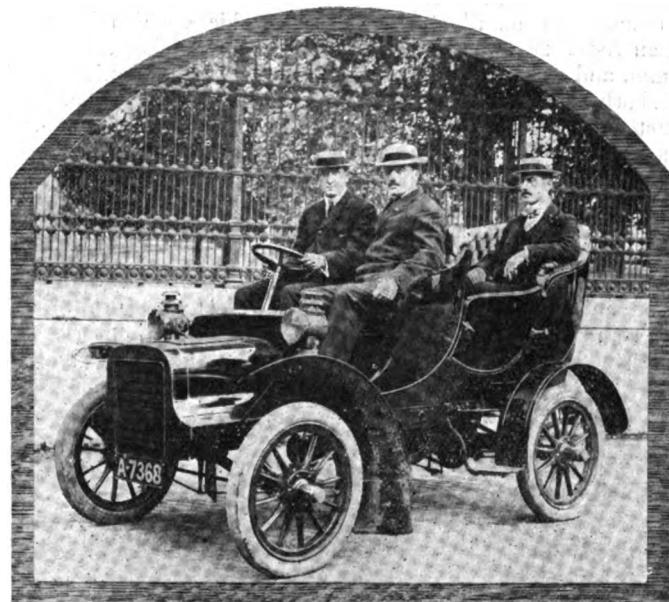


being of the internal-expanding metal-to-metal type. The car has a wheel base of 8 ft. 10½ in., so that roomy side-entrance bodies can be fitted to the chassis. The vehicle, on which we had a short trial run a few days ago, is the first turned out from the S.C.A.R. works, and, although some of the details are not so complete as is intended, it appears to run steadily, and on open roads develops a good turn of speed.

## EASTERN ECHOES.

AN A.C.G.B.I. examination will be held at the White Hart Hotel, Chelmsford, on the 22nd inst.

WITH reference to the run to Clacton of the Essex Motor Club, mentioned last week, the following members made non-stop runs and kept to the scheduled time, viz., Messrs. Cozens



Mr. J. S. Bennett, manager of the Anglo-American Motor Car Company, at the wheel of a 9-10-h.p. Cadillac Car. At his side is Mr. W. E. Metzger, manager of the Cadillac Motor Car Company in America, who is at present paying a business visit to Europe.

(Lagonda tri-car); A. J. Macdonald (Twin Vindec); Stanley Webb (Quadrant); F. Applebee (Rex tri-car); and J. W. Applebee (Rex with fore-car).

THE other day there was seen at Messrs. J. W. Brooke and Company's Marine Headquarters at Oulton Broad almost every type of motor-boat built by them, including 4-h.p. single-cylinder, 8-h.p. two-cylinder, 12-h.p. three-cylinder, 18-h.p. four-cylinder, 45-h.p. four-cylinder, and 300-h.p. six-cylinder engines, the latter being fitted to "Brooke I." One of the firm's stock designs, "Brooke Cruisers," has just been shipped out to the Argentine Republic for use on the River Plate.

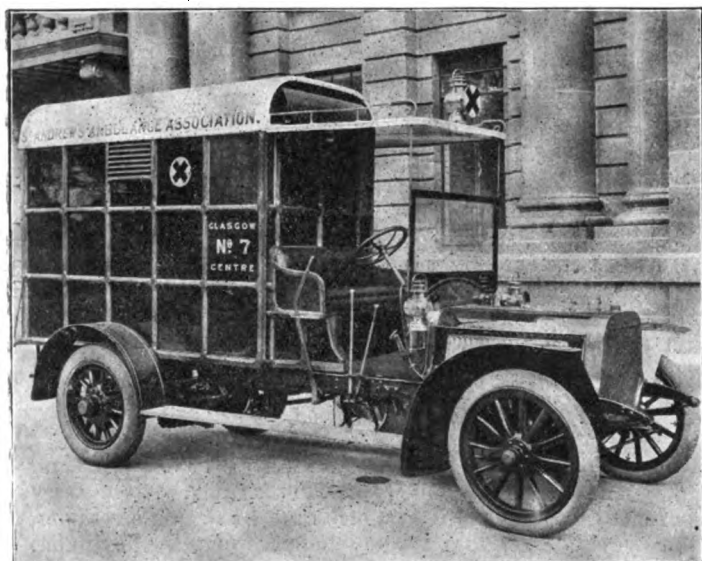
THE Essex County Automobile Club's run to Frinton-on-Sea on Saturday was very pleasant. They met at the Grand Hotel, where the members and their friends were the guests to luncheon of Mr. and Mrs. E. A. Serre, nearly sixty accepting the invitation. After lunch the cars proceeded to Clacton, where they were entertained to tea at the Grand Hotel by Mrs. Knight, whose husband is a member of the club. A most enjoyable day was spent, and many thanks are due to Mr. and Mrs. E. A. Serre and Mrs. Knight for their kindness on the pleasant and notable occasion.

MOTORISTS have certainly visited Clacton and the Grand Hotel in increased numbers this season, and the town does all it can to gain their patronage. At this Hotel a motor garage has been erected to hold eight cars, each having a separate lock-up. The roads of the district are very good for motoring, and a large number of cars do the run from London to Clacton and back again the same day. A special sitting-room is reserved for members of the A.C.G.B.I. at the Grand Hotel, and there is an experienced engineer on the staff to carry out repairs.

## SOME CURRENT TOPICS.

### The Argyll Motor Ambulance.

During a recent visit to the extensive works of the Argyll Company at Alexandria, N.B., we were much interested in a special motor ambulance wagon which was in course of construction for the St. Andrew's Ambulance Association. We are now able to give an illustration of the vehicle, which is fitted with an Aster 26-30-h.p. four-cylinder motor, having a bore of 105 mm. and a stroke of 140 mm. Two systems of ignition are fitted, both high tension, one from accumulators and the other by a magneto. The gear-box is adapted to give three forward speeds and a reverse. The transmission is by a cardan shaft and worm gear in place of the usual bevel form, to a specially-designed live axle. In view of the work the vehicle will be called upon to perform, considerable attention has been paid to the design of the springs, the rear pair being of an exceptionally flexible type, while at the front a duplex arrangement is adopted. The internal dimensions of the ambulance body are: length, 8 feet; breadth, 3 feet 10 in.; and height, 6 feet. The heating of the interior is accomplished by means of the exhaust from the engine, which



escapes to the atmosphere through a pipe fitted on the floor. This pipe is separated from the main exhaust pipe by means of a by-pass valve, which can be used to determine the exact amount of exhaust allowed to pass through the pipe inside the wagon. Electrical fittings have been provided in the shape of three ceiling lamps, and also a communicator by means of which instructions to the driver can be given from the interior to an indicator on the dashboard. The body is insulated from the chassis by means of rubber pads, and the full standard equipment of the Ambulance Association is furnished inside. On test the wagon, which is geared to a maximum speed of twenty-one miles per hour with the engine running at 1,100 revolutions per minute, has shown itself to be an exceedingly silent vehicle, and should prove of immense service in the work of the St. Andrew's Association.

### The Frothing of Accumulators.

In our correspondence columns this week a correspondent raises a query as to the cause of frothing in accumulators. As the trouble is not an uncommon one, the following remarks on the subject may be of general interest. Frothing is due to impurities in the acid, which may have come from the plates, or have been present in the water or the acid when first put into

the cells. To prevent its occurrence, empty out the acid, and thoroughly rinse the accumulator with two or three lots of distilled water, washing out at the same time loose pieces at the bottom of the cells. Then refill with dilute sulphuric acid, 1.200 specific gravity, using the best brimstone acid and distilled water. Frothing in accumulator cells has been a puzzle to the oldest makers of accumulators, and the exact cause of it has never been absolutely established. That it is due to impurities there is no doubt, as makers of ignition accumulators with long experience state that they never have cases of frothing occur when charging large numbers of new accumulators filled with absolutely new and pure acid, but every maker experiences frothing in old accumulators sent in for charging and filled with acid of inferior quality. Frothing appears to occur more readily in celluloid cells than ebonite, though cases sometimes occur with the latter type.

### Starting a Petrol Motor.

It is surprising how many motorists receive minor injuries and sometimes severe ones when starting up the engines of their cars, especially in view of the fact that, if proper precautions are taken, the operation is a perfectly safe one. When the motor is to be started the first thing to make sure of is that the car itself cannot prematurely start when the engine begins to run, by seeing that the change-speed lever is in the neutral position, thus completely freeing the motor from the driving mechanism. Neglect on this point has been the cause of several accidents, including one which, unfortunately, had fatal results, owing to the car bounding forward and knocking a youth down the well of a large lift. The next point to which attention must be given is the position of the ignition lever. This must be retarded to its lowest position, otherwise the engine may give a back kick, or back fire, as it is more popularly known, the result of which will probably be a broken wrist. The starting handle should be so engaged with its ratchet that the effort of starting the engine is in the form of an upward pull, never a push down. If this practice is followed, in case of a back kick the handle may, of course, be pulled out of the hand, but no injury is likely to be inflicted. If, on the other hand, the handle is being pushed forcibly downward with the arm nearly straightened out, and a back fire occurs, the blow to the arm, the shoulder and the rest of the body may be very severe. The motorist should also be sure that the handle is securely engaged by the ratchet so that it cannot slip off when he is pulling hard, and he should stand far enough forward from the front of the car to be out of the way of the handle. Several cars at present on the market are so arranged that the act of fixing the starting handle on its ratchet automatically retards the ignition, and the idea is one which may be recommended for general adoption. If the motorist is always careful about the position of the ignition lever, starts the engine with an upward pull of the handle, stands out of range of the latter in a well braced posture, and is sure that the car itself cannot start when the motor does, there is very little chance of personal injury in starting a petrol engine.

THE "Glico" motor lubricating oils and greases are the production of the Gas Lighting Improvement Co., whose Carburine has come well to the front as a high-class motor spirit.

MR. GURDON, a motorist, had a curious and unpleasant experience on Friday of last week at Rye. He was deceived by some lights on the opposite side of the tidal channel, and drove into the water. The car floundered for some time in the mud, and a traction engine had to be requisitioned to pull it out.

THE HERCULES MOTOR WAGON AND ENGINEERING COMPANY, Manchester, in addition to steam wagons, are now building motor-bus chassis fitted with 40-h.p. petrol engines. A special emergency brake has been designed operating upon the drum of the driving-wheel, which may be called into action by the conductor simply turning a wheel placed in a convenient position at the rear of the vehicle, and acting independently, although in consort with, the lever under the control of the driver.



THE Lancaster county magistrates have inflicted fines amounting to £145 this summer on motorists. There have been 28 convictions.

MR. FRED GREENWOOD, of the Leeds Motor-Cycle Club, has covered the distance between Leeds and London and back, a run of 368 miles, in 15 h. 50 min. on a Rex motor-cycle.

THE Zenith Motor Engineering Company have removed their City offices to their works at 101, Stroud Green Road, London, N.

MR. WILLIAM BOND is making a special study of motor work at his Sandown Cycle and Motor Works, Cannock, Staffordshire.

BISHOP'S AVENUE, Finchley, has been colloquially and locally re-named as "the scorcher's avenue." This has been stated in evidence at the Highgate Police Court.

MR. B. N. DOSS, of the National Cycle and Motor Company, Ltd., 98, Clive Street, Calcutta, invites dealers in automobile accessories, &c., to forward copies of their latest lists.

THE Cardiff Motor Garage Company, with which Mr. Gibbons Brooks is associated, are making considerable extensions to their premises in this populous South Wales centre.

MR. HUNT, J.P., at the last meeting of the Halstead Rural District Council, said that motor-cars should be taxed £25, the money thus obtained being devoted to the care of the roads.

MOTORING visitors to the City may be interested to learn that supplies of motor spirit may be obtained in any quantity at the depot of the Singer Cycle Company, Ltd., in Turn Again Lane, Farringdon Street, E.C.

A MOTOR-CAR arrived in Wallingford the other evening, and the occupants distributed packets of "tea" to a number of eager recipients, who, however, were not so grateful when they discovered the contents to be sawdust.

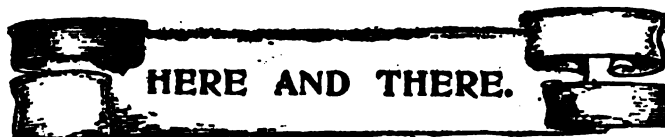
"MOTORING IN SCOTLAND" is the title of an effective brochure brought out by the Continental Tyre and Rubber Company, Ltd., whose tyres, as we mentioned at the time of the trials, did exceptionally well in that severe test.

AN attractive motor gymkhana has been held at Blandford by the Corporation Recreation Ground Committee, with Mr. W. A. B. Brennard as secretary, Mr. H. F. W. Farquharson having been largely responsible for the event.

WHEN at Teignmouth, on the occasion of his motor-car tour, General Booth's car, and the five others that accompanied him on the journey, were garaged at the establishment of Messrs. W. Bobbett and Son, whose place can accommodate between twenty and thirty cars. The firm are official repairers to the A.C.G.B.I., and have been able to render service to many motorists touring in Devonshire this season.

"AUTUMN LEAVES" is the pleasant title given to several pages descriptive of various useful oils for the use of motorists just issued by the County Chemical Company, Ltd., of Excelsior Works, Birmingham. Included therein are particulars of the company's standard carbide, G. B. motor carbide, motor oils, &c., as well as the G. B. vulcanisers—the latter a simple, cheap and effective apparatus for motor tyre repairs.

ALTHOUGH we are yet enjoying warm weather, we are within hailing distance of the winter, with its attendant cold weather and frost and consequent danger of burst cylinders, so that it is not too early for motorists to think of the matter of heating their motor-houses. In this connection we may refer to the Ascot boiler made by Messrs. Jones and Attwood, of the Titan Works, Stourbridge. This is specially designed for the warming of such buildings by means of hot-water pipes. It is simple in construction, and occupies little space, while it will heat from 12 ft. to 50 ft. of 4-in. pipes, and can be banked to last from twelve to twenty-four hours without attention. Messrs. R. Jenkins and Co., of Rotherham, are also making a serviceable boiler known as the Ivanhoe, intended for similar use. It is made in various sizes and requires but little attention, its construction being such that the fire will stay in all night without further stoking being required.



THE Hon. Mrs. Harbord has accomplished a 200 miles trip in Mr. F. H. Butler's balloon, in the competition for Miss Krabbe's cup.

THE attention of the London County Council is being directed to the danger to the public arising from the practice of teaching motor-car driving in Battersea Park.

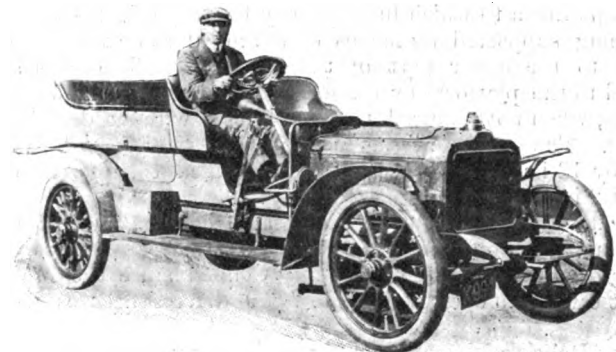
THE Auto Cycle Club's hill climb at Birdlip Hill to-day (Saturday) has attracted seventy entries in the six classes.

LAST week Mr. Cecil Edge drove a six-cylinder Napier from Nottingham to Edinburgh, back to Nottingham, and then to London—a distance of 720 miles. The engine was not stopped from start to finish.

MESSRS. VOSPER AND CO., LTD., of Broad Street, Portsmouth, are making a feature of assisting motorists going to the Isle of Wight, by accommodating cars at their garage and seeing to their despatch by steamer.

AFTER making experiments, Messrs. R. and J. Pullman, Ltd., have succeeded in satisfactorily fitting their leather non-skid bands to tyres which have previously been fitted with studded rubber non-skids. Those they have already retreaded are giving great satisfaction.

AT the wheel of the Hardman car shown in the accompanying illustration is Mr. W. L. Hardman, of Colquith Street, Liverpool, who has entered and will drive the vehicle in the forthcoming Tourist Trophy race. The car, which is of French construction, is fitted with a four-cylinder engine, 110 mm. bore by 130 mm. stroke, and developing 25-h.p. at a speed of 1,000 revolutions per minute. Two systems of ignition—Eisemann



high-tension magneto and ordinary coil and accumulators—are provided. The clutch, which is of the leather-faced cone pattern, is connected by a universally-jointed shaft to the gear-box. The latter is of the Panhard type, and is adapted to give four speeds forward and a reverse, the final drive being by side chains. The car, which throughout is of the standard type, and has not been specially prepared for the race in any way, has a wheel base of 10 ft., the track being 4 ft. 6 in.

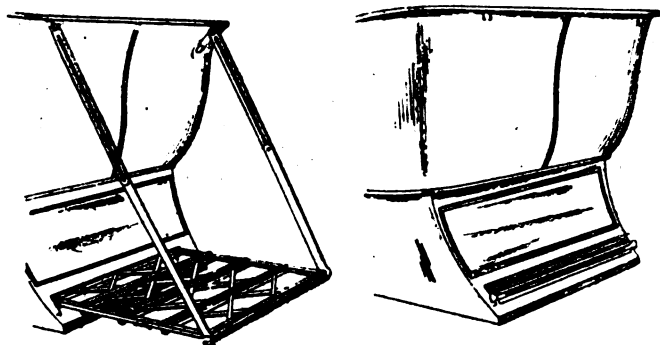
THE Mayfair Motor Company, Ltd., is the name of a new concern which has just opened a depot at 55, 57, and 59, Shaftesbury Avenue, London, W.C., for the sale of Mayfair cars. Four sizes are being made, viz., 6-h.p. single-cylinder, 10-h.p. double-cylinder, and 15-h.p. and 28-h.p. four-cylinder. The first three cars have cardan shaft transmission and live axles, while the largest vehicle is made with either a live axle or side-chain drive. We hope to refer to the Mayfair cars more fully in a later issue.

CALLING at 14, New Burlington Street, W., the other day, we found considerable alterations in hand, and ascertained that Messrs. S. F. Edge, Limited, intend to devote the ground floor to the purposes of a reception room, and use the whole of the top floor as a showroom. The latter will provide a very fine apartment for the display of cars. We also hear that it is the intention of Messrs. Napier to in future confine their energies to the production of 40-h.p. and 60-h.p. Napier cars of the six-cylinder type, of which close upon a thousand are being put in hand for next season.

THE Motobloc car which competed in the fateful Paris-Madrid race in 1903 is now in use in London as a motor delivery van by Messrs. Montague Hawnt and Co.

THE Rex Motor Manufacturing Company, Ltd., Coventry, are placing on the market a new 9-h.p. twin-cylinder, four-seated tonneau side-entrance car. It will have three speeds and reverse, and direct drive on the top.

WE illustrate herewith a new collapsible luggage carrier for use on touring cars which has lately been put on the market by Mr. H. F. Spence, of 128, Hope Street, Glasgow. As will be seen, it consists of a collapsible platform fixed at the back of the vehicle. The platform is constructed of special steel trellis work, which, when not in use, is contained in its collapsed condition within a shallow recess below the floorboard of the



back portion of the car. When the trellis work is drawn out it forms a platform to which luggage may be strapped, its outward ends being supported by means of a hinged rod at each side pivoted to the upper part of the back seat. The rods are attached to the platform by means of hooks, which enables the platform, when not required, to be collapsed without detaching the rods. The carriers are made in various sizes from 2 ft. by 4½ in. by 18 in. when open, and when closed they go into a space of 2 in.

UP to the conclusion of the last financial half-year 1,264 motor-cars, 1,455 motor-cycles, and 40 heavy motor-vehicles were registered with the Middlesex County Council since the Motor Car Act came into operation, while 7,879 drivers' licences were issued.

THE Doherty Motor Components Company, Ltd., Coventry, are very busy on heavy vehicle fittings. A recent walk through this firm's works revealed to us a large amount of business being done. The manufactures in the various departments include the following: spinings of every description, mechanical lubricators—of a simple form, floats, sight feeds, oil distributors, tanks, wings, fans, silencers, &c.

THE H.F. process of vulcanised tyre repair is well described in a new circular brought out by Messrs. Harvey Frost and Co., Ltd., of 39, Great Eastern Street, E.C., whose West End showroom is at 215, Shaftesbury Avenue, W.C. Motorists who are interested in the idea, but who have not yet adopted this form of vulcaniser, should obtain a copy of this explanatory circular, in which is enclosed a strip of rubber tube showing the various stages in repairing a puncture by this process. The list of users of the H.F. vulcanisers is growing to a formidable length, and includes several corporations and polytechnics as well as many prominent firms and amateur motorists.

A TWO-SEATED 6-h.p. Clement is being offered as a prize in a competition promoted by the "The Motor House." This firm ask automobilists to forecast the names of the first, second, and third cars in the Tourist Trophy trials on the 27th inst., together with the average times, and the competitor whose prophecy is fulfilled will receive as a prize the car mentioned above. The next most accurate estimators will receive a motor-bicycle, a pair of head-lights, and other valuable prizes. All forecasts must reach "The Motor House," 314-316, Euston Road, London, N.W., with the envelopes marked "Competition," not later than the first post on the morning of the race.

LADY ROSSMORE has recently purchased a Daimler car.

WE learn that the Metropolitan Asylums Board have just placed a contract with Mr. A. R. Garnett for two 18-22-h.p. National chassis, which are to be fitted with special ambulance bodies.

THE long-distance trial of a car fitted with Halle spring wheels, conducted under the auspices of the Scottish Automobile Club, was abandoned at Edinburgh, on account of two bolts holding the inner plate on the off front wheel having been shed.

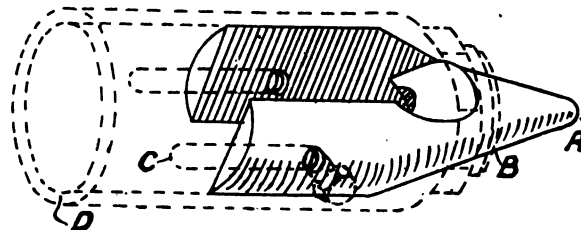
MR. A. MEIER has erected new motor body building works on a piece of land between Ladbroke and Cecil Roads, Redhill. The premises are being fitted with a thoroughly up-to-date equipment of machinery and tools, and Mr. Meier is anticipating considerable business in bodies of a high-class character.

THE Crown Engineering Company, of 22B, High Street, and Clattern Bridge Wharf, Hogsmill River, Kingston-on-Thames, are opening premises for general engineering with a special view to the care, repair, fitting out, and storage of motor-cars and petrol, electric and steam launches. They stock petrol and oils.

THE "Graphic" Challenge Trophy Race will be held in the Isle of Man on the 28th inst.—weather and other circumstances permitting. It is to be hoped that there will not be a repetition of the abortive effort of last year, when the race could not take place owing to the mists that overhung the mountain road over Snaefell.

THE Anglo-American Motor Car Company have now on exhibition at their depot in Haddon Street, Regent Street, W., the first of the new Cadillac 26-30-h.p. cars. These are on entirely different lines to the standard Cadillac vehicle, being fitted with a vertical four-cylinder engine and cardan shaft transmission. We hope to refer to the new car more fully in a subsequent issue.

A NEW variable air inlet for use in connection with carburettors has recently been put on the market by Mr. Ernest E. Davies, of Great Bookham. It takes the form of a cone arranged to slide in a metal sleeve, which forms the carburettor end of the air inlet pipe. In the accompanying illustration the sleeve D is indicated by dotted lines, while B is the inner sliding cone, which has a hole drilled through its centre at A. The rear end of the cone is of special shape, as shown, and has two threaded holes to receive bolts, which pass through slots C in the sleeve to enable any suitable actuating mechanism to be attached. The end of the inlet pipe with its cone is arranged horizontally into the spraying chamber of the carburettor in such a way that the air is directed on to the spraying nozzle. The air enters as indicated by the arrow, and when the cone is fully advanced must all pass down the contracted central hole. By sliding it to the rear in the sleeve it gradually clears the sides



of the latter, air being then able to pass by the exterior of the cone as well as down the central hole. Thus at the highest engine speeds the fullest amount of air can be given, while as the speed decreases the air area is contracted, to give the requisite richness of mixture. The arrangement is very simple, and Mr. Davies claims it gives a greater range of air control than is possible by any other means, and that it effects considerable economy in petrol, tests made with it on a motor-bicycle having resulted in a greatly increased mileage per gallon of petrol. Another advantage put forward for the device, which is being made in sizes for both car and cycle engines, is that it enables a motor to be started upon the first turn of the handle without it being necessary to flood the carburettor.

## CONTINENTAL NOTES.

### The Austrian Military Manœuvres.

In addition to a number of cars belonging to the newly-organised Motor Volunteer Corps, four motor-wagons with trailers, an armoured car, and four motor-cycles are being employed by the Austrian military authorities in connection with the manœuvres in Austrian Silesia. The wagons, to each of which three trailers are attached, are driven by expert chauffeurs, accompanied by two mechanics from the engineers' corps. The 40-h.p. armoured car, which was built at the Austrian Daimler Company's works, is a weird-looking machine. All four road wheels are direct driven, an arrangement which enables the vehicle to be run over any kind of road. Experiments which have already been made show that it can go down into a ditch and come out again without any difficulty, while crossing a rough field is quite within its capabilities. The whole of the car is enclosed by steel plates. The driver and the gunner occupy the usual position, but, when necessary, even they are made to disappear from view, and the machine has then the appearance of a block house, the only openings

his task with great pluck and successfully completed the whole of the journey. The other Siddeley, driven by Mr. Farrell, ran with the utmost consistency throughout, and only on one day failed to reach the control inside the time limit. The delay was caused by an accident, a broken lamp bracket breaking the oil pipes and knocking a hole in the petrol tank. The severity of the contest may be further gauged from the fact that, of the forty-nine competitors who started, only twenty-six were classified at the finish. Of these, seven cars—three De Dions (8-h.p., 12-h.p., and 24-h.p.), a 12-h.p. Darracq, a 12-h.p. Cottareau, a 16-h.p. Clement-Bayard, and a 40-h.p. Mercedes—made the tour of France without being penalised in any way. They are consequently all classed as winners, the main prize of 25,000 francs (£1,000) being divided between the drivers of the same.

### The Coupe d'Auvergne.

Forty-eight entries were received by the Automobile Club d'Auvergne for the touring contest for the Coupe d'Auvergne, which started at Clermont-Ferrand on the 3rd inst., and finishes to-day (Saturday). The weighing-in took place on Sunday, when only 32 competitors put in an appearance, they being



The Austrian Military Motor Road Trains leaving Vienna for the Manœuvres.

[Allgemeine Automobil Zeitung.]

being those by which the driver looks out, and others in the turret at the rear, through which projects the muzzle of a machine gun.

### The Coupe Du "Matin."

As briefly mentioned in the last issue of the *M.C.J.*, the two British cars entered for the Coupe du "Matin"—both 32-h.p. Siddeleys—successfully completed the strenuous test which, commencing on the 2nd ult., finished in Paris on the 28th ult. The trial included the crossing of the Pyrenees and the Alps, the total distance being 3,730 miles over all kinds of roads and in all kinds of weather. Each day's run averaged about 150 miles, and the cars in their various classes had to cover the distance within a certain rate of speed with a time limit, the section in which the two Siddeleys were entered having to keep up an average of 45 kilometres (26½ miles) per hour. It will readily be seen that the test was one not only of cars but of drivers; many of the latter were soon physically indisposed, amongst them being Mr. Stead, who was driving one of the Siddeley cars. Despite this great handicap Mr. Stead stuck to

divided into the following six classes:—Motor-bicycles; motor-cycles; single-cylinder cars up to a maximum bore of 120 mm., and capable of maintaining an average speed of 25 kilometres per hour; two-cylinder cars, maximum bore 120 mm., or four-cylinder cars, 90 mm., maximum speed 30 kilometres per hour; four-cylinder cars, 120 mm. bore, 35 kilometres per hour; and four-cylinder cars, 140 mm. bore, 40 kilometres per hour. The first day's run was to Vichy, a distance of 182 kilometres, the best time (3 hrs. 21 min. 3 sec.) being made by Rigolly on a Gobron car. Tuesday was devoted to an exhibition at Vichy. On Wednesday the run was to Le Puy, 199 kilometres, and on Thursday to Aurillac, 200 kilometres.

### Miscellaneous Items.

A large number of motor-cars are to be made use of in connection with the forthcoming military manœuvres in Switzerland.—The Kaiser has just acquired a new 60-h.p. Fiat car.—A motor-car service for the transport of the mails is about to be started between Saint Dié and Wissembach (Vosges).

## CORRESPONDENCE

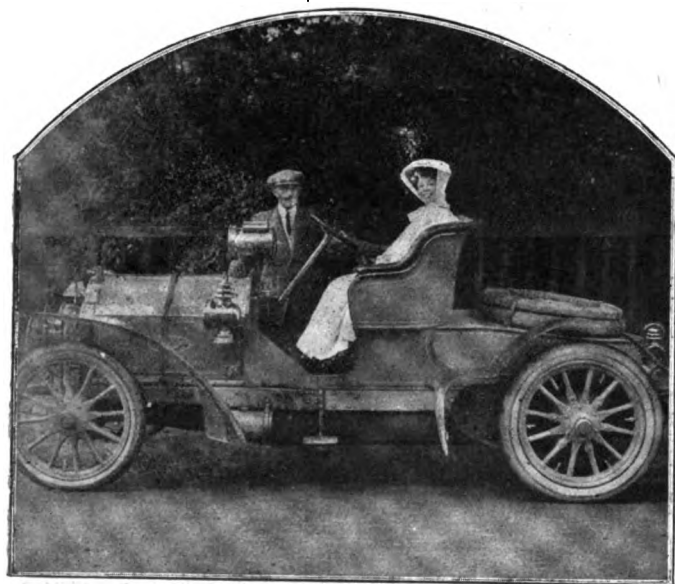
Letters to the Editor should be addressed to the offices,  
87-88, Charing Cross Road, W.C.]

### THE GOVERNMENT AND ALCOHOL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The motor industry in this country has recently had occasion for disappointment over the new regulations issued by Inland Revenue authorities in connection with the Alcohol Act, which comes into force on October 1st next. No advantages whatever accrue to motorists by virtue of these new regulations, whilst, on the other hand, the chemical industry materially benefits.

The Government helps those who help themselves. The chemical industry, led by Mr. Thomas Tyrer, has worked for some considerable time for these concessions, and this has now culminated in governmental recognition. Motorists, however, have done nothing to further the cause of alcohol as a motive power for internal combustion engines, and, consequently, the Government encourages those who have done something for their case, whilst practically the non-



Miss Camille Clifford on the Hon. H. L. Bruce's 40-h.p. De Dietrich. Mr. Bruce is standing by the side of the Car. (See page 578.)

recognition of the motorists' case amounts to a reproof for its inactivity and want of enterprise.

It seems difficult to see what other course was open to the Government in view of the apathy which the motor industry in this country has hitherto shown in the question of a home-produced fuel. There is no doubt whatever the Government will be quite ready to help this question when motorists themselves become more active. The economic, industrial and social advantages to be derived from the general adoption of alcohol as a motive power, and for lighting and heating purposes, are so far-reaching that no Government will be able to resist the tide of public opinion when it has been educated to realise these advantages.

When agriculturists, motorists and the public generally are ready the Government must inevitably act as the natural outcome of that public opinion. If confirmation of this view were needed, one has only to study the opposition which the Free Alcohol Bill met with in America from the Oil Trust and other interested parties, but the advancing alcohol movement simply crumpled it up.

It is to be hoped that motorists will immediately set their house in order by removing the Governmental reproach which has been provoked by the want of enterprise shown by motorists in this country.—Yours truly,

RADFORD COOKE.

### THE STEAM CAR CHALLENGE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Replying to Mr. Edge's letter in your last issue, the Mont Ventoux hill climb of September 15th and 16th I do not care for, as it is not a touring car contest. Moreover, business would not allow me to leave London at this time of year for as long a period as would be necessary should I care to enter in that competition.

As to the Graphic Trophy, I understand from the Automobile Club that it is to be run from the Quarter Bridge just outside Douglas to the fifth milestone on the Castletown road. The average gradient for this course is 1 in 100. There is no hill-climb about that. My car is no racing car, nor have I ever proclaimed it as such. I would not claim, and never have claimed for my 18-h.p. car equal speed or higher speed than the 60-h.p. Napier, except on steep gradients—long or short, I care not which.

My car, as I have before stated in correspondence with Mr. Edge, is a standard 18-h.p. White touring car. I am not able, as are those whose factories are in England, to build to any specification that may suit my fancy, but, on the contrary, am confined to my standard model.

I am sorry we cannot agree as to a match on the lines of my original proposition, but Mr. Edge and I will no doubt be engaged in next season's hill-climbs, and I am sure, if he proves himself as willing to back his opinions as I am, somebody is bound to win a purse or two. Modesty prevents me from suggesting who that somebody will be.—Yours truly,

FREDERIC COLEMAN.

### OLDSMOBILE QUERIES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR.—Could you kindly tell me the proper lift of air valve of an Oldsmobile 5½-h.p. car? I should also like to know whether it would be an improvement if it were made automatic. What should be the exact lift of the exhaust valve, and where should the crank be when the exhaust valve is just opening? The carburettor I have is of the Oldsmobile type. Could it be improved, and what could I do to it? Also as regards the contact, would a wipe or a make and break contact be better, using, of course, a trembler coil?—Yours truly,

R. W. W. JOHNSTONE.

The proper lift of the inlet-valve on the 5½-h.p. Oldsmobile is ¾ in. The engine will not work so well with an automatic inlet-valve as it does with the mechanically-operated one. The lift of the exhaust valve is ¼ in., and the position of the crank is 10 degrees early when the exhaust valve is just opening. The correct way to fit the camshaft is to first place the valves and valve levers in position, then turn the crankshaft so that the piston is in its back position ready to commence the inlet stroke; next place the cam-shaft with the exhaust cam just clear from the exhaust cam roller, and the inlet cam just ready to lift the inlet cam roller. There is a little clearance allowed between the cams and the cam rollers, but not sufficient to allow the worm on the camshaft to be geared in a wrong position, so the worm may then be keyed on the camshaft. If the carburettor is as first supplied with the car, it cannot be improved; the chief point about it is to adjust the petrol feed from the seat so as to give the best results, and it should then be possible to run from thirty to forty miles on one gallon of petrol. By fitting a wipe contact better results will be obtained than with the present make and break arrangement.

### THE ROYAL COMMISSION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—If the proposed increase in taxation be confirmed it will undoubtedly affect the production of motor-cars. The representatives of motorists ought to vigorously protest against this increase in taxation.

At present, by paying 15s. a year for a two-wheeled Ralli car or a guinea for a four-wheeler, one is able to take one's family for a ride. I take it that to be able to do this with a car it means a 10-12-h.p., which would come into the five guineas area.

All cars under a ton weight should be no more than two guineas tax; any car over that weight would be found among the class of people of more than moderate means.—Yours truly,

A WAITING PROSPECTIVE MOTORIST.

### RACING THE MOTOR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Many, I think I may say all, motorists know the value of this practice to see that all is in order with the ignition, &c., but few, I think, know the actual limit to the maximum speed a motor may be run at without a load or which factor it really is that sets the limit to that maximum. I do not, and I am writing in the hope that one of your readers may be good enough to set me right. Take, for instance, a six or eight-cylindered motor being tested on the bench. Is it usual to race such an engine absolutely as fast as it will turn? Or would such a policy end in destruction of the machine? Again, will any modern system of ignition function without misfiring at such speeds? Further, in advancing the ignition when racing the motor, the critical point above which it becomes detrimental to advance must surely be approached very carefully, or a broken crankshaft might easily result. I would be very much obliged if one of your correspondents would be kind enough to put me right on these points, and, if possible, give a rough outline as to the methods of testing multi-cylindered motors, e.g., those for racing cars, and inform me up to what speeds they are tested. I have watched a well-known driver testing a six-cylinder engine, and he certainly made it "buzz" considerably, but whether it was "cracked



up" on the ignition as far as it would take it, or whether such a course is ever adopted, I do not know, and should much like to.—Yours truly,  
"TESTER."

BUEA BUEA

In testing a motor it is not, as a rule, the practice to work it as fast as it will run (without load), as it is quite possible to run as high as 2,000 or more revs. per min., but at this high speed one is likely to somewhat strain or even break an engine up. In workshop practice an engine is usually tested under load at a given number of revs. per minute, the point of ignition being determined whilst under load, but upon the load being taken off the engine immediately races away, the point of ignition still remaining in the same position as when running under load, although an increase of speed perhaps equal to 50 per cent. is obtained.

The highest point that the ignition can be advanced may be determined by slowly advancing until a slight knock is obtained (similar to that of overload whilst hill climbing), when the engine will be found to somewhat decrease in speed, owing to premature firing, but, slightly retarding, the highest point is obtained. This, of course, would be much too far advanced for running under load. All modern systems of ignition will work at this high speed without misfiring if properly adjusted.

### DIRTY GARAGES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—All the tyre makers' hand-books that I have come across mention the fact that oil is very destructive of motor tyres, a fact that I should like, through the medium of the *M.C.J.*, to impress on the owners of motor garages. I have lately been for a tour along the South Coast and have put my car up at the leading local garages. I am sorry to say that many of these are not as well kept as they might be, the floors in particular being bespattered with oil, which had no doubt leaked from the stored vehicles. It is anything but pleasing, when you go to get your machine out in the morning, to find that one or more of the wheels have been resting overnight right on one of these greasy patches. The annoyance could easily be obviated if the owner of the garage made it the duty of one of the boys about the place to see that the floor is kept free of oil and grease.—Yours truly,

SEASIDE TOURIST.

### MATERIAL FOR VALVE GRINDING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to Mr. Williams's inquiries for the best method for valve grinding, I can assure him that he cannot do better than to carry out the following advice, viz.:—In the first place get a drill brace with a screwdriver to fit same, then mix some medium emery powder with thin lubricating oil, and place a thin layer on valve, then grind the valve in thoroughly by repeating the layers of emery on valve, taking great care to lift the valve from its seating after every few revolutions made by the screwdriver, so as to prevent the powder from scoring the seatings. After grinding the valves in thoroughly with medium emery powder repeat the same operation with much finer emery powder or pumice powder; by doing this he will obtain good results. He must take great care to wash out all parts of valves thoroughly before replacing them in their proper position, so as to make sure that there will be no dirt or grit under the seatings; also notice must be taken to see that all the valve stems have at least  $\frac{1}{16}$  inch clearance between the tappets, to allow the valves to bed down in their seating.—Yours truly,

H. HUDDLESTON.

### GRINDING IN VALVES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am a constant reader of the *M.C.J.*, and in last week's issue I saw a letter on grinding in valves and signed G. Mulliner. This gentleman asks readers to give him their opinions on the point. In reply to this, I wish to state that in my opinion emery powder is far too coarse to leave a valve at, so I must say I have got the best results in this manner. If valve is very bad, start grinding with emery and finish with knife powder and paraffin; this gives a far better result, as I have experienced, in the grinding of valves. I may mention that I give one or two grinds of the valve. and then lift it off the seat, and so on.—Yours truly,

H. CURTIS.

### FROTHING OF ACCUMULATORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—On opening the small wooden box containing my 60-amp. hour accumulator the other day, I was surprised to find the top of the cellulose case all covered with froth. I should be greatly obliged if you or any reader of the *M.C.J.* could tell me the cause of the same, whether it is detrimental to the battery, and also how best to prevent its recurrence.—Yours truly,

J. C. PERRY.

[A reply to the query raised by our correspondent, which is of general interest, will be found elsewhere in the present issue under the heading of "Current Topics."]

### OXYGEN AND PETROL CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have noticed several suggestions recently as to oxygen being employed in place of air in forming the explosive mixture with motor spirit for use in petrol engines, but can obtain no definite information on the subject. Perhaps some of your more expert readers can throw some light on the matter.—Yours truly,

R. J. ELLIOTT.

### THE ELECTRICAL MOTOR-BUS.

TO THE EDITOR OF *The Motor-Car Journal*.

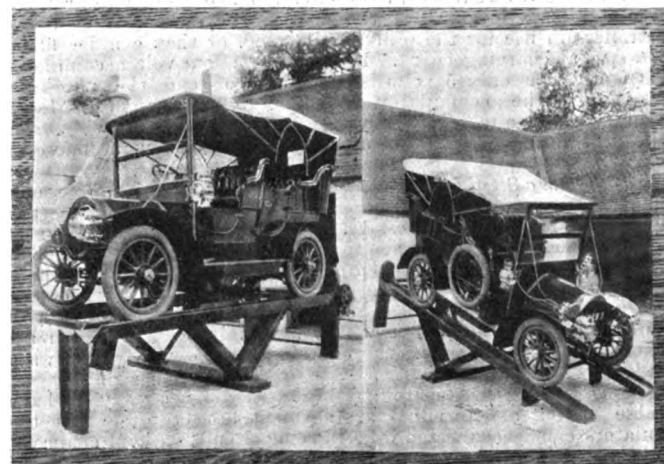
SIR,—It would be interesting to know what has become of the electrical motor-bus about which so much was heard three or four months ago. According to the daily papers at the time the ideal public service vehicle had at last arrived, and that within a short time forty of the vehicles would be on the road in London. Where are they? —Yours truly,

WESTMINSTER.

### A SUBSTITUTE FOR THE INSPECTION PIT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Being a reader of the *M.C.J.*, I noticed in your issue of May 19th last an article entitled "A Substitute for the Inspection Pit." My employer was getting a new 10-12-h.p. car at the time, and, as it was not convenient to have the flooring torn up to make a pit, I put the suggestion before him and got his sanction to have a platform made by a local joiner, with a geared drum added, by which to pull the car up, as I thought this would be better than having to run the car up by its own power. I have also small wheels attached to the stationary legs so that the



platform can be wheeled to wherever it is required. It has been in use for some time now and it has turned out a great success, as it can be placed where a good light is available to work by and no danger of explosions from accumulated gas. I may state that one man can pull the car on to the stand without trouble. I send you two photos of the platform with the car up, as I thought you might like to reproduce the same in the *M.C.J.*—Yours truly,

UTILITY.

### THE TOURIST TROPHY COURSE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We notice from your issue of the 25th ult., that the course for the Tourist Trophy Race in the Isle of Man this month has been altered. As far as we are concerned, we have had no official notification of this alteration, and we must emphatically protest against any change being made in the course at a time when all cars entered have been completed and on the road for some time. No indication has ever been given that any alteration in the course was contemplated, so that we, in common with other manufacturers, have naturally constructed and adjusted our cars with a view of getting the best results possible over last year's course. We have endeavoured to make the most of our experience last year, so consider it monstrous that any alteration should be made at this time, more especially in view of the fact that we are led to understand that the new course as now suggested is a somewhat more difficult one than that of last year, and may be expected to cause a higher petrol consumption.—Yours truly,

ARGYLL MOTORS, LTD.

THE "THUNDERER" WHISTLE.—A correspondent will be glad to learn the address of makers of the Thunderer whistle for motor-cars.

## HINTS ON THE CHARGING AND CARE OF ACCUMULATORS.

SOME useful hints in regard to the charging and care of accumulators are given in the catalogue recently issued by Messrs. Peto and Radford, Ltd., from which we take the following:—

An accumulator or storage battery has to be re-charged with an electric current from any source, such as a primary battery, a small dynamo, a set of large accumulators, or from the mains of the continuous current electric supply company. Accumulators can also be charged from an alternating supply, provided an apparatus called a "rectifier" is used in the circuit. Whichever method of charging is adopted, the pressure of the current must be suitably regulated, so that the correct quantity of current is passed through the cells of the accumulator. The method of arranging and regulating the current will depend upon which of the above methods of charging is adopted. We will, therefore, take them separately.

**Charging from Primary Batteries.**—In this case the primary battery will have to be arranged with a sufficient number of cells to give a greater pressure in volts than the battery to be charged. As an accumulator cell has a pressure of 2 volts, and no primary cell has a pressure above 1.9 volts, it is always necessary to have a greater number of primary cells than there are storage cells to be charged. For instance, in charging a 2-cell 4-volt accumulator, a 3-cell or 4-cell primary battery must be used, so that the effective working voltage on the terminals of the battery is at least 5 volts. It is best to allow  $2\frac{1}{2}$  volts for every accumulator cell to be charged, and regulate the current exactly, by using a small iron wire, or german silver, resistance coil and switch.

**Charging from a Small Dynamo.**—If the dynamo is one of small voltage (8 to 10 volts), it should be run until it gives 25 per cent. higher voltage than the accumulators to be charged, and the current can then be switched on to the cells. If the dynamo is of high voltage, say, 100 volts, as used in electric lighting in factories, &c., it will be necessary to use a resistance in the circuit, made up of two or three incandescent lamps in parallel; these lamps can either be pendants or electroliers in use for the ordinary lighting, or they can be fitted on to a special charging board. In charging a four-volt accumulator by this method, as only 5 volts is required to send the necessary current through the accumulator, it is absolutely necessary to absorb the remaining 95 volts, which the dynamo is capable of giving, and the cheapest form of resistance for doing this is a few incandescent lamps.

**Charging from a Set of Large Lighting Type Storage Batteries.**—We refer to the large sets of storage batteries used in connection with electric lighting plants in country houses, &c. All that is necessary is to connect up the accumulators to be charged to one more cell of the lighting battery than the number of cells to be charged, using a small resistance to regulate the current. For instance, in charging a 4-volt accumulator, connect up to three cells with a resistance; in charging an 8-volt accumulator, connect up to five cells. For higher voltages, increase the extra number of cells on the charging set, so that you always allow  $2\frac{1}{2}$  volts for each cell charged.

**Charging from Supply Companies' Mains.**—It is necessary to have a suitable switch and terminal arrangement fitted up, so that the accumulators can be connected in a lighting circuit, without chance of short circuit or shock from the wires. There are several methods of doing this, and it is necessary in the first instance to carefully mark the terminals, positive and negative, and to insert the necessary charging board in a circuit of sufficient lamps to give the required current. We recommend the advice of an electrician being taken on these points, or we shall be pleased to give full instructions to meet every individual case. The system, briefly, is arranged so that the current flowing through a lamp, or a few lamps, in the house circuit, will also flow through the accumulator, before it returns to the mains.

The separate compartments of all liquid accumulators are filled with a dilute solution of sulphuric acid (oil of vitriol). Great care, therefore, should always be taken to keep the accumulators upright, to remove any acid which may escape up on the top covers of the cells, and to immediately wash off acid which may be spilt on the brass terminals or other metal parts.

**Acid Solution.**—Purity is the most important matter in obtaining the necessary solution to fill the cells. The acid should consist of "best Ormston sulphuric acid" or "sulphuric acid for electrical purposes," which should be diluted with distilled water to a specific gravity of 1.180 degrees. This is approximately equal to a mixture of the following portions by measure: one part of sulphuric acid to five parts water. In mixing acid, heat is always generated, owing to the energy due to the chemical combination between the sulphuric acid and the water. Therefore, the sulphuric acid should be added to the water (not *vice versa*) and it should be added very slowly in a thin stream, and the mixture stirred with a glass rod. Allow it to cool before filling the cells.

**Filling the Cells.**—The cells of an accumulator should be filled with acid so that the level of the liquid is well over the top edges of the plates, but not up to the lead bars which connect the plates together. Allowance should be made for the fact that dry plates will absorb a certain amount of acid and reduce the level, shortly after they have been filled up. When charging always take the vents out of accumulators.

**Short Circuiting.**—Accumulators are injured if the terminals are connected together accidentally by any metal or other substance which

has a low resistance. This is termed "short circuiting" the accumulator, and causes an excessive current to flow across from one terminal to the other, owing to there being no resistance to the flow of the current to check it.

**Charging an Accumulator.**—It is most important to remember that an accumulator must always be charged in the right direction, otherwise the plates will be spoilt. To charge in the right direction, always join the terminal marked + (positive) to the positive wire of the charging circuit and the terminal marked - (negative) to the negative wire of the charging circuit.

**To Obtain the Best Results from an Accumulator:—**

See that the first charge is twice as long as an ordinary charge.

Have acid and water of absolute purity.

Never fill up with tap water, or water from an impure source.

Always charge as nearly as possible to the correct charging rate, within 15 per cent. either way.

Always charge in the right direction.

Always charge for a sufficient time to obtain the full capacity.

Always have a battery recharged as soon as possible after it has been completely discharged, and if it is inconvenient to charge it immediately, remove the acid whilst it is standing idle.

Keep the acid at the right strength and level.

Keep the tops of the cells scrupulously clean, and free from dust and moisture.

Give immediate attention to any appearance of corrosion on the terminals.

## THE VANDERBILT CUP RACE.

THE Vanderbilt Cup race, which is to be held on October 6th, will be run over a thirty mile circuit on Long Island, this having to be covered ten times. The course is slightly different to that followed last year: the changes made have been decided upon with a view to eliminating certain defects of last year's route, as well as to provide for the changed conditions found on some of the roads.

As the result of the alteration, the course now has eleven turns instead of seven, but against the increase in curves may be cited the reduction of level crossings to one as well as the elimination of a number of spots at which accidents occurred last year.

For the eliminating contest for the American team, which is to be held on the 22nd inst., there are fifteen entries, these comprising three 115-h.p. Thomas cars, three 110-h.p. Fraser-Millers, a 90-h.p. Locomobile (petrol), a 50-h.p. Haynes, a 120-h.p. Pope, a 110-h.p. Christie, a 60-h.p. Mathieson, an 80-h.p. Oldsmobile, an 80-h.p. Maxwell, a 50-h.p. Apperson, and an 85-h.p. B.L.M.

## NEW COMPANIES REGISTERED.

**EMPIRE SPRING WHEEL.**—£35,000. To adopt an agreement with Messrs. A. S. F. Robinson and W. D. Loveday, and to carry on the business of manufacturers of and dealers in spring wheels, &c. First directors, Messrs. F. W. Kerr, A. S. M. Robinson, W. D. Loveday, R. G. Pollock, W. W. Mattingley, G. C. R. Harvey, and D. J. McIntyre.

**PULLCAR MOTOR COMPANY.**—£30,000. First directors, Messrs. G. Dewhurst, S. Crompton, J. Worrall, and W. Baines. Kay Street Mill, Kay Street, Preston.

**AUTOMOBILE AGENCY AND AUCTIONS.**—£5,000. To adopt an agreement with Messrs. Moore and Spiers, and to buy, sell by auction, exhibit, and deal in motor-carriages, &c. St. Benet's Chambers, 1, Fenchurch Street, E.C.

**P. P. MOTOR COMPANY (BOURNEMOUTH).**—£1,000. First directors, C. Poosa (managing director) and P. H. Parsons.

**HIRING AND AGENCY.**—£5,000. To acquire, on the terms of an agreement with H. Cooney, the business of an automobile engineer and factor carried on by him as the Commercial Motor Company. The first directors are H. Cooney (chairman), and Dr. G. H. Hooper.

## MOTOR-BUS SMOKE.

MR. HOPKINS has heard at Lambeth a summons taken out by Mr. C. W. Tagg, town clerk of Camberwell, against the Star Omnibus Company, Ltd., of New Kent Road, for unlawfully using on the highway at Commercial Road, Peckham, a motor-bus which did not consume, so far as practicable, its own smoke, contrary to Section 30 of the Highway and Locomotives Amendment Act, 1878. The magistrate said he had been into the matter with great care, and had come to the conclusion that he must convict. He took it as absolutely proved that this bus was letting off a quantity of that smoke or visible vapour which they all knew so well by sight and by smell. So far as he could find there was no other way of proceeding against the motor-buses of London making this horrible smell and smoke except under this Act. It had been said that it was a great hardship upon the companies, but under the Act the companies could absolve themselves by bringing before the Court any servant through whose act or default the offence arose. This smell and smoke arose because silly workmen would overflow their machinery with oil, and they were the people who ought to pay the penalty. He ordered the defendant company to pay a fine of 40s. and £3 3s. costs. His worship expressed his willingness to state a case.

## CLUBS AND ASSOCIATIONS.

### KENT.

ON Saturday the meet of the Kent Automobile Club was held at Hawkhurst. Tea was arranged at the Queen's Hotel, and a large number of members and friends were present, including Col. Henderson, Mr. and Mrs. Austin, Mr. and Mrs. Maybury, Mr. and Mrs. Wyllie, Mr. Neate, Mr. Stace, Mr. Page, Mr. and Mrs. Baily, the Hon. Sec. and Mrs. Kenyon, Miss Beatrice Bartlett, and Miss Russell.

### HERTFORDSHIRE.

In the tropical heat this club brought to a successful issue the driving test for members on Saturday last. The spot chosen was the hill overlooking the Vale of Aylesbury, and is a gradual rise from the Tring road to the foot of Aston Clinton. There were three classes—cars,

ing was undertaken by the chairman of the sports committee, Mr. J. W. Whittall.

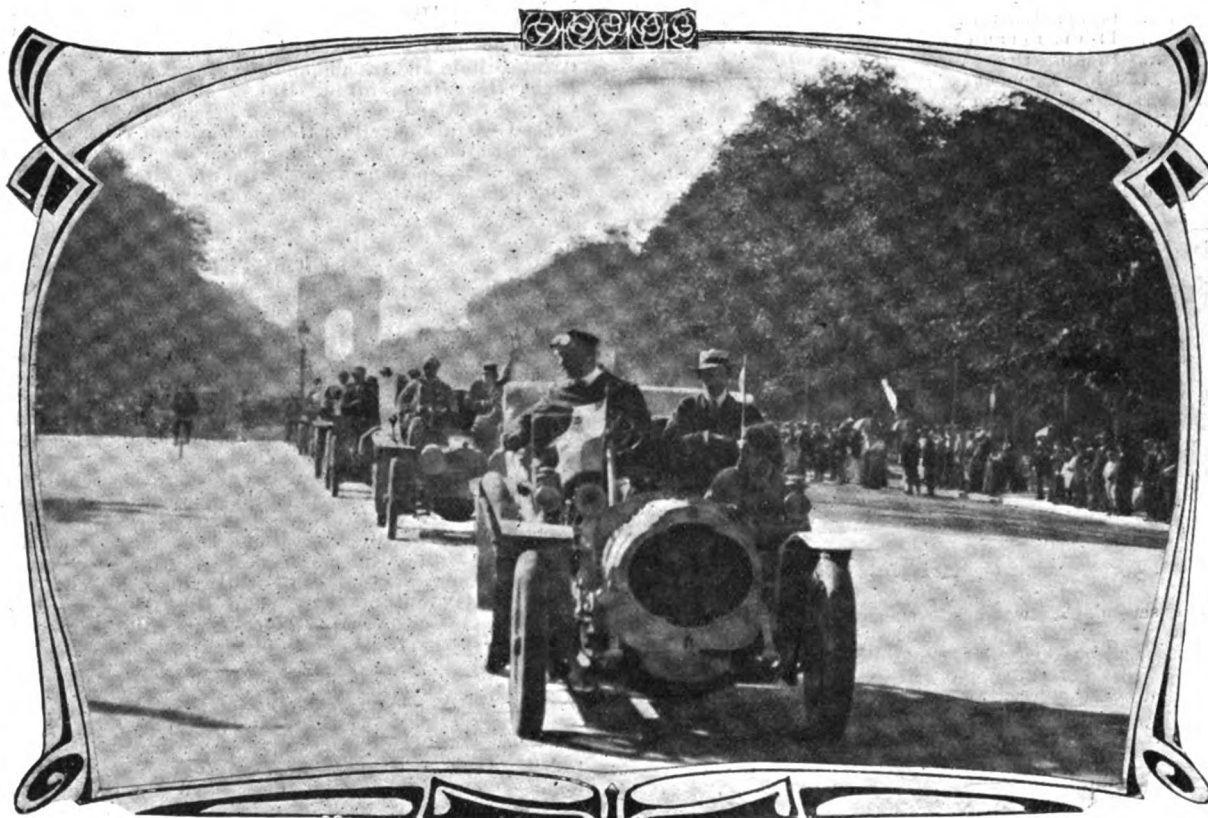
The next event is the members' fifty miles reliability run from Hatfield to Biggleswade and back, for cars, tri-cars and motor-cycles, on September 15th.

### NORTH-EAST LANCASHIRE.

A TOUCHING sight was witnessed at Preston on Saturday, when 200 crippled children were, thanks to the generosity of the North-east Lancashire Automobile Club, conveyed in up-to-date motor-cars to St. Anne's for a half-day's holiday. Fifty cars assembled at the public hall at noon, and the guests included crippled children from the Royal Infirmary in charge of nurses. The weather was gloriously fine, and refreshments were provided at St. Anne's, the procession being greeted with hearty cheering en route.

### IRISH.

THIS club held a very successful motor-car gymkhana on the 28th ult. It took place in the grounds of St. Andrew's College, Donnybrook, and as these grounds were close to the Horse Show, a number of those who were assisting at this festival were enabled also to take part in the



The Coupe du "Matin." The arrival of the competitors in Paris. (See page 585.)

tri-cars and motor-cycles. In the car class the judges arranged that should two or more competitors come out with equal points the prize (kindly presented by the chairman of the club, Mr. McWhirter), should be awarded to the car doing fastest time.

Mr. W. Frank Young's 10-h.p. Alldays secured this event, doing faster time than Mr. F. R. Hodson's 8-10-h.p. Humber, who tied the winner on points in facility and neatness of performance, but was slightly slower over the course. Mr. W. H. Colliver's 12-h.p. De Dion was third. The test consisted of stopping between two lines, reversing about 15 yards, stopping again between two lines, starting and proceeding to finish, when final stop was made between two tapes.

The Tri-car class was evenly contested, and it was necessary to send the Raleighette, Riley and Singer over the course again. Miss Seed, the winner, drove a Raleighette and made a remarkably fine performance, beating the Singer, admirably steered by Mr. B. Holland, by one point only. Mr. V. Riley, 9-h.p. Riley, was a close third, and would no doubt have done better but for ignition troubles just before starting.

In the Cycle class Mr. J. S. Harwood won with ease, and it was a revelation to see how slowly his 3-h.p. Triumph took the incline without stopping, and he is to be congratulated on a bit of very skilful driving. The test was a severe one, to make slowest time between two fixed points with a flying start, machine to keep an absolutely straight course.

The judging at the centre tests was performed by Messrs. E. and N. B. Kenealy, Mr. C. Wheeler taking final test and time. The start-

gymkhana. The latter was under the patronage of their Excellencies the Lord Lieutenant of Ireland and the Countess of Aberdeen, who drove to the grounds on their Daimler car, Lord Aberdeen being at the wheel. They were received by Sir Horace Plunkett, K.C., V.O., the president of the club, and Mr. Edward White, hon. sec.

The bending race was won by Mr. J. B. Dunlop, jun., who was very successful during the afternoon. The balloon competition was one of the most interesting events, and a tie resulted between three of the competitors, Mr. A. P. Coote, Mr. J. B. Dunlop, jun., and Dr. C. E. Boyce, who broke four out of a possible five balloons.

Bending Race.—J. B. Dunlop, jun., 10-12-h.p. Humber, 1; R. J. Mccredy, 10-h.p. Adams-Hewitt, 2. Fifteen competed.

Ball and Bucket Race.—Hum Bland, 10-h.p. Boyer, 1; J. B. Dunlop, jun., 10-12-h.p. Humber, 2. Twelve competed.

Balloon Competition.—After a dead heat between Mr. A. P. Coote (12-16-h.p. Humber) J. B. Dunlop, jun. (10-12-h.p. Humber), and Dr. C. E. Boyce (14-20-h.p. Renault) who each broke four balloons out of a possible five, the competition resulted as follows:—Dr. C. E. Boyce, 1; Mr. A. P. Coote, 2. Dr. Boyce broke three balloons, and Mr. A. P. Coote two, in the run off. Twenty-six competed.

Glass of Water Race.—H. Robinson, Clement-Talbot, time 23 4-5 sec., 7 oz., 1; E. M. Stirling, Richard-Brasier, time 30 sec., 6 1/2 oz., 2. Twenty-three competed.

Victoria Cross Competition.—S. Saunderson, 25-36-h.p. Richard-

Brasier, 1; 1 A. W. Inglis, 10-h.p. Adams-Hewitt, 2. Twenty competed.

Tortoise Race, 100 yards.—T. R. Scott, 10-h.p. Stanley steam car, 1; W. R. McTaggart, 12-14-h.p. Argyll, 2. Twenty competed.

Appearance Competition (for general appearance of car and occupants).—Miss Violet Hely, 24-h.p. Panhard, 1; J. B. Dunlop, jun., 10-12-h.p. Humber, 2; F. Conan, 16-20-h.p. Clement-Talbot, 3.

At the close of the competitions the prizes were distributed to the successful competitors by Mr. Hum Bland.

### WEST SURREY.

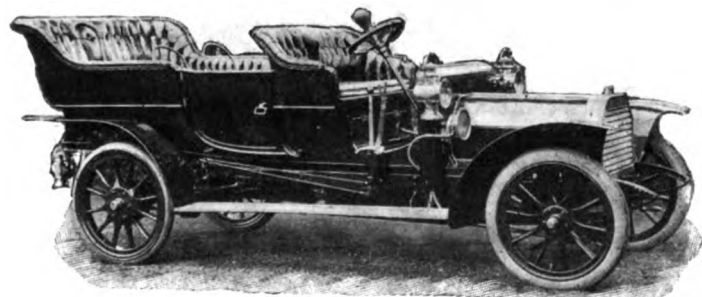
A HILL-CLIMB for members, under the Closed Competition Rules of the A.C.G.B.I., was held on Saturday at Blackdown, by kind permission of Mr. Phillipson Stow, the cars having to make two runs up the hill, and being handicapped by their actual times on the first run, subject to the penalty of disqualification if their second run—the actual race—was more than 10 per cent. better than their first.

Fifteen cars had entered, of which eleven arrived at the start, two, however, being disqualified for late arrival.

The times for the two runs were as follows:—

Owner.	Car.	m. s. 5ths	m. s. 5ths
F. Houghton ...	14-h.p. Renault...	5 0 1 ...	4 28 4
A. Fennings ...	12-14-h.p. Argyll ...	5 20 0 ...	5 0 0
R. W. Buttemer ...	14-h.p. Renault ...	5 32 0 ...	5 36 4
A. Leon ...	14-h.p. Renault ...	5 34 0 ...	4 48 0
L. Pullman ...	16-h.p. Aries ...	5 41 0 ...	6 3 0
J. W. Ponsford ...	8-h.p. Clement ...	6 9 2 ...	6 13 2
Col. Fairtlough ...	12-h.p. Darracq ...	7 -9 3 ...	7 3 2
Dr. Minchin ...	8-h.p. De Dion ...	7 41 3 ...	7 12 2
E. E. Pullman ...	15-h.p. Durkopp ...	7 54 2 ...	7 35 0

Messrs. Leon and Houghton were disqualified for exceeding the ten per cent. margin, and Dr. Minchin proved the winner of the handicap.



The 12-15-h.p. seven-seated Arrol-Johnston Car supplied to the Bristol Tramways and Carriage Company, Ltd.

Dr. Fenrings being second. No watches or speed indicators were permitted on the cars.

The judging was undertaken by Messrs. C. W. Crawley and J. W. Orde, while Messrs. Woollen and Straight acted as timekeepers. At the close of the proceedings the members and friends to the number of about sixty were most hospitably entertained by Mr. Stow, who was, however, unable himself to be present, to the general regret of the company.

### DUBLIN.

THE members of the Dublin centre of the Motor-cycle Union of Ireland entered on the second round of the Canning Cup competition on Saturday. The course was from Dublin to Carlow and back, a distance of one hundred miles. The following qualified for full marks as under:—

R. C. Price ...	2½-h.p. F.N., non-stop	... 100 Marks.
W. H. Guilfoyle ...	2½-h.p. Minerva, non-stop	... 100 "
E. Murphy ...	2½-h.p. F.N., non-stop	... 100 "
W. Jacques ...	3-h.p. Alcyon, non-stop	... 100 "
E. Farmer ...	3-h.p. Triumph, non-stop	... 100 "

C. E. Ellis, 3-h.p. Alcyon, did not finish. The second reliability test takes place to-day (Saturday).

### MOTOR YACHT CLUB.

THE last club handicap of the season took place on Saturday. There were twelve entries, of whom ten crossed the starting line. The handicapping was based on the speeds and former performances of the boats, and Captain E. T. Dixon again worked out the starting times. By this scheme, the boats—whether large or small, high-powered or low, cruisers or racers—should all start at short intervals, and should, if the handicapping were perfect, finish in one straight line. Unfortunately there are many factors that influence the steady running of a motor-boat, and it is difficult to handicap them twice consecutively with the same result. It was so in this case. The course was the one usually adopted for club handicaps. The varying speeds of the boats as they passed one another and sometimes rounded the buoys two or three at a time, added

a kaleidoscopic effect to an extremely pretty picture. The party of members and guests on board the "Enchantress" must have felt satisfied with the lovely surroundings of their club. Results were as follows:—

Name.	Start. h. m. s.	Finish. h. m. s.	Result.
Penguin ...	3 22 0	4 31 5	Third.
Commander ...	3 23 45	4 46 23	
Phoebe ...	3 30 0	4 25 45	First.
Sea Urchin ...	3 30 0	4 42 25	
Hebe ...	3 32 30	4 40 30	
Chrys ...	3 33 0	4 41 5	
Communicator ...	3 34 48	4 44 20	
Tramp ...	3 38 0	4 27 20	Second.
Squirt ...	3 40 0	4 32 5	Fourth.
Ki Wi ...	3 40 0	4 34 15	
Javelin } Absentees.			
Swiftsure }			

### SCOTTISH.

THE general meeting of members was held in Glasgow on Thursday of last week. Mr. Henry M. Napier, Chairman of the General Council, presided. A report by the General Council, which showed the membership to be 649 and the finances to be in a healthy condition, was submitted by the Chairman and unanimously adopted. The details of the agreements just concluded with the Automobile Club of Great Britain and Ireland and the Motor Union were approved. The Right Honourable Sir J. H. A. Macdonald, K.C.B., Lord Justice Clerk of Scotland, was re-elected President of the Club. The proposal of the General Council for the unification of the Club and its administration through one governing body and one secretarial department instead of by sections as hitherto, was submitted, and the necessary amendments to the constitution and rules consequent thereon were agreed to.

### LEICESTERSHIRE.

ON Saturday, the 15th inst., the Leicestershire Automobile Club will hold a hill climbing competition at Kettleby Hill, with Colonel L. Powell, J.P., and Mr. E. G. Mawbey as judges. It will be open to members of the seven midland clubs, and the entries must be made on forms obtained from the secretary of the Leicestershire Automobile Club, Mr. Alan McAlpin, Cank Street, Leicester, who will receive them up to noon on Monday, September 10th. Kettleby Hill is on the main road from Nottingham to Melton Mowbray, and the starting point is just beyond the 14th milestone from Nottingham, and is 110 miles from London. Melton Mowbray is four miles from the hill. The length of the course is one kilometre, and the difference in altitude 265'42 ft.

THE King of Spain has become an honorary member of the Aero Club of the United Kingdom.

THE Manchester Motor Club is having a hill-climbing competition for cars to-day (Saturday) up Snake Hill, Glossop.

A SPECIAL meet of the Lincolnshire Automobile Club has been arranged for at Woodland Spa on Wednesday next, the 12th inst.

### ROAD REPORTS.

WITHAM.—The Surveyor to the Witham District Council has reported that he had obtained about four tons of calcium chloride, and had laid down about two tons on the length of road between the Roman Catholic Church and the Bridge School, a distance of about six furlongs. The result had been satisfactory so far, and was much appreciated by the townspeople, but he did not think in that district it came up to what was claimed for it, namely, that it would only want putting down four times a year. He found it necessary to water the road once a day, or at one-third of the usual cost of watering, but against this there was the extra cost of the calcium chloride.

"DUSTOID" AT COLWYN BAY.—Mr. W. Jones, the surveyor to the Colwyn Bay District Council, has been experimenting with "Dustoid," which is made at the works of Messrs. Kneeshaw Lupton and Co., Llandudlas. A length of the main road in front of the offices was selected, and the first portion taken in hand extended from Coed Pella Road to Queen's Drive. The road was first thoroughly swept and the dust all picked up; the composition, costing 45s. a ton, was then heated in a boiler and applied on the road hot and well brushed in, and after allowing it to stand for a short time so as to secure its soaking into the metal, fine limestone grit was sprinkled over the surface to prevent the composition sticking to the wheels of vehicles, &c., passing over the same. After this length had been finished the process was continued up to the North and South Wales Bank, but instead of using grit Mr. Jones used limestone dust to dry up the surface. This experiment did not improve the process, and fine grit is the best medium to use for drying the surface. The shopkeepers along this length of the road speak favourably of the benefit derived. The cost of this work has been as follows:—Wages £4 6s. 7d., cartage £1 1s., dustoid £5, grit and dust £3 12s. 4d.: total £13 19s. 11d. The extent of road surface treated here is 2,250 square yards, which works out as nearly as possible at 1½d. per square yard. The length from Lawson Road to Meirion Gardens



was then treated in like manner, but limestone grit was used instead of dust. The extent of surface here was nearly 1,000 square yards, and the cost again worked out at about 1½d. per square yard. It is, in the opinion of the surveyor, a perfect remedy for the dust nuisance, and if the main road throughout was treated with this material it would prove a great saving even in the cost of scavenging and watering, without counting anything for the absence of dust, the deadening of noise of the traffic, the preserving of the road surface, and the absence of mud in wet weather.

LYMINITE is the latest dust palliative. It has been introduced by Mr. Carpenter, who is with Mr. R. Barclay, of West Hamble, and consists of nitrate of soda, sodium chloride, and lime, the latter being present in the largest quantity. The new preparation is being tested on a piece of the London-Dorking road near the Burford Bridge Hotel, and the experience of motorists who travel over the prepared stretch of 100 yards should be useful.

WINCHESTER.—Col. H. Stratton Bates, J.P., of Alresford, has confirmed the view of the local authorities of Winchester as to the unsuitability of Worthy Lane for motor-car traffic. The Corporation is seeking powers to close it—action which the gallant colonel endorses on account of its unworthy narrowness.

### THE WINNER OF THE GRAND PRIX RACE.

Szisz!  
No auto swift as his is!  
It whizzes,  
And fizzes,  
And, eye outrunning, dizzies.  
Szisz!  
In the "papes" his phiz is,  
He knows what his biz is!  
Boom, ah—Szisz!—*N. Y. Sun.*

### PUBLIC MOTOR SERVICES.

*We shall be pleased to receive the published time tables, list of fares, etc., of Public Motor Services for notice in this column.*

THE motor-omnibus, which for the past twelve months has been running between Haywards Heath, Lindfield, and Cuckfield, has suspended its public services between the towns mentioned. The company has found that while the summer traffic has been remunerative, the patronage of the bus in the winter months has not warranted the keeping up of the winter service. The bus, however, has not stopped running. It is much sought after for private excursions, and it is anticipated that private work and special trips when public events occur will prove financially better than maintaining a daily service on routes with a public not fully appreciating the facilities offered.

SIR JOHN POUND, presiding at the meeting of the London General Omnibus Company, said there was a reduction of £25,000 in the receipts. Owing to motors being undelivered they had seventeen fewer omnibuses and motors running, but they had carried 108,341,000 passengers, or an increase of 507 per vehicle. There would have been little difference but for the average fare being one twentieth of a penny less, which accounted for a reduction in receipts of over £23,000. Passengers for short distances preferred horse omnibuses, and long-distance passengers took the motors, consequently they had had most of the short riders. The expenses showed a reduction of £1,403. The extra costs on the road were in fuel and lubricants £4,738, wages £1,100, and excise licences £187. The last item was an exorbitant tax on motor-omnibuses, being five times as much as on horse omnibuses. Reduction in yard expenses was occasioned by the decreased number of horsekeepers, owing to the smaller number of horses. And for the same reason the cost of provender, bedding, and shoeing was reduced by about £2,500. The value of motors had been written down on the basis that the chassis and mechanical parts would last little over three years. On June 30th they possessed ninety-two motor vehicles, and now they had 135, and contracts for several hundred more. They were paying all attention to complaints about noise, which would no doubt be remedied. The solution of such problems took time, and it would be matter for regret if the motor-omnibus industry was hampered and restrictions placed on what would be the most popular, speedy, and efficient means of transport in the Metropolis.

At the statutory meeting of the London Electrobuses Company (Ltd.), the chairman (Mr. J. T. Musgrave) stated that satisfactory progress was being made towards placing a line of electric buses on the streets. Notwithstanding the large number of withdrawals, there still remained on the books of the company nearly 50,000 shares, in respect of which only £170 was owing for calls made. Thirty vehicles were on order, ten of which were being pushed forward rapidly. Satisfactory contracts had been entered into for tyres and accumulators, and they already had a suitable garage.

At a meeting of the Edmonton District Council, a petition said to have been signed by 12,000 of the inhabitants was presented, urging the Council to purchase twelve or sixteen motor-omnibuses in order to afford riding facilities between Edmonton and the districts of Waltham Cross, Chingford, and Wood Green. It was unanimously decided not to entertain the idea, the arguments used against the suggestion being that this was a matter for private enterprise, and that the running of motor-

omnibuses in the district was not desirable, owing to the smell and dust they create.

ON Monday there was a discussion at the Eastbourne Town Council with regard to tramcars v. motor-buses. One speaker declared that there had been a loss of £700 on the motor-buses, but a resolution asking for a town's meeting to consider the provision of electric tramcars was lost by nineteen votes to six.

### CASES AGAINST MOTORISTS.

AT Kingston, Henry Moon, a chauffeur, of York Street, London, W., was summoned for driving a motor-car at a greater speed than twenty miles an hour, at Walton, on August 4th. Police-constables who timed the car gave the speed as thirty miles an hour. Defendant called his employer, Mr. Henry Edward Strakosch, who said he was the owner of the car, and at no time did it go at more than twenty miles an hour. Superintendent Marks (Surrey Constabulary).—Have you ever been convicted of going faster? Witness.—I may have been. Count Gustav Lizzo Noris, Austro-Hungarian Vice-Consul in England, who was also in the car, gave similar evidence as to speed, but the chairman said the Bench saw no reason to doubt the evidence of the police, and a fine of £2 and 17s. 6d. costs would be imposed.

A SEQUEL to a charge of dangerous driving preferred against Frederick Leonard Grey, King's Heath House, King's Heath, at the Birmingham Police Court, on July 6th, has been heard since, when he



An Early Morning Spin in Fairmount Park, Philadelphia.

was charged with attempting to bribe Police-constable Allen whilst in the execution of his duty. Defendant reserved his defence, and was committed to the Quarter Sessions on bail in his own recognisances.

BEFORE Mr. Marsham, at Bow Street Police Court, Frederick Charles Jackson was summoned for driving an unregistered motor-car, and also for not having a distinguishing number affixed to the manufacturers' identification plate; and Wm. Finch, engineer, to the Associated Omnibus Company, was summoned for aiding and abetting him. Both the defendants pleaded guilty. A representative of Messrs. Wopner, who prosecuted for the Commissioner of Police, explained that on the morning of July 30th Jackson was seen driving a motor-lorry in Russell Square. It had on it the letters A. G. O., which was the manufacturers' identification plate assigned to the Associated Omnibus Company, but there were no numbers as there should have been. It was afterwards ascertained that the lorry had not been registered, and when Mr. Finch was seen on the subject he said "I really know very little about it. It is news to me that we could not use the lorry." The defendant Finch now stated that he was under the impression that the letters A. G. O. were sufficient. The magistrate, remarking that the defendant appeared to have acted in ignorance, ordered Finch to pay fines and costs amounting to £6 6s., while Jackson was fined 10s. and 4s. costs.

AT the Lexden and Winstree (Essex) Petty Sessions on Saturday John Wingrove Lauri was summoned for not stopping his motor-car when signalled to do so, and also for driving dangerously. Dr. C. J.

Worts, of Fordham, said when the car approached his trap he put out his hand as a warning to defendant, who, however, kept on, with the result that there was a collision, and witness was knocked into a ditch and severely injured. Defendant pleaded that something went wrong with the back brake. He was fined £5 and costs for not stopping, and the second charge was dismissed.

FRANCIS SUTCLIFFE has been fined 40s. and costs for recklessly driving a motor-car at Filey. Lord and Lady Auckland were the witnesses for the prosecution.

A BATCH of motor-car cases was heard at the Shoreham Petty Sessions on Monday. William Crier pleaded not guilty to a summons for not stopping his motor-car at the request of P.C. Brett at Southwick. P.C. Brett stated that he signalled to the driver to stop, while forty or fifty yards away, thinking that he was travelling at an excessive speed, but defendant took no notice, and witness had to step out of his way. For the defence Mr. Gates said his client neither saw nor heard the signal to stop. On the other hand, his wife, who was at the back, saw the signal, but she did not tell her husband until he got home to Bungalow Town. Defendant was fined £1 16s. costs, and £1, expenses of four witnesses. Cases against John Francis Hallick, Lambourn, Berkshire, for not producing a motor-driver's licence at the request of P.C. Knight, and also for not having the rear identification plate illuminated at Shoreham on August 2nd, and a summons against John Edward Rooney, Kilburn, for not having his rear plate illuminated at Southwick later in the same evening, were dismissed, as the constables concerned in the cases intimated that the defendants were not the men who were driving when they stopped them, and who gave the above names and addresses. Alexander Swan, Waldegrave Road, Brighton, denied exceeding the speed limit at Shoreham, on the evening of August 26th, and Mr. J. K. Nye (Brighton) defended him. P.C. Marsh put defendant's speed at about 26½ miles an hour. Swan, he said, remarked, "Your watch is all wrong," and, pointing to a speedometer on his car, added, "I've got this." It was not a "registering" but an "indicating" speedometer. P.C.'s Weller and Rider gave evidence, and Mr. W. Long, watchmaker, of 57, North Street, Portslade, deposed to testing the stop-watch and finding it correct. The Bench imposed a penalty of £1 10s., 13s. costs, and 5s. watchmaker's fee. A point in the favour of the defendant, the Chairman intimated, was that he carried a speedometer. If all drivers would do this it would tend to prevent excessive speed. Some day, he hoped, they would be able to get not only a speedometer which indicated, but one which registered.

### MOTOR 'BUS v. TRAM CAR.

At the Bristol Police Court, a summons for recklessly and improperly driving a motor-'bus in White Ladies Road has been heard against Charles Coles, a motor-'bus driver in the employ of the Bristol Tramways Company. Mr. Wansbrough, for the defence, said there were two summonses against the defendant, the first for driving the car in an improper manner, which in this case meant being on the wrong side of the road, and a second summons, under the Motor Car Act, for driving the car at an excessive speed. Dealing with the first summons, he supposed the magistrates were aware there was a rule of the road that when a vehicle was overtaken, that vehicle should be passed upon the right. Under the Act of Parliament, when a motor-'bus was passing a tramcar proceeding in the same direction, the 'bus should be kept to the right side of the road. Clearly, in the present case, even if there had been no such rule, the driver had done perfectly right, because people were getting on to the tramcar, which had stopped, and to have taken the car on the left side of the road would have placed those people in peril. In such a case the driver did unquestionably right in drawing on to the right side of the road. Now, it was suggested that the driver in passing the car should have immediately crossed back on to his proper side, and the fact that he did not do so formed the charge against him. The police officer had further suggested that the tramcar—in which there were passengers, and which had stopped at Apsley Road, and was going to stop at Ashgrove Road—was actually racing with the motor-'bus. He was standing some 270 yards away, and yet held that between these roads the two vehicles were racing. He (Mr. Wansbrough) maintained that to be quite untrue. The tramcar was proceeding at a normal pace, and the 'bus was travelling at the same speed behind it. They therefore began with the fact that both vehicles were travelling at an ordinary normal rate of speed. There was absolutely no reason that the 'bus should stop when the tramcar did, and it was the plain duty of the driver of the 'bus to draw out on to the right side of the road. If there had been any vehicular traffic in the way, of course he would have had to stop immediately, but the road was quite free from traffic. It was also a wet night, and, as they had heard from witnesses brought by the prosecution, there was a danger of a side-slip if the 'bus was taken back to its proper side after passing the car. It must also be remembered that that danger was added to considerably by the fact that a motor-'bus is a heavy vehicle, and it would have been taking a grave risk by turning suddenly.

Mr. Ford, in giving the magistrates' decision, said they would dismiss the charge of reckless driving, but they thought that, as regarded the improper driving, there was no occasion for the defendant going out from behind the car. He had no reason on earth for doing so, for he ought to have slowed down behind the tram.

Mr. Wansbrough broke in at this point, and reminded the Bench that

the law said a vehicle overtaking another "must pass on the right side," if it passed at all.

Mr. Ford said they thought that there was no necessity for pulling out at all as the driver had done, but asked the assistant magistrates' clerk (Mr. Braithwaite) how the law stood in the matter.

Mr. Braithwaite said that the law entitled a driver to pass another vehicle on overtaking it, providing that he went on the right hand side of it and proceeded with reasonable and proper precaution, returning to the left-hand side of the road as soon as possible. The question they had to decide was whether the defendant went round the car in a proper manner and returned to the proper side of the road as soon as possible and safe.

The magistrates, in view of this advice, altered their previous intention to fine defendant 10s. and costs, and also dismissed the second case.

### POLICE TRAPS.

GREEN STREET GREEN, on the Sevenoaks Road, has been the scene of a police trap of late.

THE painting of the word T R A P in some conspicuous positions on a certain Kentish road as a warning to motorists is reported to have led to so much multiplication of the word as to cause confusion to all who drive that way.

THERE is a dangerous piece of road between Totnes and Newton Abbot, five miles from Totnes, where the police patrol with watchful eyes for motorists.

THE trap at Alconbury Weston is again in full working order.

SHOREHAM and the roads round about has again come into prominence as a scene of police traps.

### MOTOR-CAR ACCIDENTS.

A MOTOR-CAR owned by Mr. Allen Spring, of London, knocked down and seriously injured a boy named James Murphy in Dublin.

A FIVE-YEAR-OLD girl named Wilson was killed in Sheffield by a motor-car. At the inquest yesterday the driver swore that he was not travelling more than five miles an hour. Medical evidence showed that both the child's legs were broken and her head injured. A verdict of "Accidental death" was returned, and the driver was exonerated from blame.

As Dr. and Mrs. Donellan were motoring into Battle their car collided with an automobile owned by Mr. Dengate. Mrs. Donellan was thrown out, sustaining a broken arm and slight concussion of the brain. Mr. Dengate's car was badly smashed. Mrs. Donellan was conveyed by the Dean of Battle, who was passing in his carriage, to Battle, where her injuries were attended to. This made the fifth motor accident in the neighbourhood last week.

ALIGHTING from a tramcar in Dublin last week an actor named Harry Eversleigh was knocked down by a motor-car and killed instantly. He was a member of Mr. Seymour Hicks's "Catch of the Season" company, at present performing in the Theatre Royal, Dublin. The car was occupied by Mrs. Brooks, a relative of Earl Fitzwilliam.

NOAH HALL, the chauffeur who was driving the motor-car which fatally injured Mr. Harry Eversleigh, of Mr. Seymour Hicks's company, has been returned for trial at Dublin.

At the adjourned inquest on the 30th ult. at Leeds in the case of John Thomas Ring, who was killed in a motor-car accident, when five other persons were injured, expert and other evidence was called. The witnesses agreed that the car at the time of the accident was going at a great speed. The inquiry was further adjourned for a week, when the evidence of one of the injured persons in the infirmary is to be taken.

IN Lea Bridge Road, Leyton, William Goodear, a schoolboy, was knocked down and killed by a motor-car. He was crossing the road and had evaded a motor-omnibus, but was caught by a motor-car passing at the same time.

### TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

# THE Motor-Car Journal.

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## COMMENTS.



**M**R. HALDANE'S scheme of Army Reform includes further developments in connection with mechanical transport, which commend themselves to a frugal War Minister on the score of economy as well as efficiency. Both at Chatham and Aldershot great things have lately been done in connection with the elimination of horse transport in certain departments,

and already the Army Service Corps has machines of transport worth about £150,000, including seventeen traction engines, ten steam motor lorries, eight lorries with oil fuel, and a motor ambulance. Mr. H. W. Nevinson calculates that as compared with the hire of horses to do the work of which these were capable £7,438 was saved to the country in the six months ending March 31st last. Attached to the motor vehicle depot is a field repair train, and all things tend in the direction of the abolition of horse transport from the Army. The officers in the Army Service Corps have now to go through a course of motor mechanics. In addition to this transport equipment the War Office has twenty-one motor-cars of its own, but, as the largest of these is only of 15-h.p., the favour with which the Generals regard the Army Motor Reserve is easily apparent.

### The Car and the Camera.

THE fact that many motorists carry cameras gives added interest to our Competition for photographs of scenes in which the car figures. The automobile has been responsible for a great accession to the ranks of the amateur

photographers, and has encouraged folks to tour in their own as well as other lands, thus adding to the opportunities for securing impressions worthy of retention. And the camera affords a ready and effective means of securing such reminiscences. In time the history of automobilism will owe much to photography, through the agency of which we are able to secure permanent records of its progress and advancement.

### Lights on Vehicles.

MUCH progress has been made during recent years in the direction of ensuring that vehicles using the public thoroughfares should be properly lighted. Still, according to a Parliamentary return just issued, there is anything but uniformity in the provisions adopted by local authorities. In April, 1900, the Home Office, on the principle that owners of vehicles should be made responsible for providing the lamps, and that drivers should be held responsible for keeping them lighted, issued a model form as a basis for local by-laws, which was further strengthened in 1902. These were sufficiently comprehensive, including both front and rear lights on ordinary vehicles and timber-laden drays. The return shows that 60 county authorities and 151 boroughs have adopted the model with only unimportant variations. In the case of forty-five county authorities and ninety-four boroughs

either old bye-laws still exist or new ones have been adopted with variations in substance from the model. A third table reveals that one county (Merionethshire) and eighty boroughs have not yet made any bye-laws on the subject. Strangely enough, London's bye-laws vary from the model in the important fact that there is no provision requiring wagons with projecting loads to show a red light to the rear. Middlesex, Surrey, Kent, and East and West Sussex appear among the county authorities who have adopted the model. The improvement in providing for the safety of the public roads during recent years is shown generally in the statement that when the last return was issued, in 1897, only twenty-nine county councils and twenty-one borough councils had any such bye-laws. At present some form of regulation is in force in all the counties except one, and in 245 out of a total of 325 boroughs.

### Motor-Car Imports and Exports.

THE trade in foreign-built cars in this country continues to show a steady increase. According to the returns now available no less than 614 cars, valued at £261,204, were imported during last month; parts were responsible for a further sum of £136,906, giving a combined total of £398,110, which compares with only £326,602 in August, 1905. As regards the imports during the first eight months of the current year, these have amounted to 4,413 cars, worth £1,823,087, and parts to the extent of £1,301,918, the aggregate of £3,125,005 contrasting with only £2,441,282 in the first eight months of last year, or an increase of roundly £683,000. Turning now to the exports of British motor-cars and parts, these, during August, amounted to £62,521, an increase of £18,353. For the first eight months of 1906 the shipments comprised 675 cars, valued at £240,420, and parts estimated at £180,340, the total of £420,760 representing an increase of £180,813.

### Children on the Roads.

OFTEN have we referred to the folly of allowing the public road to be used as a playground for children; but unfortunately, even in some country districts, there is little else where the youngsters may play without hindrance. Mrs. Carl Meyer, a lady with a keen enthusiasm for motoring, recognising that the children of Newport, in Essex, near which hamlet she lives, have no facilities for play except in the village street, has thrown open her park and invited them there. This is certainly a means of dealing with one of the phases of the motor-car movement, and should do much to banish public prejudice with regard to the automobile in the rural districts—provided the children will leave the favourite roadway for the secluded park.

### A September Review.

SOME characteristics of motorists are set forth in an article by "Cygnus," in the "Fortnightly Review," on "Motor Cars in the Present and Future." These virtues, though familiar enough to our readers, will apparently be regarded as new notions by many who motor not. It is confessed that when roads are clear and straight, and police and public equally out of sight, there is sometimes a tendency on the part of drivers to whirl along merrily, heedless of the legal limitation of speed.

But "at corners, or passing through villages or hamlets, on the other hand, their care is meticulous." One interesting statement made "only by way of parenthesis" refers to the development of the electric car, in which we are told that "signs of a possible metamorphosis in the near future are not entirely wanting." Should any great improvement in accumulators take place "the petrol-driven car will become as obsolete as the pack-horse." But no danger need be apprehended on that account, and even Edison himself seems to have recognised the value of other than electric cars for long tours apart from short trips in town.

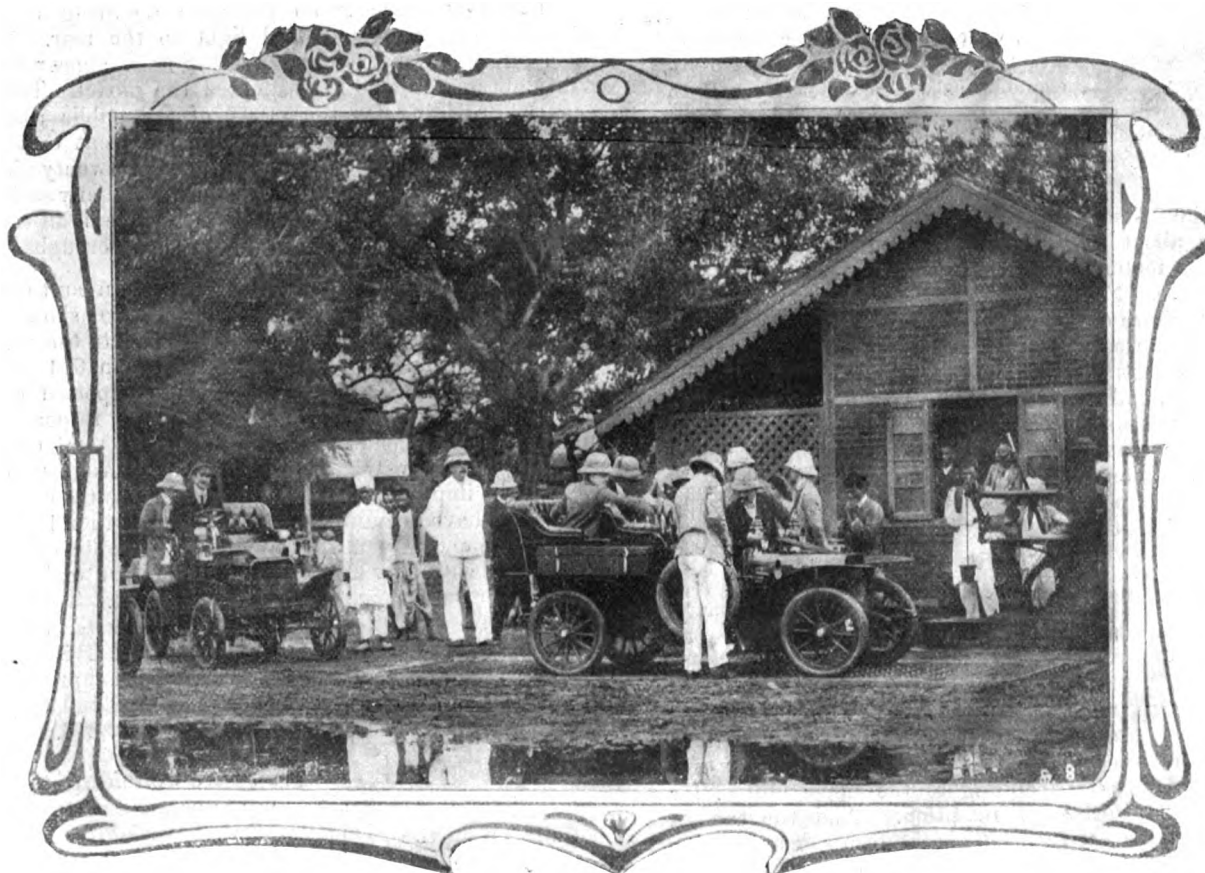
### The Poona Trial.

THE great Poona motor trials took place at the end of August with thirty competitors, many of whose performances were noteworthy. The event took place from Poona to Satora and return, a total distance of 145 miles. The trial included a seven miles hill climb over the Ghauts, for which the Nawab

taken in the subject, not only by inventors but also by the local authorities, whose co-operation should be sought.

### The Waning Season.

THIS is, practically, the last month of the automobile open air season of 1906, and although the weather has occasionally been "too warm for anything," motorists have had a run of fine days and delightful week-ends. Last Saturday the Auto-Cycle Club's competition at Birdlip Hill, the race meeting at Skegness, and the Scottish gathering at Peebles, illustrated how widely diffused is the interest in the organisation of automobilism. To-day (Saturday) the southern clubs—Essex, West Essex, West Surrey, Hertfordshire, North Herts, Kent and Kensington—are busily and socially engaged, while the reunion of motor-cyclists at Warwick should bring together a goodly company. Although the great meeting at Scarborough on the 22nd inst. will dwarf all other events into the minor category, motor-cyclists will find attractions in the annual race meeting at



Motor-Car Trials in India.—Weighing-in for the Aga Khan Competition.

of Sachin offered a trophy. This was won by the Maharajah of Scindia's 24-h.p. Wolseley, driven by Lieutenant Jenkins. The winner of the Ladies' Trophy drove a Wolseley, as did also Mrs. Cama, the only lady driver in the competition. She is the first of her sex to take part in such a trial in the Dependency, and her entry naturally attracted much notice throughout India. The chief prize in the competition was won by Lieutenant Rose on a 10-h.p. Renault, which gained 4,175 marks in the competition.

### The Distribution of Tar.

THE arrangements in connection with the competition for the best mechanical appliance for the distribution of tar on the roads, which the Motor Union, at their meeting at Bath, decided to hold, are not yet completed. They are, however, proceeding well, and we hope shortly to be able to publish the regulations governing the matter. Much interest is being

Canning Town; west country motorists in the Bristol and Gloucestershire A.C.'s picnic in Saverne Forest; and the inter-club meet of the local Wolverhampton and Lincolnshire clubs will draw many motorists to Leicester. And then, when the open air season is ended, there will be a busy winter of discussion and conference preparatory to the new legislation.

### The Proposed Taxation.

THE taxation of cars according to the proposals of the Royal Commission is a subject of importance to the trade as well as to the public, for the former will find the latter less inclined to commit themselves to the expense of cars. We have received the copy of a letter sent to a manufacturing firm, in which the writer says:—"I was on the point of starting to try your car when I opened a newspaper and read what is there stated as to the rumoured action of the Government in taxing cars £1 per h.p., with a minimum of £5 for the



lowest powered self-propelled vehicle. I must therefore postpone getting a new car until this matter is settled—indeed, if such a tax is imposed, I shall lock my car up and pay nothing until better times.” This question of taxation is hanging over the trade very unpleasantly, and the sooner the Government make known their intentions with regard to the Report of the Royal Commission the better will it be for both the trade and the public. There is a real danger that sufficient distinction may not be made as to the rates chargeable on small and large cars. The scale as at present graduated in the proposals of the Commission starts too high, and if adopted would undoubtedly prove a hardship on the man of moderate means, as well as upon those owners who possess several vehicles. Nothing must be perpetuated in the law which is calculated to, or has the effect of, restricting the natural development of an industry whose success means much for the national prosperity.

with regulating the routes, as at Brighton, and some with revising the fares, as at Southport; but, on the whole, a wise toleration has been the rule, and not even the Handcross accident caused licensing authorities to respond to the call for a panic which some of the London journals sought to create at the time.

#### Care Essential.

BUT, although the authorities have thus shown an appreciation of the newness of the situation brought about by the sudden advance of the hired motor-car, they are not likely to be ever-indulgent. As a matter of fact, we are able to warn those of our readers interested in the development of public motor services that careful note is being made in many places of the complaints and accidents—or incidents magnified into mishaps—associated with the services, with the view to



The Austrian Military Road Trains leaving Vienna for the Manœuvres.

[Allgemeine Automobil Zeitung.]

#### The Motor-Car at Holiday Resorts.

RIGHT round the coast and in every centre of tourist resort the motor vehicle has become a recognised means of public conveyance. Holiday makers have not been scared by the few accidents that have occurred, recognising that the risks of motor-cars are not greater than those of other forms of travel. They appreciate its speed, realising that quick travel really lengthens the holiday by permitting more places to be seen than was possible when the “one-hoss shay” or the double-horsed brake held a recognised monopoly of locomotion at the seaside. Hence the value of the automobile to the holiday-maker is as real and tangible as it is to the man hastening to business or home. With the exception of Southend and one or two other towns where local interests seemed likely to be dispossessed by the motor vehicle plying for hire, English governing authorities have taken a liberal view of the matter, and hampering restrictions have not been general. Most have been satisfied

proposing regulations of a more or less stringent character in future seasons. Because certain latitude has been given in 1906 it must not be supposed that this will always be the case. Upon the order of the running, the precautions taken in the public interest at the garages, and the general condition of the service, will depend the ease of renewal of licences, while mechanical matters will, of course, enter into the question of granting such permissions to ply.

#### Cost of Road Signals.

THE provision of motor-car road signals entails considerable expenditure on local authorities, and the experience of the County Council of Kent is probably true of all such authorities. For the year just closed that council expended £692 on direction posts and motor-car signals, two-thirds of which was spent in the purchase and erection of the latter. This is an entirely new charge on the Surveyor's department, and appli-

cations continue, he reports, to be made for additional signs, the average cost of which is 13s. 6d., besides maintenance. The number of vehicles registered in the county as motor-cars numbered 2,456 in the twelvemonth, an increase of 1,151 on the previous year, but a very large number of light cars, the property of residents in the county, are registered with the London County Council, the fees, of course, going with the registration. Still it is clear that the increased revenue of the county from motor-car taxation has provided not only compensation, but also a profit on such signs.

#### The Ryknield Motor-Bus.

On Tuesday last the Ryknield Motor Company, Ltd., gave a demonstration of the braking capacity of their new 40-h.p. motor-bus, both on the level and on hills. A large party left the Hotel Metropole, Northumberland Avenue, S.W., for a run to Richmond, and the ease of manipulation, the rapidity of picking up speeds, and the power of the brakes created a most favourable impression. After lunch the hill-climbing capabilities of the 'bus were fully demonstrated. On



Mr. Frank Hedges Butler, one of the competitors for the Gordon Bennett Balloon Race from Paris on the 30th inst. Mr. Butler—the founder of the Aero Club—has made eighty free balloon ascents in this country and in France, and has crossed the Channel on two occasions.

the ascent of Richmond Hill the vehicle was brought to a stand and re-started without difficulty, while the capacity of the brakes was shown during the descent of Petersham Hill. Afterwards the 'bus was successfully driven up the test hill in Richmond Park, where its appearance caused consternation amongst the keepers, and the journey back to town safely completed. The Ryknield 'bus is built throughout at the company's works at Burton-on-Trent, and in its design and construction special attention has been paid, not only to the brakes, but to reducing the noise and to the elimination of any noxious smoke. The latter object is attained by means of a positive lubricating system, by which the oil is pumped to the engine bearings without resorting to the "splash" method of lubrication. Attention may also be drawn to the Ryknield patent triangular underframe and spring drive, which keeps the driving pinions in strict alignment with the gear rings on the road wheels and saves the driving gear from all strains due to bad roads, so eliminating the noise caused by worn gears. Another feature deserving of notice is the emergency brake, arranged to be operated by the conductor. This takes the form of a screw-

down brake acting directly on the road wheels, and worked by a hand wheel on the rear platform.

#### Keep to the Kerb.

PERFECTION not yet having been obtained by the motor-buses of London, they sometimes give the impression of sulkiness even in the most crowded thoroughfares. Then the driver and conductor have a little cogitation, and ultimately it dawns upon the upper deck passengers that their craft has become becalmed—to adopt a mixed metaphor. The motor-bus remains stationary till the relief brigade arrives on the scene. What we complain of, and what some users of the road hurl expletives at, is the habit that prevails of allowing the vehicle to thus remain a few feet from the kerb, and so become a means of incommoding other traffic. Common sense, if not the police, should suggest that stranded vehicles should be pushed as close to the kerb as possible, so that they shall not constitute a nuisance to those that wish to make use of the roadway. The point may appear a small one; it, however, is one of those that contribute to the comfort and convenience of the public.

#### The Blowing of the Horn.

THE Surrey County Council's notice against the blowing of "horns and musical instruments," which has been extensively circulated throughout its area, has been regarded by some of our contemporaries as being directed against the horn on motor-cars. We believe the injunction was really directed against the discordant sounds emitted from the instruments carried by beanfeasters and others, and had no primal association with the automobile. At the same time there is need for a warning with regard to the use of the horn by motorists, who should regard it as only applicable in special circumstances, and not to be used on every occasion. In this connection the use of the horn by cyclists is to be deprecated, there being much in favour of the distinction by sound. Just as the bell has become the note of the cycle, so the horn might be allowed to become the monopoly of the motor-car.

### M.C.J. PRIZE COMPETITIONS.

#### FOR MOTORING EXPERIENCES.

THE proprietors of the *M.C.J.* offer three prizes—one of a guinea and two of half-a-guinea each—for the most humorous motoring experience, limited to 100 words, and to be written on a postcard. It must be concisely worded, and should be a record of something that has actually happened. The last day for receiving competitions is to-day (Saturday) September 15th. All entries must be sent to the *M.C.J.* Office, 27-33, Charing Cross Road, W.C., and the Editor's decision will be final. A selection of the unsuccessful experiences will be given in the same issue as that in which the awards are announced.

Postcards received by any post during September 15th will be eligible for the competition.

#### AUTOMOBILE PHOTOGRAPHS.

Three prizes are also offered—one of a guinea and two of half a guinea—for the best photograph in which a motor-car figures. In making the award regard will be paid to the public interest of the picture, as well as to its artistic merits; hence, photographs of cars outside historic buildings or monuments will be as welcome as those of vehicles in pleasant places.

Only original photographs may be submitted, the copyright of which belongs to the competitor. The winning photographs will be published in the *M.C.J.*, and the Editor reserves the right to reproduce, without payment, a selection of those not successful in the competition. The latest date for receiving photographs will be Saturday, the 29th inst. Envelopes must be marked "Competition" in the top left-hand corner.

## UNDER THE BRECON BEACONS AND THROUGH MID-WALES.

BY JOHN LL. WARDEN-PAGE.

(Concluded from page 580.)

**T**HERE are two routes from Rhayader to Aberystwyth. The first, now known as the old road, is a fearsome highway, covered with loose stones, grass grown, intersected by fords and full of abrupt ascents and descents. In the first four miles, for instance, it rises a thousand feet; drops five hundred in the next mile and a half—and so on. Wherefore it is not to be recommended to the motorist. The other road is, for a mountain road, very fair, and severe gradients are few. Still following the Wye, it leaves Rhayader by a pleasant tree-shaded road and then plunges abruptly into the mountains. Two miles from the town we sweep round a corner into a grand view. Hills bold and lofty drop steep on either hand. Down a mountain side to the left pours a long, narrow cataract. Turning another corner scenery even finer is encountered. The Wye

there is none other till we reach the foot of the descent on the other side. This is the Glan Severn Arms, which reminds us that we are approaching the source of the Severn as well as that of the Wye, both rivers rising in Plynlimmon. Near it is the last patch of timber. Beyond the inn the scenery resolves itself into huge green hills without so much as a bush to relieve their nakedness. A little beyond we cross the Wye, now a mere trickle among the boulders, for the last time, for we are within a mile or two of its fountain head, and the foothills of Plynlimmon close the valley in front, though the mountain itself is invisible. And now the summit of the pass comes into view—Steddfa Gurig. The name means St. Curig's seat. It must have been a very draughty one, for it lies in a narrow opening, 1,358 feet above the sea. From the handful of cottages that now occupy the saint's airy abode, the road at once begins to descend westward. It is a pity the surface is not better; there is too much loose slate about. Still, with the exception of the first bit, which is very stony, there is a grand run down. But care is required. Here and there the road, cut in the mountain side, curves sharply round



Photo by]

A General View of Aberystwyth.

[Tyde, Aberystwyth.

comes swiftly down a deep glen, narrow and wooded, shut in by rocky slopes. Up the side of this glen the road climbs steadily for three miles; afterwards, following a more switchback course, it passes through a widening valley to Llangurig.

Llangurig is a village in the wilds—the last for many miles. It is set in a sort of amphitheatre of bare, grassy mountains, and lies over nine hundred feet above the sea. There is hardly a tree to be seen. Indeed, for the next ten miles timber is conspicuous by its absence. It is, I think, the barest piece of country in Wales. Yet the village is pretty, with a pleasant inn, and boasts a church of some interest, restored at great cost by a local magnate, who himself designed the windows, which illustrate scenes in the ecclesiastical history of the Principality.

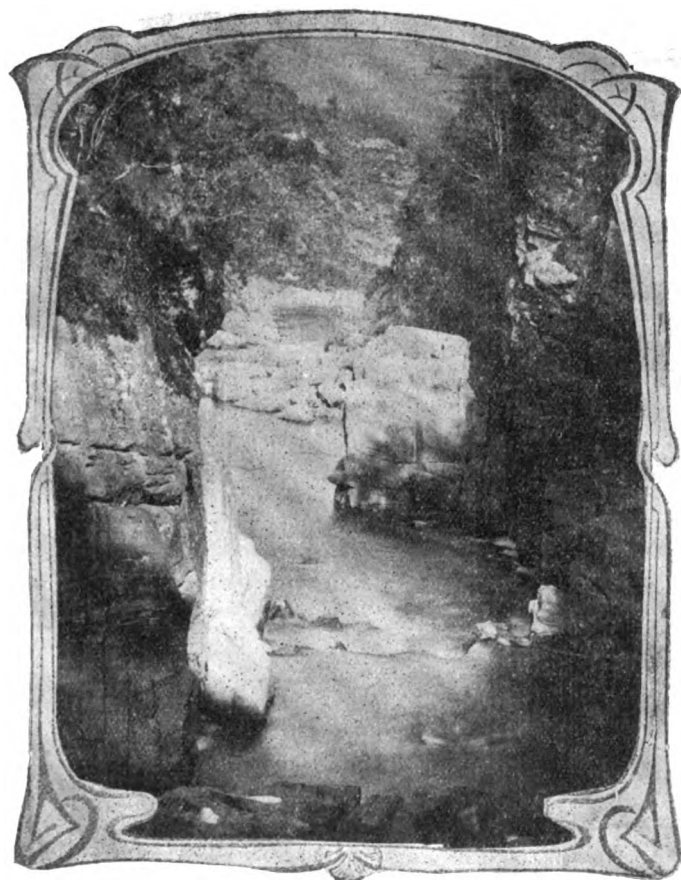
The road still rises. But it swings round the mountain spurs in quite easy gradients, and in the remaining eight miles to the summit of the pass only rises some four hundred feet. In places the surface is somewhat loose, especially after long drought, but on the whole it is kept very fairly. One lonely inn is passed, where, perhaps, it will be well to halt, for

the spurs. There are sheep, too, to be considered; and, as there are no fences, they may be encountered at any moment. Many a good descent have they spoilt for us in times past.

At the Dyffryn Castle Hotel, at the foot of this long descent, barrenness comes to an end and there are a few trees; likewise a mine or two, which do not improve the scenery. And now we keep the car well in hand, for, just below, the road forks, one branch going to Aberystwyth along the northern, the other following the southern side of the river Rheidol via the far-famed Devil's Bridge. We, of course, take the latter, though the selection involves an immediate plunge into a tributary stream under which the road dips. The water, however, is not very deep, and the stream may be avoided altogether by the motor-cyclist, for close by is a footbridge. From this ford the road, a little rough at first, ascends sharply—in short, there are several abrupt rises and falls to the Devil's Bridge, six miles away. At the top of the hill we find ourselves above the deep-wooded gorge of the Rheidol, and it will be well to stop to admire it, free from the cares of steering wheel and

brake, for the descent is one in two. A closer acquaintance with the beauties of the gorge may be made by leaving the car just off the roadside by Yspytty Cynfyn church. From the latter a footpath winds through a field or two to the edge of the glen, down which a zigzag drops through the woods to the Parson's Bridge, a plank suspension spanning the ravine high above the torrent. The surroundings are beautiful beyond words. In ancient days, when the "Parson" had to cross by the aid of a single plank, he must have had a gay time of it, and we do not wonder at George Borrow, of "Lavengro" fame, crawling over it on his hands and knees "on a wet day, with a tearing, angry, swollen torrent beneath." Or, rather, we marvel that he crossed it at all. It swings pretty well even now.

We resume our seats and drive onwards to the Devil's Bridge (a very different affair to the Parson's), keeping always a wary eye for abrupt descents. The bridge comes into view somewhat suddenly, for the road as we approach it enters a thick wood. As a matter of fact there are *three* bridges, built one on the top of the other, the last being quite new. There is nothing very



A Pretty View on the River Rheidol at Pont Erwyh.

Photo by]

[Gyde, Aberystwyth.

beautiful about either; it is the chasm which they span that makes the place so famous. There is a tremendously deep and narrow rift in the rocks, so narrow and so hung with trees that the bottom is scarcely visible. Up from the depths comes the murmur—or in winter the roar—of the Mynach rushing down to join the Rheidol over a series of precipices, one more than a hundred feet high. Mynach, by the way, is Welsh for monk, and there is a tradition that the first and lowest bridge was built by the brethren of Strata Florida Abbey because a young monk had lost his life in attempting to ford the torrent. Why, then, the Devil's Bridge? Well, we all know that when

The Devil was sick  
The Devil a monk would be,

and one writer has suggested that Satan built it when in an indifferent state of health! This is ingenious, to say the least.

The view from the hotel by the bridge I have heard described—and by no untravelled man either—as "the finest he had seen in Great Britain." We look right up the deep-wooded gorge of the Rheidol to rolling ranges of mountains, of which Plynlimmon is chief. About the centre of the picture the river falls headlong through a narrow cleft in the rocks. It is indeed a superb panorama.

The Devil's Bridge has of late years been placed in communication with Aberystwyth by means of a toy railway, the first we have seen for twenty-two miles. There are, I think, few districts in England or Wales where it is possible to travel this distance without meeting the iron horse. Nor do we see him again till we reach Aberystwyth. That salubrious watering place is but a dozen miles further west, the last ten being practically downhill. There is a bit of a climb, however, to begin with, the road rising nearly 400 feet in two miles and a half. At the highest point, just a thousand feet above sea level, we again have a grand view over the Rheidol valley, extending from the mountains to the widening *strath* through which the river winds seaward. From this summit there is a refreshing rush of three miles to begin with. But remember the sheep, especially at the top of the descent, which is moorland and fenceless. Take heed also of the last five miles, where there are gradients of 1 in 11 and 1 in 12. Soon the tall factory-chimney-like monument on Pen Dinas, wherewith the good people of Aberystwyth have seen fit to commemorate Wellington, comes into view, and the town itself appears lying across the valley mouth against a background of grey sea.

Aberystwyth (not to be guide-booky) is a pleasant enough watering place, with an old harbour, a new pier, a University College, and the remains of an ancient castle. The latter is, perhaps, the most interesting item. It stands on a rocky promontory washed on two sides by the sea and making a break in the long curve of the "front." The antiquaries differ as to whether it was or was not built by Gilbert Strongbow, Earl of Pembroke, in the reign of Henry the First. But they agree that Owen Glendwr the restless took it from the English; that the Sassenach got it back again; that Charles started a mint there, and that it fell before Cromwell. By one of Fate's little ironies it was a Welshman who took it—one Colonel Rice Powell. By him it was dismantled. And thus it came to pass that one of the race for whose subjection the castle had been built was the cause of its final overthrow.

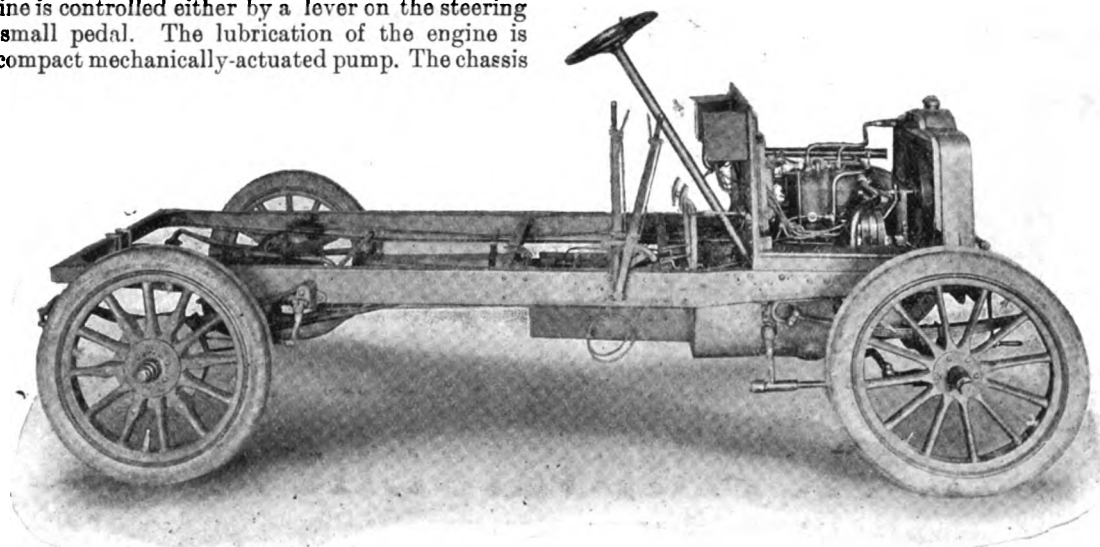
At Aberystwyth for awhile our tour comes to an end. I say for awhile; for some day, and ere long, we may take you on the return journey through North Wales. But, as Mr. Kipling says, this is another story.

AN improved form of steering gear for motor-cars has recently been devised by Messrs. Rose and Catt, of Bournemouth. The gear is so arranged that any back thrust due to the wheel is directly borne by fixed parts close to the latter, the steering spindle and jointed connections being protected and are used only for the purpose of steering. Thus any looseness which may exist in the joints of the connections does not affect the security with which the wheels are held in the desired direction. The steering spindle is provided at the lower end with a bevel or other gear wheel, through which a connecting shaft is rotated to transmit the steering movement to the wheels. The shaft is made in several parts, the main portion consisting of two pieces, one of square section, telescoping into the other to enable the length to be adjusted, and both parts are connected by universal joints to the two end portions, which are mounted in suitable bearings carried respectively by the chassis and by a bracket on the fixed wheel shaft. The universal joints and the adjustment permit of free relative movement between the wheel shaft and the chassis. The steering end of the connecting shaft acts upon the usual steering arms directly operating the wheels, through screw or worm segment or other convenient form of gearing, thus placing the irreversible gear at the end most distant from the steering spindle. The inventors have fitted the arrangement to an old pattern 7-h.p. Daimler for purposes of demonstration.



## THE "MAYFAIR" CARS

**I**N our last issue we briefly referred to the new cars which are being introduced into this country by the Mayfair Motor Company, Ltd., of Shaftesbury Avenue, London, W.C., to meet the demand for vehicles of reliable construction and moderate price. The accompanying illustration depicts the chassis of the "Mayfair" 10-h.p. car, which has a pressed steel frame narrowed in front to increase the lock of the steering wheels. The motive power is supplied by a twin-cylinder engine, 98 mm. bore by 130 mm. stroke. The valves are all mechanically actuated off a single cam shaft; the water circulation is maintained by a pump and framed-ribbed radiator with air-inducing fan. The ignition is by coil and accumulators, but provision is made for a second form—high-tension magneto—if desired. This was applied to the car we examined, the one ignition lever on the steering wheel controlling both systems. The carburettor is of the latest type, an extra air inlet being provided in conjunction with it. Three speeds forward and a reverse are controlled by one lever. From the engine the power is transmitted through a leather-faced cone clutch to the gear-box, and thence by cardan shaft and bevel gear to a well-supported live axle. The usual hand and foot-operated brakes are available, those working on drums connected with the rear road wheels being of the internal expanding type. The speed of the engine is controlled either by a lever on the steering wheel or by a small pedal. The lubrication of the engine is maintained by a compact mechanically-actuated pump. The chassis



Chassis of "Mayfair" 10-h.p. Car.

has a wheel base of 8 ft. 7 in. and a track of 4 ft. 2 in., while, with a view of rendering it easy riding, the usual longitudinal springs are supplemented by a transverse one at the rear. Any form of carriage body can, of course, be fitted.

The Mayfair Company are also supplying two sizes of four-cylinder cars—15-h.p. and 28-h.p.; the latter is made with either side chain drive or a live axle, while the 15-h.p. vehicle, on the other hand, is only built in the chainless form. The cylinders, which are cast in pairs, are 85 mm. bore by 110 mm. stroke in the case of the 15-h.p., and 110 mm. by 130 mm. for the 28-h.p.

The general details are similar to those of the 10-h.p. car above described, except that the lubrication is maintained by the pressure of the exhaust. A somewhat new departure on the 15-h.p. car is the provision of a pedal by means of which the ignition can be advanced independently of the hand control on the steering wheel. Reference may finally be made to the Mayfair 6-h.p. two-seater. The little car, which has a smart appearance, is fitted with a De Dion engine, water-cooled on the thermo-syphon system, no pump being employed. The transmission is by a cardan shaft and bevel gear on to a live axle. The speed of the motor is controlled by a small pedal actuating a throttle on the inlet; the latter is also connected up with the clutch pedal in such a way that as the clutch is withdrawn the speed of the engine is automatically cut down.

## CONTINENTAL NOTES.

## The Association Generale Automobile.

From the Association Generale Automobile of Paris we have received a copy of the road-book it has lately issued, in which particulars are given of recommended hotels, garages, and motor repairers in France. The Association is under the patronage of the Automobile Club of France, and is practically the French equivalent of the Motor Union of Great Britain and Ireland. Identification cards and badges are forwarded to members as soon as they are admitted, and they receive each month a copy of the official organ, containing communications from the A.C.F. and affiliated clubs, articles on technical and legal matters, descriptions of new inventions, touring notes, &c.

## An Italian Voiturette Race.

A voiturette race was held over a 247 kilometre course in Sicily on the 6th inst. The contest was restricted to cars of not more than 10-h.p. There were thirteen competitors, the winner being the Chevalier V. Florio, who, on an 8-10-h.p. De Dion, covered the distance in 7 h. 25 min. 12 sec.

## A Voiturette Competition.

The "Auto" of Paris is organising a trial of voiturettes to take place from the 5th to the 12th November next. The

vehicles will be divided into two classes—single-cylinder cars of a maximum bore of 106 mm. and double-cylinder ditto 90 mm. bore. The trial will comprise six daily runs of about 200 kilometres, and a final test of 250 kilometres for those competitors still left in the contest. Each maker will only be allowed to enter three cars, and a prize for regularity will be offered to the best team of two vehicles.

## The Mount Ventoux Hill Climbing Competition.

The Mount Ventoux hill climb, organised by the Automobile Club Vaclusien, is being held to-day (Saturday) and to-morrow (Sunday), the tourists competing on the first day and the racers on the second. The principal entries in a speed division are Rougier on a De Dietrich, A. Clement on a Clement-Bayard, and Hanriot on a Darracq. In the tourist section there are about twenty-five competitors.

## The Ardennes-Motor Bicycle Race.

A motor-bicycle race for the championship of Belgium was held on the Ardennes circuit on Sunday last, under the auspices of the Belgian Automobile Club. The competitors were divided into racers and tourists, the former having to make three and the latter two rounds of a 75 kilometre circuit, the route being from Neufchateau to Florenville and back. There were many turns in the course, but there were also many stretches where high

speeds were attainable. Twelve competitors started in the racing class, and of these nine finished. Giuppone on a Griffon machine proved the winner, he covering the full distance of 225 kilometres in 2 hrs. 55 min. 45 sec., or an average of about 49 miles per hour. Cissac was second, and Demeester third, both riding Griffon machines. In the tourist section, Meura on a Sarolea made the best time (2 hrs. 9 min. 16 sec.) for the two rounds.

#### Public Services in Germany.

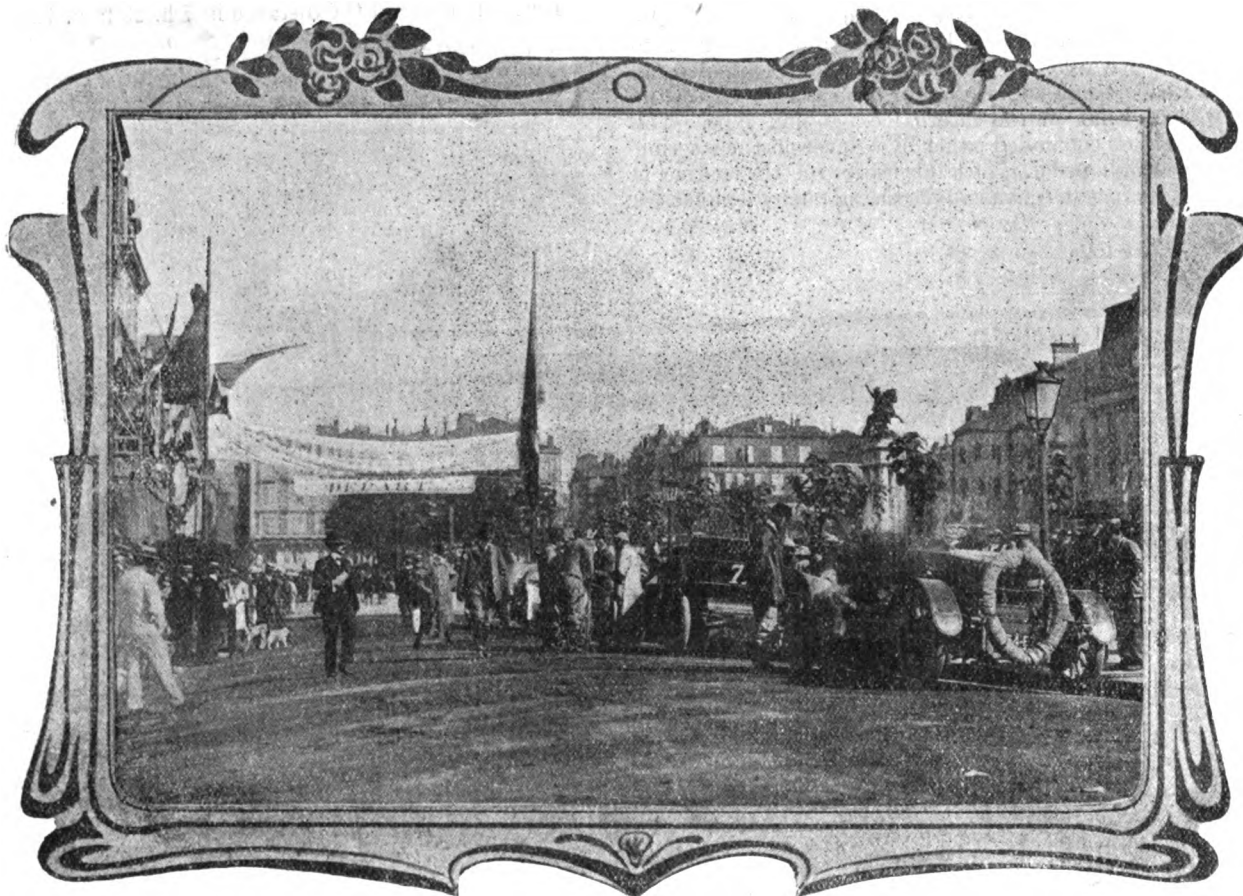
The Daimler Motoren Gesellschaft has just completed three 28-h.p. double-deck buses for service between Mittweida, Burgstadt, and Limbach. Negotiations are in hand with regard to the establishment of a motor-car service between Vossneck, Ziegenruck, and Walsburg.

#### The Italian Motor Industry.

According to statistics recently issued there are forty-eight companies, with a total capital of about £10,000,000, engaged in the manufacture of automobiles in Italy; fifteen of these con-

Gobron firm, for not only did all the five cars entered finish, but in the general classification they secured the first four and sixth places. The Brouhot team also did well; it consisted of four cars, which all successfully made the five runs, one of them securing first place in the sixth category. Appended are the winners in each class:—

Class.	Machine.	Driver.	Time. h. m.
1. Motor-bicycles ...	Bruneau ...	Sindre...	28 59
2. Motor-cycles ...	Contal ...	Pons ...	30 28
3. Single-cylinder cars of max. bore of 120 mm., average speed 25 kil.	Sizaire-Naudin...	Sizaire	28 53
4. Two-cylinder cars, max. bore 120 mm., 30 kil.	Darracq ...	Sire ...	24 3
4A. Four-cylinder vehicles, max. bore 90 mm., 30 kil....	Gobron ...	Dureste	17 59
5. Four-cylinder cars, max. 120 mm., 35 kil. ...	Gobron ...	Rigolly	17 19
6. Four-cylinder cars, max. 140 mm., 40 kil. ...	Brouhot ...	Feuillet	19 47



The Scene at Clermont-Ferrand at the Start of the Coupe d'Auvergne Competition.

cerns, with a capital aggregating £4,000,000, have been formed during the present year.

#### The Dust Nuisance in Paris.

The authorities in Paris are fully alive to the dust nuisance, and experiments with tarred roads are being made in various parts of the French capital, particularly on the thoroughfares at the side of the Seine, and towards Versailles.

#### The Coupe d'Auvergne.

The touring contest organised by the Automobile Club d'Auvergne was brought to an end on Saturday last by a run from Brioude to Clermont-Ferrand. Of the thirty-two competitors who started twenty-three succeeded in completing the five daily runs, during which a total distance of 580 kilometres was covered. The cup has been awarded to the Gobron car driven by Rigolly, this vehicle having made the best time, viz., 17 h. 19 min. The event was a brilliant victory for the

#### Miscellaneous Items.

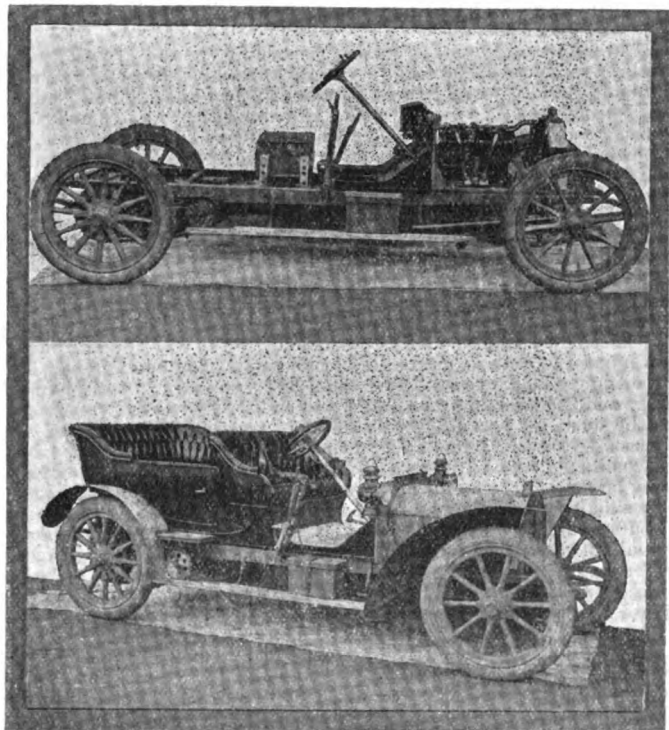
The Rhenish-Westphalian Automobile Club is organising a 525-kilometre reliability contest from Dusseldorf to Fores and back for the 29th and 30th inst. The programme includes a hill-climbing competition and a speed trial.—The Moto-Club d'Eprenay is organising a motor-cycle reliability trial for the 16th inst. It will be held over a 120-kilometre course and be confined to machines of a maximum of 3-h.p.—It is reported that the German Daimler Company have decided to abandon speed contests and in future to only enter Mercedes cars in reliability or tourist trials.—The Clement-Bayard Company are bringing out a six-cylinder chain-driven car for the 1907 season.—The Deutsche Mercedes Verkaufs Gesellschaft has just been formed in Frankfort with a capital of £100,000 to acquire the sole selling rights in Mercedes cars in Germany, Denmark, Sweden, and Norway.

## THE TOURIST TROPHY RACE.

—♦—

INTEREST in the Tourist Trophy race, which is to be held in the Isle of Man on the 27th inst., is growing apace. Quite a number of the competitors have already arrived in Douglas, and practice over the route is indulged in each morning. On Thursday last week, in the course of the trial spins, an accident occurred to Mr. H. P. MacConnell, who was driving a Bianchi car. At a sharp corner in Sulby, where the road crosses the Sulby river, the car skidded, and, crashing through the bridge wall, dropped six or eight feet on to the bank below. Both Mr. MacConnell and his assistant were injured, but we learn that they are making excellent progress, and that the driver and the damaged car will be ready to take part in the contest.

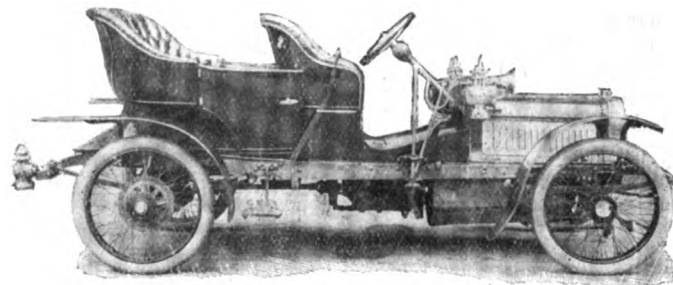
As we mentioned in a recent issue, to obviate the inclusion of no fewer than five level crossings, a shorter circuit will this year be followed. It measures forty miles in length, and runs *via* Quarter Bridge, Union Mills, Peel, Kirkmichael, Ballaugh, Sulby, Ramsey, Mountain Road, and back to Douglas. The main point of interest in the new route is the avoidance of Castletown and the inclusion of Peel among the towns passed through. The cars will be required to make four laps, making a total distance of about 160 miles. On page 605 we give a profile of the course. As will be seen, it comprises a number of long gradients. As a matter of fact, it includes 660 yards of 1 in 12·4, 1,320 yards of 1 in 16·1, two miles of 1 in 10·9, one mile of 1 in 12·4, half mile of 1 in 14·1, and quarter mile of 1 in 16·5.



Two Views of one of the 18-h.p. Star Cars.

We have already given illustrations of several of the cars which will take part in the forthcoming contest, and this week we are able to reproduce photographs of the Star and Argyll vehicles. The Star Engineering Company, Ltd., have entered a couple of cars for the event, two views of one of which are reproduced above. The only variation in the vehicles from the standard type is that the wheel base is slightly longer, owing to the regulations as to the length of body, while the latter is made to the limit as stipulated by the A.C.G.B.I. The main frame is of pressed steel, the engine and gear-box being carried upon a separate underframe of angle steel

supported by channel cross members. The front axle is H-section jaw pattern, the swivels having ball bearing heads. The engine comprises four cylinders cast in pairs, 4 in. bore by 5 in. stroke, fitted with mechanical inlet valves, and developing 18-h.p. at a speed of 1,000 revolutions per minute. The carburettor is a special design for the purpose of reducing the consumption, and which, we understand, has proved very satisfactory. The ignition is by coil and accumulators. Four speeds and reverse are provided, this being controlled by a lever working in a "gate" quadrant, the drive on the top speed being direct. Only two sliding sleeves are used in connection with the gear—



The 16-h.p. Argyll Car.

the one working the reverse motion and first and second speeds, and the other the third and fourth speeds. A stop is fitted to the gate to prevent pulling the lever through the slow speed into the reverse. Hoffmann ball bearings are provided throughout the gear-box, while it may be added that the gears are all turned off the solid steel bar.

The Argyll Company have entered two 16-h.p. Argyll cars for the Touring Trophy race. As will be seen from the illustration given above, which depicts one of the vehicles, the main departure from the standard Argyll cars is the fitting of wire road wheels 32 in. in diameter. The engine is a four-cylinder one of 88 mm. bore and 130 mm. stroke, fitted with a special form of carburettor and two systems of high-tension ignition. The transmission gear is of the usual Govan type, while the frame is of pressed channel steel. The vehicles will be driven by Mr. George, of Messrs. George and Jobling, Newcastle-on-Tyne, and Mr. Thomas Parker, of the South Wales Motor Company, Cardiff. We may add that the last-named gentleman drove one of the Argylls in last year's race, and came in seventh.

## A NEW PARAFFIN CARBURETTOR.

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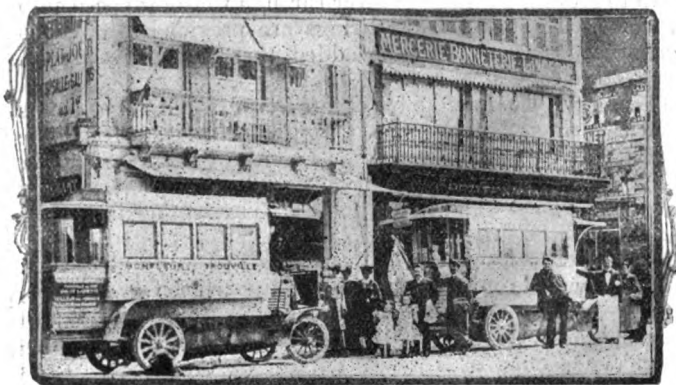
An interesting demonstration has this week been given of a new paraffin carburettor devised by Mr. A. Dorwald, and which is being put on the market by Messrs. Geo. Neal and Co., of Fenchurch Street, London, E.C. The apparatus has been fitted to a 30-h.p. Dennis motor-bus in service in Southend, and is reported to be giving very satisfactory results in practice. Until the illustrations are ready a full description of the new carburettor cannot be given, but in the meantime it may be mentioned that two carburettors are employed, the engine being started on petrol in the usual way, and that when the desired temperature is attained—in about four and a-half minutes—a change over to the paraffin carburettor is automatically effected by means of capsules subjected to the action of hot air, and connected with the petrol and paraffin supply valves, the one closing as the other opens. The exhaust is utilised in a special chamber, not only to heat up the explosive mixture, but also to furnish a supply of warm air for the capsules. In view of the increasing demand for and cost of spirit, the need of a reliable vaporising device which will enable paraffin to be used as the fuel in motor-vehicle engines is greater than ever, and the news that such an apparatus is now in use will certainly whet the appetite for the further particulars that are promised us.

## WOMAN AND THE MOTOR-CAR.\*

**M**OTORISM has its devotees among the fair sex as well as those of sterner mien. Ladies have their automobile club; they participate in the trials of cars; they luxuriate in the mechanical knowledge associated with motors, and they indulge in petrol talk after dinner. Mrs. Kennard and Mrs. Williamson have introduced the vagaries and delights of the automobile into their books—in fact, have allowed their chapters to radiate around the car, so that one wonders how some romances would have fared but for the appearance of the vehicle at the psychical moment. And now Mrs. Aria has given "Woman and the Motor-car," a volume to themselves, the said work being the autobiography of an automobilist who writes with a vim and celerity as buoyant and speedy as the "lamp-eyed monster" that "rushed restlessly along with its reverberant roar and rumble," giving the authoress an opportunity of alliterative writing.

Mrs. Aria was not ever a voluptuary of the car. She was as sceptical as a master of hounds in the early days.

"My own experience is," she declares, "typical," and proceeds:—"It was a clear case of hate at first sight when we met—the motor-car and I—a few years ago in that broad main thoroughfare in Bodmin, Cornwall, where, in striking incongruity, the ancient and the modern buildings, the far and the near customs, the old-world and the new-world inhabitants, hobnob in such peaceful neighbourliness. I was sitting behind a 'scratch pair' of horses, whose friendliness towards each other had been but intermittently satisfactory during a week's intimacy, when the strange tooting sound awoke them to a complete



A French Motor-Bus Service. A Snapshot at Trouville.

sympathy of fear, and urged them to wild plungings, which changed to sharp excited gallops, as the red-painted car bowled into sight, triumphant as any theatrical villain, all gleaming with brazen eyes, insolently sure of its success, and leaving in its track a vague sense of injury and injustice and an acute reality of odour. Five seconds' concession to their vagaries, tempered by the consciousness that the coachman had the whip hand of the argument, reconciled these horses to their first encounter with the new enemy, but I remained inconsolable, and alternately sceptical, indignant and fearful, as the prophecies fell thick and fast from my companions that here was the ideal solution to the traffic question and the fresh air problem, while here was food for the eternal appetite of greedy science."

Conversion came—on a Daimler, the justification for the change being found in Bacon—useful to the extent of half a page of quotation. The necessary reflections, with the story of a marriage and the subsequent death of one of the parties, enable Mrs. Aria to reach page 30, where verisimilitude is given to the story by the sketch of a well-known scene at Brighton. The hall of the Metropole there may prove a school for the uninitiated in the knowledge of the motor-car, as duly testified to by the authoress, who says:—

"Here the intelligent listener of gregarious habit may become a superficial expert while she waits, gleaned a harvest of truly valuable information, leavened, of course, with lies, after the most approved manner of the earnest sportsman, which may be easily dished to taste, and served glibly to any complete amateur who may follow during the week. From midday until three o'clock the cars are arriving, aggressively or suavely, stumping or gliding up to the portico, according as their machinery may permit, or their chauffeur may con-

sider consistent with his importance; while the little crowd on the doorstep criticises, with a fearlessness unbiassed by knowledge, the customs, conveniences, and disadvantages of each new-comer. The bedraggled, weather-beaten and soiled travellers are all complacent, glad, self-satisfied, blatantly rejoicing in their feats of distance, and firmly resolved to be lenient, rather than too accurate in their judgment of the triumphs of time. They stamp about in furs, glistening with frost; they are blue in the cheeks, purple in the hands, and scarlet round the throat; yet valiantly they will declare they are not a bit cold, and invariably they will describe some special portion of the road they have traversed as having displayed some new, unexpected and unprecedented virtue or vice."

We confess we had read thus far, beguiled by the excellent pen wielded by Mrs. Aria; but somehow interest fluctuated as we continued through a mixture of technology and adventure that seems to cause a series of splutters, appropriate, it may be, to the subject, but often tantalising to the reader. One heroine chooses her friends according to the horse-power of their cars, rejecting all below 14-h.p. and beaming adoringly at the fortunate possessors of cars of 50-h.p. and thereabouts. Another gets her clothes from Thomas, of 32, Brook Street; she goes to 219, Shaftesbury Avenue, wanders into Great Marlborough Street, dines at the Metropole, and has tea at the Carlton; reads the "Morning Post" and mentions the "Referee" and the "Matrimonial News"; glories in a description of the "Ellion" (sic) accumulator, and declares that "the whole success of the electric carriage has been the garage system which the Electromobile Company started at Curzon Street." This is not all that may be ascertained from a perusal of this autobiography, which ought to be of value to the makers of half-a-score of vehicles mentioned in these variegated pages.

But all the information is not intended for the whole body of motorists. There are special portions for the ladies, and here Mrs. Aria writes with almost unexampled knowledge:—

"I returned to my chair for further consideration, and argued that the most self-reliant shape of hat is the turban, and the prettiest veil is of bordered chiffon; any further trimming the hat may require being best supplied by a small wing on either side, impressed with mercurial suggestiveness. The ideal colour for the millinery for motoring is, I contend, pale blue, for this does not show the dust too aggressively, and it is universally becoming, while it will bestow its influence of elegance on the most nondescript of coats. Veils of green or brown may, however, be selected in the ophthalmic interest. Besides the turban shape there is an excellent hat, a miniature edition of the old dustman's hat, made of stitched velveteen, which turns up or down at the back or in front, and is easily suited to the individual outline. Markedly effective may be such a hat of bright green velveteen, elaborately stitched and bound with galon, and for this I would advise a green veil to match, with a deep hem-stitched border. A russet shade of red in velveteen is most attractive, but the veil to match, essential to its complete success, is rather trying to the eyes. Dark blue, not too dark, is also very becoming, and though it may be urged, and rightly urged, that velveteen entraps the dust, yet I would boldly select it, trusting to the veil for its defence, assisted by a sublime faith in the simple expedient, ignored by no well-conducted and earnest motorist, of never going out unaccompanied by one clothes brush, if not two. In hats, primarily, softness and lightness should be considered. No one wants to wear a heavy hat for many hours in a wind, or even out of it, and, therefore, velveteen and cloth should always be chosen in preference to felt or straw—I mean, of course, for long journeys. The mere meandering about town, or up and down a country road, gives altogether wider scope to decorative dress."

Having thus outlined the scope of the work, we trust we shall not be thought ungallant in pointing out to the authoress that the maker of the steam car is not "Serpolette," even when it has to be dragged along as suggestive of an Opera Bouffe. Nor do we see the reason why one particular kind of table water is eulogised, when the proprietors of the Perrier water have lately rendered excellent service to the motorist by the publication of their splendid road map. Perhaps this may be remedied in a second edition, for "Woman and the Motor" is a pleasant volume, and, although the combination of literature with many trade names may not altogether seem commendable, it may be that we are unaccustomed to the dispensation of knowledge in such a light and attractive form. This first volume on the subject from Mrs. Aria should give the reader pleasurable anticipations of her next volume on motoring, from which references to the Corona hat-comb and a certain powder of rice-flowers might, however, be omitted without detracting from its literary merit. The excellent model of the anatomy of the car which is also to be found within the covers of the volume is a feature of real value.

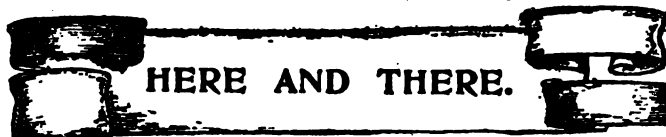
\* "Woman and the Motor-car." By Mrs. Aria. London: Sidney Appleton.



THE work of demolishing a number of houses at the side of Messrs. Friswell's extensive depot in Albany Street, N.W., has been commenced. A large addition to the present establishment is to be erected on the site.

SOME experiments with a new motor spirit are, we hear, being carried out in the Midlands.

ACCORDING to a provincial newspaper a motor-car driven by powder is at present in the Isle of Man!



THE Rt. Hon. A. J. Balfour who has already had four Napier cars, has just placed an order with S. F. Edge, Ltd., for one 40-h.p. and one 60-h.p. vehicle, both of them, of course, being of the six-cylinder type.

WE understand that the Brasier Company are giving up the construction of live axle cars, and that the 1907 Brasier cars will all be fitted with side chain transmission.

THE Automobile Club of Guadalajara has been organised in Guadalajara, Mexico. One of the principal objects of the new organisation is the establishment of good roads in the State of Jalisco.

THE General Commandant of the French Army Corps placed two Mors cars at the service of the English officers attending the recent manoeuvres, in order to rapidly convey them from point to point.

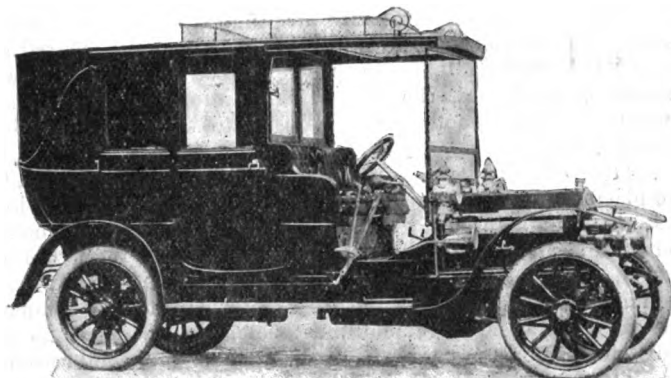
MESSRS. WILSON AND STOCKALL, of Bury, who recently supplied a motor ambulance to a hospital at Belfast, have now brought out a pocket first aid ambulance case for motorists and other tourists who run risks on the road.

MR. NICE, of Nice's Motor Garage, Clacton, is an efficient motor engineer. He is a very experienced man in all kinds of repairs, and a correspondent testifies as to the modesty of his charges. He has every facility for executing any kind of repair.

MESSRS. GILLET'S, LTD., of 199, Piccadilly, W., are developing a plan of work in which they are taking repair work under "penalty," viz., that for every day after the time stipulated they pay so much penalty, this amount to be agreed upon between themselves and the client, and according to the magnitude of the work. Their shops are well equipped for every sort of motor repair work.

MESSRS. RD. ARMSTRONG, LTD., of Preston, have brought out a new soap for motorists known as "Tetronia." This will quickly and easily cleanse oily and grimy hands without the use of hot water, being equally soluble in cold water. As a soap for the garage its merits are of no mean order, and it has been adopted in most of the leading Lancashire repair establishments. Now its reputation is coming southward.

THE illustration herewith depicts the second 20-25-h.p. Brotherhood car built to the order of Mr. R. H. Fowler, the



An 18-h.p. "Siddley" car with specially designed landaulet body by Hooper, supplied to the Lord Granmore and Browne.

FIELD-MARSHAL LORD ROBERTS and Countess Roberts have been on a motor-car tour in Wales, after which they proceeded to Scotland by the same means of progression.

MR. T. K. PHILLIPS is now in charge of the engine department of the Simms Manufacturing Company, Ltd., and will deal with the supply and sale of engines for industrial purposes.

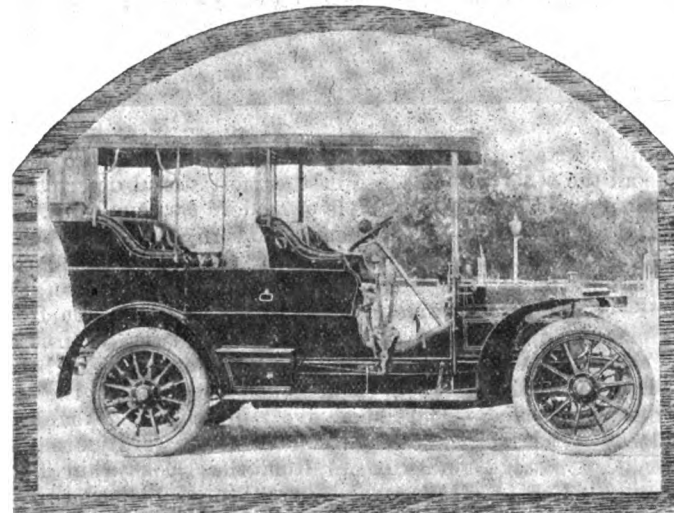
A NEW petrol-electric car, of German construction, and known as the Dynamobile, is being introduced into this country by Messrs. Kuettner, MacDonnell and Cookson, Ltd., of Endell Street, London, W.C.

THE 16-20-h.p. Clement-Talbot car which Messrs. Clement-Talbot, Ltd., supplied the North British Rubber Company, Ltd., some two years ago for the purpose of testing tyres, has now run 37,000 miles, it having been used in all weathers, and driven over rough and hilly roads in all parts of Scotland.

THE Lancashire Steam Motor Company, Ltd., have lately completed a 35-40-h.p. petrol 'bus chassis for the Clacton-on-Sea Motor Omnibus Company, Ltd. The vehicle is provided with a char-a-banc body, designed to seat thirty-two passengers, the rows of seats being arranged gallery fashion, so that everyone can obtain a clear view. A canopy over the whole length is provided, this being enclosed at the back and for two feet at each side of the rear portion by glass panels.

MR. CHAS. WILLIAMS, of South Parade, Matlock Bath, has sent us a sample of the "Bright Spark" file he has lately introduced; it consists of a small file specially cut to make a dead smooth surface on the platinum points of tremblers and contact screws, at the same time reducing the metal by the minimum quantity. The file is made to hinge into a brass case on the pocket-knife principle, which prevents it from being broken; it can be carried in the waistcoat pocket, and should prove a useful little accessory.

WITH the view of improving the roads, the Automobile Club of Canada, of Montreal, has issued a circular, offering £40 in prizes to the farmers or other owners of property on the Island of Montreal, who keep their particular sections of highway in the best condition, and do most to improve the same. The Toronto Automobile Club has also decided to offer three prizes of £100, £40, and £20 respectively, for a road building competition to municipalities in the vicinity of Toronto. The competition will be carried on under the direction of Mr. A. W. Campbell, Ontario Commissioner for Good Roads.



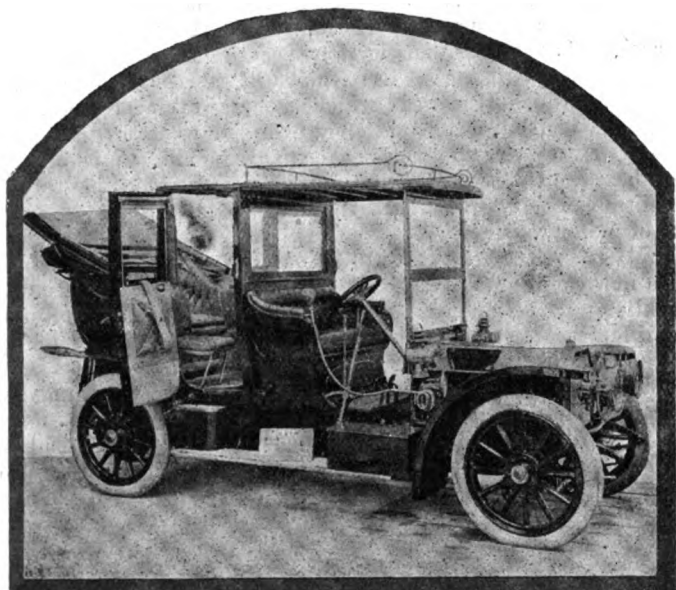
head of the great engineering firm of Messrs. Fowler and Co., Leeds. The new works that are being erected at Tinsley, Sheffield, by the Brotherhood-Crocker Motors, Ltd., are now nearing completion, and in a few weeks will be ready for occupation. The main shop is composed of five bays, each 240 ft. long, in addition to which are other buildings, comprising the smiths', hardening, engine and car testing, running-shed, pattern-making, &c., while the front of the building is occupied by the administrative offices.

MR. FRED G. CAVE is establishing a motor-car repairing establishment at 22, Horsemarket, Northampton.

JOBBMASTERS in the West End are complaining of a falling-off in their business owing to the increasing popularity of motor cars. Many of them are either converting their premises into garages or are devoting some space to the storage of motor-cars.

MESSRS. W. AND F. THORN, the well-known motor-body building firm, inform us that they have acquired the old-established business and premises of Messrs. H. W. Mason and Co., coach-builders, 293, Kingsland Road, London, E., which will be carried on under the personal supervision of one of the partners of the firm.

MR. BEERBOHM TREE is an enthusiastic motorist, and has taken considerable interest in his latest car—a 35-h.p. Rochet-Schneider. The body is of the limousine-landaulet type, and was constructed specially to meet the requirements of the famous actor when on tour, being sufficiently large for Mr. Tree to sleep in should occasion arise. It was designed by Messrs. Sayers and Company, of Wandsworth Road, Vauxhall, whose *debut* was one of the features of the Spring Show at the Agricultural Hall. The seating accommodation is for seven persons, including the driver, and the vehicle is arranged so that all business can be conducted while travelling, special



lock-up pockets for letters, correspondence, &c., being provided, while all the other fittings are of the most useful description, the car presenting a good example of modern carriage work.

THOSE motorists of a mathematical turn of mind may be interested in the following problem from the 1905-6 calendar of Burlington House, Cambridge, and send us the solution of the same:—A cyclist and a motorist start at the same time from two places thirty miles apart; the car travels twice as fast as the bicycle. After meeting and resting, each starts back, travelling one mile per hour faster than they did on the out journey; the cyclist reaches home five minutes earlier than the car does. What was the pace of each on the outward journey?

A NEW motor tyre list comes from the Dook-Swain Tyre and Rubber Co., Ltd., of the Soho Tyre Works, Pollard Street, Manchester, who draw special attention to their beaded-edge tyres of the "Standard" and "Special" patterns. The latter is particularly flexible, resilient, and durable, owing to the super-fine quality of rubber employed, which almost entirely does away with "tread cutting." The Dook-Swain toughened treads are another speciality of the firm, which undertakes re-treading at very reasonable rates. This is a class of work often imperfectly done, and which motorists frequently prefer to be executed in their own district. Hence the importance of the facilities possessed by the Dook-Swain Co. so far as the County Palatine is concerned.

It is expected that a motor-bus service connecting up the docks at Cape Town with the tramway system will be in operation within the next few months.

MESSRS. J. MARSHALL AND Co., the well-known oil refiners, of Mossley, Manchester, are bringing their motor oils directly to the notice of motorists in the Emerald Isle.

ON Wednesday morning the premises adjoining the head quarters of the Winton Motor Carriage Company were destroyed by fire. The motor-cars were taken out and lined the side of Holborn Viaduct, E.C., attracting much attention.

MESSRS. JACKSON BROS., of the Central Motor Garage, Blackpool, are making special arrangements for the storage of cars during the forthcoming race meeting at this popular seaside resort. In addition to their own premises they have secured the use of the Drill Hall, in Yorkshire Street, as well as several private coach-houses, the latter being intended for the convenience of those motorists who desire to keep their cars in a lock-up garage.

THE General Petroleum Co., 19-21, Billiter Street, E.C., are placing upon the market the "Borneo" motor spirit, which possesses a high specific gravity. In order to make its merits known for cars of heavier type, the company will, for a limited period, supply it at low rates. Referring to air feed, for the guidance of those using "Borneo" motor spirit, the company intimate that an arrangement must be made for about 25 per cent. more air in their mixture to ensure complete combustion.

THE motor-car service which Mr. R. P. Doudney contracted with the Postmaster-General of Ceylon to run between Lunugala and Batticaloa from June 1st next year is not to commence on that date. The delay is likely to be considerable, as Messrs. Walker Sons and Co., Ltd., through whom Mr. Doudney was ordering the cars, have been informed that the vehicles ordered will not be ready for twelve months. The matter is, therefore, in abeyance—the decision resting with Mr. Doudney as to whether he should ask for an extension of time.

AMONG the late entries for the forthcoming Tourist Trophy Race is the "Vici" car, the product of the British United Engineering Company, Ltd. The vehicle is London built, but, owing to the fact that it was necessary, in order to get the chassis put through quickly, to utilise one or two Continental fittings, it is not described as being of wholly British manufacture. When, however, the company is ready to commence delivery, the chassis will be wholly of British manufacture. The car follows approved standard lines in many respects; it is fitted with a four-cylinder engine of 12-16-h.p., and possesses a pressed steel frame, with a nickel steel front axle. In addition to steering wheel control, a foot accelerator is provided. The change-speed gear, which is controlled by a lever working in a "gate," gives four speeds forward and a reverse. The transmission is by means of a cardan shaft on to a live axle. Ball bearings are fitted throughout, namely, in the live axle, gear-box, and all four wheels.

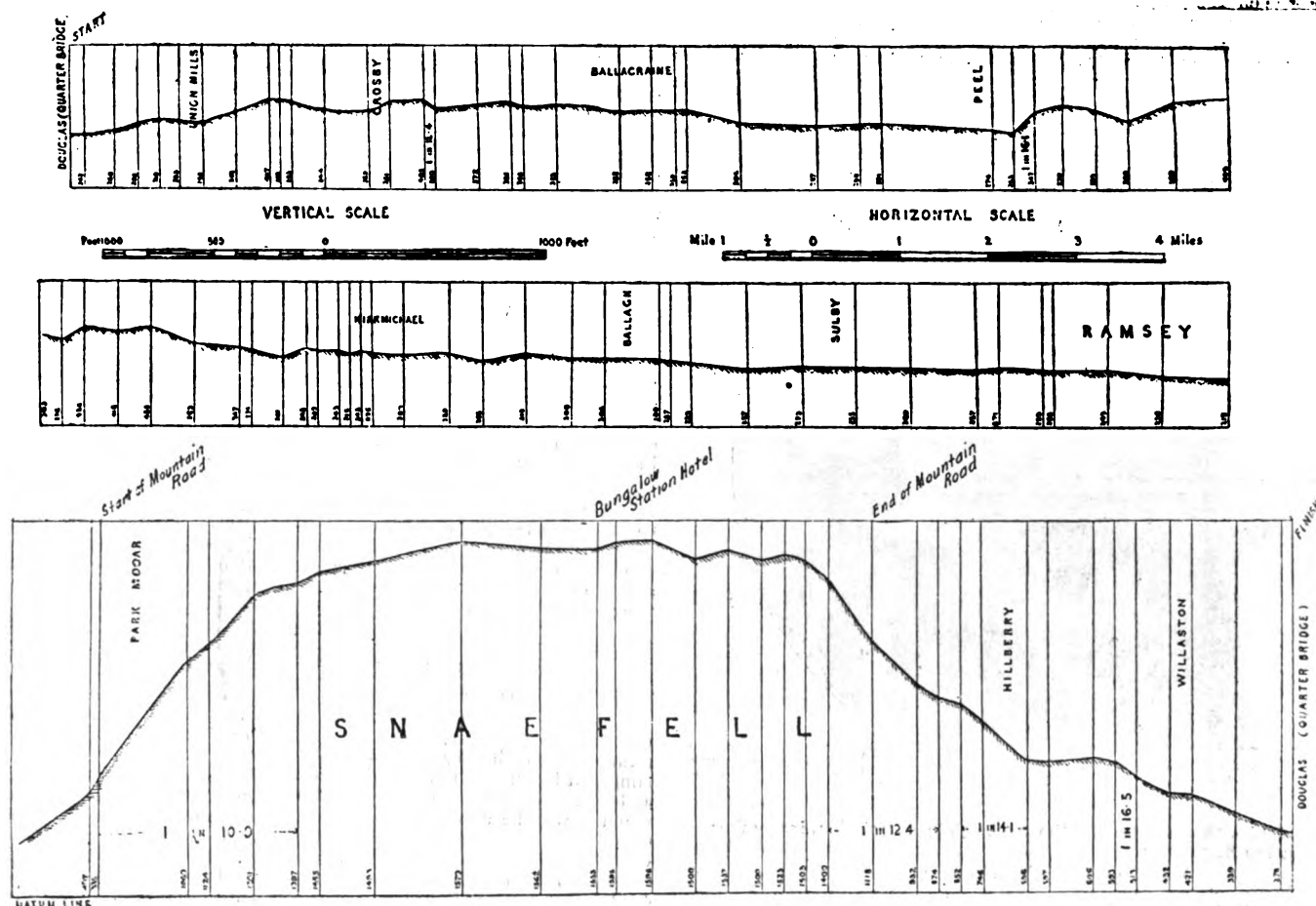
DISSOLVED acetylene for the lighting of motor vehicles forms the subject of a neat pamphlet brought out by the Acetylene Illuminating Company, Ltd., of 268, South Lambeth Road, S.W., who have done much to promote the acetylene industry in this country. The dissolved acetylene process is, briefly, as follows:—Cylinders of any size or dimensions are filled with a porous material such as asbestos, or charcoal cement of a fixed porosity, which makes an explosion in the cylinder an impossibility. The porous material is then soaked with a fixed quantity of acetone. Acetone is a liquid hydrocarbon, which has the peculiar property of absorbing twenty-five times its own volume of acetylene at atmospheric pressure, and 15 deg. Cent., and will continue doing this for every atmosphere of pressure that is applied to the gas. The cylinders are generally fixed either on or under the step on the driver's side of the car by means of a clip and a stirrup joint. The gas is led from the stirrup joint through a steel tube to the regulator and pressure gauge, which can be fixed on the dash-board. From the governor or regulator it is passed to the lamps. Cleanliness, safety, absence of odour, economy of consumption, and brilliance of light are advantages claimed for this system.

## SOME CURRENT TOPICS.

### Sperm Oil as a Motor Lubricant.

In our correspondence columns this week a correspondent raises the interesting query as to the suitability of sperm oil for the lubrication of petrol motors. Of the oils of animal origin sperm is the best lubricant, its peculiarity being that its viscosity is much less affected by temperature than that of other oils. Its adhesion to metallic surfaces is next to, but less than, that of mineral oils. Its viscosity degree at ordinary temperatures is about 10 to 12, water being 1, which does not diminish with high temperature at anything like the rate of mineral lubricants. The latter, however, can be obtained showing a

not slippery) road-surface, of the colour of asphalt. Where the preparation is used watering is stated to be unnecessary; moreover, it is unaffected by rain, being waterproof, and mud is much diminished even after the first dressing, while after continued treatment a surface somewhat like an asphalt road is obtained, which is an absorbent towards dust in fine weather and effectually prevents the formation of mud in wet weather. A mile of the main road between Richmond and Ham has been treated with Hahnite by Mr. J. H. Brierley, the Borough Surveyor of Richmond, and on Monday last a number of gentlemen interested in the solution of the dust problem journeyed down to inspect it. Motor-cars of various dimensions and speeds, as well as other vehicles, were driven over the treated stretch, and the freedom from dust was in marked contrast to the conditions which prevailed on the untreated portions of the road. As to the efficacy and durability of the liquid, Mr. Hahn,



Profile of Tourist Trophy Course. (See page 601).

much higher viscosity, and hence, apart from questions of price, which are, of course, in their favour, these latter are preferable in practice at the high temperatures at which they have to function.

### The Dust Problem.

That the seriousness of the dust problem is being fully realised is evidenced by the large number of dust-preventing compounds which are being introduced, and the readiness which local authorities are showing to give any new preparation or process a trial. The latest product of the kind to be brought to our notice is that known as Hahnite, named after the inventor, Mr. R. M. Hahn, and which is being put on the market by Hahnite, Ltd. The new compound is described as being an insoluble liquid which, when sprayed on to the road, oxidises, and thereby forms an impervious coating of great durability and binding properties, which is capable of combining with all dust that may be blown on to it and effectually preventing it from rising up. The coating gives the road a dustless, smooth (but

stated that an interval of eight weeks suffices between the first and second, and second and third dressings; that then the intervals may be successfully increased; that the strength of the solution may be lowered also, from, say, 25 per cent. to 10 or 5, and that the saving to the roads by the use of the preparation, which is applied by means of an ordinary watering cart, more than counterbalances the slight extra cost its use entails.

### A Few Hints Regarding Inlet Valves.

Inlet valves which are seated with copper asbestos washers are frequently difficult, when once removed, to re-seat soundly. One of the most satisfactory methods is to smear each side of the washers with a mixture of black lead and boiled oil, and let them stand for an hour or so. A very frequent cause of loss of power, and one that is frequently overlooked, is loss of temper in valve springs. It is always well to keep an eye to the inlet valve ports; sometimes they "fur" up with carbon, &c., to such an extent as to restrict the opening of the valve; hence loss of power.

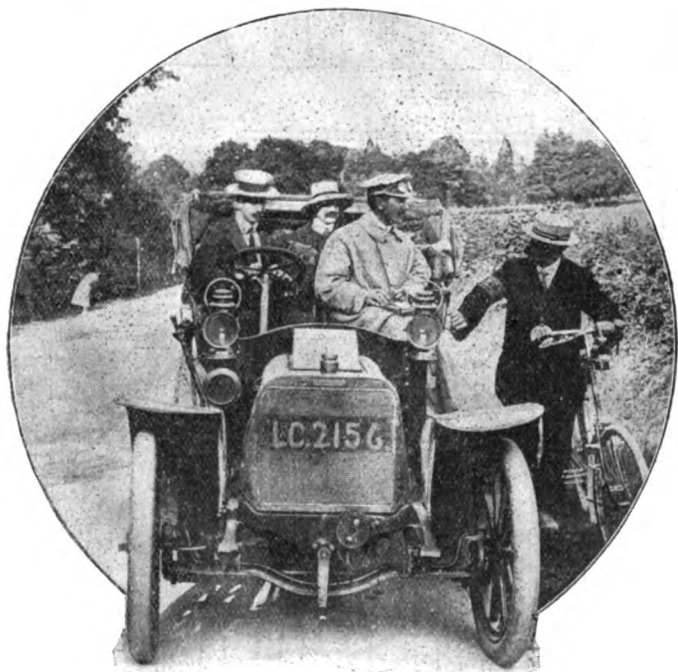
## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
87-88, Charing Cross Road, W.C.]

### CHARGES IN SCOTLAND.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Having returned from a month's motoring holiday of some 2,000 miles, mostly in Scotland, may I give your readers a few points? Never store your car at the hotel garage without inquiring the charge. I travelled from Oxford, through Yorkshire to Durham, Edinburgh and St. Andrews. Here I was charged 10s. 6d. for seven days' garage. I do not object to this charge when the place is not overcrowded. At Oban the Great Western Hotel charged two shillings per night for five nights, and the charge for petrol was threepence per gallon higher than at other garages in the town. Oban is not a place to visit by motor-car. The road there by Crianlarich, Tyndrum and Dalmally is terribly bad. To avoid this I returned by Connel (railway truck across the bridge 7s. 6d.) to Ballachulish (car balanced on planks across a boat which is rowed across by six men, fee £1, a dangerous and primitive proceeding), to



Mr. Stenson Cooke, the Secretary of the Automobile Association, inspecting the Scouts on the Brighton road. The car is a 15-h.p. Daimler lent by the Victoria Street Garages, Ltd.

Fort William, Pitlochry, and Perth. Road bad until Pitlochry is reached. At the Station Hotel, Perth, a charge of 2s. 6d. was made for garage and 2s. 6d. for assisting my man in cleaning the car.

From Perth to Carlisle and from Carlisle home. Petrol ranged from a shilling to 1s. 4d. per gallon. The roads in many places were being repaired in the old stupid fashion by laying new metal right across, although the steam roller was in attendance and might have rolled one half at a time. Some intelligence might be brought into our road repair methods considering the vast number of motor-cars now using the main routes. In one case the roller was covered up for the night and we had to plough our way through thirty yards of unrolled metal which had been thrown down late. I burst three driving tyres and one front tyre during the trip and found the Stepney spare wheel very useful.

The conclusion I came to was to leave my car in Glasgow another year and do the west coast by steamer. The roads west of Perth and Inverness are not fit for motors. During the whole run we had no stoppages except for tyre troubles, and no accidents barring running over two dogs on the last day. Railway fares were entirely avoided, and these for a party of five adults would have amounted to a very considerable sum. I find a loud mouth whistle very effective in waking up sleepy carters and others when driving a powerful car. Hotel charges are notoriously higher in Scotland than in England. At Tyndrum we stopped for a cup of tea and were charged 7s. 6d., or 1s. 6d. each. I happen to know, being secretary of a golf club, that a good

afternoon tea can be supplied at a cost of twopence per head. We charge our members sixpence and make a handsome profit. When one has to pay 1s. 6d., we can only conclude that we are being charged for the scenery, which certainly is superior in quality to the tea one gets in Scotland.—Yours truly,

W 6.

### CONSIDERATION ON THE ROAD.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have often noticed the many hospitals, asylums, and sanatoria, owing to their proximity to the road, suffer incalculable discomfort if not harm from the dust. Mr. Wilson Noble has, in your last issue, with true altruism, drawn attention to the sufferings of the patients at the Children's Hospital on the Epsom road, in consequence of the clouds of dust that envelope those whose affliction tempts them to take the air. To remedy the nuisance and assure the patients the beneficent results from living and sleeping in the open, I am instructed by my Board to say that if permission be granted by the authorities, my company—Dustroy, Ltd.—will at their sole expense lay down a dustless road on the Taafalt system, the whole length of the hospital, which will prevent the inconveniences and complaints daily in evidence.

We shall also be prepared, for those similarly situated and inconvenienced, to lay a dustless Taafalt road for the actual cost. If secretaries or committees of such philanthropic institutions will communicate with me, all particulars will be given them and we will do our share, free of reward or gain, to show that Taafalt is a panacea for the dust evil. Those who are unfamiliar with the Taafalt system and its efficacy in preventing dust should inspect the road from Westcliff-on-Sea to Leigh-on-Sea, about two and a half miles in length, which has been laid over two years without being repaired; although it faces south, it has not been affected by the heat and has withstood the sea washing over it two consecutive winters.—Yours truly,

T. D. KELLY.

### A DIFFICULTY IN STARTING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I shall be greatly obliged if you can inform me of the reason my 15-h.p. car takes so much starting. I can only get it to commence running by advancing the ignition to the extreme limit, and even then it will only start very slowly, and after the handle is past the highest compression. The magneto has been overhauled by the makers and is in order.—Yours truly,

JONATHAN.

[The trouble experienced by our correspondent seems to point to the fact of the ignition cams not being set correctly. If these were correct it would be almost an impossibility to start the engine with the ignition fully advanced without disastrous results (from backfire), and we would advise a thorough examination of this, and ascertain if the time of spark is not somewhat late.]

### BRIGHT PARTS ON CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Now that the motor-car is becoming a vehicle of utility rather than of sport, I should like to draw attention to the large number of polished brass or plated parts on automobiles. The waste of time and labour involved in cleaning all this bright work is, in my case at least, a considerable annoyance, and I am looking forward to the time when it will be avoided. Aside from the trouble involved in keeping them clean, there are other objections to an unduly lavish use of bright work in the external fittings of motor-cars. To one driving long distances upon a cloudless day the reflections from some parts of the brass-work, when the sun is in certain positions, are almost intolerable to the eye.—Yours truly,

W. FINCH.

### SPERM OIL AS A MOTOR LUBRICANT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you could give me some information as to the flashing, burning points and viscosity of sperm oil. I should also be glad to know whether it would be suitable for use for petrol engine lubrication.—Yours truly,

R. J. HUTCHINSON.

[A reply to the query raised by our correspondent will be found elsewhere in the present issue under the heading "Current Topics."]

### TESTS OF MOTOR LUBRICATING OILS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We have carried out a set of tests on oils taken from the crank chambers after running some time, comparing the tests with those of the original oil. We have been careful to arrange that the original oils shall in each case have been of different brands, and I may roughly state the results to be that most of the original oils have a flash point of 400 deg. Fah. to 420 deg. Fah., and that after running a few



weeks in the car this test drops to 260 deg. Fah. to 280 deg. Fah. This change is apparently not due to any decomposition, but rather to the fact that after being in use some time it becomes, so to speak, impregnated with a small proportion of stale petrol which has passed the piston rings. This would seem to show that in practically all cases far too much petrol is used, and if any of your readers has a car on which he uses nearly the minimum amount of petrol possible to give perfect combustion, I should be glad if he would send a sample of the oil from his crank chamber to me at Phoenix Wharf, West Ferry Road, Millwall, E.—Yours truly,

A. DUCKHAM.

### AN UNUSUAL IGNITION TROUBLE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I had an unusual experience with my car, a single-cylinder one of 8-h.p., the other day, and as I know you are always glad to receive particulars of occurrences of this nature the following may be of interest. I was coming steadily along the Bath road from Maidenhead when all of a sudden the engine stopped. I went through the usual sequence of operations and found everything in order, the wiring, accumulators, coil, valves, &c., but yet the motor would not start. Thoughts of having to leave the car and return home by train were beginning to enter my mind, when suddenly, on having another tug at the starting handle, I noticed the contact maker was not rotating. An examination showed that it was loose on the spindle and that the taper pin which held it in place had worked out and got lost. The cause of the trouble located, the next thing was to remedy it. A look through the tool-box brought to light a French nail, which I passed through the hole in the contact maker and the spindle, holding it in place by

provided with a knob of some such material, in order to enable them to be handled with impunity when hot. The points I have mentioned are of a small nature, but the motor-car has arrived at the point of development where, with the larger problems in a condition approaching solution, the minor points tending toward comfort and convenience should be carefully worked out.—Yours truly,

R. FRASER.

### DE DION CAR QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am driving a 9-h.p. De Dion car, and when on top speed I have a rattle similar to a spring on a revolving cog-wheel, and am unable to find the cause. I should deem it a very great favour if you could tell me the probable cause and remedy.—Yours truly,

JOHN BOORER.

[We should think that the rattle mentioned by our correspondent is due to something being slightly out of place (or worn) in the gear-box coming in contact with the gears when on top speed, but, as it is not stated from what part of the car the rattle proceeds, it is very difficult to say. If from the gear-box, it would perhaps be advisable to dismantle and ascertain, as no doubt it would be difficult to do so with the gear-box in place.]

### DIRT IN PETROL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad to know from fellow motorists whether their experience is the same as mine. Quite recently I have had quite a lot



Photo by]

The Auto-Cycle Club's Hill Climbing Competition at Birdlip. (See page 609.)

[E. W. Ashworth.

bending over the end. With this temporary repair I managed to get home without further delay, the contact maker doing the work in excellent style.—Yours truly,

BRENTFORDIAN.

### A SUBSTITUTE FOR THE INSPECTION PIT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—You would be doing a great service to many motorists if you could obtain working drawings and specifications for the apparatus mentioned in your issue of 8th inst. and publish them. Your correspondent "Utility" might, perhaps, be induced to furnish same. The points that are not quite clear are the geared drum and its action, and how the car is kept from running back when the horizontal position is reached.—Yours truly,

M. D.

### BURNT FINGERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Among the petty annoyances of motorists is that of burning the fingers by accidentally touching, when having to examine or make an adjustment on the motor, the exhaust pipes. These are usually the hottest parts, and the cause of many accidental burns, and it should not be necessary to reach among them to get to the carburettor, contact maker or pump. The filling cap of a radiator is also usually very hot after considerable running, and should it be necessary to replenish the water supply, a piece of waste or heavy gloves must be used to protect the hands while the cap is being detached. There would seem to be no reason why the present brass caps should not be covered with some non-conducting substance, or

of trouble owing to the irregular working of the carburettor, which, as far as I can ascertain, is due to dirty petrol. The other day my engine commenced to splutter, and on enquiring into the cause I found that no spirit was emerging through the spraying nozzle. Opening up the float chamber I found a lot of red-coloured sediment at the bottom, although it is only about two months since I cleaned it out. I am very careful to always fill the tank through a funnel. In view of the increased cost of spirit, I think one has at least a right to expect clean petrol and not stuff which is likely to bring your engine to a stop. It is no joke to have to tackle carburettor troubles on the roadside, especially in the dark.—Yours truly,

R. FOSTER.

### BACK FIRING IN THE CARBURETTORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I noticed an inquiry in a recent issue regarding back firing in the carburettor. There are a number of possible causes for this trouble. An engine will back fire when the voltage of the accumulator is low, or the platinum points of the trembler are fused, or when the sparking plug is dirty, or the porcelain broken. Too long a contact on the contact maker will sometimes cause back firing, if there is some other cause for missing, as a missed explosion will sometimes cause the inlet valve to open by suction, or a vacuum in the cylinder during what should be the explosion stroke, even with a mechanically-operated inlet valve, especially if the throttle is partly closed or the mixture weak. I have cured the trouble in a number of cases by making the length of contact shorter. With the spark retarded an engine should throttle down so that it will just keep running.—Yours truly,

R. J. ROBINSON.

## MOTOR RACING ON SKEGNESS SANDS.

THERE was an enormous crowd at Skegness on Saturday last on the occasion of the motor race meet on the sands, the success of last year's meeting having evidently given anticipations of a good afternoon's sport. Of course, the racing cars were the great attraction, and to some extent the public were disappointed, for the track was not considered sufficiently safe enough for such high-powered cars as were present to race together.



Dr. W. F. Thomson at the wheel of his 22-h.p. Dennis car which took first place in the Appearance Competition.

It had been expected that the high September tide would have been effective in a succession of days in consolidating the bank forming the course, and covering it with a layer of good hard sand. This, however, was not the case. The weather—being too good!—was against it. However, the other classes provided plenty of excitement, and the racing cars gave exhibition runs, reducing the pace at the loose portions which, as the vehicles passed over them, turned into ruts, putting on speed on the hard part, in full view of the spectators. Among the racers were the Maharajah Takari's 130-h.p. De Dietrich, which had done very well in trial runs on the previous day; Mr. W. J. Wright's 80 and 100-h.p. Darracqs; Mr. Cecil Edge's 90-h.p. Napier; Mr. H. R. Pope's 100-h.p. Itala, and Mr. A. Lee Guinness's 200-h.p. Darracq.

The Nottinghamshire Automobile Club organised the meeting as last year, and of course did it well. In the regrettable absence of Mr. Booth Granger, the hon. sec., who is laid up as the result of an accident at Douglas, the competition and other secretarial work was ably undertaken by Mr. E. W. Wells. Prior to the racing an appearance competition was held on the North Parade, in which some very fine cars took part. The first prize fell to Dr. W. T. Thomson's 22-h.p. Dennis, which was second last year, Dr. A. B. Gass's 14-h.p. Renault, also a perfectly kept car, winning the second prize.

The motor-cycle race had two heats, but the four riders, all with two-cylinder machines, Mr. F. G. Smith, 5-h.p. Clyde; Mr. D. C. Bolton, 5 h.p. Rex; Mr. L. Barlow, N.S.U., and Mr. T. Woodman, 5 h.p. Vindec, went together. Barlow suffered from belt troubles; Bolton and Smith fell in ruts in the sand, while Smith fell heavily and was rendered unconscious for some time; thus Woodman alone finished, and at a good speed. The mile handicap for the members of the Notts. Automobile Club brought forward a large number of competitors, and in the ten heats there was a representative turn-out of cars. Mr. M. Ross Browne, after running in three heats and cross heats, proved the winner, with the 22-h.p. Minerva that is entered for the Tourist Trophy race, the second being also a 22-h.p. Minerva, that of Mr. J. A. Doran. The winners of the heat were:—Mr. M. Ross Browne, 22-h.p. Minerva (31 sec.); Mr. A. Farnell, 30-h.p. Daimler (8 sec.); Mr. H. Belcher, 16-20-h.p. Humber (31 sec.); Mr. F. A. Bolton, 35-h.p. Daimler (scratch); Mr. R. W. Wright, 10-12-h.p. Humber (55 sec.); Mr. V. Riley, 9-h.p. Riley (55 sec.); Mr. A. R. Atkey, 16-h.p. Minerva (50 sec.); Lt.-Col. Birkin, 20-30-h.p. Renault (22 sec.); Mr. J. Truman, 28-h.p. Daimler (20 sec.), and Mr. J. A. Doran, 22-h.p. Minerva (31 sec.). In the cross heats Mr. M. Ross Browne, Mr. R. M. Wright, Lt.-Col. Birkin, and Mr. Doran were the winners. In the semi-final Brown beat R. M. Wright, who stuck momentarily in a bad place in the track, and Birkin beat Doran, the final resulting as given above.

The scratch races followed, all over a distance of a mile, that for cars under and not over £200 being first. In this the little 9-h.p. Riley,

driven by Mr. V. Riley, proved the winner, thirty yards from Mr. Spencer Downing's 10-h.p. Alldays.

In the mile race for cars not over £350, Mr. R. M. Wright, on a 10-12-h.p. Humber, came in first by about sixty yards from Mr. Spencer Downing's 10-h.p. Alldays. Wright's car commenced to misfire near the finishing line, but he managed somehow to get home. The 8-h.p. Stanley steamer did not finish.

There were five heats in the mile race for four-seated cars, the chassis price of which was not over £500. Mr. F. Wilkinson's 20-h.p. Stanley steam car won easily. Mr. T. H. Woollen's 12-16-h.p. Clement-Talbot, which was second, made a very good impression on the public. The heats were won by Mr. Ross Browne, 22-h.p. Minerva; Mr. T. H. Woollen, 12-16-h.p. Clement-Talbot; Mr. Cripps, 16-20-h.p. Argyll; Mr. H. Belcher, 16-20-h.p. Humber; and Mr. F. Wilkinson, 20-h.p. Stanley steam car.

Mr. J. E. Lound's 35-40 h.p. Beaufort came home first in the class for four-seated cars of a chassis price of not over £700, but the prize is withheld pending the consideration of the racing committee. Mr. H. R. Pope's 24-h.p. Itala had won the second heat, but was announced as being disqualified. Mr. A. Farnell's 30-h.p. Daimler had won the first heat and competed against the Beaufort in the final.

The mile scratch race for four-seated cars of a chassis price of over £700 was won by Mr. C. Edge in the first place, his 50-h.p. Napier just beating Mr. E. M. C. Instone's 35-h.p. Daimler by a couple of yards. The final, however, was re-run, when Mr. Instone came in first by a narrow margin, the Daimler thus securing a notable victory.

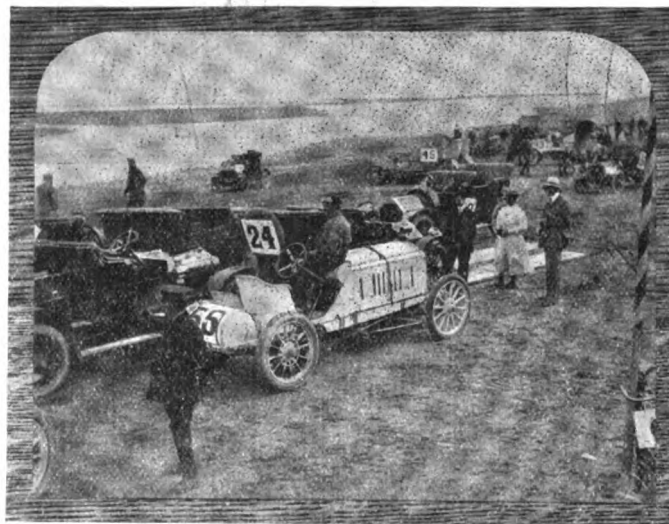
The annual dinner and presentation of prizes took place afterwards at the Lumley Hotel, Mr. Charles Hardy, president of the Notts. Club, being in the chair. There was a very large and influential gathering, and some brief but excellent speeches. Mr. S. Coetmore Jones, Earl Scarborough's agent, and chairman of the local committee, deplored the fact that the elements were against them, but he thought they had had a most successful meeting, and that the Notts. Club had taken the abandonment of the racing competition and of the attempt at record in a true sporting spirit.

### MOTOR PROSECUTIONS.

HENRY SAMUELS, of Liverpool, has at Southport been fined £5 and costs or a month's imprisonment in each of three cases—for not having proper identification marks attached to his car, for being without a licence, and thirdly for fraudulently using another driver's licence. John Hope, motor-car owner, Bootle, was also fined 40s. and costs for lending the licence to the first defendant.

### THE CANNING CUP COMPETITION.

THE Dublin centre of the Motor Cycle Union of Ireland ran off the second reliability test of one hundred miles on Saturday last. The course was from Dublin to Carlow and back, and the roads in good



Some of the Cars on Skegness Beach. The white vehicle in the foreground is the Maharajah Takari's 130-h.p. De Dietrich Racer.

condition. The five members who qualified on the previous Saturday took part in the run, which passed off without incident, E. Former, who punctured before reaching Carlow, being the only one to meet with trouble. All arrived at Inchicore with the following result:—

	Marks.
R. E. Price, 2½-h.p. F. N. (holder) non-stop	100
W. Jacques, 3-h.p. Aleyon, non-stop	100
C. E. Murphy, 3-h.p. Triumph, non-stop	100
W. H. Guilfoyle, 2½-h.p. Minerva, non-stop	100
E. Former, 2½-h.p. F.N., one puncture	...

The third test will take place on Saturday, the 22nd inst., starting at 12 o'clock from Inchicore Bridge for Carlow and back.

## CLUBS AND ASSOCIATIONS.

### AUTO-CYCLE.

A SERIES of hill-climbing competitions, arranged by the Auto-Cycle Club, were decided on Saturday on the famous Birdlip Hill road, near Gloucester. There was a record entry of 72, and but few absentees. The hill is one mile 140 yards long, and has gradients of one in five, one in six, and one in seven, the easiest portion being one in fifteen. The following were the results, zero representing the fastest time, while the figures given after the names of competitors represent the time behind the winner in each class.

Class 1, for machines with engines having a cylinder capacity of not exceeding 80 by 80 mm. variable gear allowed.—1, R. Moore, 3½-h.p. Phelon and Moore, 0; 2, F. G. Galley, 2½-h.p. Anglian, 1 min. 33 4-5 sec. Seven started; six finished, and four pedalled.

Class 2, for machines having a cylinder capacity not exceeding 85 by 85, or the equivalent volume swept out, variable gear not eligible.—1, 3½-h.p. Quadrant, ridden by B. Horne, 0; 2, 3½-h.p. Quadrant, ridden by T. Silver, 1-5 sec.; 3, 3½-h.p. Quadrant, ridden by Stanley Webb, 61-5 sec. There were 15 starters, and two failed.

task. The result, however, was eminently satisfactory, as six of the boats finished within four minutes of each other, while three others were close on their heels. On the handicap the cup was awarded to a 21 ft. boat fitted with a 3-h.p. two-cycle motor belonging to Mr. W. E. Gray, of Teignmouth, Banshee, a 21 ft. boat with a 6½-h.p. Brooke engine, being second by 1 min. 21 sec.

At a meeting of the House Committee on Saturday last, it was decided that unless a continuance of the fine weather and the number of members using the ship shall render a postponement of the date desirable, the greater portion of the staff shall be paid off on October 1st, and that the Enchantress shall go into winter commission. This will mean that the launch service will be suspended and that a number of cabins will be closed. The chief steward, the cook, and one deck hand will remain on board permanently, however, and every effort will be made to render the Enchantress as comfortable a floating home during the autumn and winter months as she has proved during the past summer.

### HEREFORDSHIRE.

THE Herefordshire Club held on the 8th inst. a most successful gymkhana at Canon-Frome Court by invitation of Col. and Mrs. Hopton. The day was perfect and there were over 200 present. Tea was provided on the lawn, and the contests were held on a course in the park just outside the garden. The band of the 1st Hereford Volunteers was in attendance. The first event (musical chairs) was won by the Rev. H. G. Morgan on his 12-h.p. Lanchester, with Miss Morgan as his



The Skegness Meeting.—The Start of Heat 2, Class B.

Class 3, for machines with twin-cylinder engines, size of each cylinder not to exceed 80 by 80 mm., variable gears not eligible.—1, 6-h.p. Riley, ridden by R. W. Ayton, 0; 2, 5-h.p. Vindec, ridden by W. H. Wells, 10 4-5 sec.; 3, 5-h.p. Rex, ridden by G. C. Lyle, 24 3-5 sec. There were eleven starters, and five failed.

Class 4, for machines with multi-cylinders, any size.—1, 5-h.p. Vindec, ridden by W. H. Wells, 0; 2, 5½-h.p. Brown, ridden by R. M. Brice, 4 3-5 sec.; 3, 7-h.p. Peugeot, ridden by H. N. Chilcott, 5 4-5 sec. Of the eight starters, only one failed.

Class 5, slow race.—This was won by J. Van Hooydonk, on a 3½-h.p. Phoenix, 10 min. 53 3-5 sec., F. G. Galley, on a 2½-h.p. Anglian, being second, and F. G. Tricks, on a 5-h.p. Kerry, third. The competitors had to go up as slowly as possible, without stopping or assisting the machine by pedals, the engine having to fire all the time. Seven started, and of these three failed.

Class 6, for fore-cars and side-carriages, and quad-cars carrying two passengers.—1, J. Browning, 9-h.p. Riley, 0; 2, Miss Muriel Hind, 9-h.p. Singer, 18 2-5 sec.; 3, J. F. Buckingham, 10-h.p. Lagonda, 19 sec.

### MOTOR YACHT.

THE cup presented by the Motor Yacht Club for competition at the Dartmouth Regatta attracted no fewer than 18 entries, and an excellent race resulted. Thirteen boats started and the first to finish was Badger, which it is interesting to note is fitted with the first four-cylinder petrol engine built by Messrs. Simpson, Strickland. The competing craft represented a wide variety of types, and ranged from a 14 ft. 2½-h.p. dinghy to the 35 ft. Cavancha, which is engaged with a 24-h.p. Craig Dorwald motor, so that the handicapper, Mr. Basil Joy, had a difficult

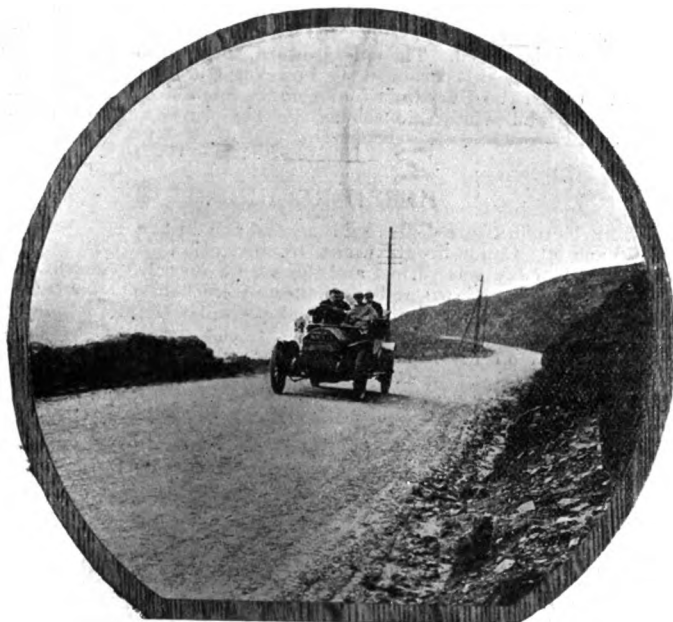
passenger, for which the prize was a motor-clock, presented by Messrs. Brown Bros., of London. The second place fell to Mr. Farrar-Roberts on his 10-12-h.p. Argyll, with Miss Farrar-Roberts as the passenger, the prize for this being an electric tail lamp and indicator given by the club. Event 2, passenger race, first prize handsome pair of silver candlesticks presented by Col. Hopton, was won by Capt. Inglefield on a 12-h.p. Darracq, and second prize, a silver sugar-box, given by Mrs. Hopton, was won by Mr. W. H. Banks on his 12 h.p. Lanchester. The last event proved most amusing. Each competitor had to drive to a blackboard and draw an animal on it, which had to be recognised by a lady waiting there before he could proceed. First prize, a pair of brass side lamps, presented by Messrs. Jos. Lucas, Limited, fell to Rev. H. G. Morgan, and Dr. Morris won a motor rug as second prize. The Motor Union medal for the most meritorious performance was awarded to Capt. Hughes Morgan on his 45-h.p. Daimler.

### SOUTHERN.

THE Southern Motor Club's second midnight run took place on Saturday and Sunday last to Broadstairs, at the invitation of two members to breakfast. The event proved even more successful than the first all-night run to Brighton. A start was made at 12 o'clock midnight from the clock tower, Lewisham, and a very pleasant ride through the silent towns and villages was experienced. A number of members staying in the Isle of Thanet for their holidays came over to Canterbury to meet the motorists from London. Only one car failed to reach the destination, and it was left behind in a shed ten miles from anywhere, its passengers being distributed over the other cars.

The following members took part in the ride:—Mr. and Mrs. Worger (Humber), Mr. Silverman and party (Siddeley), Mr. A. Clifford Earp and party (Iris), Mr. Nixon and party (Regal), Mr. Wall and party (Swift), Mr. Brown and party (Panhard), Mr. Philpott (Wolseley), Mr. Jackson (De Dion), Messrs. Harding and Fisher (tandem tricycle), Mr. Grottick (motor-cycle), Mr. Doughty, Mr. Lorkin, Mr. Vickers, Mr. Hill, Mr. Lloyd, Mr. Billing, Mr. Belcher and Mr. Philpott were among the company at Broadstairs to breakfast.

Many thanks are due to Mr. Dixon, of the Broadstairs motor garage, for his assistance in connection with the event.



The Manchester Motor Club's Hill-Climbing Competition.  
Mr. J. Newton's Fiat on the steep portion of Snake Hill.

#### YORKSHIRE.

THE Yorkshire Automobile Club have decided to hold their hill-climbing competition on Saturday, October 6th, instead of September 29th as previously arranged, by reason of the latter date clashing with the Isle of Man events.

#### MANCHESTER.

THE Manchester Motor Club held a hill-climbing competition on Snake Hill, near Glossop, on Saturday last. The twenty-three competitors were divided into five classes, and the handicap formula was: time in seconds, multiplied by horse-power, divided by combined weight of car and passengers—horse-power being calculated on diameter of cylinder in inches, multiplied by number of cylinders and divided by three. No times were, however, published. The results were as appended:—

**CLASS A** (for cars up to a value of £200).—Mr. R. Newton's 6-h.p. Rover (A. E. Bennett driver), 1st; Mr. W. McNell's 8-h.p. Cottereau (C. Kitchen driver), 2nd.

**CLASS B** (for cars up to £350).—Mr. Sawley Brown's 10-12-h.p. four-cylinder Humber (W. N. Jones driver), 1st; Mr. W. Fielding's 10-12-h.p. Humber, 2nd.

**CLASS C** (cars up to £500).—Mr. R. H. Carlisle's 16-20-h.p. Rover (F. J. Jenkins, driver), 1st; Mr. S. Beverley's 16-20-h.p. Humber, 2nd.

**CLASS D** (cars up to £750).—Mr. J. Arrowsmith's 20-h.p. Horbick (H. A. Cranham driver), 1st; Mr. F. Zorilla's 25-h.p. J.P. (C. Fletcher driver), 2nd; Mr. Newton's 24-40-h.p. Fiat (J. A. Bennett driver), 3rd.

**CLASS E** (cars over £750).—Mr. J. Higginson, jun.'s, 30-50-h.p. De la Buire, 1; Mr. J. Newton's 50-60-h.p. Fiat, 2.

An exciting incident took place during the afternoon, what might have been a serious accident being avoided by the presence of mind of Mr. C. Fletcher, who drove his J.P. car into the bog at the roadside in order to avoid a competitor who, disregarding the regulations, turned his car round on the narrow road. Fortunately, no serious damage was done.

THE North-East Lancashire Automobile Club has decided to give the crippled children of Accrington a half-day's run to the seaside on an early Saturday afternoon.

A WELL-ATTENDED meeting of Lincoln motor-cyclists was held on the 6th inst., when a proposal to form a motor-cycle club was adopted. Mr. A. W. Foster was elected chairman of the Provisional Committee. The first general meeting is to be held on the 26th inst.

## SOME REQUIREMENTS OF CARBURETTOR DESIGN.

BY E. T. BIRDSALL.

EVER since the idea of using a vaporized or gasified liquid fuel in the internal combustion engine was suggested, the device for preparing the fuel for use in the motor has been a subject for much thought and study. Numberless designers, more or less insufficiently armed with the proper experience, knowledge and data for the task, have undertaken to solve the problem, with varying results. As long as the principal requirement was to furnish fuel to engines working under a practically constant load and speed, and fuel was cheap, the defects of the early carburetors were not such as to interfere seriously with the operation of the engine. Other troubles, such, for example, as ignition, occupied so much of the operator's time, that the carburetor, so long as it worked at all, was neglected.

In the following remarks it is assumed that the engine used has a sufficient number of cylinders to produce a steady flow of mixture and that the carburetor is of the modern float feed type, with a petrol jet and main and auxiliary air inlets. The fuel is assumed to be petroleum spirit, although in the main alcohol or heavier oils require the same general conditions. The object to be attained is a mixture that will develop a maximum of power from a given size of motor with a minimum of fuel. With the use of the internal combustion engine under extreme variations of load and speed, as demanded by the modern automobile, with the perfection of the ignition and other features, and with the rapid rise in price of the lighter oils, the subject of carburetor design becomes one of great interest and importance. Again, in a few years, when the commercial motor vehicle will demand a low fuel cost combined with great certainty and flexibility of engine operation, the carburetor will probably determine the extent of the development of this, the most important branch of the automobile industry.

The function of a carburetor is to supply the proper mixture of air and fuel to the engine, under all conditions of speed and power. The four essential conditions under which carburetors must work are:—

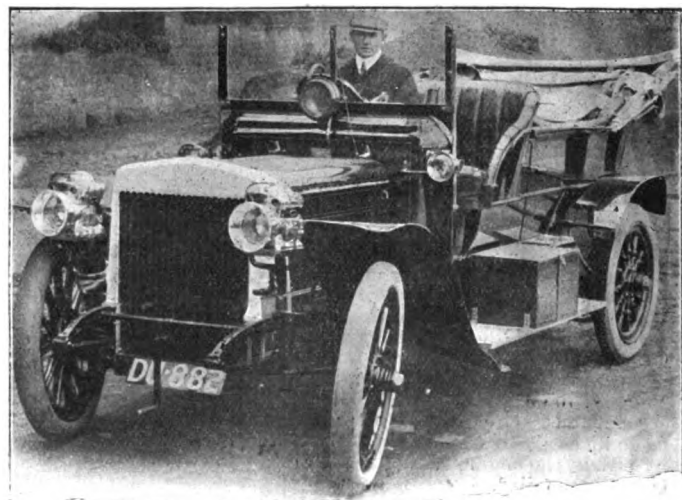
First. Wide open throttle and high engine speed, as when climbing hills or running fast on the level.

Second. Wide open throttle and slow engine speed, as when travelling slowly on the high gear or picking up from standstill.

Third. Partly closed throttle and high engine speed, as when running fast down hill or on a low gear.

Fourth. Nearly closed throttle and low engine speed, as with engine running idle when car is standing.

For some time it was thought that the best carburetor was one that gave a constant mixture under all conditions. But we now know that a constant mixture is not the best from either the standpoint of good operation or fuel economy. It was also thought that the best mixture contained just sufficient oxygen to entirely consume the carbon and hydrogen. It was found, however, that a mixture with a slight excess of fuel gave the best results. These facts being demonstrated, it becomes almost obvious that the different engine speeds will demand different mixtures for maximum results. Thus, at slow speeds, the mixture should be richer than at high. This is due to the fact that at



Captain Hughes Morgan on his 45-h.p. Daimler which secured the Motor Union medal for the most meritorious performance at the Herefordshire Club's Gymkhana.

low speeds more heat is lost to the cylinder walls, more compression pressure is lost by leakage and the combustion can therefore be slower, thus sustaining the pressure. At high speeds the compression is higher, due to less leakage and less loss of heat. Therefore unless the leakage is leaner at high speed there may be danger of pre-ignition. A lean and highly compressed charge also burns faster, and hence gives better

\* Abstract of paper read before the American Society of Automobile Engineers.



pressures and fuel economy than a richer one. The quantity of mixture that an engine will take varies greatly with the speed. At slow speeds the quantity is equal to the cubic contents of the cylinders multiplied by the number of power strokes. At high speeds of one thousand revolutions and over the quantity may drop to less than one-half the theoretical amount, depending on the design of the valves, inlet piping and carburettor passages. This peculiarity reacts upon the compression, and hence on the mixture desired for best results. It will thus be seen that the design of the engine has a great deal to do with the carburettor design, which explains the well-known but seemingly mysterious fact that a carburettor that gives good results on one engine fails to maintain its reputation when applied to one of different construction. The design and class of ignition used have also a marked influence. Poorer mixtures can be used as the spark is hotter, the throttle can be more nearly closed, resulting in increased engine capacity and fuel economy.

To get the maximum power out of a given size of engine, the fuel should be introduced into the cylinders as cold as possible consistent with complete evaporation, intimacy of mixture and completeness of combustion. To provide for the heat absorbed by the evaporation of the fuel, hot air is drawn in to form the mixture, the entire apparatus is heated by means of hot water or the general heat of the engine compartment under a closed bonnet is relied upon. The adjustment of this heat is an important matter, but exact knowledge on the subject is apparently non-existent.

The ever varying density and compositions of the fuels used and obtainable introduce many and very serious complications into the problem. These differences demand different sizes of jets, float levels, amounts of heat to be supplied, and proportions of air for combustion. Different densities and temperatures of the fuel affect to a very appreciable extent the flow of the fuel from the jet. Between extremes this has been found to vary as much as 40 per cent. Owing to the absence of a ready means—like the pressure gauge on the water circulation, or the voltmeter on the accumulators—of ascertaining the quality of the mixture being delivered by a carburettor, the majority of the motors in use are operating under more or less disadvantageous conditions, even if carefully and properly regulated at the outset. The amount of reliable data and facts concerning the action of air and petrol in a carburettor at the command of designers and students is remarkably small. Of no other part of the automobile is so little known. What is badly needed is a series of carefully planned and exhaustive experiments with data so arranged that it can be analysed and deductions made.

### ROAD REPORTS.

**LANCASHIRE.**—Reporting upon dust-laying experiments which he has recently been conducting with oil-tar, Mr. H. Burrows, surveyor to the Lathom and Burscough Council, states that they have been a complete success. A better result was obtained by not sweeping the road before applying the tar, the dust appearing to absorb the fluid and form a kind of protective carpet which deadened the sound of passing vehicles and preserved the surface from abrasion by horses' hoofs. His expectations had been more than realised, and it now only remained to watch what effect the winter traffic and weather would have on the road. One special advantage oil-tar possessed over the ordinary commercial dust-layers was that it was a perfect mud preventive during or after rain, whereas other liquids had the effect of softening the surface and turning the road so treated into a soft, sticky mud, which was anything but pleasant, and certainly destructive to the road, at any rate so far as keeping a perfect contour was concerned. Oil-tar certainly was a dust-layer that lasted, for at the termination of six weeks it was as good as when first applied. It also preserved the road from wear, as since it was first applied there had been no loose chippings, while the other portions of the road surface were covered. The last lot of the old cobbles on the road between Lea Gate and Kirkham is to go. Preparations are already being made for the widening of the road and laying with macadam. When this is finished the new road between Preston and Blackpool will be one of the best in Lancashire.

**PORLOCK HILL.**—There is a private road up Porlock Hill, for the use of which ls. has to be paid. It is a far better road than the public one, but there are two or three bad corners where a large car must be backed to get round. Care must be taken not to take the wrong turn when near the top or the motorist may get down to Porlock Weir and have to go all the way up again.

### PUBLIC MOTOR SERVICES.

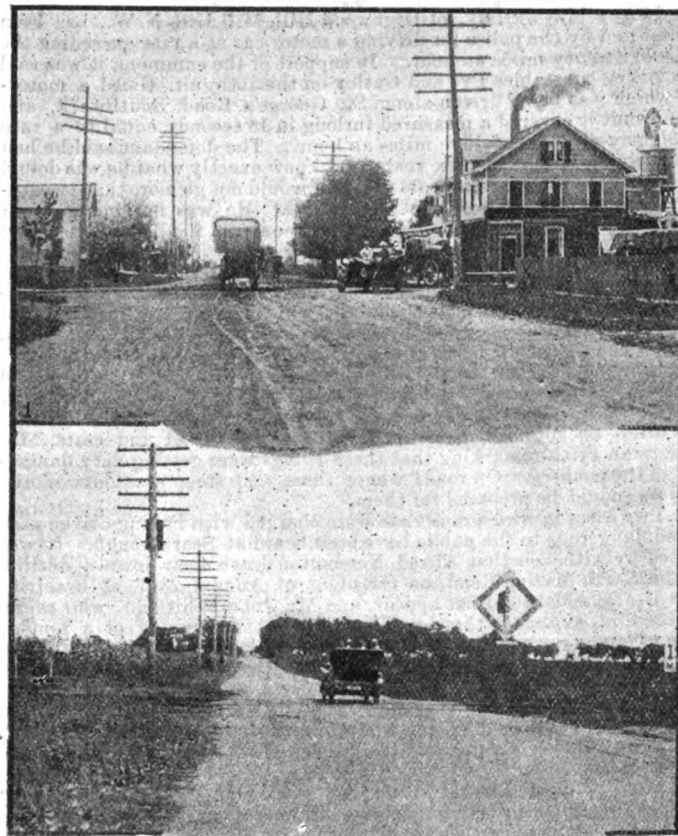
*We shall be pleased to receive the published time tables, list of fares, etc., of Public Motor Services for notice in this column.*

MANY representations have been made by residents and local authorities in the neighbourhood of Hounslow as to the necessity for linking up the tramway and railway systems at Southall and Hounslow, there being at present no connexion whatever across the three miles of intervening country. The question of establishing a motor-omnibus service between the London and South-Western Railway station at Hounslow and the Great Western Railway station at Southall has now been considered, and a motor-omnibus service will shortly be installed.

THE Islington Borough Council has asked its neighbour of Shore-ditch whether any annoyance was being experienced in the borough from

motor traffic, and whether the council would appoint representatives to attend a conference with the view of joint action being taken to promote legislation for the control of the motor traffic of London. This has been referred to a committee.

THE London District Motor 'Bus Company (Limited), the owners of the "Arrow" motor-buses, have been sued in the City of London Court by a carman named Callcott, for £50 damages done to his horse and van in a collision in Fulham Road. The motor-bus, coming along, it was alleged, on its wrong side of the road, ran into the plaintiff's van and then dashed on to a lamp-post. Mr. E. Carpenter, for the company, said that the motor-bus skidded owing to the greasy state of the road. Mr. Frank Dodd, for the plaintiff, said the defendants must take as much care of a motor-bus as the owner of a wild animal had to do, knowing its propensities. If motor-buses were run under statutory powers, like railway trains, it might be different. The Motor-bus Acts of Parliament simply removed previous disabilities but did not give statutory authority. That was a great difference. Defendants' driver and conductor said they were going slowly and cautiously, but, owing to the state of the road, motor-buses were skidding all over the place. The bus in question had skidded before. Judge Rentoul held that the defendants were



Views on the Vanderbilt Cup Course. 1.—Blind turn at finish, junction of Jericho Pike and Mineola Avenue. 2.—Mineola Level Crossing and site of Grand Stand.

[Motor World, New York.]

liable, and expressed the view that motor-buses in London generally went a great deal too fast. He awarded the plaintiff £13 and costs.

A MOTOR-BUS service between Chichester and Summersdale has been started.

THE Associated Omnibus Company started a new service of motor-omnibuses from Finsbury Park Station to Victoria Station, S.W., on Monday last.

### NEW COMPANIES REGISTERED.

**PEEBLES MOTOR COMPANY.**—Capital, £10,000. Tweed Green Motor Works, Peebles.

**AUTO-GARAGE AND AUTO-CABS COMPANY.**—Capital, £22,750. To acquire the business carried on by C. Loukatis, at Cairo, and to carry on the business of garage proprietors, &c. First directors: His Highness Prince Aziz Pacha Hassan, T. N. Corressy-Korressios, E. Manusardi, J. S. Gali, C. Loukatis, E. Buccianti, and N. Chakour Bey. 37, St. Mary Axe, E.C.

**D. NAPIER AND SON.**—Capital, £5,000. To take over the business of engineers and motor-car manufacturers carried on by D. Napier

and Son. No initial public issue. M. S. Napier is first governing director.

**SIMPLEX PNEUMATIC HUB SYNDICATE.**—£2,008. To adopt an agreement with P. C. Middleton, W. S. H. Smith, P. B. Cow, sen., and others for the acquisition of a certain invention, patent, and other rights and property, and to carry on the business of pneumatic hub manufacturers.

**ACER, LTD.**—£10,000. To adopt a certain agreement for the acquisition of the business carried on at Grosvenor Road, Ealing, and elsewhere, as H. E. Lewis, and to carry on the business of manufacturers of and dealers in, the letters to hire of motor-cars, motors, and vehicles of all kinds, &c. Registered office, the Motor Works, Grosvenor Road, Hanwell.

**VICI MOTORS.**—£5,000. Manufacture and deal in all kinds of vehicles propelled by steam, electricity, oil, or otherwise, &c. First directors: R. Lascelles, W. K. Perrens, and W. Ward. Registered offices, 64, Salusbury Road, W., Kilburn, N.W.

**DUSTROY, LTD.**—£20,000. To acquire any patents, rights, and concessions relating to paving and road-making, &c.

**DUSTLESS AND NON-SLIP ROAD MANUFACTURING COMPANY.**—£100. Objects and all other particulars as in "Dustroy, Ltd."

### CASES AGAINST MOTORISTS.

**JAMES MACKRIDGE**, of Highwood Hill, Mill Hill, N.W., has been summoned by the police for driving a motor-car at a rate exceeding the limit of twenty miles an hour. In support of the summons it was said that police-constables Pye and Gatley on the 19th ult. timed a motor-car which was being driven along St. George's Road, Southwark, and found that it covered a measured furlong in 18 seconds, equal to a rate of slightly over twenty-five miles an hour. The defendant said he had been driving for the last six years, and knew exactly what he was doing. The car was nearly seven years old, and would not go more than twenty-five miles an hour on a good straight road. He was not going more than sixteen miles an hour. Mr. Hopkins ordered the defendant to pay a penalty of 40s. and 2s. costs.

**AT Heywood**, Edwin Fearnside, of Trinity Street, Bury, was summoned for driving a motor-lorry along Bury New Road at an excessive speed. A constable said that the motor, which had a heavy load of cloth, was going down Prettywood Brow at about fifteen miles an hour. When he saw the defendant later, at the yard in Bury, he said that a lever had been touched and the engine "knocked out of gear." Whatever had been in the way, he could not have stopped the car; he would have had to run into it. The car was licensed to run at a speed not exceeding five miles an hour. The Bench inflicted a fine of £1 and costs, Mr. Alderman Firth remarking that these things were getting very dangerous in the country. On roads where there were steep gradients motor drivers should be prepared for them.

Two cases in which motorists were charged with having driven at a speed dangerous to the public have been heard at Scarborough. It was stated by witnesses that Alfred Newington drove a car down a decline in the North Marine Road, on the night of August 23rd, at a terrific speed. Defendant did not appear, and Mr. John Whitfield, who represented him, explained that his client was in the employ of a London firm of motor-car owners, from whom he received instructions to motor round the Lake district with a lady and gentleman. A fine of £2, including costs, was imposed. In the second case evidence was given that Charles Sturley drove a motor-car along St. Nicholas Cliff "like a whirlwind." Dozens of people who were leaving the Spa had to run out of the way. Defendant, who failed to put in an appearance, was fined £3, including costs.

**MR. WILLIE LEWIS JONES**, of Harlesden, was summoned at Aylesbury on Saturday, for driving his motor-car backwards for an unreasonable distance. Defendant drove his car backwards from the Market Square, Aylesbury, to the centre of Kingsbury Square, a distance of 108 yards. The streets were crowded at the time, and it was just getting dusk. The chairman (Mr. Walter Hazell) remarked that defendant, who did not appear, appeared to have treated the court with contempt, and he would be fined £3, including costs.

**HENRY BLACKBURN**, chauffeur to Miss Edna May, and John William Norketh, driver to Mr. Oscar Lewishon, were summoned at Cromer on Monday for driving to the danger of the public between Cromer and Overstrand. Inspector Clipperton was driving to Overstrand when he met the two cars travelling at what he considered to be twenty-five miles an hour. Neither man took any notice of his signals to stop. Blackburn was fined £20 and costs and Norketh £10 and costs, or, in default, one month. Both drivers' licences were suspended for twelve months.

**AT Arundel** a number of motorists were summoned for exceeding the speed limit, the fines ranging from £2 to £6.

### POLICE TRAPS.

**A POLICE TRAP** 220 yards long is in operation at Penybont, Radnorshire. All cars are being timed and several drivers have already been fined for exceeding the limit.

**AT Tabley**, near Knutsford, the police have a measured distance of 3½ miles.

The police are extremely watchful on the by-roads in the Walton, Hersham and Byfleet districts.

### MOTOR-CAR ACCIDENTS.

**A SERIOUS** motor smash has occurred at Shelton, near Shrewsbury, four persons having miraculous escapes. Colonel Finlan, of Dublin, was driving a car, accompanied by his wife and chauffeur, when, after negotiating a sharp turn, he came into violent collision with a farmer's cart, the occupant of which was hurled to the ground and sustained serious injuries. The motor-car dashed across the road into a telegraph pole. Mrs. Finlan was thrown out, but escaped with bruises.

**A MOTOR-CAR** belonging to a Liverpool firm collided on Llandudno Promenade with a landau. Though both vehicles were badly damaged the passengers escaped practically unhurt.

**MR. MURRAY JONES**, Hampton Hall, Malpas, has died as a result of a motor-car collision in Cumberland. His car overturned, pinning him to the ground.

**A POWERFUL** motor-car, the property of Mr. A. E. Bainbridge, of Newcastle-on-Tyne, was proceeding along the Huntingdon road, a few miles out of Cambridge, on Monday morning, when it collided with a loaded wagon. The three passengers, as well as the chauffeur, were pitched over the hedge into the adjoining field; the driver was so severely injured that he was detained at Addenbrooke's Hospital, but the other occupants of the car escaped with a few cuts and bruises. Immediately after the collision the car caught fire and was practically destroyed.

**AT an inquest** at Accrington on the body of Allen Fletcher Pierce, aged six, son of an Accrington upholsterer, it was stated that the lad ran out of a garden right in front of a motor-car, he being run over and the back of his skull completely smashed. Mr. Crabtree, of Clitheroe, the owner of the car, and the deceased's parents, were legally represented at the inquest. The coroner, however, said that it was a pure accident, and that no one was to blame. A verdict of "Accidental death" was returned.

**THE Mayor and Mayoress** of Chester (Alderman Robert and Mrs. Lamb) were injured in a motor-car accident on Saturday. The Mayor, who drives his own vehicle, was avoiding a cart in Hoole Road, not far from his residence, when the car skidded and overturned. The mayor sustained a severe shaking, but Mrs. Lamb was rather seriously injured, one of her ribs being fractured.

**WHILE** a motor-car was travelling along the Carlisle road, near Larkhall, on Sunday, it overturned, and its four occupants were thrown out. Mr. Watson, of Hamilton, the owner, was badly hurt about the head, the chauffeur had his arm broken, and the others were more or less injured.

### CASES DISMISSED.

**At the Lorrha** (Co. Tipperary) Petty Sessions, Mr. Charles Seagrave has been charged with having driven a motor-car negligently and at a reckless and excessive speed, on July 24th last. Mr. Stoney deposed that on that date he was driving towards Birr, when defendant's motor-car came round a turn at about twenty miles an hour, and stopped just at the horse's head. He heard no horn blown. The defendant said the car was going only ten miles an hour, and was stopped dead the moment he saw the horse. Mr. Stoney's car was on the wrong side. The case was dismissed.

**AT Reigate**, on Saturday, J. S. D. Barrington, of London, was summoned for driving his motor-car at Sidlow to the danger of the public. Inspector Jarrett said defendant drove his car at a murderous rate along the Brighton road. The lowest estimate of the rate defendant was proceeding as he passed another car was thirty-five miles an hour. Mr. G. L. Patten, who defended, denied the inspector's allegations, and called witnesses who stated that, owing to a breakdown of one of the cylinders, defendant was not travelling more than sixteen to seventeen miles an hour. The case was dismissed.

**AT the Arundel Borough Bench**, Albert Billing, chauffeur to Lord Chelsea, was summoned for exceeding the limit on August 2nd, at Arundel. Mr. F. J. Smith, solicitor, of London, appeared, and stated that he had been sent down by Lord Chelsea to defend the case. He was prepared with technical evidence to prove that the defendant was not exceeding the limit. P.C. Alce said he timed the car which the defendant was driving and found that it was going at twenty-seven miles and some odd yards an hour. P.C.'s Ayling, Etherton, and Dinnage corroborated, and Frederick Jessop spoke to the accuracy of the watches. Defendant gave evidence, stating that the car was fitted with the best speedometer that could be got. On the day he was stopped the maximum which the speedometer showed was fifteen miles. The Chairman said the Bench considered there was a doubt, and they gave the defendant the benefit of it; but at the same time they cast no reflection on the police.

### TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

# THE Motor-Car Journal.

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## M.C.J. PRIZE COMPETITIONS.

### MOTORING EXPERIENCES.

IN consequence of the number of Motoring Experiences received being greater than had been anticipated we are compelled to hold over the award till our next issue.

### AUTOMOBILE PHOTOGRAPHS.

Three prizes are being offered—one of a guinea and two of half a guinea—for the best photograph in which a motor-car figures. In making the award regard will be paid to the public interest of the picture, as well as to its artistic merits; hence, photographs of cars outside historic buildings or monuments will be as welcome as those of vehicles in pleasant places.

Only original photographs may be submitted, the copyright of which belongs to the competitor. The winning photographs will be published in the *M.C.J.*, and the Editor reserves the right to reproduce, without payment, a selection of those not successful in the competition. The latest date for receiving photographs will be Saturday, the 29th inst. Envelopes must be marked "Competition" in the top left-hand corner.

## COMMENTS.

### The late Mrs. Estcourt.

WE regret, and the news will be received with sadness by a large number of motorists, to hear of the death of Mrs. Estcourt, the wife of Mr. Ernest Estcourt, of Wroxham, Norfolk. The deceased lady had been in a poor state of health for some time, and latterly she had not often been present at automobile gatherings. But in the early days of the pastime she and her husband were popular members of the meets organised by the A.C.G.B.I. when that organisation had its headquarters in Whitehall Court. Long before motoring became a fashionable means of travel Mrs. Estcourt was in the ranks of motorists, and her death leaves a wide circle of sorrowing friends, on whose behalf we may tender respectful condolence to Mr. Estcourt and his family.

### At Scarborough.

TO-DAY (Saturday) there will be a great gathering of motorists at Scarborough. A garden party will be given in the afternoon by the Earl and Countess of Lonsborough, at Lonsborough Lodge, to which members and their friends are invited, and the sixth Motor Union Provincial Dinner will be held at the Grand Hotel in the evening. Lord Wenlock will preside, supported by the Mayor of Scarborough, the Hon. Arthur Stanley, M.P., Mr. Walter Rea, M.P., and other public men. The business part of the meet will take place in the morning, the General Committee meeting at the Town Hall, where they will be officially welcomed by the Mayor (Alderman Hastings Fowler). In the meantime many members will avail themselves of the opportunity of driving through the beautiful Forge Valley. Those who wish to play golf will have the opportunity over an excellent course, as the Scarborough Golf Club have elected members of the Union honorary members of the Club for the Saturday and Sunday. The course is situated at Ganton,

on the road to York, about seven miles out from Scarborough. Among the matters to be reported to the General Committee at Scarborough will be the affiliation of the following new clubs:—Blackpool and Fylde District, Cambridgeshire and Isle of Ely, Crystal Palace A.C., Naval Motor Club, New Forest and Bournemouth, and the Shropshire A.C. At the March meeting of the General Committee a sub-committee was appointed to draw up a standard form of agreement for the purchase of a motor-car. Several meetings of the sub-committee have since been held, at which draft agreements have been prepared and considered, and at the meeting of the General Committee at Scarborough an agreement will be presented which, it is believed, will be of general service to the buyers and sellers of motor vehicles. Altogether the Scarborough meet will be as important as it will be interesting.

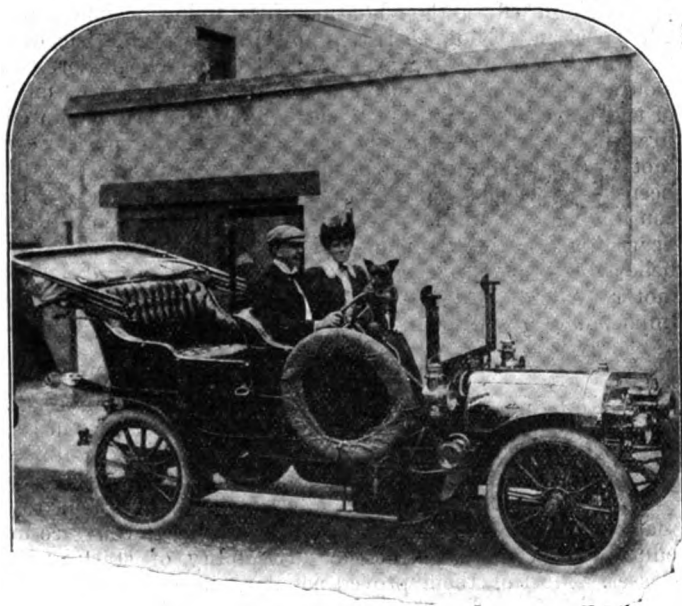
### Technical Instruction.

A YEAR ago we published an important contribution encouraging directors of technical colleges and similar institutes to include the teaching of automobile design and construction in their curriculum. The attention drawn to the matter, and the information then given, served to convince many educational committees of the advisability of starting motor classes. Most of them proved popular, and we note with satisfaction that considerable extension in that direction will take place this coming winter. The Heriot Watt College, Edinburgh, as well as the technical colleges of Manchester and Bradford, will have their classes. The Higher Education Committee of the Sunderland Education Authority has recommended the purchase of a petrol motor for instruction, and several of the principals of London institutes have sent their syllabuses, in which the automobile has a conspicuous place. At the Battersea Polytechnic—a pioneer in this useful work—practical lessons are given in driving as well as in the theory of automobilism, and the syllabus of the Northampton Institute in Clerkenwell is also of a practical character. Doubtless the A.C.G.B.I. will recognise in these educational institutions excellent opportunities of popularising their examination scheme.

### Motor 'Bus Regulations.

THE licensing of motor vehicles intended to ply for hire in the public streets is being undertaken by the New Scotland Yard authorities in a very strict sense, and we hear of some 'buses the appearance of which in public has been delayed owing to the action of the police. There is, therefore, considerable point in the introductory paragraph of the proposed police regulations which says that "proprietors before entering into contracts for new types of motor-omnibuses would do well to send the drawings to New Scotland Yard for approval as to type." In future the routes along which motor-buses are to ply will have to be specified when application is made for licences—evidently an endeavour to regulate the traffic in the interests of the residents of streets that are now quiet and undisturbed but threatened with the coming of the 'bus. "No undue noise or vibration is to be allowed," oil from the bearings must not drop on to the roadway, the visible exhaust is to be eliminated, brakes

are to be perfectly maintained and the regulations, as a whole, point to a general advance in the construction of such vehicles. The chassis wheel base should not exceed 14 ft. 6 in., and so proportioned that skidding and "other improper movements" shall be as far as possible avoided. In connection with this provision the Commissioner reserves the right, even after a bus has been passed, to call upon the proprietor not to use it if it is found to skid unduly. The new regulations which have been issued are still under consideration by the Commissioner before coming into force, and he is listening to the representations of the proprietors upon some of the details. Already he has made a concession with regard to the clause relating to advertisements, and we trust he will have something to say as to the height of the rear steps from the ground. The want of uniformity in this respect is a real danger to the public.



Dr. C. H. Roberts, at the wheel of his Germain 14-22-h.p. chassisless Car. The vehicle is fitted with a special body by Meier, of Redhill.

#### Universal Lights.

ALTHOUGH the Bill to secure the universal lighting of vehicles did not secure Parliamentary sanction, the necessity for its operation remains as strong as ever; in fact, the darkening evenings that seem to have come so suddenly upon us afford ample evidence of the need for all vehicles travelling upon the road to be adequately illuminated if something of safety is to be secured to the public highway. Elsewhere in our present issue is a report of a trial held by the Essex Club last Saturday. On returning home an accident befel one of the members which would certainly not have occurred had the suggested regulation with regard to the lighting of vehicles been enforced. Such mishaps should be reported to local M.P.'s with a view of convincing them with regard to the present inadequate protection which is afforded to users of the road.

#### Slovenly Drivers.

WE heartily associate ourselves with the protest raised by Major Lindsay Lloyd against the slovenly attitude adopted by many chauffeurs, who seem to regard the driving seat as a kind of lounge whereon they can disport themselves with an easy nonchalance, regardless of appearance or dignity. The driver observed by Major Lloyd "in a smart white coat, with his head almost touching the back of his seat, his right foot halfway up the dashboard, and his whole attitude more that of a slovenly drunkard than of—a driver," is but typical of many, and the protest against such slackness comes

not a day too soon. Such practices would not be tolerated on a carriage drawn by horses; why they should be regarded with equanimity on a motor-car is a thing that we, in common with Major Lloyd, cannot understand. The point might be emphasized by those responsible for the A.C.G.B.I. examinations.

#### The Tourist Trophy.

NEXT week many motorists will wend their way to the Isle of Man to see the International Tourist Trophy Race over the shortened course that has been selected by the Club. During the past few days many of the competitors have been grumbling at the bad condition of the Manx roads, saying that they are too lumpy for fast driving. The roads chosen this year, especially that from Douglas to Peel, are those with the greatest traffic upon them during the "season." It is indeed, surprising to many local people that the roads are as good as they are. Of course the surface could be improved, but this would cost a large amount of money, and the Highway Board have none to spare. It is, however, urged that the competition is meant for ordinary touring cars, and if they cannot stand the strain of rough roads they can hardly claim to be really touring cars.

#### A Warning to Motorists.

THE persons injured in the motor-car accident which befell Dr. Wolfington's party between Bala and Lake Vyrnwy last week are progressing well. In conversation with a correspondent Dr. Wolfington would like it to be known that, in his opinion, it is folly to take a car of any weight from Bala to Lake Vyrnwy by that road, and motorists should be warned against it. The road is in reality not a road, but a rough track of loose shingle and stones, and just wide enough to be traversed by a car. For five miles or so it ascends the Berwyn range through perhaps the most desolate but grandest scenery in Wales, until it reaches one of the highest eminences of the Berwyns. Then it descends by a series of steep slopes to Lake Vyrnwy. It was on one of these slopes, unbounded by hedge or bank, with the mountain rising sheer off the road on the left and descending steeply for half a mile to the valley below on the right, that the accident occurred. Coming down this rugged path the car gradually went to pieces, the front wheel coming off and the back wheels crumpling up.

#### The Responsibilities of Authorities.

WITH regard to the maintainance of roads by local authorities it must be recognised that they frequently fail in their duty, and many have been the accidents resulting from the neglect of the surveyors and their councils. It would be interesting to have a clear statement of their legal responsibility in the matter, and with this object in view some of the associations connected with motoring might undertake to fight a test case before the courts. The effect of such a policy would undoubtedly be a good one, inciting negligent road authorities to take steps to bring their highways to a safe condition—a state which cannot be claimed for many of them at the present time.

#### Scottish Neglect.

NOT only do the authorities neglect their obvious duties with regard to the condition of the roads, but some seem to delight in such wanton omission to safeguard the public. A meeting of the Upper Ward District Committee of the Lanark County Council has been held in the County Hall, Lanark, when a letter was read from the county clerk regarding the suggestion of the chief constable to have boards placed on the motor danger poles stating the nature of the danger to be expected. It was agreed to leave the letter on the table. Apparently considerations of economy prevented the adoption



of the suggestion, as well as a proposal to provide a more plentiful supply of danger signals.

#### The Accident at Hounslow.

AMONG our Royal family the Duke and Duchess of Connaught have had a succession of motoring mishaps such as, in a more superstitious age, would probably have caused them to publicly renounce the use of the mechanical vehicle on ordinary roads. The Duke has been concerned in two mishaps, and the Duchess, on Friday of last week, had an experience of a very shocking character, a lad dying from the results of injuries received by being knocked down by a car in which Her Royal Highness was riding with members of her family. The car was being carefully driven from Bagshot to London. When passing through Hounslow it got behind a cart, on the back of which some lads were hanging. One of these suddenly released his hold, apparently with the intention of running towards the pavement. He was, however, struck by the off-side head lamp of the slowly-advancing car, and, although every care was given, died during the evening. Such an accident should afford the Motor Union another opportunity of directing the attention of schoolmasters to the necessity of impressing

revive Shakespeare and throw physic (not the doctors necessarily) to the dogs, preferring to motor towards health than be drugged into perpetual somnolence.

#### Carriage Builders in Conference.

CARRIAGE builders have been comparing notes at Leamington, where the annual meeting of their Institute has been held under the presidency of Lieut.-Colonel A. F. Mulliner, of Northampton. It was notable of the change that is coming over the country that, after the first morning's session they proceeded to Coventry for an inspection of the works of the Daimler Motor Company. The President, in his address, said a change had taken place in their industry since he left his home thirty years ago to learn the practical details of the coach-builder's art. The mechanical spirit of this age of invention had drawn their attention to mechanically-propelled carriages, and in many firms this branch absorbed the greater part of their attention. The change was not only in respect of the type and design of the vehicles produced. Some firms who at first were interested solely in the building of chassis, not being able to obtain to their full satisfaction, or at prices they were prepared to pay, the carriage work they required, had



The Mont Ventoux Hill-Climbing Competition.—A Miesusset Car nearing the summit. (See page 623.)

upon the minds of children the dangers of carelessness on the public road.

#### Another Medical Scare.

THE late Sir Henry Thompson, one of the first medical men to adopt the motor, would probably have given a spirited reply to the attack—we can find no other word to describe the address—which Sir James Crichton-Browne has made on motoring at Blackpool. According to this latest utterance on the subject, rapid locomotion is a craze, involving blindness to natural beauty; motoring being in relation to scenery what bolting is in relation to food. The flavour is missed in both cases and indigestion results, mental dyspepsia in the one case, stomachic dyspepsia in the other. The confirmed motorist must, Sir James thinks, become sluggish in intellect and excitable and jumpy in temper, with an incessant craving for stronger and still stronger condiments. Motoring, at its worst, he decides, tends towards homicidal mania. Altogether this medical expert would probably class motoring with tea drinking and other evils of the age which—again we refer to the medical folks who scare us now and again and try to starve us into healthy bodies and sane minds—are modern innovations that spell disaster to poor humanity. In such extremity we would

taken their own measures to build or obtain it for themselves, with the result that work which they might legitimately have claimed had been diverted from them. He went on to touch upon the question of "prime cost" in relation to motor carriage body work, and concluded with a plea for greater confidence and mutual assistance between the members of the institute, and, indeed, between all engaged in the industry, whether employers or employed.

#### Experiments.

THE opportunity of gauging the respective merits of a dozen of the anti-dust preparations now before the public within a short distance of each other is about to be presented on the Portsmouth road. Ordinary constructional methods, supplemented with tar painting and laying with some of the patented compositions, will exist within reach of stretches of slag, ragstone and Kleinpflaster, the latter having a great reputation in Germany. The new experiment is being devised by the joint efforts of the Automobile Mutual Protection Association, the Roads Improvement Association, and the Surrey Council. The latter body deserves the thanks of motorists for rendering the experiments possible in sufficient time to give useful lessons to the road authorities for next season.

## THE TOURIST TROPHY RACE.

**T**UESDAY morning next will see the gathering of the cars engaged in the Tourist Trophy Race in the Club Enclosure in the Alexandra Drive, Douglas. Cars arriving after 10 a.m. will be disqualified. Already practically all the competitors have notified the Club of the fuel they intend to use—Shell, Pratt's, Carless, and Carburine having each its adherents. The three or four that have omitted to do this will be supplied with a spirit by the A.C.G.B.I. having a specific gravity of 0.695 to 0.705 at 60 deg. Fahr.

The race will commence on Thursday next, at 9 a.m., over a course about forty miles in length, *via* Quarter Bridge, Union Mills, Peel, Kirkmichael, Ballaugh, Sulby, Ramsey, Mountain Road, and Douglas. The cars will be required to make four complete circuits, making a total distance of about 160 miles, and the speed must be reasonably reduced in passing through villages and at other points, which will be marked at the beginning by a red flag and marked at the exit also by a red flag. No car must under any circumstances pass another in a village or between other distances marked by the red flags, unless the car passed is in obvious difficulties or is, in the opinion of other competitors, going at such a speed as unreasonably hinders them. The Club will have Observers in each of the



[Fig 1.—The Peugeot Car with Mr. Guy Lewin at the wheel.

villages, and at other flagged portions of the course. Official cars will also pass round the course during the race, Mr. Frederic Coleman having lent the Club a team of White steam cars for the conveyance of Observers and others.

### The Peugeot Car.

In the illustration (Fig. 1), Mr. Guy Lewin is seen at the wheel of the Peugeot car he has entered on behalf of Messrs. Friswell, Ltd., for the Tourist Trophy event. While, generally speaking, it follows the lines of the standard 10-12-h.p. Peugeot, the vehicle comprises a number of special features, chief among which is the engine, which is of a new design, comprising two cylinders 125 mm. bore by 140 mm. stroke, and with the valves all mechanically actuated off a single cam shaft. Two systems of high tension ignition are provided—accumulators and magneto. The engine is governed on the throttle, which is also controlled by a lever on the steering wheel. A device for agitating the carburettor, either from the driving seat or the front of the radiator, is fitted. A half-compression device is also provided, and another noteworthy point is the provision of a lever to regulate the intake of hot air to the carburettor. The

transmission is through a leather-faced cone clutch to a gear-box giving four speeds and a reverse, and thence by side chains to the rear road wheels.

### The Speedwell Car

The Speedwell car which has recently been specially built for the race by the New Speedwell Motor Company, Ltd., is

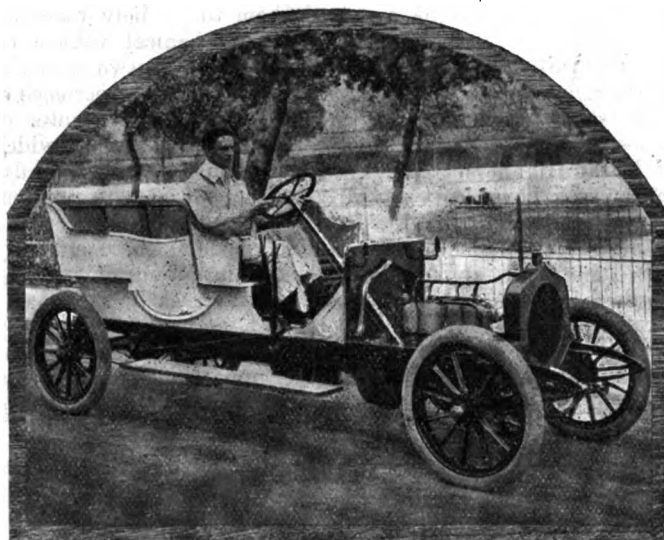


Fig. 2.—The Speedwell Car and its driver, Mr. L. Braithwaite.]—

shown in Fig. 2, Mr. M. L. Braithwaite, who will pilot the car in the contest, being seen at the wheel. The engine, which is of 16-h.p. and comprises four cylinders, is fitted with a specially designed automatic carburettor, which, we understand, is exceedingly economical as regards fuel consumption. A disc clutch is employed and the change-speed gear is arranged to give three forward speeds with direct drive on top. The transmission is by means of a cardan shaft and bevel gear on to a live axle, while the road wheels are 810 mm. diameter and shod with 90 mm. tyres.

### The Arrol-Johnston Cars.

The New Arrol-Johnston Car Company, Ltd., are running two cars. One will be driven by Mr. John S. Napier, the

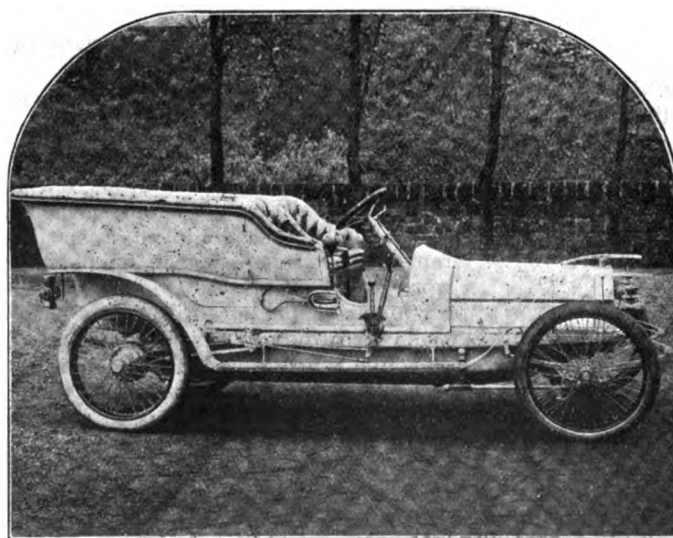


Fig 3.—The Arrol-Johnston Car which Mr. E. Campbell Muir will drive.

winner of the 1905 event, and the other by Mr. E. Campbell Muir (Fig. 3) giving a view of the latter vehicle. The two machines are practically alike as regards the chassis, but the bodies are somewhat different. The engine comprises two

## THE COMPETING CARS FOR THE 1906 TOURIST TROPHY RACE.

No.	Car.	Driver.	H.p. at revs. per min.	Bore.	Stroke.	Clutch.	No. of forward speeds.	* Transmission
1	New Arrol-Johnston	J. S. Napier	18 at 800	4½ in.	6½ in.	Metal disc	4	LA
2	Darracq	A. Lee Guinness	15 at 1,200	90 mm.	120 mm.	Leather cone	4	LA
3	Darracq	S. Girling	15 at 1,200	90 mm.	120 mm.	Leather cone	4	LA
4	Rolls-Royce	Hon. C. S. Rolls	22 at 1,000	3¼ in.	5 in.	Leather cone	4	LA
5	Rolls-Royce	P. W. Northey	22 at 1,000	3¼ in.	5 in.	Leather cone	4	LA
6	Minerva	W. J. Wright	22 at 1,000	101 mm.	115 mm.	Leather cone	3	LA
7	Minerva	M. Ross Browne	22 at 1,000	101 mm.	115 mm.	Leather cone	3	LA
8	James and Browne	C. L. Cattell	20 at 800	4 in.	5 in.	Metal cone	4	SC
9	Vinot	N. Littlejohn	22 at 1,000	95 mm.	130 mm.	Leather cone	4	SC
10	New Arrol-Johnston	E. C. Muir	18 at 800	4½ in.	6½ in.	Metal disc	4	LA
11	Argyll	W. B. Thorne	16 at 1,100	88 mm.	130 mm.	Leather cone	4	LA
12	Argyll	A. E. George	16 at 1,100	88 mm.	130 mm.	Leather cone	4	LA
13	Rover	E. Courtis	20 at 900	97 mm.	110 mm.	Disc	4	LA
14	Brown	A. Brown	24 at 900	100 mm.	120 mm.	Leather cone	3	LA
15	Clement	G. Brand	22 at 1,000	95 mm.	130 mm.	Multiple disc	4	SC
16	Pipe	G. Dumont	36 at 1,000	4 in.	4½ in.	Expanding spring	4	SC
17	Beeston-Humber	T. C. Pullinger	20 at 1,000	100 mm.	100 mm.	Leather cone	4	LA
18	Coventry Humber	L. Costalen	20 at 1,000	4 in.	4 in.	Leather cone	4	LA
19	Aries	—	Withdrawn	—	—	—	—	—
20	Aries	—	Withdrawn	—	—	—	—	—
21	Rover	J. K. Starley	20 at 900	97 mm.	110 mm.	Metal disc	4	LA
22	Peugeot	T. Sopwith	12 at 1,000	125 mm.	140 mm.	Cone	4	SC
23	Berliet	J. E. Hutton	22 at 1,200	100 mm.	120 mm.	Friction	4	SC
24	Siddeley	M. Grahame White	18 at 1,000	4 in.	4 in.	Leather cone	4	SC
25	Siddeley	A. E. Crowdy	18 at 1,000	4 in.	4 in.	Leather cone	4	SC
26	Berliet	M. Bablot	22 at 1,200	100 mm.	120 mm.	Friction	4	SC
27	Thornycroft	T. Thornycroft	14 at 1,000	95 mm.	95 mm.	Friction disc	4	LA
28	Star	G. F. Prew	18 at 1,000	4 in.	5 in.	Leather cone	4	SC
29	Deasy	R. A. Bell	24 at 1,000	105 mm.	130 mm.	Disc	4	LA
30	Deasy	J. W. F. Crouch	24 at 1,000	105 mm.	130 mm.	Disc	4	LA
31	Vinot	G. Usmar	20 at 950 22 at 1,000	95 mm.	130 mm.	Leather cone	4	SC
32	Scout	J. P. Dean	20 at 1,200	90 mm.	115 mm.	Leather	3	LA
33	Star	J. Lisle	18 at 1,000	4 in.	5 in.	Leather cone	4	SC
34	Speedwell	M. L. Braithwaite	18 at 800	98 mm.	130 mm.	Disc	3	LA
35	Climax	E. W. Leather	14 at 1,200	80 mm.	90 mm.	Dixon	4	LA
36	Swift	R. Every	20 at 1,100	88 mm.	130 mm.	Leather cone	4	LA
37	Hardman	W. L. Hardman	25 at 1,000	110 mm.	130 mm.	Leather cone	4	SC
38	Bianchi	H. P. MacConnell	20 at 1,000	105 mm.	130 mm.	Multiple disc	4	SC
39	Gladiator	A. McCormack	22 at 1,000	95 mm.	130 mm.	Metal disc	4	SC
40	Straker-Squire	S. Straker	12 at 1,000	120 mm.	90 mm.	Leather cone	4	LA
41	Straker-Squire	L. R. L. Squire	12 at 1,000	120 mm.	90 mm.	Leather cone	4	LA
42	Climax	T. Watson	16 at 1,200	84 mm.	110 mm.	Dixon	4	LA
43	Metallurgique	O. Cüpper	40 at 1,350	4½ in.	4½ in.	Expanding metal	3	LA
44	Armada	W. G. Batchelor	16 at 1,100	92 mm.	102 mm.	Variable friction	10	SC
45	Rapid	G. W. Roberts	20 at 900	110 mm.	120 mm.	Multiple disc	4	LA
46	Academy	T. Smith	19 at 1,600	80 mm.	90 mm.	Leather cone	3	LA
47	S.C.A.R.	H. A. Bates	20 at 1,400	90 mm.	100 mm.	Leather cone	3	LA
48	Vici	R. Lascelles	14 at 1,000	92 mm.	102 mm.	Leather cone	4	LA
49	Florentia	Lieut. J. L. Gordon	18 at 800	140 mm.	140 mm.	Metallic	4	LA

\* LA = cardan shaft and live axle. SC = side chain drive.

horizontal cylinders, 4½ in. diameter by 6½ in. stroke, and developing 18-h.p. at a speed of 800 revolutions per minute. Ignition is by low-tension magneto, while the carburettor is arranged in a special way devised by Mr. Napier with the view of securing great economy in fuel consumption. The governor is arranged to act on the exhaust, while a hand-controlled throttle on the admission is also provided. The transmission is through a disc clutch to a gear-box giving four speeds and a reverse, and thence by cardan shaft and bevel gear to a live axle. The vehicles have a wheel base of 8 ft. 10 in.

## The Swift Car.

The 16-h.p. Swift car entered by the Swift Motor Company, Ltd., will be driven by Mr. R. Every, who is seen at the wheel in the illustration on page 621, and who, it may be added, drove the successful car of this make in the recent Scottish Reliability Trials. The Tourist Trophy vehicle is fitted with a four-cylinder engine 88 mm. bore by 130 mm. stroke, the normal speed being 1,100 revolutions per minute. Two forms of high-tension ignition—magneto and accumulators—are provided, while the mixture is furnished by a new design of carburettor. The clutch is of the leather-faced cone type, and the change-speed gear is adapted to give four speeds forward and a reverse, with direct drive on top. The final drive is by a cardan shaft and

bevel gear on to a live axle. The car has a wheel base of 8 ft. 6 in., and the road wheels are 810 mm. diameter shod with 90 mm. tyres.

## The Wolseley Cars.

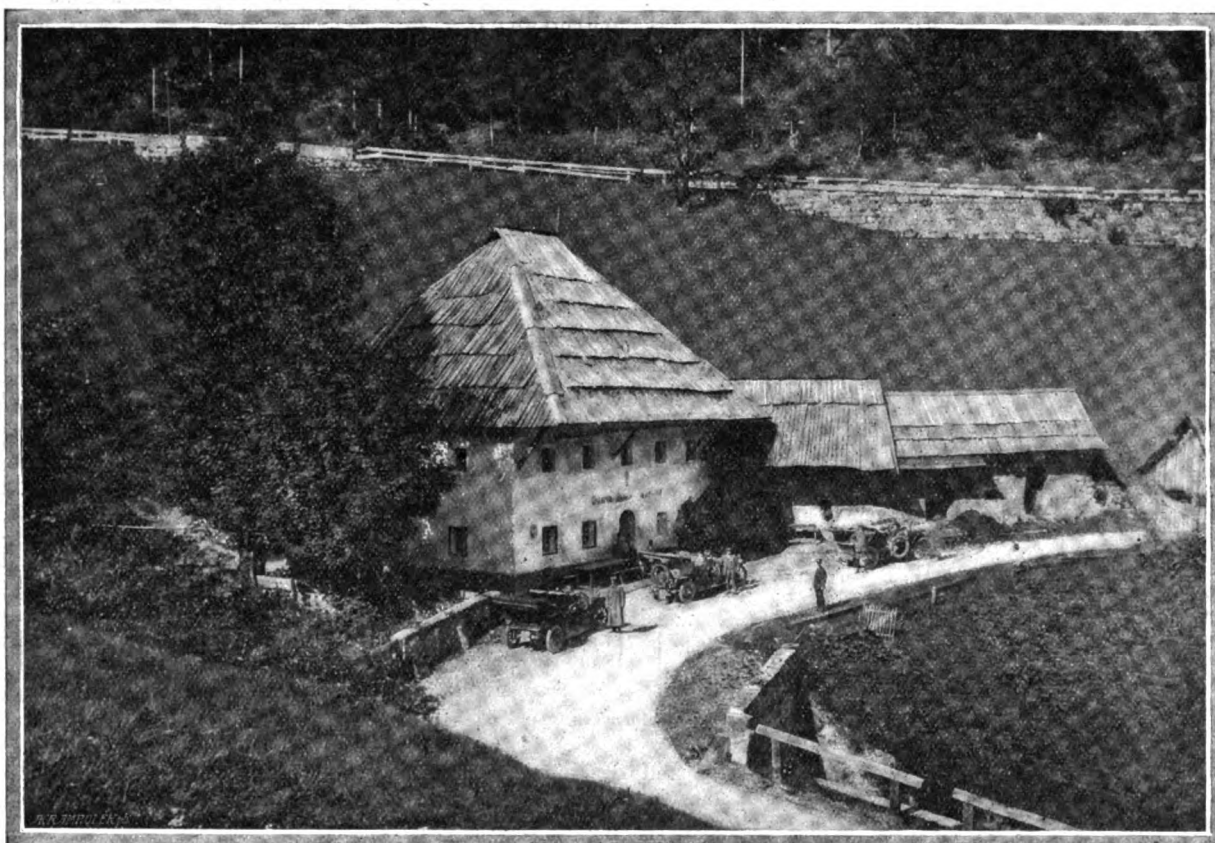
The Wolseley Tool and Motor Car Company have entered two Siddeley cars for the event. The vehicles, which have been designed by Mr. A. A. Remington, will be driven respectively by Mr. M. Grahame White and Mr. A. E. Crowdy, the latter gentleman being seen at the wheel of the car shown in the photograph reproduced on page 624. The motive power is supplied by a four-cylinder engine 4 in. bore by 4 in. stroke, developing 18-h.p. at a speed of 1,000 revolutions per minute. Two systems of high-tension ignition—magneto and accumulators—are provided. No governor is fitted, the speed of the engine being controlled by a small lever on the steering wheel, which is connected up to a variable lift device fitted in conjunction with the inlet valves. The transmission is through a leather-faced cone clutch to the gear-box, and thence by side-chains to the rear road wheels. Four speeds forward and a reverse are controlled by a single lever working in a "gate." The car has a wheel base of 8 ft. 6 in. and a track of 4 ft. It will be noted from the illustration that wire road wheels have been adopted, these being 30 in. in diameter, and shod with 65 mm. tyres at the front and 90 mm. at the back.

## SOME CURRENT TOPICS.

### Fires due to the Ignition of Petrol.

According to a return which has just been issued thirty-five fires in which petroleum spirit was involved were investigated by the London County Council's inspectors during 1905, as compared with fifteen in the previous year. Twenty-five of the fires were in connection with motor-vehicles. While the outbreaks were, according to the report, mostly due, primarily, to defects in machinery allowing petrol to escape, the carelessness of chauffeurs in bringing dangerous artificial lights near the leaky parts is given as the immediate cause. Besides stringent conditions inserted in licences issued by the Council, notices in

the particular car on which it is used. Especially as regards the engine lubrication, there are several conditions which require careful consideration in the selection of the proper lubricant, one of the most important being the amount of heating which the motor is subject to. A good deal may also depend upon the condition of the water-circulating pump, and it is important that this should be maintained in proper order, and all the pipes kept clean, so that the motor may run at an approximately even temperature. The failure of the pump to keep up the required flow of water may cause the temperature of the engine to rise considerably, when the ordinary oil which has previously suited it well will become too thin. If pump troubles should arise, it is advisable to immediately obtain an oil somewhat heavier than that ordinarily employed, otherwise the lubrication of the engine will not be properly carried out. In cars which have pressure-fed lubricators there is less danger of the motor running short of oil, but it must be remembered that as the reservoir which receives the pressure,



Motor Touring in Carinthia.—At the foot of the Loibl Pass.

[Allgemeine Automobil Zeitung.]

three languages have been distributed to the owners of garages, indicating the principal precautions to be taken in dealing with petroleum spirit, and forbidding the dangerous practice of pouring waste spirit into the drains, which has been the cause of many accidents.

### The Importance of Efficient Lubrication.

Although in the abstract there can be little doubt that every owner and driver of a motor-car has in his mind the fact that all the working parts should be lubricated, there are but few who fully realise how important a part proper lubrication plays in the satisfactory running of an automobile, how many small troubles could be avoided, and how many unpleasant experiences could be eliminated, were more careful attention given to the subject. While in cases where only really high-grade brands are employed the argument may perhaps reasonably be advanced that one oil is practically as good as another, yet it will always be found advantageous to see that it actually suits

usually supplied from the exhaust, is common to all the pipes, if one or more become choked, it follows that an extra quantity of oil may be forced through other pipes to those parts which do not require an excess, whilst the parts fed by the choked pipes are badly in need of lubrication. Therefore, care should be taken to see that the pipes are periodically and fairly frequently cleaned by disconnecting them from the crank case, or the bearings to which they lead, and filling the oil reservoir with paraffin, which should pass freely through the pipes. Lack of oil is one of the most frequent causes of scored bushes and shafts, and it is generally to be noticed that a car the working parts of which are constantly requiring re-bushing has been neglected in the matter of lubrication, so that closer attention in this direction will not only improve the running of a car, but will assist in keeping the cost of upkeep at a minimum.

ON Tuesday the Willesden magistrates issued summonses against some boys for throwing stones at a motor-car.

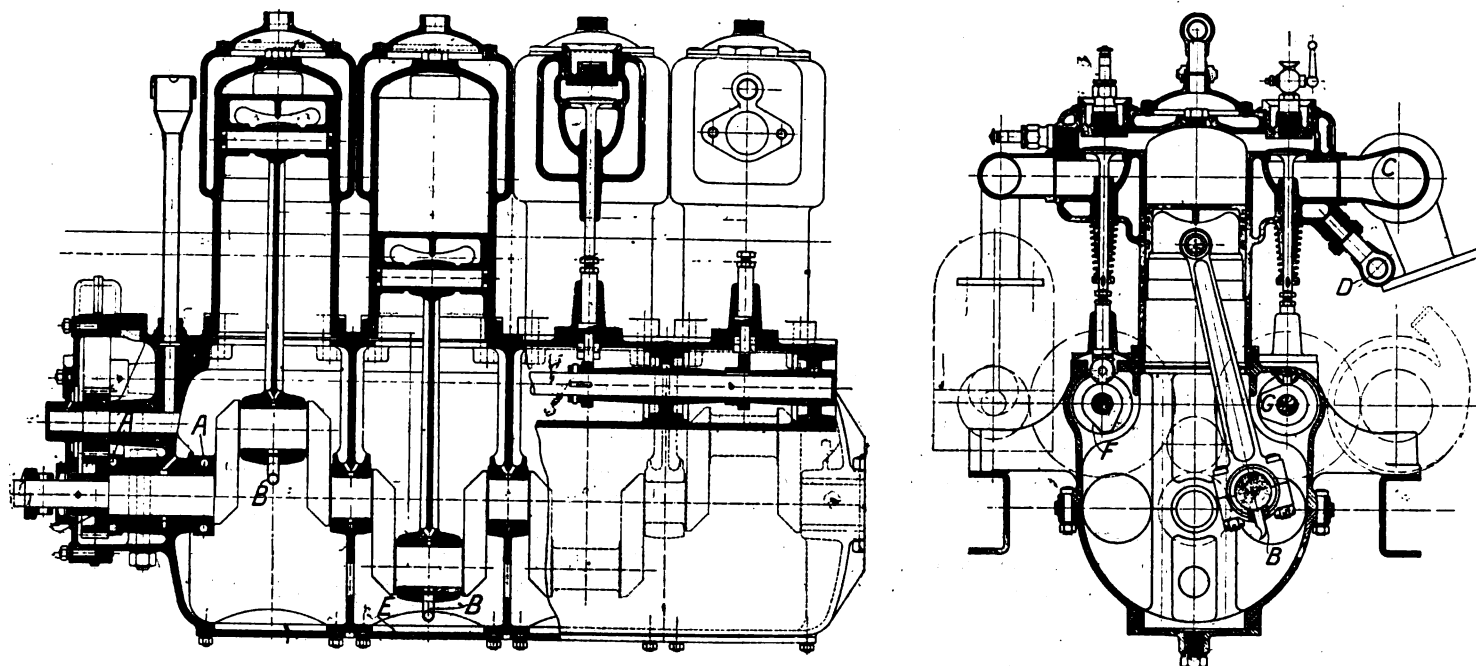


# The Talbot 20-24-h.p. Car.



THE 20-24-h.p. Talbot car, which has made a successful debut in this season's competitions, differs from the other productions of the Clement-Talbot works at Ladbroke Grove, London, W., in that it is not merely of British manufacture throughout, but is an entirely fresh design, the other Talbot cars being, as our readers are aware, manufactured in accordance with the designs of the French Clement-Bayard car. The distinctive points in the English Talbot are the adoption of a multiple disc clutch and cardan shaft transmission, but in many minor ways variations are observable. The engine is of the four-cylinder type, with the cylinders cast separately, the bore being 100 mm. by 120 mm. stroke, and the normal crank 1,000 revs. per min. As will be seen from Fig. 2, the valves are arranged on opposite sides of the cylinders, and mechanically actuated off separate cam shafts. No automatic governor is provided on the motor, which is entirely controlled from the steering wheel. An interesting feature is the employ-

pipe fitting C, which is formed of four separate castings connected by expansion rings. The reason for this is that it has been found that the uneven expansion and contraction of a single-piece exhaust pipe fitting attached to the exhaust ports has a tendency to distort the cylinder from alignment. The crank case consists of two large aluminium castings bolted together on either side of the main bearings, as well as by short bolts around the outside joint. This not only provides bearings between each of the cranks but enables inspection doors to be fitted under each crank pin, as shown at E in Fig. 1. At the front end the main castings are formed in such a way as to constitute half of the case enclosing the cam shaft, pump, and magneto driving gear wheels. The manner of fitting the cam shafts is also worthy of notice. The upper half of the crank chamber is bored through on either side to enable the cam shafts with their bearings to be pushed into place from the front end, when they are held in place by a grub screw.



Figs. 1 and 2.—Longitudinal and Cross Sectional Views of Talbot 20-24-h.p. Motor.

ment of chrome vanadium steel for the crank shaft, which, as is shown in the illustration Fig. 1, is provided with a bearing between each cylinder. On each side of the front main bearing are ball thrust rings A, and beneath each of the connecting rods are placed small oil scoops B, formed of small pieces of piping, the rotation of the shaft tending to force the lubrication from the oil well into the "big end" bearings, the pipes also serving to hold the lower halves of the brasses in place. Horizontal ignition plugs are fitted, in addition to the ordinary vertical plugs passing through the walls of the inlet valves chambers, one set being used in conjunction with the high tension magneto ignition, the other for the ordinary accumulator and coil ignition. This is, undoubtedly, sound practice, as it is generally conceded that the one set of plugs for dual ignition is not altogether satisfactory, the plug necessary to work properly with a high tension magneto being different to that suitable for ordinary accumulator ignition. Another noticeable point about the Talbot engine is that any make of magneto can be fitted, for the shaft which drives it runs at the same speed as the crank shaft; but for those who desire the Simms-Bosch type a special reducing gear is fitted. Another feature to which attention may be drawn is the exhaust-

The construction of the cams F G and their push rods with their steel collars and small cushioning springs will be clearly understood from the drawings.

Passing now to the clutch (Fig. 3) this differs from other multiple disc clutches in that the discs are quite flat and the friction surfaces are comparatively small, the advantage claimed for the design being that it provides a quicker pick up and release. One set of discs is made of hardened steel, the other of tough steel plates. An extra set of narrow corrugated discs is introduced between these plates to provide separating pressure. The operation of the clutch will be seen from the drawing. The central portion of the fly-wheel T, which is bolted to the crank shaft V, forms the outer member Y of the clutch, while the spokes are vane shaped to act as a fan in drawing air through the radiator. The clutch is made oil containing by means of the casting W which is bolted to the main casting. In this way a bearing is obtained for supporting the clutch shaft K with its sliding member, obviating the necessity of an additional bearing between the engine and the gear-box. At its forward end the shaft K has a spigot or thimble bearing inside the crank shaft V, and is flanged to receive the disc drum Z. The discs

R are slotted to correspond with teeth projecting from the disc drum Z. Although free to move longitudinally they are thus compelled to revolve with the clutch shaft K. Interlacing with the inner discs are the outer discs S, which are threaded over eight equidistant pins X, secured in place between the castings W and Y. The helical spring O is introduced between the sliding member and a collar on the shaft K, in order to force all the discs closely together. The action, therefore, is that when the oil is forced out from between the discs the friction between the inner and outer sets is so great that

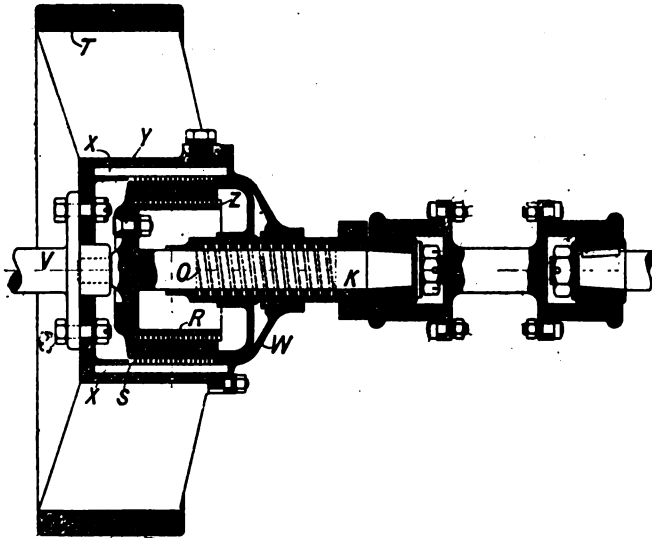


Fig. 3.—Section of Talbot Disc Clutch.

the clutch shaft K revolves with the flywheel. The sliding member at its rear end, which is outside the main body of the clutch, is provided with a thrust collar, and it is with this collar that the clutch pedal engages. In the illustration the sliding member is shown in the "free" position with the spring fully compressed and the discs separated by the corrugated discs. About one and a-half pints of oil comprises the full charge for the clutch, which can easily be dismantled without disturbing the gear-box.

MR. F. GASH has fitted up a garage at Douglas, with accommodation for half a dozen cars. Inquiries should be addressed to him at 7, Mona Terrace.

MR. W. J. ANDERSON, the motor agent, of Albert Bridge Road, Belfast, recently supplied a motor-car to the Irish "Daily Telegraph" for an extended advertising tour through the north of Ireland.

THE tabulated result of the replies to the circular of the Society of Motor Manufacturers and Traders in connection with the agency scheme was produced to the management committee at their last meeting, and this shows a decided majority in favour.

A FEATURE of several of the recent touring car trials on the Continent has been the increasing use of the Continental red-rubbered, steel-armoured, non-skid tyres. In the Coupe d'Auvergne contest, which was recently concluded, they were fitted to the winning car, a Brouhot, in class six. We may add that in this event six out of the first eleven cars were fitted with Continental tyres.

A SUBSTANTIAL reward is offered by Messrs. Daniells, Ltd., mineral water manufacturers, of Chertsey, to anyone giving information as to the number of a motor-car that passed over Chertsey Bridge about 8.30 p.m. on the 10th inst. The car met a mineral water van returning from a journey, and was steered violently into the latter, the driver being thrown from his elevated seat into the road, his horses bolting. The occupants of the car, which was apparently but little damaged, continued their journey at a rapid pace, and did not offer to render the slightest assistance.

## SOME USEFUL NOTES.

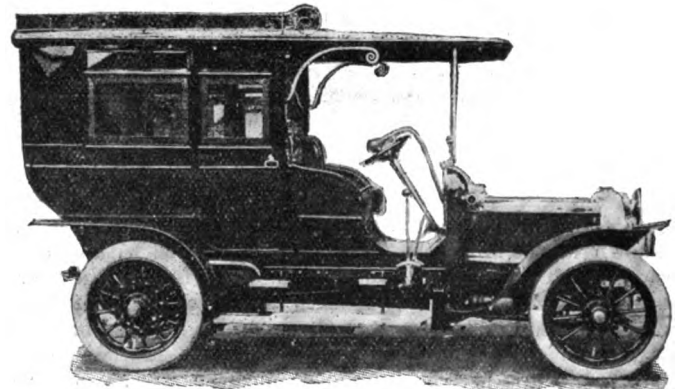
It not infrequently happens that the spattering of oil upon the gauze screen covering the main air inlet to the carburettor results in the accumulation of a film of dust which so cuts down the proportion of air to gas as to seriously interfere with the action of the motor. Care should therefore be taken to keep the gauze as clean as possible.

A CLOSE watch should be kept of the lubricator sight feeds of a car. If oil drops can be seen passing the motorist knows that oil is at least leaving the lubricator and going to some of the bearings, although he cannot be sure, from this indication alone, that all is right in the lubrication system, as there is always a possibility that a delivery tube may be broken or otherwise detached.

A PETROL motor does not develop its full power until it has been in operation a little time. When started the parts of the engine are cold, the cooling water is cold, the lubricating oil is more or less stiffened, a slight gumming of the cylinder walls and valves being quite common in cold weather until all parts have been heated. After a few minutes these factors disappear, and the motor resumes its wonted power, unless something else is amiss.

ACCUMULATOR terminals should always be kept scrupulously free from corrosion, otherwise they will gradually become "eaten away" to such an extent that a slight extra jolt on the road will suffice to break them off, and it may then be a matter of great difficulty to effect even a temporary connection. After being thoroughly cleaned and polished, the terminals may be fairly well protected from the action of the acid by a coating of vaseline.

A METAL pipe, if broken off, can be temporarily repaired by connecting the broken ends with rubber tubing or hose of the right size, and binding the ends tightly with wire or twine. A small leak may be stopped with tape, and a large one with a piece of patching rubber held down by tape. In making use of rubber cement, patching rubber, tyre tape, rubber tubing, or anything made of or containing rubber in any form, it should be borne in mind that rubber is soluble in petrol and will not hold it long.



The 30-40 h.p. Daimler built for the Hon. Mrs. Howard. The car, which has a 10 ft. wheel base, is fitted with a body of the "Warwick" type, painted dark blue with red lines and black mouldings.

IN addition to the float-controlled valve some carburettors are provided with needle valves in the spray nozzle or in the passage between the float chamber and the nozzle. Although these valves are generally very securely locked in position there is always a possibility of their having been tampered with, or the locking means having become ineffective through breakage and other causes, so that, should the carburettor not be functioning correctly, an inspection of these parts may usefully be included in the overhauling operation.

THE Douglas Bay Regatta will be held on Tuesday next, the day when cars for the Tourist Trophy have to be driven to the Club enclosure.

ABOUT a hundred men are now employed in the construction of the motor track on Mr. H. F. Locke-King's estate at Weybridge. At one point the river Wey is being diverted, so as to avoid bridging the stream oftener than necessary.

A CORRESPONDENT informs us that a royalty of £1 per car is being demanded for vehicles employing the "gate" controlled change-speed gear, and that the fee is being paid by several firms.

IN the recent trial of the Darracq-Serpollet motor-bus under supervision of the Scottish Automobile Club Gaulois tyres were used, and at the conclusion of the 688 miles' trial showed little sign of wear.

A MOTORIST who has just returned from Blackpool recommends Stretton House Boarding Establishment, North Shore, as a most comfortable place, and a useful address in view of the forthcoming races.

THE Alfred Street Motor Garage, opposite the Mitre Hotel, High Street, Oxford, have been appointed stockholders in the district for the Continental tyres.

THE Kansas City Automobile Club is adopting a shield placed on the front of the car as a means of mutual recognition, *a la* Automobile Association of the Old Country.

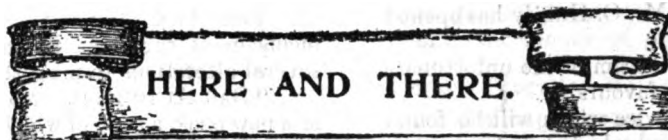
MESSRS. WILSON AND VOSS, Soroba Road, Oban, have been able to render useful assistance to motorists passing that way during the tourist season.

A MISPRINT in Mr. J. Ll. Warden Page's article "Under the Brecon Beacons and Through Mid-Wales," last week, made the descent from the top of the hill above the deep-wooded gorge of the Rheidol unusually steep. The gradient is, however, about 1 in 10, and can with due care be safely made.

There was a young man of Gomorrah,  
Who could not a motor-car borrow;  
He saw one marked Keele,  
Which he thought he would steal,  
He did, but 'twas much to his sorrow.

B. L. B., Bury.

At the annual general meeting of the Cyclists' Touring Club, held in London in March last, the idea was broached, and last week, at a special general meeting at Newcastle-on-Tyne, the proposals were made, and carried with only one dissentient vote, "That the name of the Club should henceforth be 'The Touring Club,'" and, following on this, "That all tourists should be admitted to membership." The Newcastle vote requires to be ratified at a further special meeting to be held in London next month.



At the meeting of Messrs. Vedrine and Co., the chairman, Mr. W. K. Steedman, said that they had on order 530 taximeter motor-cabs for London.

MR. G. F. PEDLEY, who is well known in motoring circles in London, was, on Tuesday, married to Miss Lilian Bennett, at St. Stephen's, Bayswater. The good wishes of Mr. Pedley's many friends may be assured.

MR. H. B. BROWNING, of Stonely Grange, Kimbolton, has offered to take any of the rabid anti-motorists who write to the papers for a ride on his car in order to demonstrate its controllability.

A NEW 10-12-h.p. car, known as the Pereire, has lately been put on the English market by Mr. Stanley Morris, of Doncaster. The vehicle, which is of French construction, is fitted with a four-cylinder engine and cardan shaft transmission.

MR. P. LAMB, who until recently was one of the partners in the firm of Messrs. Lamb Bros. and Garnett, has joined the firm of Messrs. West, Ltd., and in future his efforts will be centred in the sale of the "West" cars.

MR. BEERBOHM TREE has confessed to a Newcastle audience that "hooting and tooting through the landscape" was part of the joy of town-to-town visits.

THE eliminating contest for the American team for the Vanderbilt cup race takes place to-day (Saturday). There are fifteen competitors.

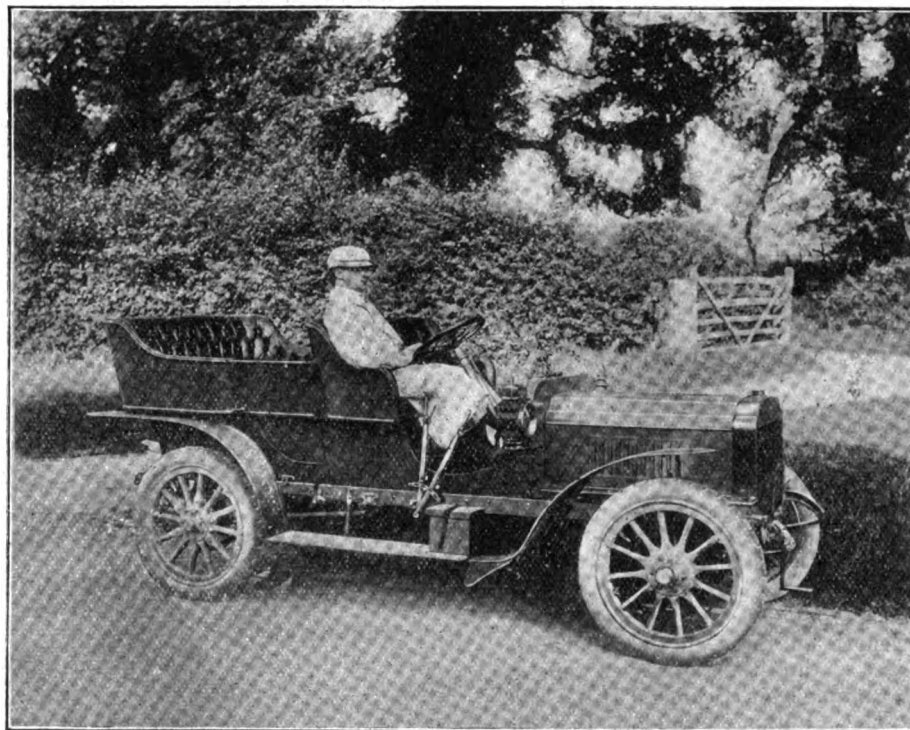
MESSRS. FRISWELL, LTD., inform us that they have sold the Peugeot car entered for the Tourist Trophy race to Mr. Sopwith, who will drive it in the coming contest.

MR. J. MACKAY TAYLOR, executive engineer, Ganges Canal, Meerut, India,

who has recently received delivery of a Jackson car from Messrs. R. Reynold Jackson and Co., writes that he has since used it under all sorts of weather conditions, both fair and foul, without an involuntary stop. He has run many miles along unmetalled grass and roughly-dressed canal banks, and has nothing but praise for the way it gets about.

AT an inquest held recently at Longtown, near Carlisle, on the body of Mr. Murray Jones, who was killed as the result of his car colliding with a cart on the Longtown road, the jury returned a verdict of death by misadventure, but recommended the County Council to pass a bye-law requiring carts in future to carry lights showing at the rear as well as in front.

A NUMBER of American motorists have organised an automobile tour of the Island of Jamaica, West Indies, leaving Boston on October 31st. One of the steamers of the United Fruit Company has been chartered exclusively for the party. The route will cover every interesting part of the island, the tour including admission to many of the private coffee, banana, and sugar-cane estates.

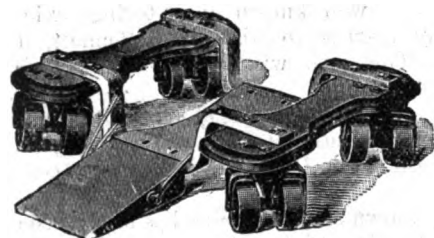


Mr. R. Every at the wheel of the Swift Car he will drive in the Tourist Trophy Race. (See page 617.)

IN High Chare, Chester-le-Street, Mr. O. Huntly has opened a motor garage.

MR. ST. JOHN HARMSWORTH, the victim of the unfortunate Hatfield motor accident, is progressing favourably.

WE illustrate herewith a little device which will be found exceedingly useful in motor garages, and which has lately been



put on the market by Messrs. Brown Bros., Ltd. It takes the form of a portable turn-table, and forms one of the latest additions to the "Duco" series of motor accessories. The apparatus consists of a pair of small trucks, each so

arranged that one of the front or rear wheels of a car fit into a steel concave in the centre of the same. The turn-tables are so substantially made that the heaviest car can be shifted about on them, and so easy is their movement that one man can handle them when in use.

A SCORING card in connection with the Touring Trophy race next week has been issued by the proprietors of Pratt's Motor Spirit.

THE Western Motor Company, Ltd., of which Mr. W. T. R. Shirrefs-Gordon is managing director, are offering free garage at their premises, 117-127, Berkeley Street, Glasgow.

A COLUMN of "Automobile Notes" now appears weekly in the "Sheffield Daily Independent," the first instalment of which makes apology for their strong resemblance to automobile notes elsewhere—a piece of surprising candour that does credit to the writer thereof.

TURNER'S Motor Manufacturing Company, Ltd., of Lever Street, Wolverhampton, is being reconstructed owing to the largely increased business, and has been registered with a capital of £50,000. The company has a large number of orders in hand at the present time.

FOR the convenience of those going to the Isle of Man attention may be drawn to the comfort of the London and North Western Railway Company's services *via* Liverpool and Fleetwood. An advantage which has been in operation all through this season, and which has been much appreciated by London and provincial passengers, lies in the ability to leave Euston by the 10.30 a.m. express and arrive at Douglas about 6.15 p.m. the same day.

ENTRIES for the "Graphic" Trophy Race closed on Saturday. The course is 4½ miles in length on the Douglas-Ballasalla road, starting from a point just south of the railway crossing at Quarter Bridge, Douglas, and running over Richmond Hill. The contestants will be Messrs. T. C. Pullinger (60-h.p. Beeston-Humber), Percival L. D. Perry (18-h.p. S.C.A.R.), J. Ernest Hutton (40-h.p. Berliet), George S. Barwick (30-40-h.p. Daimler), W. Watson (24-40-h.p. Berliet), F. W. Baily (50-h.p. Napier), H. E. Hall (28-35-h.p. Isotta-Fraschini), J. Ernest Hutton (50-h.p. Ariel-Simplex), H. P. MacConnell (20-h.p. Rapid), Percival D. Perry (30-35-h.p. Sorex), and Albert Farnell (30-h.p. Daimler).

A SIMPLE and ingenious arrangement for preventing the skidding of motor-buses is being introduced by the Motor House, of Euston Road, N.W. From the photograph of a model which has been sent us we notice that the device consists of two arms connected to the frame of the bus and a small length of steel chain. The front arm is brought out to the line of the near side back wheel, while the rear arm extends just beyond, the chain connecting the two arms lying on the inside of the wheel, curling round behind. As long as the rear wheels follow in the same track as those in front, the chain is out of action, but directly they tend to skid by swinging to one side or the other the wheel mounts the chain and obtains an enormous grip, which immediately arrests the side-slip. Under ordinary conditions the device is not in use, the chain being lifted off the ground and let down from time to time, as the surface of the road requires, by a lever at the side of the driver.

THE Peel Town Commissioners are delighted at the inclusion of the town in the Manx race, and have agreed to several alterations to meet the wishes of the A.C.G.B.I.

"DAS AUTOMOBIL UND DIE MODERNE TAKTIK" is the title of a new book, a copy of which has just reached us from Herr Paul List, of Leipzig. The work, which is from the pen of Herr K. A. Kuhn, deals exhaustively with the position of the motor-car in military service at the present time, the interest being increased by a large number of illustrations.

AMONG the prizes which will be competed for at the Blackpool motor races will be a 200-guinea cup, presented by the Blackpool Corporation, for the fastest flying kilometre; a 100-guinea cup, by Mr. A. Huntley Walker, for the fastest standing mile; and a 100-guinea cup, by Mr. A. Lee Guinness, for the light car section in the flying kilometre contest.

AN echo of the speedometer trials of the A.C.G.B.I. comes in the form of a circular letter from Messrs. Markt and Co., who have placed the Jones speedometer, which won the club's gold medal, upon the British market. The unfortunate error in the first report issued has had a long start, but Messrs. Markt and Co. are displaying natural persistence in acquainting motorists with the facts of the case.

THE new Granton double-deck bus, built by the Scottish Motor Engineering Company, Ltd., which recently made the journey from Edinburgh to London, arrived back at the works on Monday last, having made the journey from Walham Green in 37 hours, and on a consumption of only 80 gallons of petrol. During the round trip of about 800 miles the vehicle has given every satisfaction to the builders.

THE Adria Motor Agency, Ltd., which has recently been established at 8, Old Jewry, London, E.C., has acquired the sole agency in Great Britain and the colonies for the Radia cars, which, although well known in France, where they are built, have not hitherto been pushed in this country. Three models are being made, viz., 18-22-h.p., 30-35-h.p., and 40-45-h.p., all having four-cylinder engines. The general design of the cars is on Mercedes lines, the transmission being by side-chains, and the change-speed lever actuated by a lever working in a "gate" quadrant.

A NEW type of the Parsons Non-skid has been submitted to a thorough test on both light and heavy cars during the past six months with good results. The side hoops, instead of being made of wire and fastened with a right and left-hand thread



heavy coupling, are now made of chain and fastened with a simple but perfectly safe snap coupling. The cross chains, instead of being fixed zigzag across the tyre, now run straight across from hoop to hoop. These innovations secure greater facility of attachment and detachment, and reductions in weight and price. This pattern will be known as "Parsons Grippa" Non-skid, and is likely, judging from the result of experiments already made, to become popular with motorists.



## CONTINENTAL NOTES.

### The Mont Ventoux Hill-Climbing Competition.

The annual hill-climbing competition up Mont Ventoux, near Carpentras, organised by the Automobile Club Vaclusien, was held on Saturday and Sunday last. The hill is 21½ kilometres long, the difference of altitude between the starting and finishing points being about 5,200 ft. The first day was devoted to touring motor-cycles and two classes of touring cars. The best time of the day was made by Giuppone, who on a Griffon machine climbed the hill in 27 min. 58 sec., Champoiseau on an Alcyon being second in 30 min. 6 3-5 sec., and Cissac (Griffon) third in 33 min. 12 1-5 sec. The times were not equal to those recorded last year, when Ruamps on a Griffon covered the distance in 27 min. 9 sec. In the tri-car class the honours also fell to a Griffon, driven by Bucquet (1 h. 8 sec.). In the class for touring cars the chassis price of which is less than £360, Belleville on a 12-h.p. Brouhot with Continental tyres did 59 min. 8 1-5 sec. as against 1 h. 2 min. 45 3-5 sec. by Comanos on a 15-h.p. Cottereau. The section for cars of a chassis price of less than £560 brought out the largest number of competitors, the victory falling to Ladougue, who on a 20-25-h.p. Motobloc established

lunch given by the Vaucluse Club to the competitors at the hotel on the summit of the hill.

### A Screw-Propelled Motor-Bicycle.

Some experiments were made on the Acheres road last week with a novel motor-bicycle. The 6-h.p. engine transmitted its power, not to the rear wheel, as usual, but to a large screw fitted in front of the machine. The trial was organised by M. E. Archdeacon, the French aeronaut, his primary object being to test various forms of screw-propellers in order to determine which is best suited for airships and aeroplanes. Ridden by Anzani, the well-known motor-cyclist, the "aero bicycle" was timed to cover a kilometre in 45 2-5 sec, equal to a speed of about fifty miles an hour.

### Public Services in Germany.

A proposal is under consideration to start a public motor-car service between Baerl and Moers. The Bavarian Government is running a mail and passenger service between Southofen and Hindelang by means of a German Daimler single-deck bus and a trailing bus having accommodation for twenty passengers. A company has just been formed in Schlettstadt to establish a public motor-car service between that town and Markodsheim.



Collomb on the Rochet-Schneider Car on which he made the best Time in the Mont Ventoux Hill-Climbing Competition.  
*The picture is reproduced from a photo taken on the summit of the mountain.*

a new record, viz., 32 min. 25 sec., Gaste on an 18-22-h.p. Radia being second in 35 min. 59 sec., and Aubert (18-h.p. Mieusset) third in 40 min. 52 sec. The second day proved misty and very cold, with the result that the times were not equal to those recorded last year. Champoiseau riding an Alcyon made the best time in the racing motor-bicycle category, his time (26 min. 34 sec.) comparing with the 27 min. 10 4-5 sec. to the credit of Giuppone on a Griffon. Cissac (Griffon) climbed the hill in 26 min. 15 sec., but was disqualified owing to having been pushed round one of the nasty turns. Last year's record was 25 min. 48 1-5 sec., established by Lamberjack. In the touring car class for chasses under £800 victory went to the La Buire car driven by Mottard, the time being 25 min. 52 sec.; while in the under £1,000 section the winner was Taddeoli on a Rochet-Schneider (time, 25 min. 15 sec.), Garcet on a Clement-Bayard being second in 25 min. 48 sec. In the racing car category the honours of the day fell to Collomb, who, on a Rochet-Schneider, made the ascent in 24 min. 40 sec., a relatively slow performance in view of the fact that last year Cagno on a Fiat did it in 19 min. 13 sec. Rougier, who was driving a De Dietrich, took one of the corners too sharply, and was unable to finish owing to his steering gear being damaged. The meeting was brought to a close by a

### Motor-Car Construction in Spain.

There is at present only one motor-car factory in Spain, the Compania Hispano-Suiza, of Barcelona. Until last year the output was confined to 14-18-h.p. and 20-24-h.p. cars; this year, however, it began to build 40-h.p. vehicles, and has already turned out a number of them. The concern is making good progress financially, the secret of its success probably lying in the fact that it constructs its machines with an eye to their use on the bad roads of Spain.

### Miscellaneous Items.

A proposal of the Budget Commission to impose a tax of 10 fr. on motor-car drivers is exciting considerable opposition in Paris. —About fifty entries have been received for the Austrian Automobile Club's annual hill-climbing competition from Schottwein to Semmering, which is fixed for Sunday next. —It is reported that Messrs. Benz and Co., of Mannheim, have decided to build a six-cylinder racing car for the 1907 season. —The Automobile Club of Milan has decided to organise an international motor-car race for the 1907 season. —The name of the Daimler Motor Company, Ltd., of Coventry, appears in the list of exhibitors at the forthcoming Paris Salon.

## CORRESPONDENCE

(Letters to the Editor should be addressed to the offices,  
87-88, Charing Cross Road, W.C.)

### THE PROPOSED TAXATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—If what we hear respecting the increased taxation of automobiles which the Government hold in prospect comes to pass it means discourtesy to and direct disregard of the recommendations of those gentlemen forming the Royal Commission, and in the event of such a taxation as that suggested (i.e., £1 per h.p.) being forced on the already suffering motorist, the most strenuous opposition should be made by everyone connected with or affected by the movement. It must be taken up all along the line in a systematic manner. There must be no half-heartedness or diversity of opinion, and we must look to institutions like the Automobile Club, the Automobile Association, and the Society of Motor Manufacturers and Traders to formulate the opposition programme.

It will not, of course, affect the moneyed man with the large car

### A DIFFICULTY IN STARTING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I would be glad of a hint to enable me to overcome occasional difficulty in starting my 6-h.p. Benz car. After running all right and starting quite well for some time on half-compression with starting handle, it suddenly refuses to start, so that it has to be put on full and started by turning wheel on full, which is rather hard work. Everything appears to be all right, valves, mixture, current, &c. Thanking you in anticipation.—Yours truly,

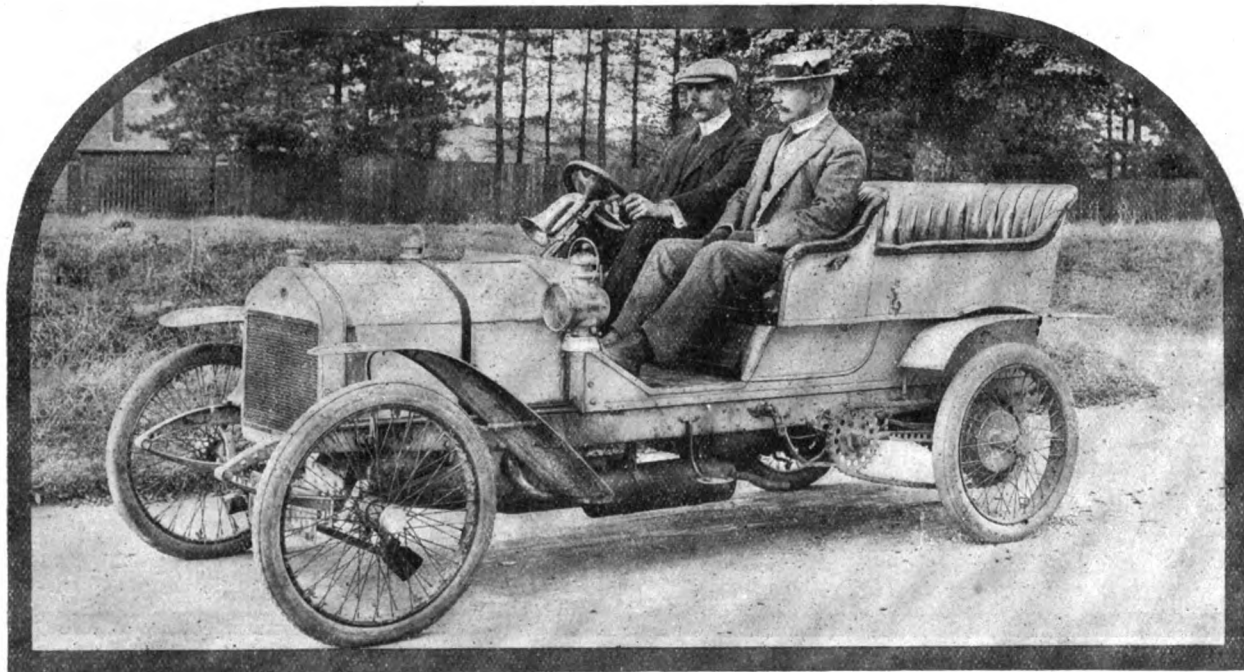
COUNTRY DOCTOR.

[The difficulty experienced by our correspondent is no doubt due to the sticking of the inlet valve, the suction on half-compression not being sufficiently strong to open the valve. A little petrol injected by the valve would greatly tend to remedy the trouble, and a small hole might be drilled in the valve cover for this purpose.]

### RESOURCEFULNESS—AND A SAND BAG.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Whilst the Swift Tourist Trophy car was having a road test the other day, one of the rear tyres suddenly burst. An inspection revealed the fact that there was a slit in the cover measuring exactly  $7\frac{1}{2}$  in. from end to end, and this many miles from any station. All that was on board was an inner tube and an ordinary Dunlop repair outfit,



Mr. A. E. Crowdy at the wheel of the Wolseley Car he will drive in the Tourist Trophy Contest. See page 617.

to the same extent as the man of moderate means—doctors and other professional men—and middle-class people, whose car indirectly means an assistance to existence; why should they be saddled with such proposed outrageous taxation? As an instance, take the usual run of purchasers of a car of about 10-h.p., I should say that 80 per cent. of these cars are sold to men who cannot be described as wealthy. It is because they are not wealthy that they purchase a vehicle of this description, inasmuch as their requirement is for a car which will convey them speedily from place to place and require no more skilled attention than they themselves can give. If it were necessary for the local practitioner to employ a skilled man to look after his machine, this fact would deter him in many cases from investing in anything more expensive than an ordinary bicycle or motor-cycle. It is on this class of owner that the imposition of such a tax would fall more heavily.

Another point of view which apparently has not received the attention it should do is that of the manufacturer. Here in England manufacturers are making superhuman efforts to recover the ground lost some years since, and forming an industry by which means thousands of families are supported each week, an industry which Britain must be proud of. Why let the powers that be nip that industry in the bud, why kill it in its infancy? It is a penny wise and pound foolish policy, and if ever such a taxation came into force would be worthy of the most strenuous condemnation. If increased taxation must be, restrict it to the £1,000 car owner, but let the local practitioner, the tradesman, and the middle-class man alone—I venture to think he cannot, and in the end will not, submit to such harsh measures.—Yours truly,

B. G. B.

and, as you will know, the cover patch included in this outfit measures  $6\frac{1}{2}$  in.—that is, the thick or “business” part. We nearly covered the hole by putting on the patch crosswise, but of course this would not hold. It looked as if the car would have to suffer the indignity of being hauled by a horse, when a brilliant idea struck the driver. Cutting off 14 in. of the top end of one of the ballast sand bags in the car, it was but a few moments’ work to lay this novel patch across the rent and to insert a new tube, and after a little trouble in coaxing in the cover (of course we had to have a piece of bag overlapping at each side of the cover), the tyre took the air without flinching and we drove the fourteen miles home at a speed which was as good as anything we had done prior to the mishap. On reaching home the driver, Mr. R. Every, wittily remarked, “Moral, always carry a sand bag.”—Yours truly,

ROBERT BURNS.

### GRINDING IN VALVES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the correspondence in the *M.C.J.* of the 8th inst. re valve grinding, Mr. Huddleston advocates the use of a brace drill with a screw-driver fitted for this purpose. I beg to state that I consider this injurious. By continually turning a brace in the same direction, should there be any coarse particles in the emery powder, these form a continuous circular scoring around the valve and its seating. By the use of an ordinary long-handled screw-driver this danger is lessened, as the backward and forward motion limits the area of scoring; moreover, by this method a more evenly ground surface is obtained. What Mr. Huddleston styles as “medium” emery powder, I do not know; there

are so many grades. Myself, I invariably use knife powder for the first treatment until all the worst pit marks are ground away, then finish as this gentleman suggests, with powdered pumice. If the valve is so badly pitted that knife powder seems too fine a grade of emery, it is undoubtedly wiser to have the valve turned up in the lathe to get the worst out; this avoids unnecessary work in grinding, besides saving the valve seat. It is undoubtedly wise to also fill up the passage to the cylinder with a piece of waste or similar material whilst the operation of valve grinding is taking place.—Yours faithfully,

ALAN A. L. HICKMAN.

### DIRT IN PETROL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I presume R. Foster, whose letter appears in the last issue of the *M.C.J.*, uses Shell spirit, by the red sediment. I had the same trouble and was advised to try the best quality Carburine, and then found blue sediment. I now have the petrol delivered at my house and put very fine muslin over the funnel as well as the ordinary gauze and no more dirt gets through.—Yours truly,

C. E. THORNE.

### THREE MEN ON A 'BUS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Would it not prove profitable for the motor-'bus companies to re-adapt Jerome's phrase of "Three Men on a 'Bus," and to have a third party, a lad preferably, to look after the passengers?

The driver has to keep his attention on the road in front of him and the wheel before him. He cannot look about for passengers as do the drivers of the horse-drawn vehicles; he must concentrate his attention on his own work. The conductor is up and down the 'bus, inside and out, collecting fares and generally attending to those who have already boarded the vehicle; he, too, cannot always see the pedestrians anxious to become passengers. Thus the two men engaged on the vehicle have enough to do to drive the 'bus and attend to passengers, without paying much regard to the would-be riders.

I would, therefore, suggest to the companies that they should employ a lad on the 'bus to keep an eye for likely passengers, and to cry "Halt" when people wanted to mount. The expense would be little, and the extra wages would be more than covered in the increased traffic secured. At the same time the companies would always have a number of young fellows growing into experienced conductors. A kind of apprenticeship system might be established in connection with the work, tending to the convenience of the public and the profit of the company.

Knowing with what favour the *M.C.J.* is regarded by the promoters of motor services because of the information it gives on such matters, I trust the subject will be deemed worthy of discussion in your columns.—Yours truly,

B. A. COLLIER.

### BRIGHT PARTS ON CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Mr. Finch's letter in the last issue of the *M.C.J.* on the above subject is to the point. It has been asserted on good authority that many more people would buy cars could they but feel that they had the time to give the vehicles the attention they require. So far as the mechanism itself is concerned this does not apply directly, as the minor adjustments usually needed by a good motor-car are trivial consumers of time and anything serious in the way of repairs is handed over to those with adequate facilities. But the cleaning of a car occupies a good deal of time, and it is an item that is seldom considered in connection with the amount of attention that must be devoted to a machine by the motorist who cannot afford a chauffeur. A car never returns from a run clean, however short it may be, and the vast expanse of highly polished varnish with its brass or plated trimmings soon shows the effect of neglect in a manner that is unmistakable. To preserve even a semblance of its original brightness by the end of the season, immediate and painstaking care, not to mention facilities for washing not usually afforded by the average private garage, are imperative every time the car comes in from a run. Having this in mind, I fully endorse the opinion that the ornamentation of the car should be restricted as much as possible, not alone to prevent it becoming shabby in a short time, but also to save the great amount of time and labour that must otherwise be devoted to the process of cleaning and polishing. At the same time the finish should be such that they could be used under all weather conditions and still look well.—Yours truly,

R. J. BAKER.

### POLICE METHODS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Inspector Jarrett's recent abortive prosecution of a member of the Automobile Association calls for serious attention from all right-minded people. The inspector said that a gentleman named Berrington drove his car at a "murderous rate" along the Brighton road, but, in answer to his promptly issued summons for driving at a speed dangerous to the public, it was conclusively proved that the "murderous rate"

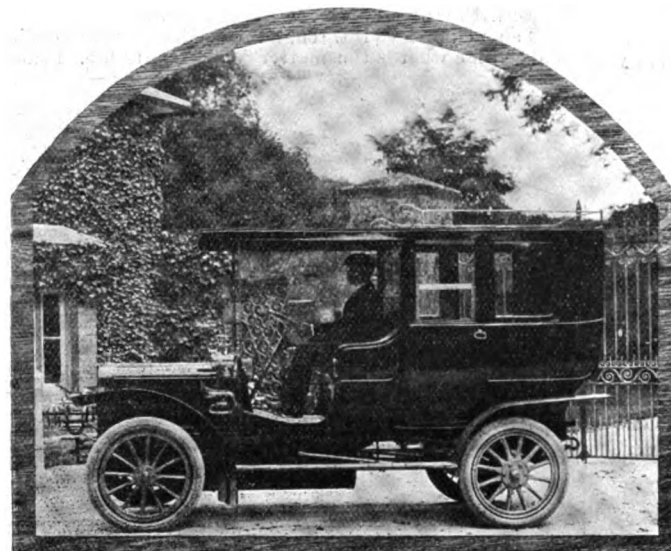
existed only in the inspector's far too vivid imagination, as a defect in the engine made it impossible to exceed the speed of seventeen to eighteen miles an hour. Further, on the day of the alleged offence Mr. Berrington was kindly inspecting one of the Automobile Association's lines of cyclist patrols who are placed on the roads to warn motorists driving at a dangerous speed, and to assist members if they have breakdowns. Inspector Jarrett denied that the amber-coloured official flag flying from the inspecting car attracted his attention, about which there is of course nothing further to be said; but his conduct in endeavouring to show that our men are primarily engaged in warning motorists as to the whereabouts of police traps was as reprehensible as it was uncalled-for and suggests that the yellow badge and not the "murderous rate" of speed was the real reason of the prosecution.—Yours truly,

STENSON COOKE.

### SIX WHEEL CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The last Paris Salon was notable for the presence of three six-wheel motor-vehicles, one being shown by the De Dietrich Company, one by a M. Borderel, and the other a motor-lorry built by M. Janvier, of which latter you gave some illustrations in the *M.C.J.* a month or so ago. As far as I can ascertain, however, the six-wheel idea does not appear to be making any progress. Certainly one does not hear of them in this country, and it would be interesting to learn whether the



A 20-h.p. Scout Brougham recently completed by Messrs. Dean and Burden Bros., Ltd., to the order of Mr. E. Marsh, trainer for His Majesty the King.

same holds true in France. The idea is one which I consider is well worth developing, as the construction presents many advantages from a mechanical point of view. For instance, the weight is distributed on six points instead of on four, so that the strains on the tyres should be greatly reduced. The springs extend from one end of the frame to the other, and render the three axles absolutely independent, one with respect to the others, and free to follow the undulations of the road. The frame is, of course, slightly increased in length, but that is a matter of little importance, as the vehicle can turn in a very short radius.—Yours truly,

ENGINEER.

### DE DION CAR QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the letter from Mr. John Boorer in the last issue of the *M.C.J.*, I had the same trouble with a 10-14-h.p. Renault, and found it was caused by the collar of the clutch lever pressing lightly against the bearing of the revolving flywheel. The noise stopped on pressing lightly on pedal. To remedy the trouble fit a spring to keep the collar from touching.—Yours truly,

G. B.

### TAIL LAMP TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—For some time past I have been experiencing a most annoying series of tail lamp troubles, and should be greatly obliged for any hints as to a lamp that may be relied upon. It is not only discomforting to one's passengers to be continually worrying them with the question "Is the tail lamp in?" but extremely irksome to have to get down every

few hundred yards to relight the lamp, not to speak of the chance of being summoned, fined and one's licence endorsed. One motoring friend suggests the use of an ordinary cycle lamp, while still another suggests an acetylene one. As I feel sure this difficult question of tail lamps is not confined to myself, those motorists who have overcome it and are able to drive along at night with a free and easy mind will be doing a service to their fellows if they will give them, through your columns, the benefit of their experience.—Yours truly,

F. ELWOOD.

### THE SUPPLY OF SPARE PARTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—My car has lately required several of its small parts renewed, and I have been astonished not so much at the delay which has ensued, but at the heavy charges made. It seems to be a foolish policy to make the prices of spare parts as high as they can be possibly made with the idea that they should be profit-bearing as well as the complete machines. In my opinion, prices of these parts should be made as low as possible; just high enough to cover the cost of production and handling. This would encourage owners to replace parts more promptly and would add greatly to the satisfactory service given by the car, and consequently enhance the reputation of the makers.—Yours truly,

PRESTONIAN.

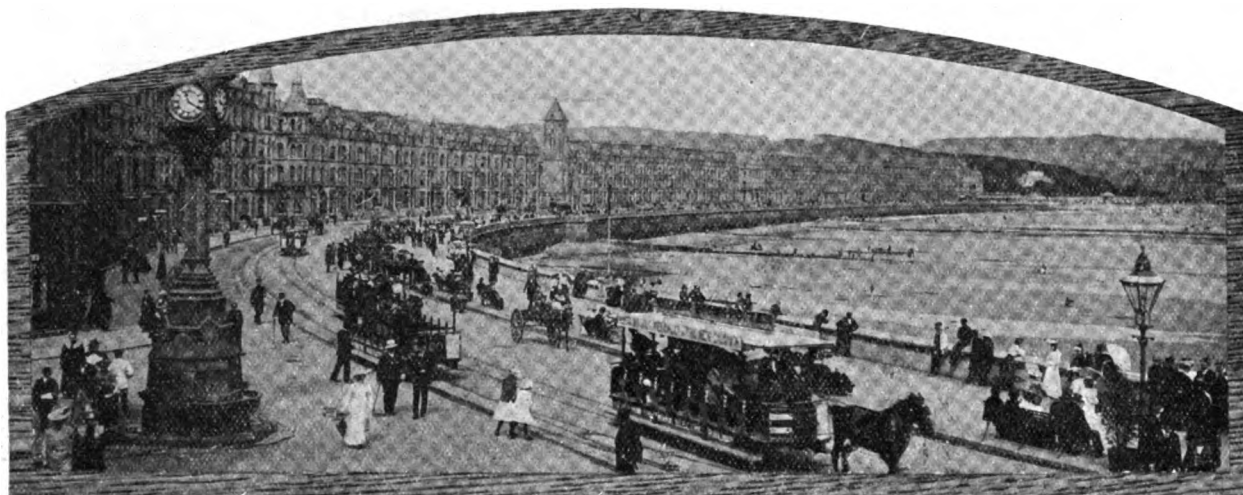
### OVERHEATING TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I shall be much obliged if through the medium of your popular journal you could tell me what is the matter with my 12-h.p. Prunel

impression seems to be widely current that at some future time it may be put into usable form, despite the great obstacles standing in the way of its development. In a paper recently read before the Junior Institution of Engineers, Mr. Dugald Clerk presented most cogently the difficulties which seem to render extremely dubious the practical solution of the gas turbine problem along any of the lines which have yet been proposed. The method of gas turbine operation which is treated of as the only practical one is that of furnishing to the turbine blades gas issuing at constant pressure through a jet, from an exploding chamber in which the charge is compressed by external means, the gas operations being thus on the so-called Brayton cycle.

It is pointed out by Mr. Clerk that any attempt to serve the turbine blades with gas at the temperatures common in piston engines—1,600 deg. or 1,700 deg. C.—would cause their rapid destruction, as these temperatures are above that of the melting point of platinum, and above the softening points of many of the most refractory non-metallic materials. According to the figures given, about 500 deg. C. is as high a temperature as turbine blades made of any available material could permanently withstand. This fact necessitates a gas supply to the turbine at very greatly reduced temperature, and the expanding jet between the exploding chamber and the turbine must perform this function—converting the heat of the issuing gas into kinetic energy of motion of the fluid, which energy it is sought to realise at the turbine blades. It is regarded by the author quoted as very doubtful whether a jet capable of a sufficiently economical transformation of heat into gas velocity can be attained. It is also pointed out that, as the turbine principle is adopted in order to obviate the use of reciprocating parts, a piston compressor cannot be consistently employed to feed the compressed charge to the exploding chamber, and it is doubted whether a rotary or turbine form of compressor, of satisfactorily high efficiency,



The Tourist Trophy Race.—A View of the Loch Promenade, Douglas.

car. It has developed overheating, and after running a few miles the inlet valves commence snapping; in fact, one day both the inlets and one exhaust valve broke at one stroke, and the exhaust pipe gets red hot. I have tested the radiators and there seems to be a good water circulation, and I have put on new rubber connections, but all to no purpose. If any reader can help me out of the difficulty I shall feel indebted, as the car used to run all day without the slightest overheating.—Yours truly,

AUROL.

[We are inclined to think that the trouble experienced by "Aurol" is due to carbon deposit in the cylinder heads. This becomes incandescent after the engine has run a short time, and retains the heat, causing the water to boil. We would advise the dismantling of the cylinders and thoroughly clean the heads and pistons; at the same time make sure that the water jackets are free from fur. If this is done, no doubt the trouble will cease.]

### THE PROSPECTS OF THE PETROL TURBINE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Ever since the steam turbine attained success as a competitor of the ordinary steam engine, the idea of utilizing the energy of exploding gas charges on the turbine principle has been widely entertained by those familiar with internal combustion engines. The gas turbine, as an ideal conception, has appealed to many, for the reason that it would, if realised, convert thermal energy directly into mechanical energy of rotation, without the intervention of reciprocating parts, and would be much simpler mechanically than gas or petrol engines of the cylinder and piston type—desiderata which might have an important bearing upon the future of the automobile art. Up to the present time no practical embodiment has been given to the gas turbine principle; but the

can be produced. The probable inefficiency of conversion of the energy of gas motion into blade rotation was also adverted to.

Even assuming the efficiencies of the compressor, jet and blades to be as high as could possibly be expected, and far higher than could at present be realised, and assuming the heat losses relatively no greater than those experienced in ordinary gas engines, it is shown that an indicated efficiency of but about 16.5 per cent. could be expected of a turbine of this type, while a piston engine of fair size would show an indicated efficiency about double this figure. The comparatively low temperature at which gas must be supplied to the blades, the inefficiency of the conversion in the nozzle, the losses in compression and very serious presumptive mechanical difficulties in the turbine, even at the temperature assumed, are regarded by Mr. Clerk as almost insuperable difficulties in the way of rendering the turbine practicable, although it is admitted that a certain lack of efficiency would be tolerated in view of the abolition of reciprocating motion. It is, however, judiciously stated in the paper that the rather discouraging conclusions drawn are based upon present knowledge regarding the subject, and that future discoveries and an improved line of attack may render possible a more favourable consideration of what is admittedly a most fascinating problem.—Yours truly,

R. H. HIGGINBOTTOM.

LOST.—On Sunday, September 9th, between Spring Hotel, Ewell, and Brixton, a connecting rod of a motor was lost. Anyone returning the same to Mr. F. Catling, 77, Fleet Street, E.C., will be rewarded.

GEAR BOXES.—"Salisbury" writes:—"Can any reader give me the name and address of the maker of gear-boxes with the letters S.A.G.E. cast on the case? The Brush cars have them, and they are of French make."



## CLUBS AND ASSOCIATIONS.

## LINCOLNSHIRE.

WOODHALL SPA was on Wednesday of last week crowded with cars belonging to members and friends of the Lincolnshire Automobile Club, who were holding a meeting at the Victoria Hotel in the Spa grounds. A meeting of the club committee had been held before the meet, at which several important matters were dealt with. The Dust Committee of the A.C.G.B.I. had sent their report and suggested that the Lincolnshire Automobile Club organise similar experiments to those held. While decidedly favouring the suggestion, the committee considered it was now too late this year, but will consider it when arranging next year's programme. Major Fowler's resignation from the committee was received, but he is to be asked to retain office the year out. Regulations were drawn up for the hill climb for the President's cup and for the speed trial for the Newsum cup, and they are to be published in the club handbook. Official timekeepers

Three prizes were given by the club, and were kindly presented by Mrs. Knight to the following winners, viz.:-

Name.	Car.	Weight of car and load in lbs.	Marks received for reliability.	Petrol consumed in ounces.	Resultant of formula.
1. Dr. Montagu Tench	12-16-h.p. Clement	2,780	3,000	225	370
2. Mr. W. S. Argent	18-h.p. Mercedes	2,898	3,000	280	310
3. Dr. F. P. Cayley	8-h.p. De Dion	1,728	3,000	170	305

The committee have decided to alter the hill climb on October 6th from an "open" to a "closed" event only, the hill selected being Bottledown Hill, situated between Little Bursted and Billericay.

A nasty accident occurred to Mr. F. C. Hill, one of the most energetic members of the committee, in returning from Witham on Saturday, when nearing Romford, owing to the lamp of a farm cart not being alight or being obscured. Mr. Hill's son was driving, and the cart being on Mr. Hill's near side he naturally assumed it to be going in the same direction as himself; the cart, however, was on its wrong side and going in the opposite direction, and upon the horse pulling over to its right side



The Essex Automobile Club's Reliability Run. Some of the Competitors at Witham.

are to be appointed for the club. A member who had lost a case against the driver of a car for careless driving was granted three guineas towards the expenses. It was decided to draw up a list of garages in the various towns for use by the members at a fixed charge. It was also agreed to draw up definite rules as to entry of members of the trade in club competitions and to hold another meet at Revesby in October, if the weather continues favourable.

## ESSEX.

THE Essex County Automobile Club held a combined reliability run and consumption trial on Saturday, starting from and returning to Witham. The cars were weighed complete with passengers on the weighbridge at the Tannery, kindly lent for the occasion, after which luncheon was served at the White Hart Hotel, Witham, to a large gathering of the members and their friends.

The cars, after having been filled up with petrol, were then dispatched over a circular course of nearly fifty miles, the route being through Kelvedon, Lexden, Braintree, Little Waltham, Hatfield, Peveril, back to Witham.

The handicap formula for determining the winner was the weight of car and load in pounds, multiplied by the number of marks received for reliability divided by the ounces of spirit consumed, the highest resultant being the winner. The maximum number of marks for reliability was 3,000.

a collision occurred, the shaft striking the car behind the front seats, resulting in the body of the car, a 24-h.p. Wolseley, being smashed up. Mr. Hill, sen., was thrown forward on the dashboard, and upon being carried into the Club House of the Romford Golf Club, was found to have broken a rib; the other occupants of the car escaped.

## KENT.

A MOST interesting meet took place on Saturday, when the members of the club had a picnic tea at Penshurst Park, by kind permission of Lord de Lisle. Afterwards an inspection was made of the mansion, one of the oldest in England, having been given to Sir William Sidney by Edward VI. Among some of those present were Mr. and Mrs. Waddington, Mr. and Mrs. Wyllie, Mr. W. Willis, Miss Willis, Col. Edward Latter, Mr. and Mrs. Brewerton, Mr. and Mrs. Fraser, Mr. and Mrs. Granville Kenyon, Mr. W. F. Young and Mr. E. St. Clair Duncan.

## MOTOR YACHT CLUB.

ON Tuesday last there was an impromptu club run to Bursledon, on the occasion of the Hamble River Regatta, which took place there that day.

Javelin has been safely hoisted into her winter quarters this week, and now lies snugly stowed on the deck of the Enchantress

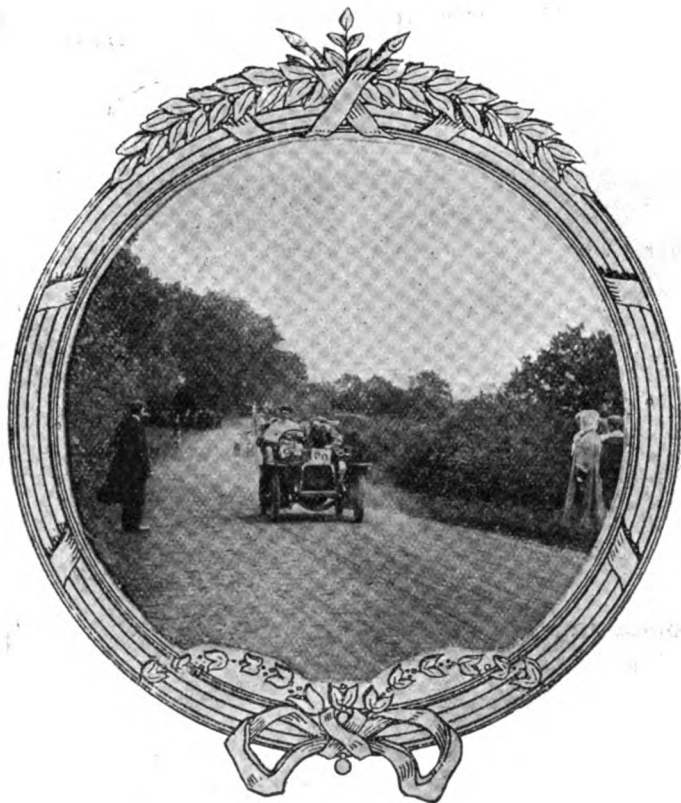
alongside her formidable competitor Quicksilver. She was hoisted in with a motor winch mounted in the floating workshop belonging to the rear commodore.

The Cavancha, which took part in the Dartmouth Regatta, is engined with an Ailsa Craig motor.

### SCOTTISH.

THE Scottish Club have agreed to contribute towards the expenses of a member of the Club who has been sued by a carriage hirer for damage sustained by him through an accident, which took place on a county road, it being alleged that the horse attached to a wagonette shied at a motor-car which had been left unattended on the roadside at the entrance to a private house and with the engine stopped.

A series of driving examinations will be held at the principal centres in Scotland towards the end of October. Intending candidates should communicate as early as possible with the secretary of the Scottish Automobile Club, 59, St. Vincent Street, Glasgow, from whom the necessary forms may be obtained. Under the recent agreement with the Automobile Club of Great Britain and Ireland the examinations in Scotland will be conducted by the Scottish Automobile Club, upon whose recommendation the certificates will be issued by the Automobile Club of Great Britain and Ireland.



The Kettleby Hill-Climbing Competition. Dr. R. G. Hogarth's 12-16-h.p. Clement-Talbot Car going well.

### LEICESTERSHIRE.

UNDER the auspices of the Leicestershire Automobile Club, a hill-climbing competition, open to the members of the Leicestershire, Nottinghamshire, Derbyshire, Northamptonshire, Midland, Coventry, and Wolverhampton clubs, was held on Saturday, at Kettleby Hill, near Melton Mowbray. The course traversed by the competing cars is a thousand yards in length, with a rise of one in twenty-one at the bottom and one in four at the top. With the exception of a heavy shower towards the close of the competition, the weather was bright and fine, while the road was in excellent condition. A fair number of persons watched the contests, and although many of them could not boast of the luxury of a motor-car, they enjoyed the "sport" immensely, and were keenly interested in the proceedings.

The officials were as follows:—Judges, Mr. E. George Mawbey, M.Inst.C.E. and Colonel L. L. Powell, J.P.; clerks of the course, Mr. E. George Mawbey, Captain Byron, Messrs. R. Sutton Clifford, jun., A. H. Faulkner, and A. McAlpin; timekeeper, Mr. F. K. Ward, N.C.U., A.A.A.; starters, Captain Byron and Mr. R. Sutton Clifford, jun.; mathematician, Mr. W. Plant; clerk of the scales, Mr. A. Stagg; marshals, Messrs. A. H. Faulkner, H. R. Harding, F. W. Preston, G. Ineson, and J. G. McAlpin; secretary of the meeting, Mr. A. McAlpin.

The programme comprised three events. In the first one (A), open to cars with one and two cylinders, Mr. Victor Riley, of the Coventry and Notts Club, won the club medal for the fastest time. The club

medal for the best performance on the formula went to Mr. G. H. Waite, of the Leicestershire Club, with a 7-8-h.p. Clyde.

In Event B, a competition open to four-cylinder cars up to 20-h.p., the club medal for the fastest time was won by Mr. Philip Graham, of the Midland Club, who drove a 16-20-h.p. Rover car. The club medal for the best performance on the formula was secured by Mr. T. H. Woollen, also of the Midland Club, with a 12-16-h.p. Clement-Talbot car.

The club medal for fastest time in Event C, which was open to four-cylinder cars exceeding 20-h.p., was won by Mr. F. A. Bolton, of the Leicestershire, Notts., Derby, and Midland clubs, with a 35-h.p. Daimler, while the medal for the best performance on formula was secured by Mr. James A. Doran, of the Leicestershire Club, whose 22-h.p. Minerva, it is interesting to note, has already won six cups and two gold medals.

The silver cup presented by Captain Byron for the best performance on formula in all classes was awarded to Mr. G. H. Waite, who also secured the silver medal offered by Mr. Sutton Clifford for the best performance, on formula, in Classes A, B, and C, made by members of the Leicestershire Automobile Club. Special motor clocks for the best performance, on formula, in each event by cars using Pratt's motor spirit, were given to Mr. G. H. Waite, Mr. P. Graham, and Mr. J. A. Doran. The fastest time of the day was made by a Daimler.

The order of the competitors in each event was as follows:—

#### EVENT A.

Name.	Maker's Name and H.P.	Formula H.P.	Place in competition on F'ula.	Time.
R. Sutton Clifford, jun.	12-h.p. Richard-Brasier...	11-085	12	10
A. H. Faulkner...	10-12-h.p. Gladiator ...	12-887	11	8
T. Davies Pryce ...	8-h.p. Rover ...	7-594	9	4
J. B. Gerard ...	8-h.p. De Dion ...	5-614	3	13
Victor Riley ...	9-h.p. Riley Car ...	7-154	2	1
W. E. Price ...	6-h.p. De Dion ...	4-354	7	11
John M. Bennett ...	12-h.p. Darracq ...	11-23	10	5
Dr. W. R. Tuckett ...	7-h.p. Clyde ...	6-086	8	9
Dr. H. W. Boreham ...	10-h.p. Darracq ...	11-23	6	3
G. B. Fletcher ...	9-h.p. Mohawk ...	5-962	5	7
J. Toller Eady ...	8-h.p. Clyde ...	6-225	4	6
Dr. R. Hilton Fagge ...	8-10-h.p. Rover ...	7-594	13	12
G. H. Waite ...	7-8-h.p. Clyde ...	6-225	1	2

#### EVENT B.

J. A. Harper ...	10-12-h.p. Coventry			
	Humber ...	15-815	5	4
Walter Bentley...	16-20 h.p. Humber ...	20-686	8	7
T. H. Woollen ...	12-16-h.p. Clement-Talbot	16-222	1	2
Dr. R. G. Hogarth ...	12-16-h.p. Clement-Talbot	16-222	2	3
Otto Homberger ...	12-16-h.p. Clement-Talbot	16-222	4	8
Philip Graham ...	16-20-h.p. Rover ...	19-537	3	1
Sir Herbert Marshall ...	18-28-h.p. Mercedes ...	23-377	—	—
H. Belcher ...	16-20-h.p. Humber ...	23-377	6	5
W. W. Coltman ...	12-16-h.p. Fiat ...	21-505	—	—
J. A. Harper ...	16-20-h.p. Humber ...	23-377	7	6

#### EVENT C.

John Gaskin ...	30-40-h.p. Daimler ...	38-608	6	4
T. H. Woollen ...	20-24-h.p. Clement-Talbot	22-459	4	8
H. J. Marsden ...	20-32-h.p. Darracq ...	28-167	9	9
William Pilkington ...	20-24-h.p. Marchand ...	28-277	—	—
M. Ross Browne ...	22-h.p. Minerva ...	22-877	3	7
E. M. C. Instone ...	35-h.p. Daimler ...	45-077	8	2
James A. Doran ...	22-h.p. Minerva ...	22-877	1	6
Cecil Edge ...	40-h.p. Napier ...	32	2	5
Francis A. Bolton ...	35-h.p. Daimler ...	45-077	5	1
Albert Farnell ...	30-h.p. Daimler ...	38-593	5	3

At the close of the competitions, Mrs. Mawbey, wife of the president of the Leicester Club, presented the prizes, and on the proposition of Colonel L. L. Powell, J.P., was thanked for doing so. Mr. E. George Mawbey acknowledged the compliment on behalf of Mrs. Mawbey.

### AUTO-CYCLE.

AN excellent entry has been received for the annual race meeting of the Auto-Cycle Club, to be held at Canning Town to-day (Saturday), starting at 2 p.m. All the leading motor-cyclists will be competing, including C. R. Collier, H. A. Collier, J. Perkins, E. Varney, W. Hodgkinson, Harry Martin, W. W. Genn, and T. H. Tessier. The events are the championships of the motor-cycle racing world, and comprise one mile time trials, handicaps for tourist and racing machines, and a one hour scratch race for the challenge cup held by René Thomas.

### YORKSHIRE.

THE last gathering of the present season of the Yorkshire Automobile Club took place at Ripon on Saturday. The old world town extended a warm welcome to the folk who reached it by modern means, and for a couple of hours in the afternoon the market-place presented a busy scene. Cars came from all parts of the country. The distance from Middlesboro is a long one, but there were several cars from

that town, whilst all the West Riding centres contributed to the long list of visitors who partook of tea at the Unicorn Hotel. Mr. E. H. Hepper, the chairman of the Yorkshire Automobile Club, and Mr. C. P. Wilson, the hon. sec., welcomed the guests as they drove up to the hotel. They extended a courteous welcome to all, and especially thanked those who had come from a distance. Addressing the gathering at tea, Mr. Hepper referred to the application of the Ripon District Council to have danger boards erected. The erection of danger boards would, in his opinion, have a more beneficial effect than the so-called police traps. He believed that all motorists would respect danger boards, and he hoped that other district councils would follow the lead of Ripon. Amongst those present were the following:—

Mr. E. H. Hepper (Chairman of the Yorkshire Automobile Club), Leeds, on 18-24-h.p. Belsize.  
 Mr. J. E. Stead, Middlesboro, 10-12-h.p. Argyll.  
 Mr. C. Scoby-Smith (Chairman of the Cleveland Branch), Middlesboro, 10-12-h.p. Humber.  
 Mr. H. Hemmingway, Ilkley, 30-40-h.p. Daimler.  
 Mr. W. Tempest, Leeds, 12-16-h.p. Clement.  
 Mr. A. Exley, Leeds, 10-h.p. Minerva.  
 Mr. J. Constantine, Middlesboro, 16-20-h.p. Sunbeam.  
 Mr. T. M. Claughton, Guiseley, 10-h.p. White.  
 Mr. E. Faiers, Bradford, 18-h.p. Mercedes.  
 Mr. Guy Barrett, Horsforth, 8-h.p. De Dion.  
 Mr. J. W. Wasson, Bradford, 9-h.p. De Dion.  
 Mr. C. P. Wilson (Hon. Sec. Y.A.C.), Leeds, 12-14-h.p. Gladiator.  
 Mr. B. Walker, 10-12-h.p. Humber.  
 Mr. K. Chadwick, 10-h.p. Alldays.  
 Mr. H. J. Wells (Hon. Sec. Barnsley Branch), 10-12-h.p. Star.  
 Mr. C. Braithwaite, 8-h.p. De Dion.  
 Mr. and Mrs. W. Turton, Roundhay, 12-h.p. Gladiator.

The Committee of the Yorkshire Automobile Club has decided to postpone the hill-climbing competition fixed for October 6th, 1906, until next year, on account of the necessary permission not being forthcoming for the meeting on the hill selected, and also on account of the lateness of the season.

#### THE INTERNATIONAL BALLOON RACE.

SIXTEEN balloons will take part in the international long distance race for the Gordon Bennett trophy, which will start from the Place de la Concorde, Paris, on the 30th inst. The following is the order in which the competitors have been placed and the countries they represent:—

1. Alfred Vonwiller (Italy).
2. Hugo Von Abercron (Germany).
3. Comte Henri de la Vaulx (France).
4. Emilio Herrera (Spain).
5. Hon. C. S. Rolls (Great Britain).
6. A. Santos-Dumont (America).
7. Van den Driesche (Belgium).
8. Ing Scherle (Germany).
9. Comte de Castillon de Saint Victor (France).
10. E. G. de Salamanca (Spain).
11. Frank H. Butler (Great Britain).
12. Frank P. Lahm (America).
13. Baron von Newald (Germany).
14. M. Jacques Balsan (France).
15. M. Kindelan y Duani (France).
16. Prof. Huntingdon (Great Britain).

The arrangements for the race have been made by the Aéro Club of France. The start will be assisted by 200 French soldiers belonging to the Balloon Corps of the Engineers.

#### MOTOR CYCLING.

ON Saturday the Motor Cycling Club held a trial at Hockliffe, over a hundred mile course. The order of merit was as follows:—J. Van Hooydonk, Phoenix quad-car, 1; E. W. Goslett, N.S.U. tri-car, 2; W. H. Wells, Vindoc bicycle and trailer, 3. Those who made non-stop runs had to cover a seven miles course at a pace as near as possible to twenty miles an hour, the schedule time for the distance therefore being 21 min. Van Hooydonk did 20 min. 43 1-5 sec., Goslett 22 min. 3 2-5 sec., and Wells 23 min. 43 2-5 sec.

#### INQUIRY AT LLANDUDNO.

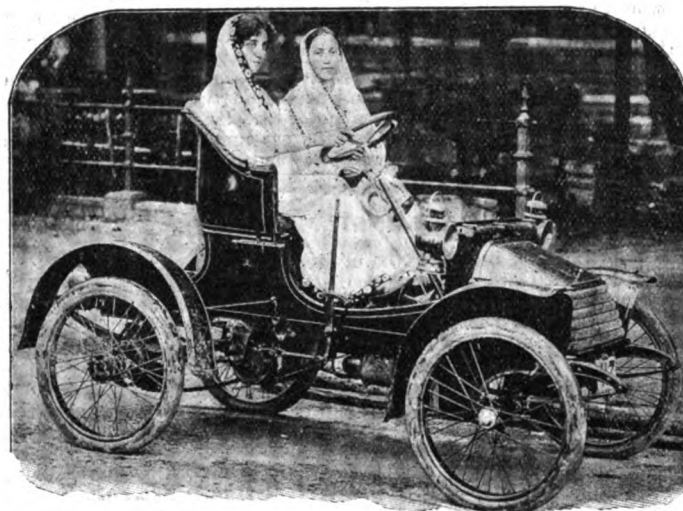
AN application by the Llandudno District Council for an order under the Motor Car Act to limit the speed of motor-cars to ten miles an hour within a portion of the town has been before Mr. Willis, Local Government Board Inspector. It was explained that the application was made more particularly in the interests of children and young persons who found it difficult to safeguard themselves in the crowded streets during the busy season, and it was suggested that the Council would be satisfied to have the order limited to six or eight weeks of the summer only. There had been very few convictions for furious driving. Mr. Rees Jeffreys opposed the application on behalf of the Motor Union of Great Britain and Ireland. The Inspector stated that he would report in due course.

#### PUBLIC MOTOR SERVICES.

BAILIE MACKAY is to table a motion at the meeting of the Perth Town Council to the effect that motor-buses be run in those districts to which the tramway service has not been extended.

THE Levenshulme District Council have decided immediately to cancel the licences they have issued to owners of motor-buses. This decision was made possible by the fact that in the agreement with the Manchester Motor Omnibus Company the council had protected themselves by the insertion of a clause which enabled them to withdraw the licence on complaint of nuisance being made. Similar action is being taken by the Wilmslow District Council, who have decided, by six votes to four, that motor-buses shall not be allowed to ply for hire in the district. The joint committee of the Urmston, Flixton, and Davy-hulme District Councils recommend their councils further to consider the application of the Manchester District Motor Omnibus Company for licences to ply for hire in those districts only on condition that the company pay to the local authorities a sum to be agreed upon for upkeep and repair of the roads. The stipulation is further made that only the best buses and tyres on the market shall be used, and that a maximum speed limit be fixed.

THE Corporation of the City of London has addressed a strong protest to the several motor-omnibus companies whose vehicles pass through the City against the prevalence of oil droppings, which are declared to be highly detrimental to the road pavements and a danger to the public. The asphalt paving companies, which have contracts for paving and repairing the carriage ways in the City, have also entered their protest, calling special attention to the damage done at the places at which the omnibuses stop.



Mrs. Cama on her 5-h.p. Baby Wolseley on which she took part in the Aga Khan trials from Poona to Satara and back, 145 miles, and won the Special Ladies' Trophy.

THE Truro Rural District Council is asking the Great Western Railway to establish a motor-car service between Veryan, Gerrans and St. Just.

THE Shoreditch Borough Council has obtained a grant of £25 a year from the Arrow Motor Bus Company as a contribution to the local rates, because the company has practically monopolised Boundary Avenue as a stopping place for its vehicles.

A MOTOR-BUS is now running in public service in the Burnley district.

THE Watch Committee of the Brighton Town Council have decided not to grant the application of Mr. Walter Tilley, of Park Crescent Place, Brighton, for licences for ten motor-cabs to ply for hire within the borough.

A MOTOR-BUS is now in daily service between Grimsby and Caistor. AFTER midnight no motor-bus going west may stop to set down or pick up passengers between Villiers Street and Trafalgar Square, London, and none going east between the square and the telegraph office east of Duncannon Street. At the same time, those going by way of King William Street must not stop between the Strand and the junction of Adelaide Street and Chandos Street at any time, so that some relief may be afforded in this bus-congested area. The past-midnight regulation is being enforced temporarily at present, but doubtless it will be permanently added to the list of those which the driver must obey.

#### NEW COMPANIES REGISTERED.

SEVENOAKS MOTOR-CAR AND ELECTRICAL COMPANY.—£8,000. No initial public issue. First directors, Messrs. H. Fulton (permanent chairman) and A. Whitehead. £100. Tubs Hill, Sevenoaks, Kent.

### MOTOR-CYCLE RECORDS.

H. MARTIN has just made an attack on F. W. Chase's six hours' motor-cycle record, at the Canning Town track, but, owing to rain falling heavily after he had been riding for four-and-a-half hours, he had to stop at five hours. He first got inside record at 101 miles, and beat all the intervening times. In three hours he rode 129 miles 464 yards, as against 115 miles 335 yards; in four hours he did 169 miles, as against 147 miles 1,370 yards; and in five hours he covered 199 miles, as against 189 miles 780 yards.

### MOTOR-CAR ACCIDENTS.

AN exciting motor-car accident has occurred near Peterween, East Fife. A car, which was travelling from St. Andrew's, capsized when rounding a sharp corner in the road, with the result that one of the occupants and the driver were seriously injured.

At the Marylebone Coroner's Court, on Saturday, Mr. Schroder held an inquest on the body of William Reason, a cabdriver, who died in Middlesex Hospital from injuries received through being knocked down by a motor-bus. The evidence showed that between 11.30 p.m. and midnight on Wednesday deceased was leading his cab from the cab-rank between Peter Robinson's and Jay's, in Regent Street, when a Pioneer bus came up Regent Street. Just as it was taking the corner into Oxford Street it knocked deceased over. The driver of the bus said that he was ten yards away from the hansom when the driver began to lead his horse. He sounded his hooter three or four times, and then slowed up. Answering questions he admitted he could stop within three feet by using the brake. The coroner asked why he did not stop at once seeing he was ten yards away. Witness said he expected the cabman to stop when he saw the motor approaching. The Coroner: The cabman would have expected you to stop. As there was no passenger in court to give evidence, the coroner said he would adjourn the case to see whether or not the hooter was really sounded.

WILLIAM HARGREAVES, of Brook Lane, Chester, when cycling down Backford Hill, about four miles from Chester on the Birkenhead road, on Saturday night, was run into by a motor-car. He was thrown through the glass wind-shield on the front of the car and one of his legs was broken. He was driven in the car to Chester Infirmary.

### CASES AGAINST MOTORISTS.

MR. JOHN S. D. BERRINGTON, of Messrs. J. D. Berrington and Co., of 21-23, Short's Gardens, Long Acre, W.C., was summoned recently for driving a motor-car to the danger of the public on the Sidlow road on the 19th ult. Inspector P. Jarrett said he heard the car racing along when it was about two miles from him, and when it came into sight it was travelling along at a murderous speed, and certainly going at least thirty-five miles per hour. Mr. Berrington stated that he did not exceed the speed limit. He suggested that the chief cause of the prosecution was the fact that on the occasion in question he was carrying the yellow flag of the Automobile Association. He pointed out that one of the cylinders of the car stopped working at Reigate, and as the road was uphill, it would be quite impossible to travel at the speed alleged. In the end the case was dismissed, the justices (we learn since the case was previously reported) being divided in their views.

AT Lewes, on Tuesday, Joseph Snuggs, of Brighton, was fined £25 and costs for driving a motor-car at excessive speed on the road from Brighton to Rottingdean. Since May, 1905, he is reported to have paid nearly £50 in fines.

ON Tuesday, at Bow Street, a chauffeur was summoned for driving a motor-car in Birdcage Walk, St. James's Park, at a pace exceeding ten miles an hour, contrary to the regulations. One of the park-keepers said the defendant was proceeding at the rate of eighteen miles an hour, but when he was stopped he said he thought he was "crawling along." The defendant was fined 40s. and 2s. costs.

RICHARD HILL, a chauffeur, of New North Road, London, was summoned at Kingston for exceeding the ten miles an hour motor-car speed limit in Richmond Park. Park-keeper Ballam spoke to timing Hill with a stop-watch over a measured quarter of a mile, the speed being at the rate of 19 miles and 406 yards an hour. Park-sergeant Gattrel, who signalled for the car to be timed, said that in his opinion the car was travelling at the rate of about 20 miles an hour. Hill stated that in the car at the time were Mrs. Franks, his employer; her sister, who was an invalid; and her son. He had strict orders not to drive fast on account of the state of health of his employer's sister. At no time on going through the park did the pace of the car exceed ten miles an hour, witness driving by the speedometer the whole time. The speedometer had been tested by the makers and found to be absolutely correct. The indicator was handed up to the Bench, and park-keeper Ballam said that on the car being stopped the hand of the indicator would fly back to zero. The indicator was not a register, and there was only the uncorroborated testimony of Hill that it had not registered more than ten miles an hour in the park. The magistrates stated that after most careful consideration they saw no reason to doubt the accuracy of the stop-watch. A fine of £3 and costs was imposed.

HENRY IND, captain of the Wigan Motor Club, was summoned at Wigan for allowing a certain identification number to be used by another person. The defendant explained that when he sold the motor he informed the purchaser he must communicate with the county

authorities at Preston and have the licence transferred. The defendant was fined 2s. 6d. and costs in each of two cases.

AT Bow Street Police-court, on Monday, Lord de Clifford, of Mount Street, Park Lane, was fined 40s. and 2s. costs for driving a motor-car over a measured furlong in the Mall at the rate of twenty-one miles an hour. His lordship was represented by a solicitor, who explained that his client was accustomed to driving near his own estate in Ireland, where the speed limit was very different from what it was in St. James's Park.

MAITLAND SCOTT, a chauffeur, of Queen's Gate Mews, South Kensington, was summoned at Bow Street Police Court on Monday for exceeding the speed limit in St. James's Park, and also for failing to produce his licence. Defendant said the car was a new one, and he was looking at the speed indicator all the time, but on testing it afterwards he found that it was no good—it stuck. There were previous convictions, and the defendant was ordered to pay fines and costs totalling £4 4s.

AT Newmarket Petty Sessions, on Tuesday, Mr. Lihenfeld was summoned for driving his motor-car to the danger of the public. Mr. Huntly Jenkins appeared for the defendant and the case was dismissed.

MR. ALFRED CATCHPOLE, the Secretary to the Motor House, Euston Road, was summoned at the Marylebone Police Court on Tuesday for unlawfully allowing an unregistered motor-car to stand in the Euston Road so as to cause an unnecessary obstruction. Mr. Staplee Firth defended, and after a very lengthy hearing before Mr. Paul Taylor the case was dismissed.

ON Tuesday four motorists were fined at Norman's Cross for driving to the public danger.

### ROAD REPORTS.

POLHILL.—The tar painting on the main London road at the foot of Polhill, near Sevenoaks, and to which the Automobile Club, after a visit to the spot by the Hon. Arthur Stanley, M.P., contributed a quarter of the cost, has proved a great success.

AN ESSEX IMPROVEMENT.—A member of the Roads Improvement Association who was travelling on the road between Cambridge and Colchester lost his way owing to the fact that a forked sign-post was marked only "Birdbrook" and "Baythorne," places which are unknown to the majority of motorists. He wrote to the Association, which drew the attention of the county surveyor to the matter, who has now given instructions for "Colchester" and "Halstead" to be added, thus making the directions perfectly clear.

AN EXPERT'S VIEW.—In his presidential address to the congress of the Incorporated Sanitary Association of Scotland, at Leith, on Thursday last week, Mr. Bryce, surveyor of Partick, dealt with the dust nuisance on public roads. He said the experiments of surveyors and engineers in France, England and Scotland have clearly proved that, while a large abatement of the nuisance can be accomplished by coating or sprinkling the roads with solutions, and painting with oil or tar, the almost unanimous advice of experts is to lay down roads of materials which will provide a waterproof surface, and be non-productive of the objectionable dust.

BRECONSHIRE.—Starting from the Bear Hotel at Crickhowell, there is a fine stretch of road for half a mile towards Brecon. It has been laid under the supervision of Mr. Sidney Howard, the surveyor for the County Council. Not only does a large amount of the ordinary traffic of the Crickhowell district pass over this road daily, but every day it carries the heavy motor-bus service which the Great Western Railway Company is running between Abergavenny and Brecon. Yet, although in its most frequented part the prevailing south-west winds are continually blowing fine white dust from the converging limestone roads upon it, the people of Crickhowell are loud in its praises as a road which, under motor-car traffic, is practically dustless. This piece has been laid for six months, has never been watered, and has never been brushed. Yet its surface is hard, regular, and unbroken, while a little further on, where the road was laid at the same time with hard igneous stone, but without Mr. Howard's new treatment, signs of wear are easily visible. It occurred to him that the use of a special artificial binding would both lengthen the life of a road considerably and diminish the dust nuisance. This seemed to be so, especially as the tendency of motor traffic is to remove the binding material and so gradually loosen the metal surface. In the process adopted the binding after a very little wear sinks to a small degree below the surface of the metallising, and so supports the metallising in a position that gives it its full wearing value. Thus the wear of the road falls entirely upon the hard igneous stone.

### POLICE TRAPS.

THE measured quarter of a mile is again a feature of the landscape in Richmond Park.

BETWEEN Condorrat and Cumbernauld, on the Glasgow-Stirling road, is a measured stretch of hill five miles long.

IN the Queen's Road, Hersham, is a police trap under the active supervision of Superintendent Marks.

IN consequence of complaints having been made to the police of the speed of cars on some roads in the East Riding of Yorkshire, the roads from York to Selby, York to Market Weighton, Selby to Market Weighton, Malton to Scarborough, and Hull to Bridlington, are being especially watched by the police.



# THE Motor-Car Journal.

VOL. VIII.]

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## COMMENTS.

### Photographs Wanted.

SATURDAY the 29th inst. is the last day for receiving photographs in connection with the competition announced on page 634. Particulars of what is desired are given on that page; here we would suggest to motorists who are photographers—though the competition is not restricted—that any of the pictures they have taken during the season now waning will be eligible, and that we hope to secure a comprehensive selection fully reminiscent of one of the most successful summers since motoring began.

### The Blackpool A.ect.

WITH regard to the forthcoming motor meet at Blackpool, the General Purposes Committee of the Blackpool Corporation have sanctioned the proposal of the Blackpool and Flyde Motor Club to hold the motor races on the Promenade, and not on the carriage drive as at first suggested. The A.C.G.B.I. is identifying itself with the gathering, Colonel Holden, Mr. W. W. Ashley, M.P., and Mr. A. F. Bird having consented to act as clerks of the course. Entries will be received by the hon. secretaries, Messrs. A. H. Walker and J. Potter, up to the 6th prox., and we notice that a special marshal is to be appointed to examine all bodies fitted on touring cars to decide whether such can be "honestly described as a genuine touring body"—a recognition of some entries in recent competitions not without significance. The programme of the two days—Oct. 12th and 13th—meet comprises thirty items, and includes events for almost every type of automobile from the motor-cycle to the motor-bus. The latter race—over a kilometre course with a flying start—presents a distinct novelty, as the vehicles will have to carry 22 passengers comfortably. The motor-bus as a racer is familiar enough in the London Strand, but this will be the first time it has made its appearance on an authorised racing track.

### Motor-'Bus Traffic in London.

SEEING that medical men are such devoted patrons of the motor-car, which materially assists them in their visitation of patients, it is a pity that an outcry against various forms of automobilism should have come from hospitals, town and country alike. In the rural districts, where open air treatment is encouraged, the dust nuisance has become a menace in many places, and we cordially support the proposed tarring of such portions of road as were mentioned by Mr. Wilson Noble in his recent plea for considerate driving when approaching the children's hospital near Guildford. Now comes a complaint from the Charing Cross Hospital with reference to the motor-buses that hurtle past its walls almost every minute of the day. King William Street has become a popular route for motor-buses, and, although the police have prohibited them from stopping therein, there is no present authority which can divert them from the route altogether. To do that would entail the passing of a new Act of Parliament; but we fancy the proposal of the Police Commissioner to licence motor-buses for certain specified routes is an attempt to deal with special cases like that

of the Charing Cross Hospital. Provided that is its object, public opinion will be in favour of such official "getting round" the present law.

### A Case of Garage Law.

AN interesting decision to motor-car owners was given by Judge Moss at Llangollen County Court on Monday. Mr. Sydney Freme drove his car from Corwen to Llangollen Garage to have the brake-spring repaired. After the necessary work was done the garage manager took the car out to test it. When Mr. Freme called for it the gearing was destroyed, and he now claimed £20 damage, holding that defendants had no right to test the car in the absence of the owner. His honour Judge Moss held that the manager of the garage had a right to test the car, as had also a watchmaker when repairing a watch. Further, if in testing it part of the machinery gave way, and it was shown to be of defective quality, he (the learned judge) should hesitate to say the repairer was liable. He entered a verdict for defendants, with costs.

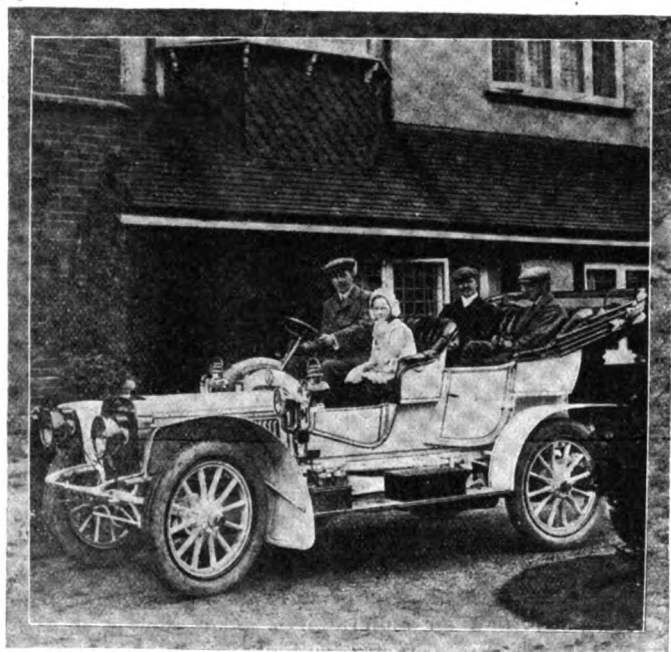
### Motor Traction and Railways.

AT the dinner of the Motor Union at Scarborough a railway director was in the chair and the manager of the traffic department of the North Eastern Railway Company, who is also chairman of the North Yorkshire Automobile Club, was among the speakers. So far as the first-class traffic on railways is concerned, railway officials do not love the motor-car, but the North Eastern Railway was one of the first to recognise the changed conditions of locomotion, and that company have done as much, if not more, than any other railway in introducing motor services as part of their undertaking. They have had a very successful season in connection with their motor-buses and have come to the conclusion that the motor-bus is a very valuable adjunct to the business of a railway company. Something has also been done in connection with the introduction of heavy vehicles for transporting merchandise, and Mr. Watson believes, although they have not yet had a sufficiently long experience of that form of traction, that it will prove a useful adjunct to a railway company's resources for the transportation of merchandise throughout Great Britain.

### The Care of the Highway.

UPON whom does the duty of securing the safety of the road depend? A case which has been heard in the Stirling Sheriff's Court suggests the question; although identical circumstances elsewhere give general interest to the subject. Near Lennoxtown there is a sharp turn in the road, and a high bank and hedges, the presence of which prevents persons coming in opposite directions from seeing their advance. When the case was taken before the Court the advocate for the defence argued that, as the County Council had failed to erect danger signposts at that point, his client could not be blamed for being ignorant of the fact that this was a dangerous point. There is no need to approach the matter in a narrow spirit; the prevention of accidents should be regarded as part of the work

of local bodies, and anything calculated to ensure the safety of the general public should be adopted without demur. Just as the authorities are responsible for the condition of the road surface, so they should be looked upon as the trimmers of hedges and the rounders of corners. But often they neglect their duties, and meanwhile the work will have to be undertaken by voluntary associations. That this neglect is fairly general is known to all. It was a case in North Britain which suggested our Comment, which may be ended by reference to another in the south of England. As Major Cecil Birt, stationed at Chatham, was cycling from Nettlebed last week, his machine was upset by some loose material at the side of the road about a mile from the village, and he was thrown over the handle-bar on to the bank. He sustained a severe internal injury, and died after an operation in the Royal Berks Hospital at Reading. At the inquest a verdict of "Accidental death" was returned, the jury adding that the attention of the authorities should be drawn to the dangerous nature of the road. This is certainly a matter that does not concern motorists alone; it is of importance to all who journey on the highway.



Mr. H. G. Watney, of Weymouth, at the wheel of his 26-30-h.p. 'Argyll. This is Mr. Watney's first car, which Mr. Clifford Earp taught him to drive in three hours.

### Taxation.

At length one of the organisations associated with Motorism has promised the provision of an opportunity for public discussion of the proposed taxation of motor-cars, and early in October the Society of Motor Traders will consider the proposals of the Royal Commission. These, it must be remembered, are the only serious suggestions before the public, despite the appearance of official origin with which other schemes have been heralded to an astonished public. In looking at the Royal Commission's proposals regard must be paid to the necessity for a just classification, so that intending motorists will not be frightened into an abandonment of their intentions with regard to the ownership of cars. Expenses of upkeep not being uniform, tyre repairs still a matter of uncertainty, and the fees, licences, and other charges many and unavoidable, there is a real need for some organisation to give a strong lead on this matter of taxation, so that the Local Government Board may be able to introduce proposals sufficiently reasonable to be adopted with a minimum of opposition.

### £1 per horse-power.

WHOEVER started the joke as to the intention of the Government to tax motor-cars at the rate of £1 per horse-power deserves credit for the air of verity with which the printed notification was couched. It is difficult enough in these times to ascertain the horse-powers of cars; but what would happen if vehicles were taxed step by step in proportion to their power only an imaginative person can comprehend. Cars of 60-h.p. have been known as of little more than half that power; an 18-h.p. vehicle has even been said to be capable of developing 150-h.p. We can fancy that if a tax of £1 per horse-power were imposed, scarcely a car of more than 5 or 6 h.p. would be seen upon the road, and that no Tourist Trophy car would be designated at more than one-fourth its present power.

### A Famous Scottish Hill.

A HILL-CLIMBING performance test on the ascent through Glencroe to Rest and be Thankful will be held to-day (Saturday), under the auspices of the Scottish Automobile Club. The start will be made at the bridge fully a mile from the summit, and the test will be over about one mile. The road is almost straight, and the test will be stopped before reaching the sharp turns near the summit. This particular road has become so familiar to motorists, owing to its inclusion in the course of the Scottish Reliability Trials, that the details of its gradient will be of general interest. The average incline over the proposed distance is about 1 in 15, and the gradients are approximately as follow:—

580 ft.	...	...	level	650 ft.	...	...	1 in 12
615 ft.	...	...	1 in 62	340 ft.	...	...	1 in 9
740 ft.	...	...	1 in 43	430 ft.	...	...	1 in 8
600 ft.	...	...	1 in 18	515 ft.	...	...	1 in 7
310 ft.	...	...	1 in 10				
500 ft.	...	...	1 in 13	5,280 ft.			

The event is solely a sporting one, and cars (which must be registered as, and be, the *bona-fide* property of the entrant) may be entered by members of the Scottish Automobile Club only, and must be driven by a member of the Club or by a member of the family of the owner.

### The Motor-Cycle as a Means of Sport.

CONTINENTAL visitors who may have been present at the Canning Town track on Saturday would find some justification for the old tradition about Englishmen taking their pleasures sadly. The race meeting was well organised, and Mr. F. Straight's enthusiasm left no detail to chance. But despite all that the crowd never became cheerful, and not until one of the machines caught fire and was dragged along the track with flames rising high into the air did they show much animation. The motor-cycle is an effective vehicle enabling many commercial travellers to get over their ground with speed and ease; it is a capital pleasuring form of motorism; but whether it lends itself to a permanent place as a "sport" is a matter of dubiety. In the old days of the motor-tricycle, when there were always chances of fun to the onlooker, track riding was sometimes enjoyable; the certainty and reliability now attained have destroyed its attraction from the spectacular point of view.

### Incitement.

SOME time ago the Corporation of Dover sought powers from the Local Government Board to reduce the speed limit on motor-cars passing the town. The request was, after expert inquiry, refused, and no one has been a limb the worse. In fact, the immunity of Dover from automobile mishaps is recognised by the local journalists who have been trying to incite the Town Council to what seems to verge upon illegality. They are advising that notices should be posted on the roads entering the borough to the effect that the police will prosecute all drivers of automobiles proceeding at a speed exceeding eight

miles an hour. All such drivers should, in the opinion of these self-appointed dictators, be charged with furious driving. Here is another instance of the way in which some public persons over-reach themselves. With the provision of warning notices all will agree, and we hope the Council will recognise its duty in that respect so far as its narrow streets and sharp turns are concerned; but to institute a speed limit after the Local Government Board has declared such to be unnecessary is distinctly beyond the powers of Corporations, even those of towns like Dover.

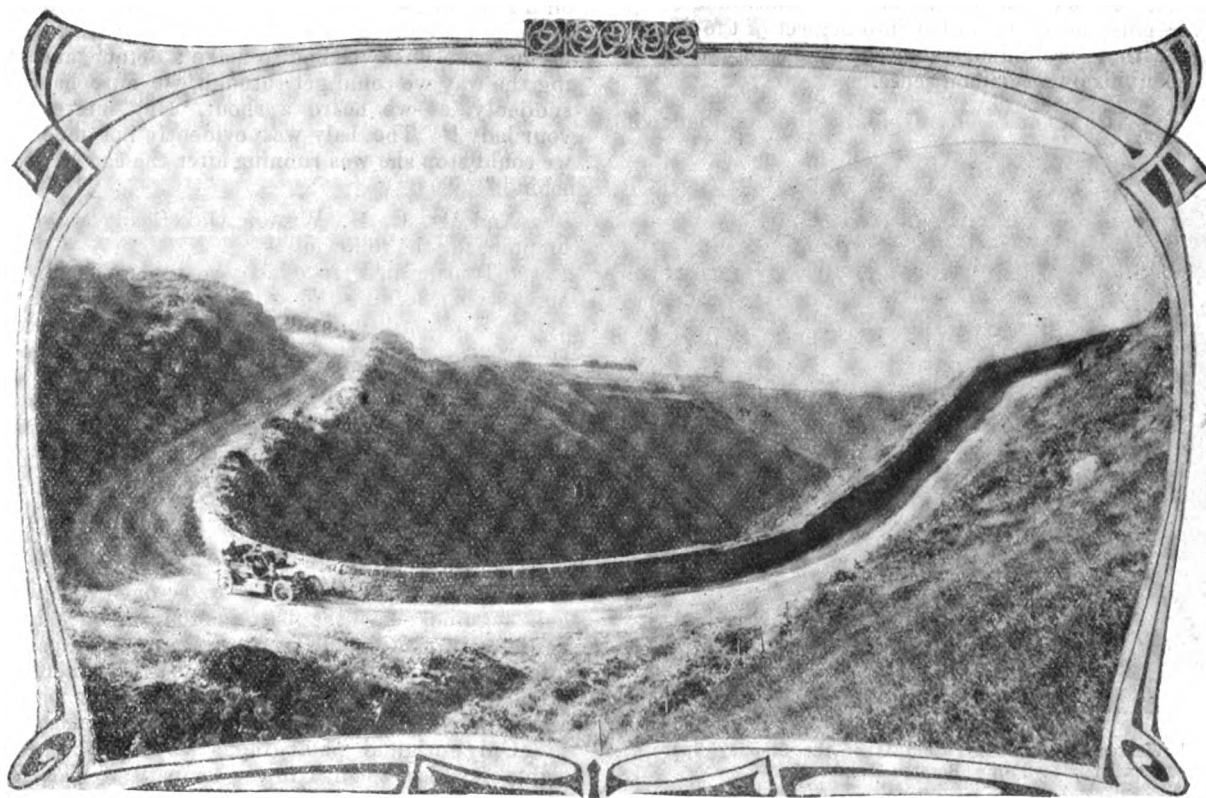
**Central rather than Local Authority.**

EMPHASIS may be given to this attitude of the Dover people, because it is fairly typical of what would happen were the local authorities to have the power of regulation that is now vested in the central authority at Whitehall. Yet such is the idea which, vented by Mr. F. J. Moulton before he became a judge, has been favoured by a minority of motorists

growler. Away in Kennington a garage is being erected for a new service of motor-cabs for the Metropolis, and already men are being trained to take their places at the wheel. The taximeter will be duly fitted to these conveyances, and with the New Year London should "make the pace," so far as its street traffic is concerned.

**A Typical Surrey Trap.**

WHILE the Mayor of Scarborough was, on Saturday, welcoming motorists to a town "where they were recognised and appreciated and not trapped or ambushed," the police "trap" in Chilworth New Road, at Shalford, was being graphically described in the police-court at Guildford. It transpired in the cross-examination of Inspector Jennings and other police witnesses that the inspector and a constable sat in the comparative privacy of the former officer's front garden. They were provided with newspapers so as not to attract the attention of passing motorists, but really, through a gate which stood



The Tourist Trophy Race.—Mr. Sopwith's Peugeot Car at the Devil's Elbow.

and endorsed by a larger number of the public. If carried into law it will prove a harassing and troublesome regulation, for there is no doubt of the fickleness of public opinion, especially when accidents occur in a locality; and motorists would never be safe from the vagaries and antipathies of some local councils wishing to thwart their progress. The continuance of power with regard to the regulation of the speed of cars in the hands of the central body must be regarded as an essential feature of any future legislation.

**The Motor Cab.**

LIKE the 'busman who has driven all his life behind horses, the London cabby is doomed, and his visage is being soured by the changes that are coming over his occupation. The introduction of the taximeter is a threatening menace to his calling, and promises to stop the occasion for much of his choicest language by providing a tell-tale from which he will appeal in vain. And now on several West-End ranks the mechanical cab has taken its place, and the neat uniformed driver looks askance at the fading stars of the hansom and the

ajar, they watched for signals from another policeman secreted behind a telegraph pole and some shrubs. The signal given, the stop-watch was set going, and the motor-car having passed the inspector's house, a police whistle warned yet another constable to stop the car. Being Sunday afternoon when these proceedings took place, the people gathered in their gardens to watch the fun. What surprised the seven motorists who were summoned was that, in spite of the stop-watch, they were summoned for driving to the common danger, and not for exceeding the limit, it being asserted in every case someone was endangered by the speed of the car. Fines of £3 to £5 were inflicted, and not a driver escaped.

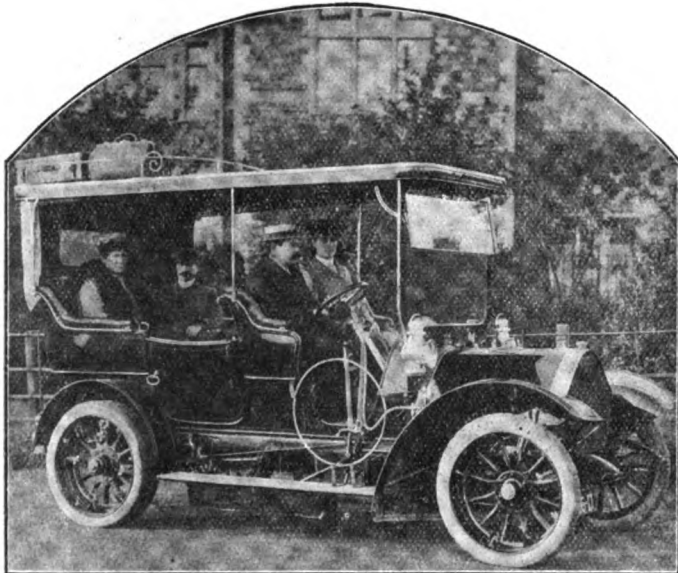
**Unnecessary Societies.**

THE discussion in the "Daily Telegraph" on the motoring problem has elicited a few useful letters and produced quite a large crop of persons willing to form associations to improve motorists off the face of the earth. Others are anxious to form organisations of motorists to teach manners to the fraternity and to suggest a slackening of speed generally.

Practical persons are not likely to be beguiled into membership of any of these unnecessary societies, for the existence of which there is no real need. By loyal support of those already in being more good is likely to be done than by sympathy with the suggested associations.

### Sound the Horn.

QUITE a dozen cases have lately been heard in the police courts about London in which complaints have been made of motorists not sounding the horn, nor giving audible notice of their approach. The difficulty of correctly apportioning blame in such situations is aggravated by the different points of view by which the matter can be approached. The man on the car looking ahead has his own notions with regard to announcing his approach; the man on the pavement would probably like a whole chorus of notice from vehicles likely to impede his progress across the road. Therefore all that can be urged is that motorists should ever be on the alert ready for any emergency. However comfortable the car may be, and easily controllable its pace, the driver must never be lulled into neglect of the legal requirements, nor those preliminary assurances of safety to the public suggested by his own common sense.



Messrs. M. and Walter Davies, the Patentees of the Stepney Spare Wheel, on their 18-20-h.p. Beeston-Humber Car.

The vehicle, which is run entirely on four Stepney wheels for demonstration purposes, was recently driven from Beeston to Llanelli, via Coventry, Birmingham, Cheltenham, Hereford and Llandrindod Wells, without any adjustments. The nickel ring at the side of the driver is a permanent fixture for carrying the spare wheel when not in use.

### Beware of Kingston.

A PERIOD of harsh and vindictive fines is about to be established by the Kingston Bench, and no leniency is to be shown in the administration of justice at the Court there; at least, so far as motorists are concerned. The chairman has announced that in consequence of the numerous summonses against motorists which the Bench have to deal with it was necessary that the punishments should be made more severe. Therefore, he gave notice that drivers of motor-cars who were brought before the Court for infringing the provisions of the Act would in future be more heavily fined than hitherto. Whether this announcement will have the effect of diminishing the nuisance which exists on the Kingston-Ripley road, particularly on Sundays, remains to be seen, but dwellers in houses bordering on that fine highway will watch the experiment with keen interest, while a certain section of the ratepayers are already expressing delight.

## M.C.J. PRIZE COMPETITIONS.

### MOTORING EXPERIENCES.

FROM the large number of Motoring Experiences received in competition, the prize of one guinea has been awarded to Mr. John D. Saunders, Inglewood House, Inglewood Road, West Hampstead, for the following:—

"Both accumulators running down on a Saturday night recently, my car was 'hung up' outside an elderly cottager's garden in the West country. 'Ow long be you going to be ere?' questioned the cottager. 'Can't say, perhaps all night,' I replied. 'What? not if I can help it, sur,' and he toddled in and fetched out a box of tools (?) 'There, I'll lend 'e a 'and. I'm a very pious man meself, and 'tho' I 'ates the stinkin' things, it shan't be my fault if you drives un on the Lord's day.'"

The winners of the two prizes of half a guinea are Mr. S. Russell, Gledholt Road, Huddersfield, for the following:—

"In the early days of motoring I started for a run to London on a Benz dog cart, a gentleman friend in front with me, and my wife behind. Passing through Doncaster, where they were laying tram lines, we had to make a detour, and after ascertaining the way we could get through, we must have started rather suddenly, as we heard a shout, 'Hey, meester, you've dropped your lady!' The lady was evidently not much hurt, as before we could stop she was running after the car for fear of being left behind."

And Mr. C. H. Weston, Old Road Lodge, Basset, Southampton, for the following:—

"Touring in France last year we stopped an hour at Dreux, sight-seeing, leaving the car unattended in the street. On our return it refused to start, and after many attempts I went in search of a *mécanicien*, who was also unsuccessful. Then all hands pushed the car down the street and round a corner (under a blazing sun) to the garage, where preparations were made for thoroughly exposing the wiring. An idea struck me and the *mécanicien* at the same time, possibly the pin for closing the circuit was not there. Where was it? In my pocket."

### AUTOMOBILE PHOTOGRAPHS.

Three prizes are being offered—one of a guinea and two of half a guinea—for the best photograph in which a motor-car figures. In making the award regard will be paid to the public interest of the picture, as well as to its artistic merits; hence, photographs of cars outside historic buildings or monuments will be as welcome as those of vehicles in pleasant places.

Only original photographs may be submitted, the copyright of which belongs to the competitor. The winning photographs will be published in the *M.C.J.*, and the Editor reserves the right to reproduce, without payment, a selection of those not successful in the competition. The latest date for receiving photographs is Saturday the 29th inst. Envelopes must be marked "Competition," in the top left-hand corner.

ENTRIES for the Town Motor Carriage competition of the A.C.G.B.I. close on Monday next.

THE Commercial Vehicle trials of the A.C.G.B.I. are announced to take place before March of next year.

NEGOTIATIONS for a combination between the Argyll Motors, Ltd., and Messrs. Scott, Stirling and Co., Twickenham, have just been concluded. The new company is to be known as Argylls and Stirling Commercial Motors, Ltd. Twenty motor-buses a week will be produced at the new works at Alexandria, which, covering three acres, will form part of the vast establishment on the banks of Loch Lomond, where Argyll cars are made. Argylls, Ltd., of course, will continue the business of producing lighter vehicles, for which they have exceptional facilities. With the Stirling buses a valuable combination of interests is provided which should do much to improve a great and growing British industry.



## THE TOURIST TROPHY RACE.

DOUGLAS, Tuesday.

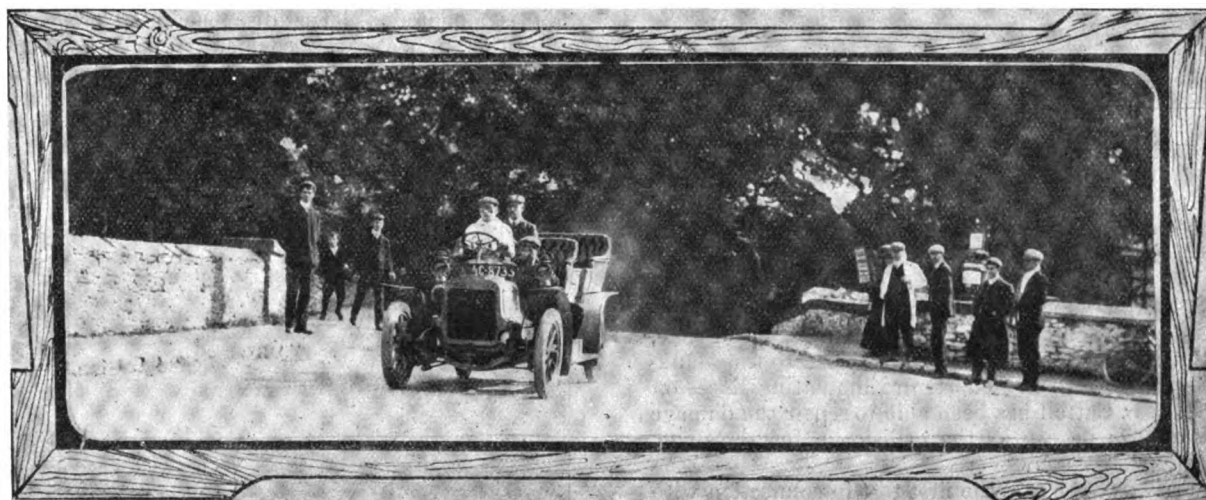
**A** GAIN the din of battle is in the air and the great struggle of motor-cars has awakened the Isle of Man to the possibilities of speed. For weeks past the natives have marvelled at the tales that have been told—some even more marvellous than those of previous years—and have become subdued in manner whenever news of fresh disasters have occurred. The practice hours have been prolific in accidents. The freedom from mishaps which has characterised the trials run in the past has been contrasted with the rehearsals of the present year, and the people have wondered that they should have been so serious this time.

Luckily the Manxmen have become familiar with speedy cars since the Gordon Bennett eliminating trials were held there in 1903, but unfortunately the visitors have not acquired the skill of avoiding accident. The James and Browne car collided with a flock of sheep the other day, killing two of the animals and suffering such damage that it was not expected to be ready in time for the weighing-in to-day. To these non-starters must be added the Speedwell car, which was to have been the first of the British-built vehicles of that make, but which could not be completed in time, a similar reason being also assigned for the absence of the two Straker-Squire cars.

Ballacraigne. Sixteen miles is the distance of this cut out of the old course of fifty-two miles. The new stretch of course is along the main road to Peel, then out by St. Germain's, or Poor Town to Kirkmichael, when the old course is run into, and completed through Ballaugh, *via* Sulby (instead of by Jurhy, as last year), to Ramsey, and thence by the mountain road, skirting Snaefell Mountain, at a height of 1,400 feet, and then descending, except for a single 200 yards rise, into Douglas—altogether 40½ miles.

There is a great crowd of motorists about Douglas, and, in addition to the drivers, mention may be made of Earl Russell, Col. Holden, Major T. H. Cochrane, Capt. F. E. Dyke Acland, Messrs. R. Todd, Worby Beaumont, J. Lyons Sampson, Wilson Noble, Alec. Govan, E. H. Watson and T. C. Moore-Brabazon.

Yesterday the hopes of the supporters of the Deasy car were upset by the sad accident which happened at Hillberry Corner, which reduced No. 30 to immobility. Hillberry Corner is two miles from Douglas. A number of cars had left headquarters at daybreak to make the circuit of the forty mile course from Douglas, by Peel, Kirkmichael, and the Ramsey Mountain road back to Douglas. Several had preceded the Deasy car round the Hillberry Corner. Mr. J. W. Crouch drove there at a quarter past seven, and, taking it too wide, failed to clear the gutter. The rear axle struck and shattered some stone steps at the roadside, and the mechanic, Hinds, was thrown over the car's bonnet and fell on his head. The car itself collapsed in the



The S.C.A.R. Car at Quarter Bridge, near Douglas.

Some disappointment has been expressed at the non-appearance of a Florentia car which had been entered by its owner, Lieut. L. Gordon. He was here with the car a few days ago, but upon seeing some of the vehicles then practising, with their wire wheels and rakish-looking bodies, he came to the conclusion that it would not be fair to run a car actually built for touring purposes against vehicles allied to the freak variety. Captain W. E. D. Owen has scratched the two Ariel cars he had entered, and the Brown car will also be an absentee. The 22-h.p. Brown car has been withdrawn for much the same reason as the Florentia, and Mr. Albert Brown makes the suggestion that in next year's race only genuine touring cars as listed and as sold in that same year by the manufacturers should be allowed to compete. The Pipe and Armadale cars are non-starters.

The race will have a new interest from the altered course. The portion of last year's route through Castletown, and by Foxdale, to Ballacraigne, has been left out, because it stopped railway traffic on both the Port Erin and Peel lines. This change takes away three of the four real hill tests on the old course. First the Pulrose rise, commencing about a quarter of a mile from the start. Then the Richmond, a half-mile hill three miles out, with portions of a gradient of one in ten. And next the three-mile straight rise from Silverburn (two miles beyond Castletown) to "Snuff-the-wind," the crown of the high-road, from which the course descended through Foxdale to

ditch forty yards from the steps. The driver and Mrs. E. W. Lewis, who was a passenger, kept their seats, and were practically unhurt.

There have been serious complaints with regard to the way in which some competitors have been practicing when there was a fair amount of traffic on the road, and many of the local officials expressed strong views on the matter. In fact, His Excellency the Lieutenant-Governor, Lord Raglan, a few days ago gave notice to Mr. J. W. Orde, secretary of the Automobile Club, that the question of holding the race must be in abeyance, as he was determined that the authorities should not be flouted in the way they had been. An interview was then arranged, and His Excellency signified his willingness to allow the race to be held, on receiving an assurance from Mr. Orde that a strong letter of protest should be sent to all competitors, and warning them that if any of them repeated the offence, they would be disqualified from participating in the event.

Tuesday, Midnight.

To-day's proceedings in connection with the Tourist Trophy event have been of considerable moment, and the number of starters has been reduced by the preliminary tests supervised by the Technical Committee of the A.C.G.B.I., and also by late arrivals at Alexandra Drive this morning. As a matter of fact, only thirty-one of the forty-nine entries actually appeared in

time; the two Rovers, the Rapid (No. 45), and the Gladiator (39) were late in appearing in the enclosure, and so were disqualified. Mr. Oscar Cupper's 24-h.p. Metallurgique was particularly unfortunate, for during an early spin a punctured tyre not far from Peel caused a delay, and the car could not return to Douglas till three-quarters of an hour after time. Much sympathy has been expressed with Mr. Norman Littlejohn, who drove a Vinot car into third place last year, and who has been disqualified because a mechanic drove over the course on Sunday. At the same time, as explained in the earlier message to-day, competitors have been warned, and "rules



Mr. S. Girling at the Wheel of the Darracq Car No. 3.

are rules." The hopes of the Vinot now rest upon Mr. Gordon Usmar's car. Going to the enclosure Mr. Leather's 16-h.p. Climax had the misfortune to sustain a broken change-speed gear, thus rendering it *hors de combat*. Yesterday the 18-h.p. Arrol-Johnston, which Mr. Campbell Muir was to have driven, broke its crank shaft and could not be repaired in time, thus robbing the event of much personal interest to the Manxmen, who remember Mr. Muir's efforts in Eliminating Races on the island. Mr. C. L. Cattell has been able to repair the damage to the James and Browne car in the collision a few days ago, and will be among the starters.

After the arrival of the cars the first test in connection with the event took place. Each car had to travel at the rate of twelve miles an hour on the top gear over a half-mile course. Only one car lost its chance in this trial, the engine of Mr. W. Parker Thomas's Argyll stopping and so taking that car out of the list of starters. Then a procession of vehicles returned to the enclosure, where the measuring of the cars took place, and the Peugeot (No. 22) chassis was found to be seven inches short of the regulation measurement between the dashboard and the rear of the tonneau.

#### Wednesday.

The way in which the officials adhered to the rules, strictly observing them throughout the whole of yesterday, is the subject of keen discussion, and the shrinkage of an entry of forty-nine to not more than twenty-nine possible starters is much remarked upon. Those left in the competition are satisfied that the risks of danger have been considerably reduced—a reflection, however, which carries little consolation to the drivers whose vehicles will not start.

Fortunately the weather continues fine, and everything promises well for to-morrow.

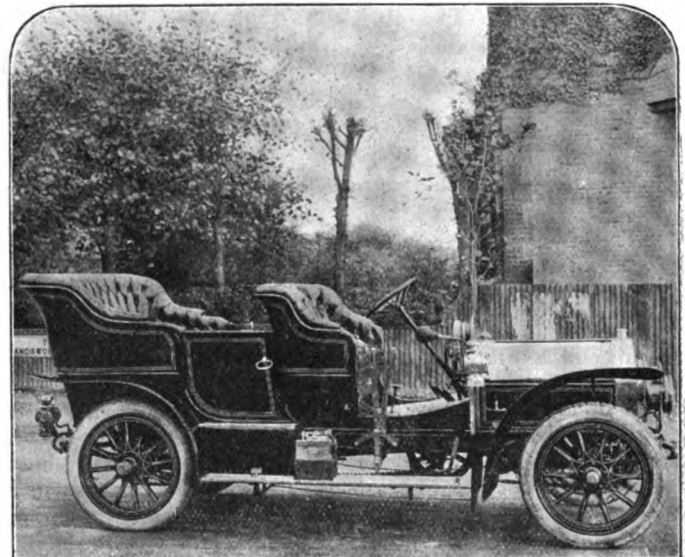
#### The Darracq Cars.

Above is depicted one of the two 15-h.p. Darracq cars which are taking part in the contest. The engine comprises four vertical cylinders 90 mm. bore by 120 mm. stroke, the normal speed being 1,200 revs. per min. The carburettor, which is of the float-feed spray type, is gravity fed; ignition is by means of the

ordinary system by coil and accumulators. The speed of the engine is controlled by a governor acting on the throttle, and by a lever on the steering wheel. The arrangement of the petrol tank to form the dashboard is a new departure of the Darracq Company. The transmission is through a leather-faced cone-clutch to the gear-box, giving four forward speeds and a reverse, and thence by a cardan shaft and bevel gear to the rear live axle. On the top speed the drive is direct. The cars have a wheel base of 8 ft.  $\frac{1}{4}$  in., and the cycle type road wheels are 810 mm. diameter with 90 mm. tyres at the front and 820 mm. by 120 mm. at the rear.

#### The Armadale Car.

The Armadale car, of which an illustration is given below, is not only a newcomer in the motoring world, but differs so greatly in design from the other vehicles in the contest that its non-appearance is a matter of regret. It is built by Armadale Motors, Ltd., and is fitted with a vertical four-cylinder engine, 92 mm. bore by 102 mm. stroke, and developing 16-h.p. at a speed of 1,100 revolutions per minute. The mixture is furnished by a Rover pressure-fed automatic carburettor, while the ignition is by coil and accumulators, a duplicate set being provided in order to be ready for any emergency. It is in the transmission that the novelty of the vehicle lies, this being by a friction drive by means of which any speed between the zero and the maximum can be obtained, without the use of a gear-box. On the rear end of the engine crank shaft is mounted a large disc; mounted on a shaft at right angles thereto is a leather-covered friction wheel, the position of which in its relation to the disc can be varied by a lever at the side of the driver. From the friction wheel shaft a Renold silent chain transmits the power to the differential shaft, which in turn is connected with the rear road wheels by side chains. The car has a wheel base of 9 ft. and is fitted with 815 mm. by 105 mm. road wheels. The makers inform us that they have



The Armadale 16-h.p. Friction Driven Car.

not in any way attempted to lighten either the chassis or body, the vehicle being an exact facsimile of their standard touring car.

IN connection with the recent rumour as to the restoration of the Parliament House in Dublin an Irish journal refers to the yard at the rear of the Bank of Ireland, where members of the old Parliament were wont to put up their old-fashioned vehicles when necessary. At a very small outlay for asphalt or cement this yard could, adds our contemporary, be converted into the most commodious garage in Dublin, if not in Ireland.

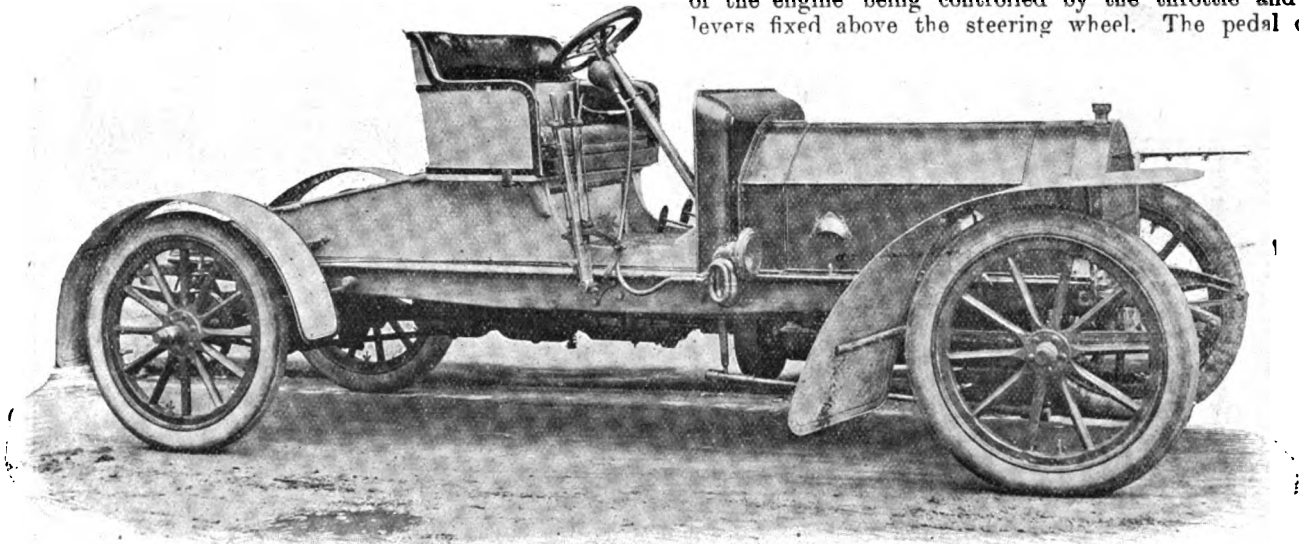
## SOME USEFUL NOTES.

ABOUT this time of the year a car is apt to show signs of use, if it has been run a good deal. This does not necessarily mean that the vehicle is not a good one; it simply means that a certain amount of wear and tear is inevitable, and, even if the car has not given a moment's trouble throughout the season, it should be looked over carefully to see how it has stood the work. Nuts may jar loose; cottar-pins may be lost; gears may be a trifle loose on their shafts; oil holes and pipes may be partly or wholly clogged; valves may be pitted and require grinding; steering gear joints may be, and probably are, loose, allowing excessive play at the wheel. The fact that a car has run for the whole season with little or no attention beyond oiling, cleaning and filling up tanks is all the more reason why it should be examined, as the owner may be lulled into a false sense of security by the good behaviour of his vehicle, while all the time something is gradually working towards trouble.

MOST motorists are familiar with the Lacoste type of contact maker, yet there are probably a few who have not been able to discover the cause of mis-firing troubles, either on one particular cylinder or generally. An examination of the contact maker may show it to be apparently in perfect order. After a long period of use, however, a certain amount of wear takes

## THE HURST SIX-CYLINDER CAR.

THE number of six-cylinder cars on the market is steadily increasing, one of the latest additions thereto being the Hurst, which is made by Messrs. Hurst and Middleton, Ltd., of Windsor Road, Holloway, N. As will be seen from the accompanying illustration, which gives a view of the vehicle fitted with a test body, it follows the general design of live-axle cars, the engine, which is rated at 30-40-h.p., being set in the fore part of a pressed steel frame. The motor, which is built throughout by the firm, comprises six separately-cast cylinders, the dimensions being 4 in. bore by 4½ in. stroke, and the normal speed 1,000 revolutions per minute. The valves are mechanically operated off separate cam shafts, the inlets being arranged on one side and the exhausts on the other. A separate exhaust pipe is provided for each cylinder, the burnt gases first passing into an expanding chamber, and thence to the silencer proper. The water circulation is maintained by a gear-driven pump and a framed tubular radiator of the firm's own construction, an air-inducing fan being also fitted. The mixture is furnished by a Longuemare carburettor with automatically-acting air-regulating valve, while the ignition is by coil and accumulators, the contact maker being located in an accessible position. No governor is provided, the speed of the engine being controlled by the throttle and ignition levers fixed above the steering wheel. The pedal operating



General View of the Hurst 30-40-h.p. Six-cylinder Car with Test Body.

place, both in the roller and other segments, and naturally the arm carrying the former will open out further by the action of the little spring. On looking very closely at the spring, it will be found that it cannot open out any further, because the middle portion of the arm is pressing hard on the boss. The remedy is to file out the boss—a matter of five minutes' work. The reason why this trouble is sometimes apparent on one cylinder only is due to the commutator shaft being not perfectly true, i.e., it is revolving with a very slight amount of eccentricity, and the point of the least eccentricity is where it "misses." This is a trouble the cause of which is not generally known, many motorists having been puzzled for a long time over it.

CARS which it is not intended to use during the winter months should be given a thorough cleaning before they are stored away, and all the bright steel parts should receive a coating of vaseline, to prevent rusting. The grease may be cleaned off again in the spring with paraffin. When the cars are thus prepared they may be stored in almost any building where they are protected from the weather, although a perfectly dry room is preferable. In any case, previous to storing the vehicle away, the tyres should be taken off, done up in sacking and stored in a dry, dark place, especially if the machine is to be out of commission during the entire cold season.

the clutch is, however, so connected up that as the latter is withdrawn the motor is automatically throttled down. To the gear-box the power is transmitted through a wide leather-faced clutch fitted with springs to allow the load to be taken up without jerks. Three speeds forward and a reverse are controlled by a single lever, the drive on the top being direct. From the gear-box the power is conveyed through a cardan-shaft and bevel gear to a live axle which has only the driving strain to withstand, the weight of the car being carried by the sleeve surrounding the axle. Any form of carriage body can be fitted to the chassis, which has a wheel base of 10 ft. 3 in. and 870 by 100 mm. road wheels.

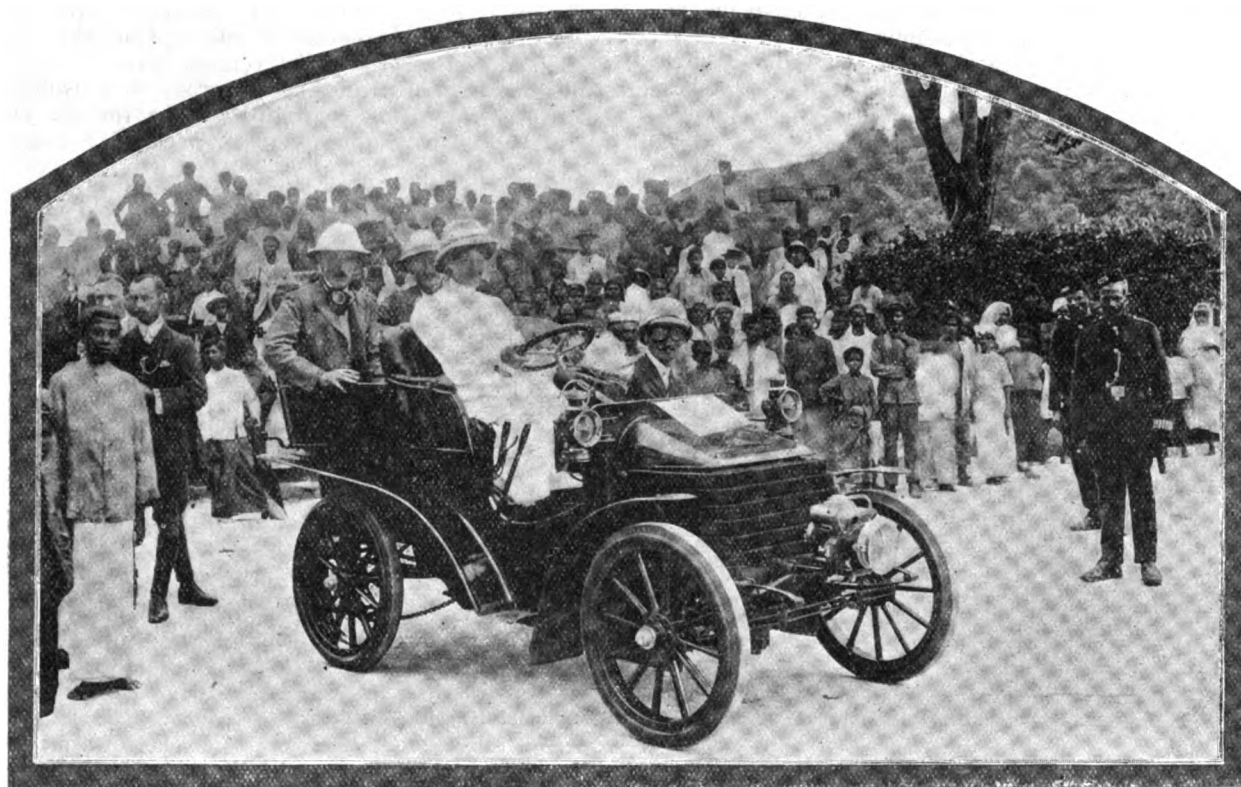
A few days, ago with Mr. Hurst at the wheel, we enjoyed a short spin on the new car, and, although we were not able to test its capabilities as regards speed, we had ample opportunity of noting the great flexibility of the engine and the extreme quietness of the vehicle. In fact, on the top direct speed, on which the bulk of the running is done, one seemed to be simply gliding through the air, the engine responding instantly to the slightest movement of the throttle lever. Altogether Messrs. Hurst and Middleton are to be congratulated on their latest production, which is not only of a simple, straightforward design, but one in which the important points of reliability and durability have not been overlooked.

## SOME CURRENT TOPICS.

### A Substitute for Petrol.

In a recent issue we mentioned that some experiments were being made in the Midlands with a new fuel for motor-cars. The inventor is Mr. R. W. Ayton, of Stoney Stanton Road, Coventry, who in the course of a recent letter to us reports:—"It is quite true that I have been at work on the 'home-grown fuel' problem for a very long time, and have succeeded in securing most satisfactory results from a fuel consisting mainly of alcohol treated by a special process, which serves at one and the same time to increase the fuel value of the spirit and to render it permanently unpotable. Experiment has also plainly demonstrated the possibility of such fuel being satisfactorily utilised

sufficiently small that the time required to care for it is not beyond the owner's disposal, and working by degrees to a larger and more complicated machine. A large part of the time necessary to keep an automobile in running order is spent, not in work which requires the use of big tools, but in adjustments, and although the hours spent in the motor house slip by with amazing rapidity, the knowledge obtained is vital to the man who would run his car with economy. How much time will have to be spent to make oneself thoroughly acquainted with a car, or how much it would be profitable for a busy man to devote thereto, is a question the answer to which will depend on individual circumstances as well as on the particular car. Usually, the new recruit to the ranks of motorists has no idea on the subject, since he has no means of gauging how much he knows and how much he has to learn. It may safely be hazarded, however, that if he has the least inclination for the work and once makes a start he will become an enthusiastic student of the automobile and will take an active interest in the condition of the bearings, the change-speed gear,



A Wolseley Car among the Natives in Ceylon.

in engines of much simpler construction than those at present universally fitted to motor-cars. There appears to be no prospect, however, of doing anything with it in this country, so I am taking it abroad." In view of the ever-increasing cost of petrol, the problem of a home-produced fuel which shall render the automobile movement independent of the imported product becomes of national importance, and every encouragement should be given to any experiments towards its solution. We would, therefore, suggest that an inquiry into the fuel Mr. Ayton has devised might be included in the purview of the Fuels Committee which has just been appointed by the Motor Union.

### Every Motorist his own Mechanician.

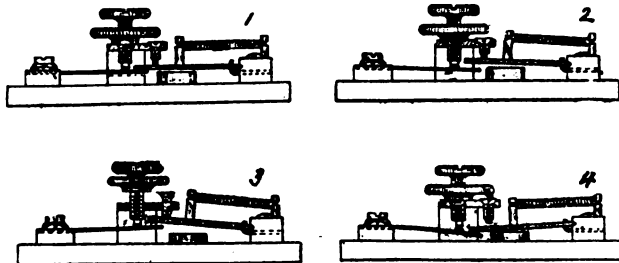
Although it is not to be expected that everyone should be of a mechanical turn of mind, yet almost all motorists who have a reasonable amount of time on hand can make themselves acquainted with the main details of their car, the functions of the same and the care and attention they need. To do this means generally starting one's motoring career with a vehicle

the carburettor, the brakes, the steering mechanism, etc., of his vehicle. If the motor stops on the road—which it seldom will, if properly kept in order—he will know at once whether the fault is in the carburettor or the ignition, and a few minutes will suffice to narrow the field of search still further. As with the engine so with the other parts of the car—after a little experience the owner will know where trouble is most likely to occur. The intimate acquaintance with the car that results is well worth the trouble, if only on account of the sense of security and confidence it affords when on the road. Not only so, but, even where a professional driver is employed, a knowledge of the various parts of a motor-car will be found exceedingly useful, enabling, as it does, an owner to keep a check on the chauffeur and to see whether he is keeping the machine properly tuned up, and if not, in what respect he is neglecting it. And above all he will have more than a vague idea of what his car will and will not do, and therefore refrain from overtaxing it, the result being a saving of repair bills and many roadside *pannes*.



## THE ADJUSTMENT OF TREMBLER COILS.

AS so much depends, in the successful operation of the high-tension system of ignition by means of an induction coil and accumulators, on the adjustment of the tremblers of the former, and as we believe the method of properly adjusting the same is little understood by the average motorist, we recently asked several of the leading coil makers to give the readers of the *M.C.J.* the benefit of their expert knowledge in the matter. From the following letters many valuable hints will no doubt be



Figs. 1 to 4.

gathered, and by following the instructions given automobilists should be able to obtain better results from their ignition apparatus if, perchance, they have experienced difficulties through faulty trembler adjustment.

### The V. R. Coils.

Messrs. Van Raden and Company, Coventry, write:—In the following instructions we endeavour to explain the necessity of speed of trembler, above the old theory of the heat of spark obtained by large current consumption, which causes rapid exhaustion of accumulator and all the accompanying ignition trouble. All our coils are fitted with the genuine Carpenter trembler, consisting of two main parts—the current conducting (platinum tipped blade and screw always in contact when at rest), and the hammering blade, which is attracted by the magnetised core immediately the current is closed. As shown in illustration No. 1, these two blades are in the normal position; both blades are parallel, with little space between them, so that the hammering blade, when attracted by the core whilst magnetised, is able to give a sharp blow on the contact blade, separating the platinum tips, breaking the low-tension circuit, and thus producing the high-tension spark. In the second illustration the platinum tip screw is over-adjusted, the blade is bent down, the distance between the two blades too large, therefore the time lapsing before the blow and consequent break takes place is much longer, thus slowing down the action, making the trembler slow and extravagant in current consumption, because the resistance in the primary has to be fairly low. Fig. 3 represents a trembler blade bent upwards, the screws released, the hammering blade too far from the core, the spring slack, no quick return, blade too far from the magnetic influence of the core again slowing down the trembler speed.

The fourth illustration shows a badly over-adjusted trembler, in which the tipped blade is pressed down below the core, so that the hammering blade cannot reach it to separate the contact, causing the sticking of the hammering blade; when adjusted like this the trembling coil is used as a non-trembler, the spark takes place at the latest possible moment when breaking at the cam, and the coil uses an abnormal quantity of current.

Before there is any trouble with coils it is well to remember that the best method *not* to make the coil work properly is by screwing down hard, by pulling the blade and spring out of shape so that they cannot tremble, weakening the spiral spring which is intended for quick return. Another and even better method to ruin coils is to send the largest amount of current through it and then to increase the spark gap to such an extent, or disconnect the plug wire altogether, so that the spark has to jump inside instead of outside the coil. The custom, under these circumstances, is to blame the coil maker after the car comes to a stop instead of taking his advice in time. Leave the coil

adjustment alone—coils rarely require adjusting; as long as they are in good order do not experiment, you will often find your ignition trouble in over-lubricating, in your carburettor, and in contact breaker, after you have seen the accumulator is well charged and that the trembler vibrates lightly. Only the platinum tips occasionally require trimming with a very small file, and afterwards with a light hammer to get a hard, smooth, bright surface. Care must be taken that the tips touch level over a large surface, otherwise they will point and stick.

### The P. and R. Coils.

As regards the P. and R. coils, Messrs. Peto and Radford, the makers, inform us that when properly adjusted they should show very little sparking at the platinum contacts. If excessive sparking occurs it is either due to the wear on the platins putting them out of parallel, or the formation of points and craters on the surfaces. To adjust these, slacken the lock nut, remove the contact screw, and file up the surfaces with a superfine cut file until the platinum points of both blade and screw have a perfectly level surface. The filing should be done gently and the file held firmly, so that a straight surface is produced. Persons unskilled in the use of a file are apt to file off the corners and produce either a slanting or a convex surface. Therefore it is best to acquire a certain amount of experience before attempting the job. A very small adjustment of the screw will make a considerable difference to the character of the spark. The spring should be about  $\frac{1}{8}$  in. from the iron core, and the armature should rest on the spring so as to be just free and not pressing on it. To get this result adjust the small screw in the brass piece that holds the armature down. By altering the adjusting screw the current can be varied from  $\frac{1}{2}$  to  $2\frac{1}{2}$  amperes, and providing that a sufficiently efficient spark is obtained, the adjustment should be made so as to use as little current as possible, as it reduces the wear on the platinum points. In testing induction coils the primary circuit should not be joined to the terminals of an accumulator, unless there is a proper path connected up for the secondary spark. This can either be done by connecting a sparking plug to the coil, or by providing two pieces of wire with a gap of about  $\frac{1}{4}$  in. between them. If the gap is not provided, a great strain is put upon the coil, and the spark may break out at any weak point in the internal insulation.

### The E.I.C. Coil.

From the Electric Ignition Company, Ltd., of Sparkbrook, Birmingham, we have received the following:—The E.I.C. induction coil is the result of many years' experience in the

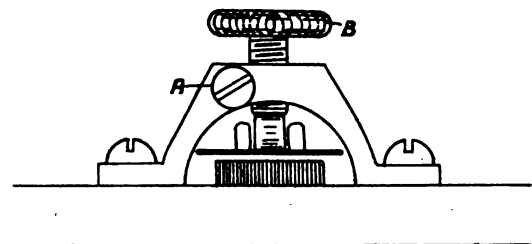


Fig. 5.

manufacture of these articles. The windings are special in form and differ in many ways from the ordinary type. A particular method of balancing the primary and secondary winding with the condenser gives a minimum of sparking at the contact points of the trembler, so reducing the fusing of the platins to a minimum. After much experimenting we have obtained a special alloy of platinum, which is extremely hard, and this prevents the points hammering down owing to the continued action. As regards current consumption, the E.I.C. is so constructed that it only takes from .2 to .5 amperes, according to the speed of the engine. The tremblers rarely need adjustment, but when this is necessary it can be carried out very easily. All that it is necessary to do is to unscrew A, Fig. 5, about three turns; this loosens the screw B, which should then be screwed down until the trembler is buzzing at its highest note. When this is done screw up A again and so lock B securely, the trembler being then adjusted to run at its highest speed.

## CONTINENTAL NOTES.

### The Provence Speed Trials.

On Tuesday last week the Automobile Club de Salon held a series of kilometre and five kilometre speed trials on the Salon-Arles road. The interest in the racing car section was reduced by the non-appearance of several of the entries, including Rougier (De Dietrich) and Garcet (Clement-Bayard), Collomb running alone on his 110-h.p. Rochet-Schneider. His time for the flying kilometre was 25 1.5 sec., equal to 90 miles per hour, and for the five kilometres 2 min. 11 1.5 sec. Both times were, however, outside record. Tadeoli also did well on a Rochet-Schneider in the over £800 class, his times for the kilometre and five kilometres being respectively 31 sec. and 2 min. 36 sec. Gasté on a Radia was the winner of the under £500 class, he covering the long course in 3 min. 18 3.5 sec.; over the kilometre, however, he was beaten by Aubert on a Mieuisset (41 2.5 sec.).

### The Semmering Hill Climb.

The annual hill-climbing competition from Schottwien up the Semmering was held on Sunday last over a ten kilometre

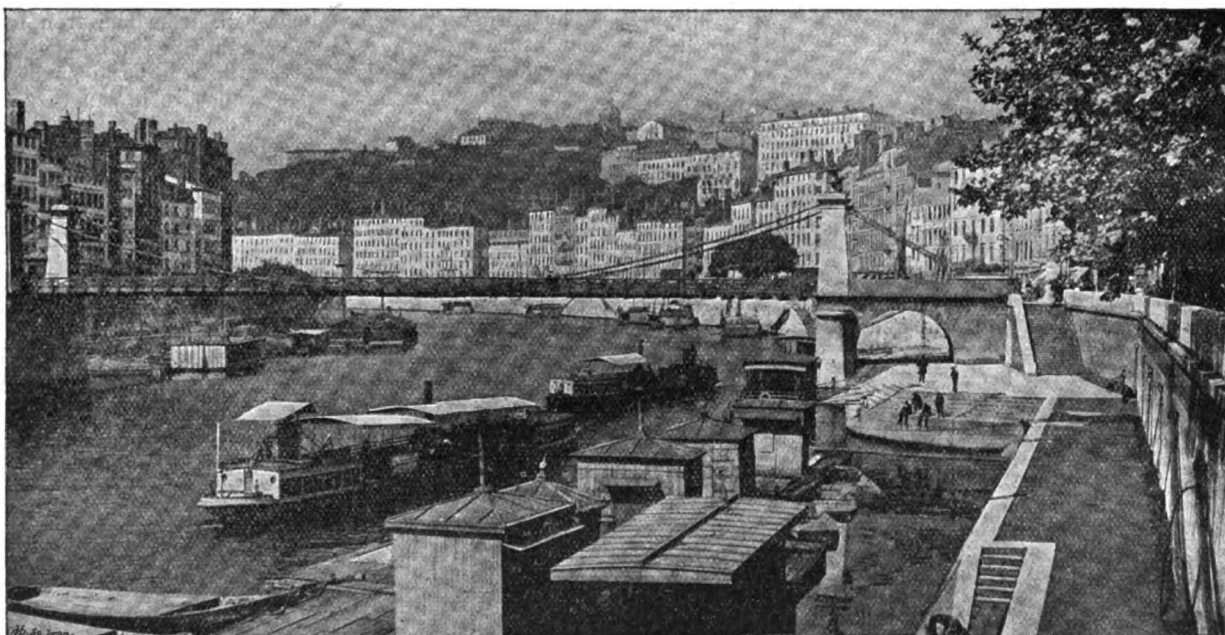
permits, paragraph 110 of the law states that the five or thirty days for which the permits are valid need not necessarily be consecutive days; the permit, therefore, should be produced on every occasion that the frontier is crossed, and laid before the customs officials, to allow of the entry or departure from the country being exactly noted. Such notices should contain the identification letter and number of the automobile, and the number of days passed in the country. It is not necessary that the frontier station at which the entry into Germany is made should always be the same, and visitors who meet with any difficulty on this point should refer the customs authorities to paragraph 110 of the regulations.

### Public Services in Germany.

Arrangements are in hand for the establishment of a public motor-car service between Zittau and Oybin, Saxony. A company has also just been formed in Potsdam to establish and work a service of motor-buses in the district.

### Miscellaneous Items.

The names of Argyll Motors, Ltd., and the Enfield Auto-car Company, Ltd., appear in the list of exhibitors at the forth-



Touring in France.—The Pont la Feuillée, at Lyons.

course. Close upon fifty entries were received, the competitors being divided into several classes. The best time of the day was made by Braun, who drove Herr A. Dreher's 100-h.p. Mercedes up the hill in 7 min. 40 sec., beating last year's record, held by himself, by 10 4.5 sec. In the light racing motor-bicycle class Wetzka on a Puch won in 10 min. 13 sec., while in the light racing car section the winner was Joerns, his time on an Opel-Darracq being 8 min. 46 sec.

### Motor Touring in Germany.

As a considerable amount of uncertainty exists regarding the taxation of automobiles entering Germany, and the term of duration of the permits which have to be taken out at the frontier customs stations, the German Imperial Automobile Club has issued the following notice:—The automobile tax law, which came into force in Germany on July 1st last, stipulates that permits (tax cards) must be taken out for the cars of motorists living abroad. The taxes to be paid are as follows:—For a sojourn in Germany not exceeding five days 15s., and for a stay lasting from five to thirty days £2 for each vehicle. These permits are issued on the payment of the dues at the German frontier customs houses. In regard to the duration of such

coming Paris Salon.—The annual hill-climbing competition at Gaillon, France, is to be held on the 28th October.—The Swiss Automobile Club is organising a hill-climbing competition for October 14th; it is to be held over a six-kilometre course on the Marchairuz Hill, near Geneva.—In addition to a 40-h.p. six-cylinder car it is reported that the Darracq Company is bringing out a new 7-h.p. light car for the 1907 season.

THE value of the exports of motor-cars and parts from the United States during July last amounted to £102,635, as compared with only £45,106 in the corresponding month of last year.

MESSRS. DENNIS BROTHERS, LTD., have lately completed a double-deck motor-bus for a service between Carmagnola and Pinerolo, in North Italy. The bus body was constructed by Messrs. E. and H. Hora, Ltd.

MESSRS. HARVEY FROST AND CO., LTD., have added another name to their list of distinguished patrons, as they have received an order from the chief of the Imperial Garage, New Peterhof Palace, St. Petersburg, to supply the Czar with a "Standard" vulcaniser and a complete set of H.F. materials and tools.

WE learn that during the past three months the London and Parisian Motor Company, Ltd., have despatched ten Vulcan cars to New South Wales.

MR. J. WELCH has opened a garage at North Street, Mere, Wilts. The new establishment, with accommodation for ten cars, is on the Salisbury road.

WE learn that Sir Thos. Hanbury has lately ordered a 24-40-h.p. Itala car from Itala Automobiles, Ltd.

A NEW depot for the sale of cars and accessories is being established at 308, Euston Road, London, N.W., by Messrs. Gutteridge and Zambra, Ltd.

MR. H. R. POPE, of the Itala Automobiles, Ltd., is, we hear, about to make an attempt to establish a new record between Monte Carlo and London on his Itala car.

A MOTOR-BOAT capable of carrying about sixty passengers is being built by a syndicate of local fishermen for use next season at Bognor in making trips to Selsey Bill, Littlehampton, and the Owers Lightship.

THE china and earthenware manufacturers of the Potteries have just commenced a motor service for the conveyance of goods to Liverpool for shipment. This step has been taken in consequence of the high rates charged for transit on railways and canals.

THE motor-car works of Messrs. F. and J. Grant, Cathcart, near Glasgow, have been destroyed by fire. It is said that a member of the firm, having lit a cigar, threw a match on the floor amongst some petrol, and an explosion followed. The damage is estimated at £5,000.

MESSRS. J AND P. HILL, engineers, Park, Sheffield, have recently introduced a new high-speed screw-cutting lathe, specially designed for the automobile industry. The lathe, which is made with 8½ in. and 10 in. centres, is constructed for turning out work at high speeds.

Said a judge in a Court of West Ham,  
"I'm most open-minded, I am,  
But everything new  
I steadfastly eschew,"

And the motorist simply said—Thanks.

W. A. C., London.

MESSRS. R. REYNOLD JACKSON AND CO., LTD., have sent us an interesting photo, showing no less than a dozen Jackson cars built for the Planters' Stores and Agency, Ltd., Calcutta, India, and Messrs. Trackson Bros., Brisbane, Queensland, the orders being executed in about one month after the receipt of same.

LIEUT. S. GORE-BROWNE, of the Royal Artillery, Deepend, Surrey, will be glad to hear from motorists able to assist in obtaining a reliable second-hand car, to be utilised in connection with a scheme for training men of the Royal Field Artillery, so that they may be qualified as motor-car drivers on returning to civil life.

FROM Leicester comes the splendid list of the Midland Counties Motor Garage Company, whose premises are well located in Granby Street, opposite the Grand Hotel. The garage is of good extent and equipment, and the workshop well fitted with all the necessary tools for motor repairs. The tyre stocks, as well as those of accessories, are large and comprehensive, and, taken altogether, this establishment is calculated to be of service to any motorist journeying through the town of Simon de Montfort.

A NEW shock absorber, known as the Elsworth Victor, has just been brought out by Elsworth Motors, Ltd., Bradford. The device, which can be easily attached to either the front or back wheels of any car, consists of a phosphor bronze casting, into which is fitted a leaf working from side to side in oil. When the car receives a shock or bump the wing valve permits the oil to flow easily past the leaf, but when the rebound of the vehicle occurs, the oil being regulated by a stop valve, is permitted only to flow slowly back through a by-pass to its original position, thus checking the recoil and ensuring a perfectly smooth motion, at the same time preventing the breakage of springs.

## HERE AND THERE.

THE American Association of Licensed Automobile Manufacturers has just adopted a number of standard sizes of nuts and bolts for use on motor-cars.

MESSRS. CHATER LEA, LTD., of Golden Lane, London, E.C.,

have established a department for the cutting of all varieties of spur and bevel gears, and are prepared to undertake any work of this kind, supplying new parts or replacements.

ON Monday next the order of the Local Government Board limiting the speed of motor-cars to ten miles an hour on the highway in parts of East Retford comes into operation.

MESSRS. FRISWELL, LTD., have purchased the entire stock of Benz parts formerly held by Messrs. Hewetsons, Ltd., and are prepared to supply these promptly as well as to execute repairs to Benz cars.

THE Acme Rubber and Tyre Company have a well-equipped establishment at 343, St. Vincent Street, Glasgow, where they deal with the fitting of non-slipping treads and the repair of tyres from all parts of the country. From the specimens of Egyptian cloth and rubber which have been submitted to us it is evident that the materials employed in the repair of tyres are of high grade likely to give confidence to the firm's extending clientele. One feature of the business is the guarantee of



re-repairing, free of charge, any cover that proves defective within three months' of leaving the works—certainly an assuring phase of the motor repair business. The emergency garter which the firm introduced at the Motor-Car Exhibition at the Agricultural Hall is increasing in popularity, and those who have not yet had satisfactory tyre repairs in their own locality may communicate with the Acme Rubber Company, of Glasgow.

A FIRST-AID Pocket Ambulance case has been brought out in a very convenient form by Messrs. Wilson and Stockall, of Bury. In the little tin box are bandages, plaster, boracic lint, wool compress, needles, pins, sal. volatile, and a few other necessary items in connection with first aid. The case should be regarded as part of the motorist's outfit.

THE Coventry Motor Fittings Company have now removed to their new premises in Gosford Street, Coventry. This factory has been specially built to suit the requirements of tin-plate workers to the motor trade, and due regard has been given to lighting and ventilation, as well as the extension of premises when that becomes necessary. Machinery is being driven by electric motors, and sufficient accommodation is provided for 200 men. This firm's special lines are honeycomb radiators, lubricators, petrol tanks (pressure feed and otherwise), &c. As a precaution for safety all radiators are tested under hydraulic pressure before leaving the works.

A CONTEMPORARY refers to an "automatic change-speed petrol-paraffin carburettor!"

THE L.C.C. have sanctioned the letters A. R. E. O. as the trade identification mark of the Reo Motor Company.

MR. CAMERON CORBETT, M.P., has lately acquired a Delaunay-Belleville car from the Great Western Motor Company, Ltd., Glasgow.

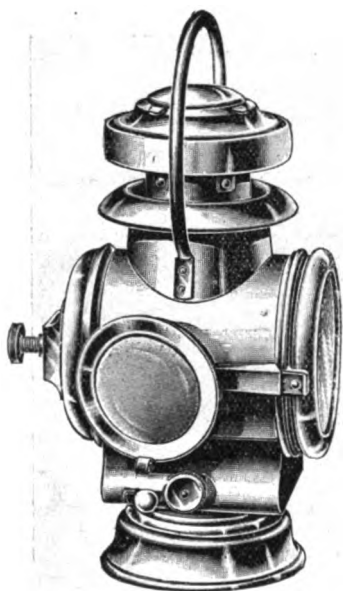
OWING to the large increase in their business, the Crypto Electrical Company have removed to larger premises, 155 and 157, Bermondsey Street, London, S.E.

MESSRS. L. RENE AND CO., LTD., 8, Plum Tree Court, E.C., have, since the fire on their premises, obtained a new stock of tyres, &c., to which the attention of motorists is directed.

AT 8, Wood Street Square, E.C., Messrs. Tidman and Gough have established an agency for automobile specialities in clothing, notably leather and tweed garments, liveries for chauffeurs, combination suits, motor-gloves, non-skids, &c.

THE Manhattan Dental Company, of New Times Building, New York, have sent us particulars of their non-fusing platinoid, which they claim to be a perfect substitute for platinum. It is stated to be well adapted for use on coil tremblers and other contacts in connection with electrical ignition systems.

JAMES NEALE AND SONS, LTD., Graham Street, Birmingham, have recently brought out an improved side and tail lamp. The special features concerning their side lamp are a patent



bolt fastener for locking in the oil container. This is mere or less automatic in action, and is easily manipulated and perfectly secure. The bracket is exceptionally strong, and riveted in four places over a large area of the body of the lamp, so that there is no fear of the metal cracking or breaking away. The wick is kept in place by a ratchet arrangement. The hinge of the lamp door is secured by rivets, and the door itself is detachable by means of a cottar inserted through the hinge. The reflector is properly focussed, and the lamp gives a strong light. The device has a goodly appearance, and is well and substantially made. It is known by the name of "Raydyot." The "Raydyot" tail lamp is made on similar

lines to the foregoing, and, in view of the coming new regulations, is somewhat larger than the ordinary size, so as to give a larger area of light. This lamp is also fitted with the firm's patent bolt fastener and special attachment to prevent the wick jolting down. A white light can be seen at the side, so that the driver by the turn of his head can see whether his tail lamp is burning. Messrs. Neale and Sons also deal largely in bearings, hood joints, wind shields, door handles, door plates, angle plates, bonnet fasteners, canopy fasteners, &c.

THE Petersfield Rural District Council have petitioned the Hants County Council to obtain the necessary power to make a by-law to impose a penalty on the users of motor-cars which create dust to such an extent as to be an annoyance or a nuisance to people using the roads or living in premises adjoining.

A CASE heard at Lincoln against Mr. C. Hannam for furiously driving a motor-car illustrates a strange order of magisterial mind. It was alleged by the prosecution that he was travelling about ten miles an hour; the defendant declared his speed to be less than half that pace, but the magistrates, after declaring it to be "a difficult case," added that, "taking all circumstances into consideration, the pace was furious and dangerous, although Mr. Hannam had not neglected to take precautions." So he was fined 40s. and costs. Truly a wonderful people, the English.

MR. W. TAYLOR has opened a motor garage in Stretford Road, Urmston, near Manchester.

CANNOT the A.C.G.B.I. see to the danger sign it erected on Birdlip Hill, so that it may be restored to its early usefulness?

A NEW motor-car repair establishment has been opened at Birmingham—at 12½, Belgrave—by Mr. James Lewis, who has had much practical experience with leading makers.

THE Ripon (Yorks) Rural Council have decided to forward to the County Council a list of places in the district where, in their opinion, motor-car danger signals should be erected.

SIR JOHN HIBBERT has associated himself with the scare raised by Sir J. Crichton-Brown, and has been deploring the increase of lunacy, "due, no doubt," he says, "to mental anxiety, even in amusements, such as motoring and cycling."

MOTORISTS journeying to Boulogne or Calais should consult Major Stevens or Captain Blomefield respectively with regard to the conveyance of their cars, these gentlemen being the accredited agents of the English railway companies at those ports.

ON the Skegness sands the one mile scratch race was won by a 35-h.p. Daimler fitted with Continentals, and in the Snake Hill climbing contest of the Manchester Motor Club Mr. J. Arrowsmith's 20-h.p. Horbick, which was first in Class D, was similarly tyred.

ON behalf of Rene Thomas, the French motor-cyclist who met with a serious accident at the race meeting at Canning Town on July 14th, and who is still an inmate of the Poplar Hospital, a Bohemian concert will be held at Frascati's Restaurant, London, W., on November 12th.

THE prices of all descriptions of the Bowden wire are to be reduced from Monday next, to enable dealers to cater for all requirements. The mechanism will thenceforth be obtainable in practically any desired length, instead of being supplied only in certain stated lengths, as has hitherto been the practice.

ON Saturday last Dougill's Engineering, Ltd., submitted one of their Frick 20-h.p. 22-seated char-a-bancs to a 30-mile road test. The vehicle, which is one of a number they have on order for Egypt, is friction-driven, by means of which any speed from zero to maximum is obtained without the use of a gear-box.

THE Marsh Motor and Cycle Works, London Road, High Wycombe, whose depot is located on the main London to Oxford road, are now catering for the requirements of motorists. A good store of petrol and oil is kept, while repairs of all kinds, including the vulcanisation of tyres, can be quickly carried out.

MESSRS. J. W. BROOKE AND CO., LTD., of Lowestoft, are supplying Mr. L. V. Harkness, of New York, with two exceptionally well-finished motor-launches for his new 1,000 ton s.y. Wakiva. The owner's launch is to be 25 ft. long, built of mahogany and equipped with a six-cylinder Brooke motor. The crew's launch is 20 ft. long, equipped with a three-cylinder 12-h.p. Brooke motor.

MR. ROBERT SCAIFE has been appointed manager of the Automobile Department of the York Electrical Co., Ltd., whose works and garage are at Wellington Row, Lendal Bridge, York. The works are well equipped with machine tools capable of dealing with all classes of automobile work, and as the garage will be open day and night, it should prove a convenience to motorists passing through the cathedral city.

THE Wilkinson Tyre and Tread Company, Ltd., of Huddersfield, have issued a new price list of their patent "Duplex" motor-tyres and plain and non-skidding treads. The "Duplex" type is practically a double tyre, a bed or lining of rubber being vulcanised to the inner surface of the casing, thus leaving the casing embedded in rubber and sealed between two flexible or resilient bodies. The vulcanising of the rubber to the inner face of the casing retards the spread of moisture following a puncture. The Wilkinson "Cupstud" tread, which has proved very satisfactory in service, comprises a rubber and canvas tread enveloping the outer cover. Hardened steel cups are provided to take the wear, through which the patent studs are fixed and made secure on the inside of the tread, so as not to have any projecting metal against the outer cover. Durability as well as effectiveness is a characteristic feature of these studs.



## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
87-89, Charing Cross Road, W.C.]

### IMPERFECT LUBRICATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Many motorists are apparently not aware of the fact that many of the troubles they experience in connection with their engines arise from imperfect lubrication. This is especially noticeable in hill climbing, where the oil naturally runs to the rear end of the crank case, and by the time that the top of the hill is reached a portion of the forward end is quite dry, and, consequently, there is a falling off in power which is wrongly attributed to the defective capacity of the motor, but which, in fact, arises from the forced dryness induced by the absence of

of the engine. Nearly all cases of loss of compression past the piston bad valves, commutator troubles, explosions in the carburettor, and numerous other troubles of like nature, may be traced to insufficient lubrication.—Yours truly,

T. BUCKLEY.

### THE DUST NUISANCE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Motors have come to stay, and it is as useless for the "man in the street" to try to do away with them or to reduce their number as it is to cry for the moon. What must be done is to lessen the evils caused by motors generally by indirect means. The chief of these evils is undoubtedly the "dust problem;" such features as noise and insufficient control of machines are best left to experts and the motor trade generally, who, one may be quite certain, are trying their best to remedy for their own pockets' sake.

My proposal for the prevention of the "dust curse" is to prepare the roads with tar or other material. This, your readers will say, is nothing new; but I ask them, has it ever been done systematically? We don't



The Austrian Military Manœuvres.—Prince Alexander Solms-Braunfels, the Commander of the Austrian Motor Volunteer Corps, on his Mercedes Car  
[Allgemeine Automobil Zeitung.]

oil. Normal lubricating conditions exist only on level roads, and deviations of any extent from the level should immediately be met with an extra supply of oil at the necessary parts. It is noticed that blue smoke invariably accompanies hill-climbing. This arises from one or more of the cylinders being swamped with oil, while at the same time the forward pistons may be dry and binding in the cylinders. Many cars are now being made with separate feed pipes to all important bearings, so that the simple splash of the cranks of an ordinary multi-cylinder engine is not entirely depended upon as the sole means of cylinder lubrication.—Yours truly,

R. TOWNSEND.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am very pleased to see that attention is being drawn to the question of lubrication. Many motor troubles may be traced to lack of attention to this point. People are too much inclined to drive a machine as long as it will run, regardless of the condition of the bearings and other wearing surfaces. The result is that certain parts of the motor become worn, and soon a knocking develops which creates a large amount of vibration, and causing a rapid deterioration

want it in patches, "here a little, there a little," but all the main roads should be prepared, and, in time, the second and third class roads. As to the means to obtain this result, I say, tax the motorists, not with such an absurd burden as £50 per year, as some correspondents suggest, but, say, £1 per head. The cost of preparing the roads with tar is about £70 per mile; thus the main London to Brighton road could be done for its entire length for £4,000. If the above taxation would not be enough to meet the requirements, tax the ordinary bicyclist 5s., or even 1s. per annum for the privilege of riding on perfectly smooth roads, free from dust. By this means surely a sufficient sum could be raised every year for the proper maintenance of, at all events, the main roads.—Yours truly,

H. W. W.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—From a careful perusal of the correspondence appearing in most of the leading "dailies" on the motor problem, it is apparent that the chief ground of complaint against motors is the dust nuisance.

No doubt in time we shall get our dustless roads, when due consideration has been given to the problem by road engineers, and their

suggestions have been carried into effect by local councils; but in the meantime may I suggest that it would not be unfair to call attention to the fact that there are at present certain cars on the market which, owing to their design, cause a minimum of annoyance on this score?

The Turner-Miesse car comes in this category, and, driven at a speed up to twenty-five miles per hour, raises but little dust, and is practically free from offence. This I think is due to the fact that the Turner-Miesse is built fairly high—there is no engine fly wheel revolving at great speed near the ground, and there is no exhaust being perpetually sent with great force on to the dusty surface of the roads.

The opponents of steam are never chary in expressing the objections they have to the older motive power, so I venture to think it is only just and right to give credit to steam where it can fairly claim decided advantage, and I think the comparative freedom from giving offence in the respect I have indicated is by no means unimportant.

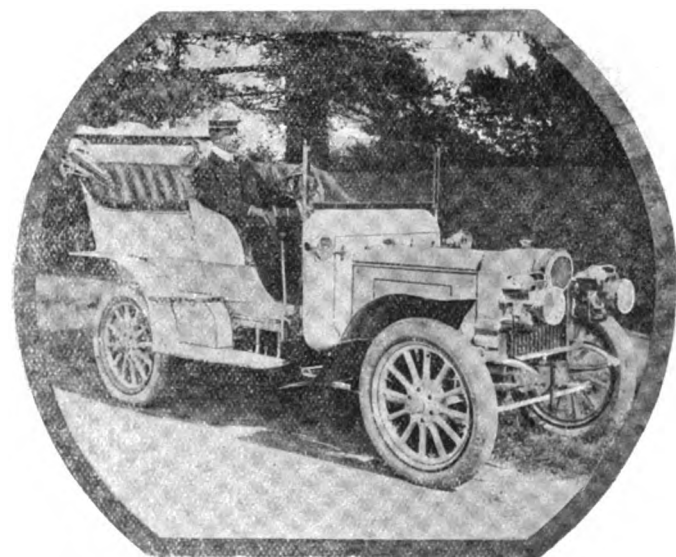
In addition, there is absolutely no offensive exhaust.—Yours truly,

J. BURNS DUMBELL.

### TAIL LAMP TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I can sympathise with Mr. Elwood, whose letter appears in the last issue. My experience on this troublesome question of tail lamps is that a large proportion of the difficulty commonly experienced by motorists in keeping the light burning properly is due to the quantities of dust and dirt in which it is constantly being smothered while the car is on the road. No matter how carefully the lamp may have been made, the air inlets to the same are bound sooner or later to become more or less clogged. This, naturally, tends to impair the proper action of the burner, which is further affected by the dust which works inside and settles on the wick, effectually preventing the capillary action on which



Mr. E. P. Prestwich and his 30-h.p. Daimler Car, which he has driven 6,000 miles without opening the tool-box on the road, and without puncture or tyre trouble of any sort.

the flame depends. A simple method of preventing this during the time the lamp is not in use is to employ a removable lamp cover of waterproof material. The lamp may even be entirely removed when not in use, and stored in some place on the car where it will be free from the dust.—Yours truly,

F. DICKINSON.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—May I ask Mr. Elwood if he has tried a cover for his tail lamp when not in use? At first sight this may appear a frivolous query; but when it is considered that a tail lamp is in a whirlwind of dust and dirt continuously, both air inlets, ventilation and wick get choked with particles of dust, and no lamp made will burn under such conditions.

I had the same trouble as Mr. Elwood and always had the nervous dread that my tail lamp was not properly alight. Since taking the precaution of always having a lamp cover on, except when the lamp is lighted, I have had no trouble and drive with the confidence of a good clear light at rear.—Yours truly,

C. ASTBURY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to your correspondent, Mr. H. Elwood, I may say that I have experienced similar troubles myself, and I have never been able to obtain thorough satisfaction from oil lamps. I have now

fitted up two 2-volt "Osmi" lamps, one on the dashboard and one in the tail lamp, burning in series off a 4-volt accumulator. The lamp on the dashboard, which must be shaded from the driver's eyes, serves both as a telltale device and to throw a light on the drip sight feeds of the lubricator. This device has been in use on my car about 4,000 miles, and has never failed upon any occasion, the only trouble being caused through the accidental breakage of a globe. I find that the "Osmi" 2-volt globe is the only lamp of that voltage which gives sufficient light to illuminate the number plate. The accumulator (40 amp.) requires recharging once every fourteen days, using the car five nights a week. In conclusion I may say that I consider the freedom from the anxiety of tail light trouble has amply repaid the cost and work of fitting up this system.—Yours truly,

PERCY E. WHYTE.

### IGNITION TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be greatly obliged if you could help me with the following:—I have a 12-h.p. two-cylinder car, and am much troubled with short circuiting on the high-tension wires from the coils to the sparking plugs. I may say I have fitted new E.I.C. plugs and the very best high-tension wire I can get, and even now wherever the wire touches the frame or engine you can see the electricity running along the wire.

I have some non-trembler coils on same, which have been in use some time. Do you think if trembler coils were fitted it would get over this difficulty? When the plugs are out they both spark beautifully.—Yours truly,

T. L. W.

[The cause of the trouble must lie in the fact of there being an earth leakage at some point between the terminal on the coil and the plug, and as the high tension wire is of good quality, and the plugs are new, probably there is a leakage, caused through damp, between the coil terminals and the wooden case. Fitting tremblers would have no effect, but a new coil with tremblers would no doubt remove the cause, as the leakage would be done away with. There is also a chance of leakage in the plugs through the mica insulation. When the plugs are taken out they are no longer sparking under compression, so that a spark would pass in spite of the leakage. Dampness will often cause corrosion at the back of a high tension terminal; this will spread across the ebonite insulating bush piece, and if the wood work of the box is wet the mischief is done.]

### DANGERS OF THE ROADS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As a cyclist of twenty-five years' standing, it seems to me that so long as motor vehicles are allowed to use the roads at the present speeds, accidents, especially to children, will happen, and the only way to guard against these in some measure is to compel all local authorities to have proper paths made to every road, and to have a light railing with crossing places in villages and hamlets.

There are many roads and lanes within ten miles of London where there is no path of any kind, and often high banks on each side, and this ought not to be allowed unless motor traffic is prohibited.

With reference to the recent accidents to children running from behind carts, all experienced cyclists know that this is one of the dangers of the road to be specially guarded against by extra vigilance, slowing down, and sounding a bell, and unless these precautions are taken I fail to see that an accident caused to a child can be held to be unavoidable. Too much stress is laid by those interested in the great stopping power of the brakes on motor-cars; doubtless this is true, but if they are not applied in time they are useless, and how many drivers are there equal to a sudden emergency?—Yours truly,

J. RAY FLINT.

### STEAM CAR EXPERIENCE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should like to hear some expressions re steam motor-cars from users who can speak from a lengthy experience. I am a medical man in a very hilly country with bad roads. I have used a petrol car for eighteen months with varying luck. Is a steam car (once steam is up) as easy to start as a petrol car? Is it more economical? Does the engine last longer? Are steam cars more difficult to keep in order, and do they require more attention than petrol cars? And lastly, what power car would do my work? I do not want to go fast—twenty-five miles on level, but might want the car to carry a landaulet body.—Yours truly,

MEDICUS.

### THREE MEN ON THE 'BUS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Your correspondent who wants to alleviate the unemployed problem by setting 600 or 700 boys to work on the London motor-buses certainly raises a point worthy of discussion, though I am not inclined to wholly support his views. That drivers cannot attract passengers is true; and that conductors are often oblivious to the

attempts of would-be passengers to secure notice is equally correct. But the motor-bus business is still young and as its organisation develops its points of perfection will become more apparent.

Now that the police are seeking to confine their licences to the right to run over specified routes the time seems opportune for giving each bus its own stopping point—so far as taking up passengers is concerned. It would be easy to so arrange matters that a motor-bus stopped at every street end in London—I am, of course, only referring to the busy parts of the metropolis—to secure passengers. Thus everyone could be accommodated without the dangerous practice of whirling umbrellas through the air, to the risk of damage to the visages of people within the radius of the circle. As motor-buses become more plentiful such a plan would be very feasible, and I do not see why each bus should not have its own special stages where they are known to stop. Of course we have something of the kind here; but I want to see the short stages that are current in Paris rather than the long intervals with which we have grown familiar in London.

I was glad to see that in the editorial columns of last week's issue you drew attention to the dissimilarity now existing in the height of the steps of motor-buses from the ground. This is a real danger, and the sooner the Society of Motor-Bus Engineers seeks to impress the importance of the point on its members the surer will be the progress of the motor-bus into popular estimation—a state of being from which it is now very distant.—Yours truly,

T. TURNER.

### MOTORISTS AND INSURANCE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—There is no doubt a disinclination on the part of the majority of motorists to insure against accidents, and apparently this is partly due to a belief that there is always a difficulty in obtaining a settlement of claim in the event of an accident. That this is not the case with a good company is shown by my experience. I had the misfortune to be the victim of a rather bad smash. I sent in my claim to the General Accident Assurance Company, Ltd., on Tuesday, and this morning, Thursday, received a cheque for the amount.

Such promptness is much to be commended, and should be an inducement to motorists to take what is certainly a wise step and insure.

I have no interest in the insurance company mentioned.—Yours truly,

NORMAN A. LETTS.

### STOPPING A CAR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In driving into a garage I remove my interrupter plug, thus stopping my engine, and bring the car to a standstill by letting up the clutch when still in gear. Is this likely to do any damage to the car or gears, and in what way?—Yours truly,

TONY HUBER CAR.

[The method of stopping a car mentioned by our correspondent is not usually practised. If the clutch is let up whilst the car is still in motion and the engine at a standstill it would cause a severe strain on the gears and car in general. The usual method is to bring the vehicle to a standstill usually by means of its brakes, the gears being put into the neutral position, when engine can be stopped as desired. If the principle referred to by "Tony Huber Car" be adopted, some difficulty may be experienced in getting the gears through to the neutral, especially if they are of the Panhard type.]

### THE QUALIFICATION OF DRIVERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The primary cause of motor accidents is due to incompetent driving, and now must be added the danger of meeting a car that may be in charge of a cripple, madman, or mute.

May I point out through your influential journal that it is about time some steps were taken by the licencing authorities throughout the country to ascertain if applicants for licences to drive motor-cars are physically qualified to do so?—Yours truly,

J. MACCONNELL.

### THE CAUSE OF CARBON DEPOSIT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you or any reader of the *M.C.J.* could inform me as to what causes the carbon deposit on the pistons of petrol engines. Is it due to too rich a mixture of petrol, or to too much or poor lubricating oil? Is there any way of dissolving, burning out or removing the deposit other than by dismantling the engine and scraping the piston head and cylinder?—Yours truly,

R. LEWIS.

[Carbon deposit in cylinder is due to the burning of the lubricating oil, combined with that of the petrol. It has not much to do with the

quality of lubricating oil, although a poor oil will cause a greater deposit. It is almost impossible to remove it without dismantling, but if the cylinders are frequently washed out with paraffin or petrol the formation of the deposit is to a large extent avoided.]

### TYRES AND TARRED ROADS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—On returning from a run the other day I noticed that my tyres were covered with tar, not only on the treads, but on the sides. I am, of course, glad to see the authorities in different parts of the country tackling the dust nuisance by tarring the roads, but the question is whether tar is injurious to the tyres of motor-vehicles, and, if so, what can be done to obviate it. Perhaps some reader of the *M.C.J.* can give a few hints on the subject.—Yours truly,

A. MACKENZIE.

### BACKFIRING IN THE CARBURETTOR.

TO THE EDITOR OF *The Motor-Car Journal*.

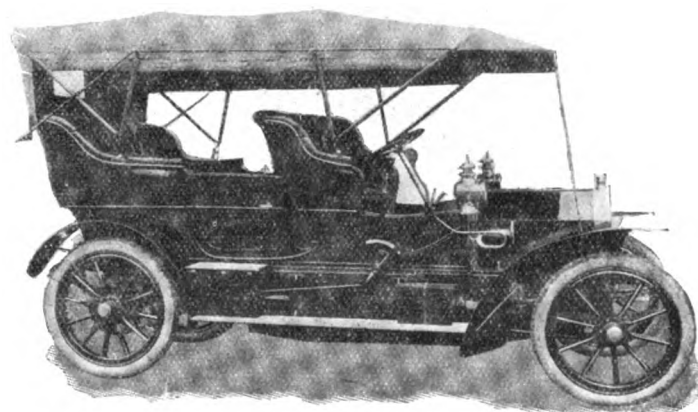
SIR,—I noticed in a recent issue a reply from Mr. R. J. Robinson re backfiring in the carburettor. He states that an engine will backfire if the accumulator is low or the plug is broken, and if the contact-maker is too long. For the benefit of myself and possibly other amateur motorists, would it be imposing on your valuable space to ask Mr. Robinson how those defects mentioned would cause backfiring, as I have found from experience that a weak spark from a low accumulator gives a late explosion, and to have a backfire savours of premature ignition, or the inlet valve not closing quick enough.—Yours truly,

A. J. S.

### SPERM OIL AS A MOTOR LUBRICANT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to your article on this subject under "Some Current Topics," in the *M.C.J.* of the 15th inst., and also R. J. Hutchinson's letter, may I take the liberty of stating that the chief objection to the use of sperm oil is not one of viscosity or of price, but simply that sperm, being an animal oil, will not distil as will a mineral oil, but will



An 18-h.p. Star Car with side-entrance body and canopy.

decompose, giving off a most offensive smell, and will leave a heavy deposit of carbonaceous matter in the cylinders. On the other hand, a properly refined mineral oil will distil away leaving little or no residue.—Yours truly,

A. DUCKHAM.

A MELBOURNE correspondent asks for the name and address of the La Forina motor-tyre covers.

THE BARDON CARS.—"Herring" writes:—"Can any of your readers tell us where it is possible for us to obtain spare parts for Bardon motor-cars in this country?"

AUTOMATICALLY REGULATED IGNITION.—"J. R. C." writes:—"I should be glad if any user of an Albion or Brotherhood car would inform me if the automatically advanced and retarded ignition with which these vehicles are fitted give satisfactory results in practice."

DIRT IN PETROL.—In connection with the recent letters on the subject of dirt in petrol which have appeared in the correspondence columns of the *M.C.J.*, the E. M. Bowden's Patents Syndicate, Ltd., write:—"No matter what filtering precautions are taken, a certain amount of foreign matter inevitably does contrive to find its way through, and gives rise to troubles such as your correspondent describes. Convinced of the necessity of re-straining the petrol after leaving the tank, we some time since introduced the Bowden petrol strainer for this purpose—an inexpensive but thoroughly efficient contrivance, which we feel sure will obviate any difficulties with dirty petrol."

## THE MOTOR UNION.

## MEET AT SCARBOROUGH.

ON Saturday the last of this year's provincial meets of the Motor Union was held at Scarborough, an invitation to visit that town having been sent by the Corporation and the North Yorkshire Automobile Club. Not only was an official civic welcome arranged in the Council Chamber, but the Earl and Countess of Londesborough again showed their interest in the motorists by arranging for a garden party at Londesborough Lodge, and although the Earl and Countess were unable to be present, the visitors were welcomed on their behalf by the Mayor and Mayoress of Scarborough (Alderman and Mrs. W. H. Fowler), amongst those present being the Hon. A. Stanley, M.P., Earl Russell, Messrs. A. Duckam, A. A. Dale, Bristol and Gloucestershire A.C.; H. A. Watson and F. Ware, North Yorkshire A.C.; C. MacWhirter, Herts County A.C.; J. Barber and F. B. Cawood, Sheffield District A.C.; A. McAlpin and R. Sutton-Clifford, jun., Leicestershire A.C.; J. Thompson Willows, South Wales and Monmouth A.C.; J. Horace Reeves, Kensington A.C.; E. W. Pennell, E. Newsum, Captain J. A. Ford, and Dr. Godfrey Lowe, Lincolnshire A.C.; A. Barlow, Nottinghamshire A.C.; J. A. Morris, Fred Smith, and D. Adamson-Parkin, Manchester A.C.; T. Clayton, Midland A.C.; Major C. B. Levita, North Eastern A.A.; T. E. King, Harrogate and District A.C.; Dr. J. Hopkins Walters, Berkshire A.C.; A. M. Singer, Sussex County A.C.; Granville M. Kenyon, Kent A.C.; Dr. E. L. Lowe, Ipswich and East Suffolk A.C.; E. Shrapnel Smith, Motor Van, Wagon, and Omnibus Users' Association; G. T. Langridge, Epsom; J. Sutcliffe Pyman; R. W. A. Brewer, London; Dr. J. L. Lock, Uxbridge; C. A. Elgood, London; G. H. Lindsey-Renton, Croydon; W. B. Jessopp, Bedford; C. H. Dodd, Maidenhead; Captain W. E. D. Owen, Sonning; and Mr. Rees Jeffreys (secretary of the Union).

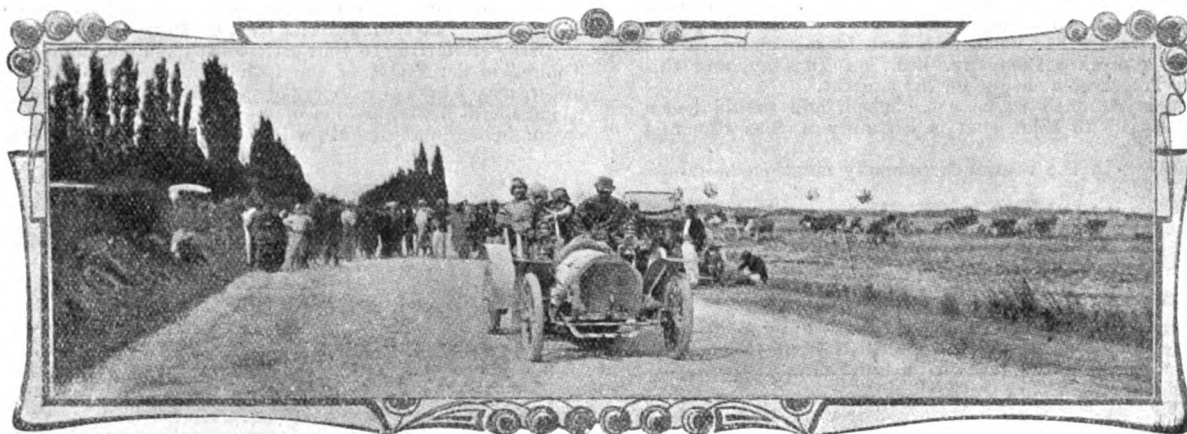
The Mayor having welcomed the motorists and the Hon. A.

## THE GARDEN PARTY.

Members of the Motor Union then attended with their cars on St. Nicholas Cliff and proceeded in procession to Londesborough Lodge, where the garden party was being given by Lord and Lady Londesborough. About fifty cars took part in the procession, and others proceeded to Londesborough Lodge later in the afternoon. On arrival at the Lodge the cars were ranged in rows and were open to inspection, many hundreds of people visiting the "show" of what was certainly a unique collection of up-to-date cars so far as Scarborough is concerned. It was a matter for regret on the part of all concerned that the Earl and Countess of Londesborough were unavoidably prevented from being able to welcome their guests at the garden party which they were pleased to give at Londesborough Lodge, but at their request the Mayor and Mayoress (Alderman and Mrs. Hastings Fowler) readily agreed to receive the visitors on their behalf. The garden party proved to be a most interesting function, and from four o'clock to 5.30 the grounds of Londesborough Lodge presented a very animated appearance. A large marquee had been erected on the lawn, and was furnished principally as a drawing room, a refreshment buffet being provided at the end. The Mayor and Mayoress were engaged receiving guests up to five o'clock, and there were about 200 people present. The visitors thoroughly enjoyed a stroll through the charming grounds, which command a delightful view of the South Bay and coast scenery. Lord Londesborough, although obliged to leave Scarborough, sent the following message of regret to the Mayor:—"Please convey to the Automobile Club my best wishes for a pleasant afternoon, and my regret at not being present.—Londesborough, Blankney."

## THE DINNER.

A dinner was held at night at the Grand Hotel, and was attended by about 170 ladies and gentlemen. Lord Wenlock, K.C.B., president of the North Yorkshire Club, took the chair, being supported by the Hon. Arthur Stanley, M.P., Alderman Hastings Fowler, J.P., Mr.



The Provence Speed Trials.—Aubert starting on a Mieuisset Car. (See page 640.)

Stanley having thanked the Corporation, the General Committee proceeded to business.

## MEETING OF THE COMMITTEE.

The Legal Cases Committee reported that they had dealt with 102 applications for legal advice or financial report from members of the Union, and grants aggregating to £120 had been made towards the legal expenses of members. The question of entering into an agreement with the Society of Motor Manufacturers and Traders was considered, and it was resolved not to enter into such an agreement, as it might, in the views of some members, prevent an absolute freedom of action which enabled the Motor Union to protect and safeguard the interests of all its members. It was resolved to prepare and circulate the standard agreement for the purchase of a motor-car for the guidance and use of members. The Highways Protection Committee of the Union reported that the Union had instituted successful prosecutions in four cases of obstruction, one at Canterbury, by the driver of a horse and trap; another at Maidenhead, by the driver of a brake; a third at Ongar, by the driver of a brake; and a fourth, which included a conviction for assault, at Ashford, Kent. It was reported that six newly-formed clubs had joined the Union, namely, Blackpool A.C., Cambridgeshire A.C., New Forest and Bournemouth A.C., Shropshire A.C., Crystal Palace A.C., and the Naval Motor Club. The total number of clubs is now sixty-three, and the aggregate membership 13,500. The Union is thus the largest motoring organisation in the world.

Amongst the other business dealt with by the Committee was the question of the large increase in the price of petrol, and a strong committee was appointed to consider the question of motor-car fuels and to report. Among the suggestions made for the consideration of this sub-committee is that the Union should offer special prizes for the design of an efficient paraffin carburettor, or should enter into long period contracts with the firms supplying petrol as to the price at which this commodity should be furnished to their members.

Walter Rea, M.P., Mr. H. A. Watson, chairman of the North Yorkshire Automobile Club; Mr. Langridge, vice-chairman of the Motor Union; Mr. A. W. Bosville, J.P., D.L., vice-president of the Yorkshire A.C.; Mr. R. C. Blaylock, agent for Lord Londesborough; Mr. Edwin Gray, York; Captain Cole, chairman of the Lincolnshire A.C.; Major Bower, Chief Constable of the North Riding; Mr. W. Basham, Chief Constable of Scarborough; Mr. Rees Jeffreys, secretary of the Motor Union; and other prominent motorists.

After the loyal toasts Lord Wenlock gave the toast of "The Motor Union of Great Britain and Ireland." It was felt by all motorists that it was necessary that they should have at their head an organisation capable of looking after the individual members of the body, and standing up for those privileges and legal rights to which they were entitled, and to show to the world at large that it was a body that was determined, as far as it possibly could, to protect the interests of its own members and of those who were associated with it. Those who used motor-cars were well aware that they were exposed to a certain amount of unpopularity, criticism, and hostility, and he was afraid that in some cases this attitude was almost justified by the conduct of those who drove motor-cars. He was glad to think that that organisation had been started to put an end to the disagreeable parts of motoring, and to produce as far as it possibly could in all the members of the Union that proper and due consideration of the welfare and interests of others which could only be found in a well-organised and duly constituted body. It was not the motorists only who sometimes disregarded the rules of the road. It was not unusual to meet a lazy carter on the wrong side of the road, and himself fast asleep. One thing he had observed with satisfaction was that, motoring as he did mostly in country roads, the horses of the country were very much more accustomed to motors than they were two or three years ago, and he noticed that the nervousness that was exhibited on these occasions was much more violent in the human being than in the equine.



The Hon. A. Stanley, M.P., in responding, said he was expected to say something on the question of the proposed taxation of motor-cars. He always absolutely and implicitly believed everything he read in newspapers and especially the motor press, but he had been told a something with regard to taxation which he had read with a certain amount of scepticism. Some of the public did not seem to care for motorists, and some of them looked upon taxation from a rather peculiar point of view. They appeared to argue that if they had a particular dislike to anything, all they had to do was to put up the taxes and tax it out of existence. That was a delightful view, and he was sure they would all wish to be Chancellor of the Exchequer for one glorious year if they could tax out of existence any thing that they objected to. What motorists had got to do, whenever the crisis arrived, was to put their case squarely and forcibly, but with moderation, before the Government and the country, and if he might venture on a humble word of advice, especially to the motor press, the most certain way of bringing the evils upon them was to announce broadcast that those evils were going to come.

The toast of "The North Yorkshire Automobile Club" was proposed by Captain J. A. Cole, the Chairman of the Lincolnshire Automobile Club, who congratulated the club on the work it had done. Mr. H. A. Watson, Chairman of the North Yorkshire Automobile Club, and general superintendent of the North Eastern Railway Company's traffic department, replied. Local toasts followed, the speakers being Mr. W. R. Rea, M.P., Mr. G. T. Langridge (Epsom), and the Mayor, after which Mr. A. W. Macdonald Bosville proposed the toast of "The Chairman," whose reply concluded the proceedings.

second in 5 h. 51 min. 26 sec.; and Harding (Haynes), third, in 6 h. 25 min. 39 sec.

At this point the crowd broke on to the course and the race was stopped, although five competitors were still on the road, viz.:—Lytle (Pope), Christie (Christie), Frayer and Belden on Frayer-Millers, and Roberts (Thomas); the first two of these being selected by the jury to complete the team of five cars to represent America in the international event.

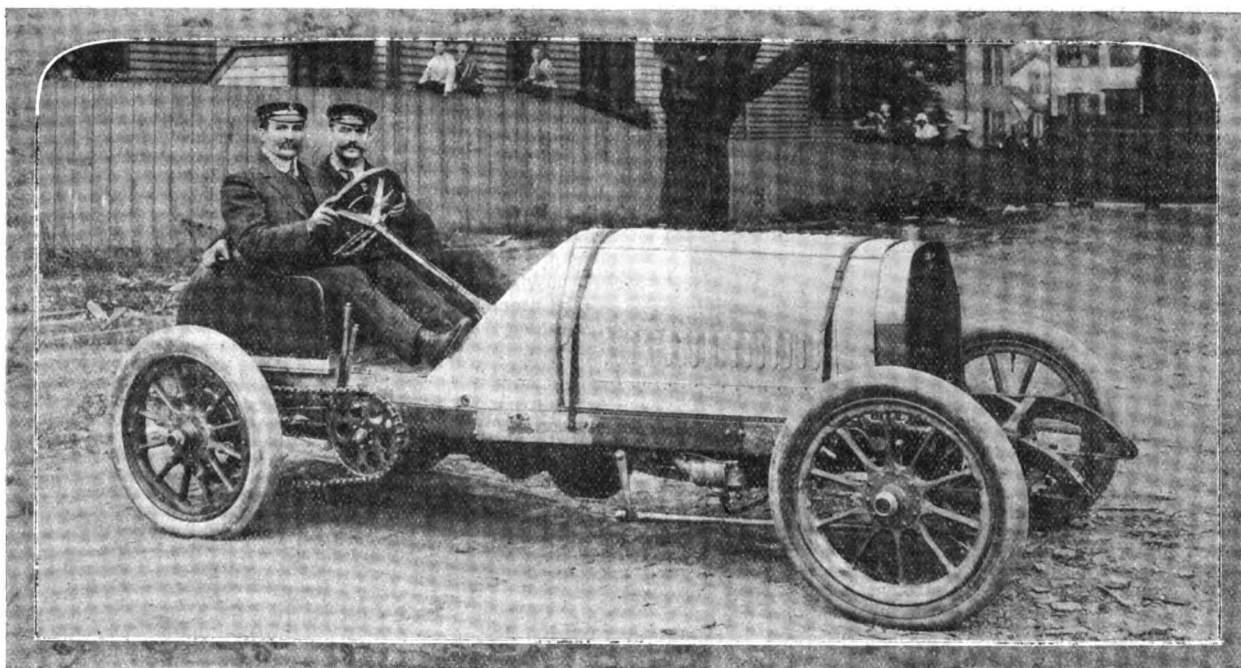
### PUBLIC MOTOR SERVICES.

A NEW service of the "Pioneer" motor-omnibuses has started from the Monster, Pimlico, to Liverpool Street, E.C. There will be an early workmen's service and a very late service from Pimlico to Cricklewood.

THE motor-bus services from Leyton and Upton Park to the City have proved so popular that the residents of Manor Park and Forest Gate are anxiously awaiting developments in their direction.

SEVERAL motor-bus drivers have been summoned by the police at Westminster for exceeding the speed limit in Brompton Road, S.W. The vehicles travelled from fifteen to seventeen miles an hour. Several of the men urged that they had nothing to indicate the speed at which they were going, but the magistrate failed to see that this was a matter for him.

SOME reflections are caused by an accident in Regent Street, London, the other day, when a cabman was fatally injured by a motor-bus. There seems to have been plenty of room for the clearance of the vehicles, but the two drivers, according to the verdict of the coroner's jury, "both



Caillois at the wheel of the 115-h.p. Thomas Car he drove in the Eliminating Contest for the American Vanderbilt Cup Team on Saturday last.

### THE VANDERBILT CUP RACE.

THE eliminating contest for the American team for the Vanderbilt Cup Race, which is to be held on October 6th, took place on Long Island on Saturday last. The course measures exactly 2.71 miles, and as this had to be covered ten times, the total distance was 27.1 miles as against 283.2 miles in 1905. Fifteen entries had been received, and of these thirteen started, the order in which they were dispatched being as follows:—

No.	Car.	Driver.	No.	Car.	Driver.
1.	80-h.p. Oldsmobile	Keeler	8.	110-h.p. Christie	Christie
2.	120-h.p. Pope	Lytle	9.	110-h.p. Frayer-Miller	Lowell
3.	80-h.p. Matheson	Mongini	10.	50-h.p. Haynes	Harding
4.	115-h.p. Thomas	Caillois	11.	85-h.p. B. L. M.	Dolneau
5.	115-h.p. Thomas	Le Blon	12.	110-h.p. Frayer-Miller	Belden
6.	115-h.p. Thomas	Roberts	13.	90-h.p. Locomobile	Tracy
7.	110-h.p. Frayer-Miller	Frayer			

The sorting-out process quickly commenced. Caillois (Thomas) fell out in the first round owing to engine troubles, as also did Keeler (Oldsmobile), a skid at one of the bad turns breaking a road wheel. The Matheson car was also put *hors de combat*; one of the tyres burst, and the car, swerving, struck a telegraph pole. Mongini and his mechanic were thrown out, but neither of them was seriously injured.

For a long time Le Blon (Thomas), held the lead, but Tracy (Locomobile), slowly crept in front and finished first in 5 h. 27 min. 45 sec., or an average of about fifty-five miles per hour. Le Blon (Thomas), was

expected the other to give way." "In the circumstances," added the jury, "it was the duty of the motor-omnibus driver to pull up." The drivers of such vehicles should remember the power of the engines of which they have charge, as well as the weight of these buses. The fact that they have such an infinite power for mischief if not properly controlled should lead to great care being taken in driving.

SEVERAL new motor-buses have been put in public service in the Bromley (Kent) district.

THE holiday season being over, several of the motor vehicles which the G.E.R. have had in service on the east coast are returning to town.

AT the meeting of the Levenshulme District Council on Monday, Mr. Samuel Whittall (chairman) presiding, the resolution of the Highways Committee to discontinue the licences granted to the Manchester Motor Omnibus Company, Ltd., was confirmed. The Committee reported that this action had been taken owing to a petition of the residents in Slade Lane and Albert Road.

### THE CANNING CUP.

MESSRS. R. E. PRICE, holder, W. Jacques, and C. C. Murphy left Inchicore Bridge on Saturday for a race to Carlow in connection with the above contest. The journey was accomplished in due time, leaving W. Jacques to add his name to the cup by doing a non-stop run, both the other competitors having had one stop each. Price and Jacques have now one share each in the trophy, which must be won twice in succession in one season, or four times in all, before becoming the property of the holder.

## CLUBS AND ASSOCIATIONS.

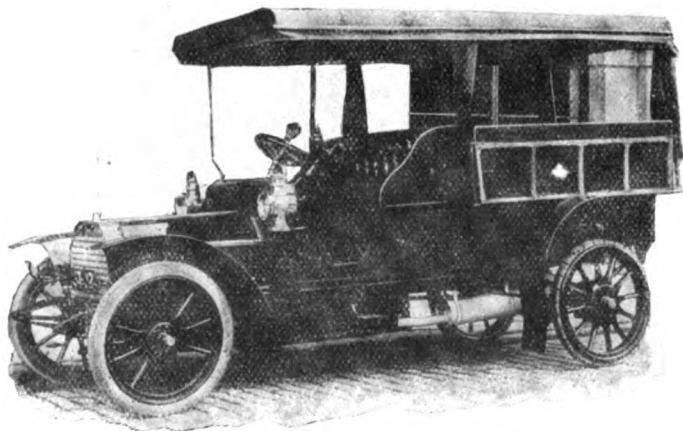
### AUTOMOBILE ASSOCIATION.

IN order to cope with the increased motor traffic during and after the Tourist Trophy Race in the Isle of Man, the Automobile Association have extended their organisation of confidential agents along the London-Liverpool road as follows:—Barnet, St. Albans, Dunstable, Fenny Stratford, Stony Stratford, Towcester, Daventry, Dunchurch, Coventry, Tamworth, Lichfield, Rugeley, Stone, Nantwich, Tarporley, Chester, Birkenhead.

An alternative route for the return journey has been arranged from Liverpool via Warrington, Knutsford, Northwich, Newcastle-under-Lyme, Stone, &c

### RICHMOND MOTOR CYCLE.

ALTHOUGH the Richmond and District Motor Cycle Club has only been in existence a few weeks, it has already more than thirty members. Membership is only open to amateurs, and the Marquis de Mousilly de St. Mars is president. The entrance fee is 2s. 6d., whilst the annual subscription is 7s. 6d. for both car owners and motor-cyclists. One advantage of membership is the insurance of cars or cycles at ten per cent.



A 12-15-h.p. Arrol-Johnston Shooting Car, with a natural wood body by Reid's Perth Carriage and Motor Works, built for Mr. James Head, of London. The inside seats are made to fold down for the accommodation of luggage in connection with deer-shooting. De Nevers tyres are fitted to the hind wheels and Continentals to the front ones.

discount from the ordinary premiums. The hon. secretary is Captain L. L'Estrange, the Automobile Club, Piccadilly, W., and the captain is Mr. W. M. Paul, M.D., 1, Brunswick Road, Kingston Hill.

### LADIES.

LADY SALOMONS, a member of the Committee of the Ladies' Automobile Club of Great Britain and Ireland, has invited her fellow members to hold their last automobile meet of the year at Broomhill, Tunbridge Wells, on Thursday next.

The route advised by Lady Salomons is:—Westminster Bridge, London Road, New Kent Road, Old Kent Road, Lewisham High Road, Bromley, Sevenoaks, Tonbridge, Southborough. Just beyond the last house in Southborough (right hand side) there is a sign post which reads "To Broomhill."

### DERBY.

TO-DAY (Saturday) the closing run of a very successful season in connection with the Derby and District Automobile Club will take place to Dovedale, and a very large gathering of members and friends is expected. The meeting place is at the Peveril Hotel, where ample accommodation will be found and tea will be obtainable from 4.30 to 5.30.

This enterprising club now ranks sixth on the list of purely provincial clubs, and is one of the most successful and strongest numerically and financially.

### WEST SURREY.

A PETROL consumption trial was held on Saturday, over a course of 22½ miles along the Petworth road, the start being made from the Chairman's residence at Shackelford.

Of the fourteen cars entered, all completed the trial, Mr. Tessier's 12-h.p. De Dion proving the winner on the formula:—

Total weight.

Petrol consumed.

The results were as follows:—

Car.	Petrol used. oz.	Oz. per 1,000 lbs weight.
A. C. Tessier ... 12-h.p. De Dion ...	96 ...	37
Dr. Minchin ... 8-h.p. De Dion ...	73 ...	39
R. S. Robertson ... 6-h.p. Wolseley ...	77 ...	44
E. E. Pullman ... 15-h.p. Durkopp ...	162 ...	48
Miss Houghton ... 14-h.p. Renault ...	156 ...	50
L. Pullman ... 16-h.p. Aries ...	156 ...	51
G. M. Ledebor ... 12-h.p. Humber ...	166 ...	58
R. Crothers ... 9-h.p. Darracq ...	117 ...	64
Col. Swaine ... 9-h.p. Cadillac ...	142 ...	69
Col. Fairtlough ... 12 h.p. Darracq ...	147 ...	69
R. W. Buttemer ... 14-h.p. Renault ...	220 ...	70
F. W. Swinscow ... 8-h.p. De Dion ...	128 ...	73
J. W. Ponsford ... 8 h.p. Clement ...	158 ...	77
Dr. Fennings ... 12-h.p. Argyll ...	224 ...	77

Mr. C. W. Crawley acted as judge and took charge of the measuring operations, while Mr. H. Burke took the "control" at North Chapel, and at the conclusion of the proceedings those present were entertained to tea by Col. Fairtlough, chairman of the club.

### MOTOR-CYCLE UNION OF IRELAND.

ON Saturday, before a fair attendance, the Ulster centre of the Motor-Cycle Union of Ireland brought the season to a close. The scene of action was Gilnahirk, where a hill-climbing contest was held, the event being divided into two classes, one for cars and one for cycles, both being decided on a handicap. Seven took part in the class confined to cars, and twelve in the other, with the following result:—

CLASS A.—CARS.		Handicap.		Time.	
Name.	Car.	sec.	M. sec.	M. sec.	M. sec.
1. T. H. Dunlop ...	5-h.p. Peugeot ...	36 ...	3 20	2 44	
2. J. S. Garrett ...	8-h.p. Rover ...	9 ...	3 18	3 9	
3. J. Holden ...	6-h.p. Rover ...	22 ...	3 54	2 53	122-5

Also competed: J. Hurst, 10-h.p. Phoenix (scratch), J. N. McCommond, 10-h.p. Darracq (7 sec.), R. Dunlop, 10-12-h.p. Coventry Humber (18 sec.), J. B. Ferguson, 5-h.p. Peugeot (39 sec.)

CLASS B.—CYCLES.		Handicap.		Time.	
Name.	Car.	Sec.	M. sec.	M. sec.	M. sec.
1. H. G. Ferguson ...	3½-h.p. Minerva ...	6 2-5 ...	1 22-5	56 2-5	
2. R. W. Ireton ...	3½-h.p. Riley ...	4 ...	1 03-5	56 3-5	
3. A. F. Craig ...	2½-h.p. Minerva ...	12 ...	1 10 3-5	58 3-5	
4. C. A. Rea ...	3½-h.p. Enfield ...	11 4-5 ...	1 16 4-5	1 32-5	
5. J. G. Veighey ...	3-h.p. Triumph ...	12 ...	1 19 4-5	1 7 4-5	
6. W. B. Reid ...	2½-h.p. Minerva ...	13 4-5 ...	1 22	1 81-5	
7. A. Bullock ...	3½-h.p. J.A.P. ...	11 ...	1 21	1 10	
9. J. Stewart ...	3½-h.p. Brown ...	6 3-5 ...	1 16 4-5	1 101-5	
9. J. McNeill ...	3½-h.p. N.S.U. ...	11 4-5 ...	1 37	1 25 1-5	

Also competed, J. S. Garrett, 5-h.p. Rex (scratch), J. H. Jordan, 3½-h.p. Bat (5 sec.), A. W. Hamilton, 3½-h.p. Ormonde (6½ sec.)

THE MANX Automobile Club had a meet at the Point of Ayre on Thursday of last week.

MR. G. J. WILKINSON, 18, York Avenue, Lincoln, is the hon. sec. of the new motor cycle club for Lincolnshire, which will hold its first general meeting at the Spread Eagle Hotel, Lincoln, on the 3rd prox.

MR. FRANK BOLTON, in addition to making the fastest time on his 35-h.p. Daimler on Saturday last, at the Mid-Staffordshire Automobile Club's hill climb, also secured first prize on the handicap as calculated by the A.C.G.B.I. formula. Originally the award was made to another car, but since then a mistake has been discovered and the prize given to Mr. Bolton's 35-h.p. Daimler.

### ROAD REPORTS.

SOUTHAMPTON.—Complaints have lately been rife as to the wilful way in which drivers of carts and wagons ignore the rule of the road without incurring the displeasure of the police. Local motorists would do well to call the attention of the authorities to the matter.

ISLEWORTH.—At their last meeting the district council decided to postpone the completion of the wood-paving for about a mile and a half of the main road between Brentford and Hounslow. This action was due to the fact that the Middlesex County Council would only agree to defray the cost of the work (£18,000) by means of annual instalments of principal and interest on the loan.

PUTNEY.—Local suggestions are being made in favour of the foot of the hill being scheduled as a dangerous point, and motorists warned accordingly.

## THE HEATING OF MOTOR-CARS IN WINTER.

A MOTOR-CAR, on account of its relative high rate of speed, as compared with other road conveyances, is a very cold vehicle for winter use, and when it is considered that at all times during its operation it is giving off large amounts of waste heat, it is rather surprising that so little use is made of this otherwise useless "caloric" to heat the vehicle and thus render its employment more comfortable during the cold season which is now rapidly approaching. Either the circulating water or the exhaust gases may be employed for heating purposes. Some closed vehicles have been warmed by coils, through which the engine cooling water is caused to circulate, and this method works well, if properly installed, although the full heating effect is not realised until the motor has been run for a certain length of time. It is, however, not generally advisable to attempt to apply an arrangement of hot water coils to an ordinary car, as the cooling system may be deranged by its addition, expense is involved, and the possible chances for water leaks are increased.

On the other hand, the exhaust possesses its full temperature as soon as the motor is started; it may be drawn upon to any extent without affecting the operation of the motor, no possibility of annoyingly leaky connections is involved, and the arrangement for utilising it is simple and cheap. For use on ordinary cars, two foot warmers, set one into the floor board of the front seat and the other into the flooring of the rear portion, will be found effective. The warmers should consist of thin, flat, rectangular chambers of strong sheet iron, in shape like shallow closed boxes. At the upper corners they should be provided with angular lugs, riveted on, adapted to rest upon and be fastened to some part of the car frame or floor, and hold the upper surface of the heater flush with the level of the rest of the footboard.

The seams of the sheet iron of the heater should be brazed, and several bolts should hold together the flat top and bottom. It should be covered with several layers of asbestos paper, well banded into place. Such a heater need not be more than 2½ or 3 inches in depth, and may be of any convenient horizontal length and breadth. On some cars, owing to the presence of interfering portions of the mechanism, it may not be easy to find a place for it in the front footboard, but usually room may be found in the section of flooring next to the heelboard, which may be removed or cut away to give space for it. Ordinarily, there will be no difficulty in applying a heater of this sort to the back part of the car. A mat of some rather thin material, not too much affected by heat, may cover the flush upper surface of the heater and the remaining floor boards.

As regards the pipe connections, on one end of the heater—which ever happens to be most convenient—should be a fitting arranged to take a small pipe leading from the silencer or exhaust pipe. This pipe should contain a union, which may readily be broken, and allow of the easy removal of the heater when desired. This should be provided for with special care in case the presence of the heater prevents access to any important portion of the car mechanism. In this supply pipe, preferably close to its entrance to the heater, should be located a valve capable of withstanding the heat of the gases. There should also be inserted in this pipe a fitting containing a fine metal gauze screen to prevent the communication of flame to the heater and the explosion of any unburnt gases which may have entered it. If desired, a spring check valve opening toward the heater may also be located in the supply pipe.

To enable the heat to be regulated, a number of very small holes should be drilled at the opposite end of the heater from that at which the supply pipe enters, the number and size of the holes being best determined by experiment. Through these fine holes the gases gradually escape, and a current of hot gas is constantly passing slowly through the heater, maintaining it at a suitable temperature. By means of the shut-off valve the entering gas may be throttled to any desired extent, and the temperature of the apparatus thus controlled in a measure. The supply pipe for the heater may be tapped from the exhaust pipe preferably close to the silencer, or, if more convenient, it may be connected to the exhaust box itself, the connection being made at such a point that the proper pressure may be obtained. When not required the supply of gas to the heater may be entirely shut off by the valve, and during the warm months the whole arrangement may be removed and a plug screwed into the exhaust pipe or silencer casing where the supply pipe was connected. The use of such foot warmers adds very greatly to the comfort of winter driving, and their installation does not involve a large expense. When once properly arranged they should not give any trouble for a long time.

## POLICE TRAPS.

IN view of the fact that the Bridge (Dover) Parish Council intends to call the attention of the Chief Constable to the speed of motor-cars passing through the village, traps may be expected there ere long.

IN the parish of Scagglethorpe, on the Malton and Scarborough main road, is a well-laid police trap, wherein five motorists have just been caught.

SUPERINTENDENT LAKIN, of Bakewell, has told the Bench that there are no police "traps" in his district. They apparently rely on the constables' "estimates of speed."

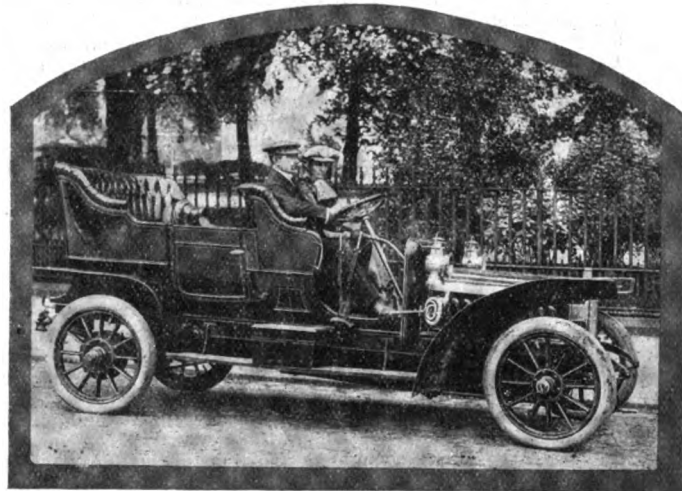
MOTORISTS should take particular care when in the neighbourhood of the Whinney More cross roads, near Retford.

## THE AUTO CYCLE CLUB'S MEET.

AWAY in Canning Town, on a track fortunately accessible by means of the District Railway's station at West Ham, the Auto Cycle Club held its annual race meeting on Saturday. The afternoon was dull, and even the band of the 4th Vol. Battn. Essex Regiment, which discoursed music, was scarcely as enlivening as usual. About 1,500 spectators watched the proceedings, and a goodly company of officials seconded Mr. F. Straight in the organisation of the meet, which demonstrated the secretary's capacity in that direction. The judges were Capt. L'Estrange and Mr. H. P. E. Harding, with Mr. A. G. Reynolds as technical judge and Mr. T. E. Dutton as timekeeper. Mr. F. Jenny acted as starter.

The one mile flying start time trial for the "Automotor" challenge cup was won by C. R. Collier in good time; in fact, the times of the three placed riders were all within those of last year's winner, which was 1 min. 11 sec. In the hour scratch race a mild sensation was provided by the mishaps which unfortunately befel E. Varney, whose machine caught fire after he had led for a couple of miles. After a brief delay he restarted and was riding well when his machine went wrong and he dismounted. When about to remount the petrol again caught fire, and with flames leaping up into the air the cycle was dragged along the cinder track by its front wheel, but not until the petrol was consumed could the fire be put out. The rear tyre was quite destroyed and all chance of continuing in the race was at an end. The five miles tourist handicap was a good race, but D. R. Clarke had a somewhat easy win in the five miles open motor-bicycle handicap for the MOTOR-CAR JOURNAL Challenge Cup. Below are the results of the various events:—

One Mile Flying Start Time Trial for "Automotor" Challenge Cup. Holder, H. V. Colver, time, 1 min. 11 sec.—C. R. Collier, Matchless,



Mr. and Mrs. Stewart, of Poona, India, on their 20-22-h.p. Brown Car. Mr. Stewart, who has recently returned home after a tour in this country, has covered about 2,500 miles on his vehicle without a single "alip" of any kind, and is very pleased with its performance.

J.A.P., 1 min. 53-5 sec., 1; E. Varney, Crownfield, Givandan, 1 min. 8-5 sec., 2; D. R. Clarke, New Century, Givandan, 1 min. 9-1-5 sec., 3.

One Hour Scratch Race for "Motor-Cycle" Challenge Cup. Holder, Rene Thomas, 45 miles 146 yds.—C. R. Collier, Matchless, J.A.P., 43 miles 1,280 yds., 1; H. V. Colver, Matchless, De Dion, 36 miles 1,360 yds., 2; H. Goodwin, Crownfield, Givandan, 31 miles, 3. Collier led from the twelfth mile to the finish, Colver being in front from the sixth to the twelfth, after Varney lost the lead he held from the start to the sixth mile.

Five Miles Tourist Handicap.—L. A. Baddeley, Baddeley, 2½-h.p. N.S.U., 30 sec. start, 1; F. W. Applebee, Rex, 45 sec., 2; H. Jackson, Riley, 3-h.p. Riley, 25 sec., 3. Won by three lengths; third man half a lap behind. Time, 6 min. 41 sec.

Five Mile Motor Bicycle Handicap (open) (for the MOTOR-CAR JOURNAL Challenge Cup. Holder, W. Hodgkinson).—Heat 1: H. V. Colver, De Dion, 10 sec. start, 1; A. Edmondson, Minerva, 20 sec., 2. Time, 6 min. 5-4-5 sec. Heat 2: C. R. Collier, J.A.P., scratch, 1; E. Varney, 5 sec. start, 2. Time, 5 min. 55 sec. Heat 3: D. R. Clarke, Givandan, 30 sec. start, 1; W. Hodgkinson, J.A.P., 5 sec., 2. Time, 5 min. 43 sec. Final heat: D. R. Clarke, Givandan, 30 sec. start, 1; C. R. Collier, J.A.P., scratch, 2; A. Edmondson, Minerva, 20 sec., 3. Won easily. Time, 5 min. 33 sec.

## NEW COMPANIES REGISTERED.

ITALA EXPORTATION COMPANY, LTD.—Capital, £20,000. To acquire the right to sell Itala cars in North America, and to carry on the business of motor-car manufacturers and dealers, garage keepers, &c. Registered office: 89, Wigmore Street, W.

## CROSSING A FOOTPATH.

THREE motor drivers in the employ of Messrs. Jackson Bros., Blackpool, were summoned in eight instances on Monday for driving across the footpath to a piece of land fronting Waterloo Road and the Promenade at South Shore. The cases were taken under one of the Local Improvement Acts. Mr. Callis, who prosecuted on behalf of the police, stated that the reason the cases had been brought was that wherever there was a piece of vacant land on the Promenade surrounded by footpaths the proprietors seemed to jump at the offers of motor garage people to create these vacant places into open-air garages, and if not stopped every piece of land might in time be turned into a garage. The evidence showed that the defendants in plying for hire had used the land for loading and unloading purposes, and in order to get to it they had had to cross the footpath.

Mr. Fletcher, for the defence, said it was perfectly clear that there was neither danger nor obstruction nor complaint in regard to the use of the land, and the question raised by the prosecution was, were they by the enforcement of that section to be prevented the perfectly reasonable use of the land for the purpose of trade? If the magistrates were going to take the literal meaning of the section it would mean that absolutely nothing on wheels could be taken across any footpath.

After hearing the evidence the magistrates fined the defendants 20s. and costs in each case. Mr. Fletcher asked the Bench to state a case.

## CASES AGAINST MOTORISTS.

AT the Harrogate Borough Police Court a London chauffeur named Nurse has been charged with driving a motor-car to the danger of the public in Skipton Road, Harrogate, on September 6th, and also with being drunk while in charge of the car. The defendant was fined £1 and costs for being drunk and £10 and costs for driving recklessly.

HORATIO POORE, a driver employed by the London General Omnibus Company, was fined 20s. at Mortlake, for driving a motor-bus in Castlenau and Church Road, Barnes, at fifteen miles an hour. Inspector Sterry said he had received numerous complaints from residents of the noise from these motor-buses as they returned to the Mortlake garage during the early hours of the morning.

AT Godmanchester (Hunts) Louis Soncin, chauffeur to the Maharaja Tikari, an Indian prince who took part in the Skegness motor races, was fined £10 and costs for driving a motor-car to the common danger at Godmanchester.

A MOTOR-CAR driver named Stanley S. Rogers, of Hale, Cheshire, was charged at the Llandudno Police Court with driving a motor-car to the danger of the public. Evidence was given that the defendant approached on his right side of the road the cab rank at the corner of Lloyd Street, and then suddenly swerved to the right side of the cab rank, passing close under the nose of the nearest horse, and going by the line of vehicles on the wrong side of the road. The chairman (Mr. Kneeshaw) said the Bench thought that drivers of these cars ought to know the rule of the road, and also have some idea how to conduct themselves. A fine of 40s. and costs, including advocate's fee, was imposed, the total being £4 5s.

CHARLES O'NEIL, a chauffeur, of Cornwall Terrace Mews, Regent's Park, answered summonses at the Marylebone Police Court for failing to sound a bell or horn on the approach of his motor-car when necessary, and also for driving a motor-car in a manner dangerous to the public. Mr. Arthur F. G. Leveson-Gower said that on July 17 he and his son were on their way to Regent's Park Road. A motor-car suddenly passed close to them at a fast pace and went through the gate. The driver of the car did not give any signal of his approach. Mr. Paul Taylor said he was satisfied with Mr. Leveson-Gower's evidence and fined the defendant 10s., with 2s. costs, on the first summons. The second summons he dismissed with 2s. costs.

HENRY BLACKBURN, who was summoned at West London on Monday for driving a motor-car in a dangerous manner in Holland Park Avenue, Kensington, had told the police that he was on his way to call for his mistress, Miss Edna May, at the theatre, and was in a hurry. The defendant was fined £10, or one month's hard labour.

FOR driving through the market-place of Boston (Lincs.) a motor-cyclist of West Ham has been fined 40s. with 39s. 6d. costs.

AT Snaith, on Friday, the 21st, the magistrates were three hours listening to offences alleged to have been committed by motorists on different dates on the road at Eggborough, midway between Doncaster and Selby. There were twenty defendants, and, with the exception of two cases which were adjourned to the next Court, all were fined, the total amount being £67. Among the defendants was Sir. Jas. Duke, Bart., whose car, it was stated, travelled at the rate of twenty-six miles an hour on August 20th. He was fined £7. Fines of £6, £5, and £2 were imposed on several defendants, and a fine of £3 on Mr. Joseph Hutton, engineer, of Scarborough. George Wm. Botting, electrical engineer, of Buxton, for riding a motor-cycle at the rate of twenty-seven miles an hour, was fined £2, and 15s. for not possessing a driver's licence.

ON Monday, at Haywards Heath, eight cases of exceeding the legal limit were disposed of, the fines ranging from £3 on Joseph Bandey, of Kentish Town, to £10 in the case of Edmund Dangerfield, of Ealing. On the same day three cases were heard at Arundel and a warrant issued against one defendant who did not appear.

WALTER RUTHERFORD, Ashley Gardens, Victoria Street, London, who had been previously convicted, was, at Oxted on Monday, fined £6 and costs for exceeding the speed limit. Defendant admitted by letter that he travelled at thirty miles an hour at Lagham Cross-roads, Godstone, which was described as a very dangerous corner.

THE magistrates at Norman Cross were occupied most of Tuesday dealing with motor-car cases, and many sharp passages took place. In one case the police failed to establish the identity of the defendant, Sidney George Barnes, chauffeur, of Kensington Court, Kensington, who was charged with driving to the public danger at Stilton. Arising out of the case a London solicitor, whose address did not transpire, was summoned, as owner of the car, for withholding information which would lead to the identification of the driver, and was fined £20 and costs, £1 10s. 2d. Notice of appeal was given. Fines amounting to £31 were imposed in six other cases.

## OBSTRUCTING MOTORISTS.

FOR obstructing a motor-cyclist on the Great North Road, Finchley, Stephen Albert Graddage, landlord of the Wellington, Archway Road, has been fined 10s. and costs at Highgate. Mr. Harold Walford, of Finchley Road, Hampstead, stated that while he was riding a motor-cycle the defendant drove a pony and trap on the tramway lines and refused, for about 200 yards, to draw to the near side to let him pass, although he sounded his "hooter" several times. Sir Alfred Reynolds, in convicting, remarked that everyone did not love the motor-cyclist, but it must be recognised that he had every right to be on the road.

A COVEY of pheasants rushed across Leigh Road, Worsley, Manchester, right in front of a motor-car, on Sunday. The driver, in pulling to one side to avoid the birds, pulled the car over, and he and two passengers were thrown out. Fortunately they escaped with only slight injury.

## MOTOR-CAR ACCIDENTS.

AN extraordinary motor-car accident has occurred near the Shropshire village of Watersupton, four miles from Wellington. A car containing five persons, with the chauffeur, was travelling from Keele Hall, Staffordshire, the residence of the Grand Duke Michael, to Watersupton. When within a quarter of a mile of the latter place, and in descending a hill, the car skidded a few yards from the narrow bridge spanning the river Tern. It came into contact with the parapet of the bridge, which was knocked off, the occupants of the vehicle being thrown out.

AFTER several adjournments, the inquest on John King, who was killed in a motor accident at Leeds on August 17th, has been concluded. He was riding in a motor-car, which was on a trial run, when it collided with a cart and the occupants were thrown out. Mr. T. M. Atkinson, the driver of the car, denied that his speed was more than fifteen miles an hour. The jury found that the car was travelling at too great a speed, but that the driver's culpability was not such as to warrant a verdict of "Manslaughter." The coroner pointed out that this was equivalent to a verdict of "Accidental death."

"THE automobile catastrophe," as it is called, is the novelty of the year at the sixth annual toy show which was opened in Paris last week. Wound up by clockwork, it starts slowly, then increases its speed, and suddenly breaks up into four pieces, and little travellers are thrown out. The machine can be quickly put together again and is then ready for another catastrophe.

## TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.



# THE Motor-Car Journal.

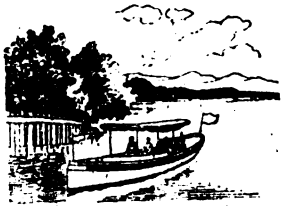
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## COMMENTS.



**I**MPORTANT, though somewhat informal, has been the recent meeting of representatives of the Motor Yacht Club with the maritime section of the Legion of Frontiersmen. It was intended to discuss the possibilities of the co-operation of the two bodies with a view to the organisation of a motor-boat force that should act with the Admiralty in a way similar to the assistance rendered by the Motor Volunteers to the Army. At the present time we do not think there are sufficient motor-boats owned by British motorists which would be of the real assistance required by the naval authorities, and it behoves the latter to indicate to organisations like the Motor Yacht Club and the British Motor Boat Club the class of boat they desire. Further meetings are to be held of those interested in the matter, and, doubtless, some scheme will ultimately be evolved, but there must be no attempt to unduly hasten matters before the design of the boats is satisfactorily settled.

### Kingston Again.

THE warning given last week with regard to motoring in the vicinity of Kingston came not a day too soon. There has just been another batch of victims of traps on the Portsmouth road hauled before the Kingston Bench, and convictions were obtained in nine out of eleven cases, two being dismissed with the motorists given the "benefit of the doubt." In accordance with the announcement recently made from the Bench, the penalties imposed were increased, ranging from £10 to £3, and costs, two motorists being mulcted of the former sum. Colonel Roupell attended the court and asked the magistrates if it were not possible for something to be done to prevent the excessive speed at which motor-cars travelled over Kingston Hill. The chairman said it was incredible the number of complaints that the justices received with regard to the speed of motor-cars in the district, particularly in Richmond Park. He was afraid the police could do nothing, but he would ask them to look into the matter.

### The King in the Highlands.

THE route selected for the King's recent motor-car journey from Tulchan Lodge to Balmoral proved to be not the direct one by Tomintoul, but a more circuitous one by Dufftown and Cabrach. This road, in its earlier stages, is excellent, but in the upper parts of Aberdeenshire it is difficult, and but little frequented by automobilists. Apparently much still requires to be done before the direct road connecting Deeside with Upper Strathspey will become a popular highway. Were this picturesque region in Norway, it would not long remain without a practicable road, and apparently the coming of the motor-car will hasten the advent of such a highway in many places in northern Britain. Meanwhile there are many people in Scotland keenly solicitous of closing many of the roads altogether to the only form of traffic by which the delights of

the country can be adequately explored, and a long discussion has taken place on the subject at the meeting of the Highland District Committee of the Perth County Council. Many suggestions were made, but when a decision was come to it was found that common-sense was in the ascendant, and that no attempt was to be made to influence the Secretary for Scotland in the direction of closing any more roads to motor-cars within the area of their jurisdiction.

### Blackpool.

BLACKPOOL will be merry next week over the motors, and doubtless the charities of the town will benefit largely. Fortunately the attempt to prevent the meeting has failed, and there is no doubt that the legal decision in the Lancashire Chancery Court at Liverpool on Tuesday is a popular one, not only in the town primarily concerned, but throughout the north of England particularly and the whole of the automobile industry in general. It was sought to show that the assemblage of a great crowd on the promenade would cause an obstruction, that the racing of cars would be a violation of the Motor Car Act, and that the event would prove an inconvenience to the public. Against this was the contention of the Corporation that they had liberty to enclose the promenade if they so desired; that the expenditure on the event might be regarded as an advertisement for the town, and generally that the whole affair was in the interest of Blackpool—a fact that should be apparent to the merest tyro in public affairs. This was the view of the deputy of the Chancellor, who dismissed the motion against the meet, because, in legal parlance, the matter was not one "for interlocutory injunction."

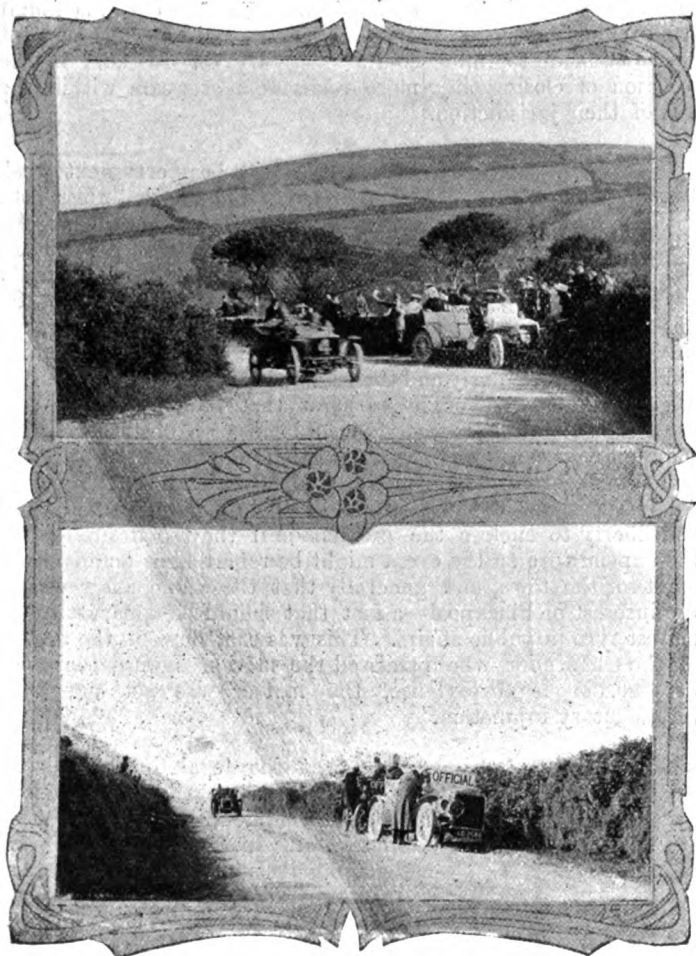
### A Popular Programme.

Now that the legal difficulties have been summarily brushed aside, renewed interest will be found in the programme, the details of which are set forth in the complete analysis on page 668. The committee are evidently determined to make the organisation of the affair a great success. The regulations have been drawn up with the chief object of making motor racing more attractive to the public, and to remove as far as possible the various causes for delays in running the programme up to time. This is a point upon which there has been room for improvement at previous meets elsewhere, and the fact that the committee responsible for the forthcoming races have thus early recognised the necessity of preventing long waits between events is an augury of success, and should assist in attracting a record crowd to Blackpool next week-end.

### Alcohol v. Petrol.

Two years ago the hopes of motorists rose high with regard to the economical provision of alcohol as a fuel for automobiles, and when the Departmental Committee was appointed by Mr. Austen Chamberlain great things were expected. Unfortunately the evidence that was obtained rather upset the calculations of those motorists who had reckoned for great results, and the new regulations which came into force on Monday

last have attracted little attention, save from one or two voices crying in the proverbial wilderness. That there is likely to be an increased production of alcohol for industrial purposes in consequence of the Revenue Act of 1906 is practically certain, but engineers have not moved so fast as legislation in this respect, and some time will elapse ere motorists are able to avail themselves of alcohol for their cars. At the same time it will be noted that the appointment of a sub-committee of the Motor Union to consider the whole question of motor-car fuels, in view of the large increase in the price of petrol, comes at an opportune time, and it is to be hoped that it will not overlook the supply of alcohol at a reduced price. According to the new Act the Revenue will forego 3d. a gallon in the taxation on alcohol for industrial purposes. But it remains to be seen whether full advantage of this reduction will be taken in this country.



1. The winning Car coming over Snaefell for the last time.

2. The S.C.A.R. Car on Snaefell.

#### THE TOURIST TROPHY RACE.

Photos by]

[Mr. Frederic Coleman.

#### The Race an Election Cry.

APPARENTLY there are people in the Isle of Man, as at Blackpool and Brighton, who have little interest in motor races, and while the great contest was in progress last week the election of a member of the House of Keys for Ayre Sheeding took place, Mr. John Clucas being returned unopposed. The principal topic dealt with at the election meetings has been reckless motoring and excessive speed. Mr. Clucas did not know why the island should be singled out as an exhibition ground, and said that the successful racer expected to get £40,000 worth of orders. After the Gordon Bennett race Ireland never asked for them again, and they came to the Isle of Man because

they could get an Act easier than in the British Parliament, which latter statement, we may add, is absolutely true—to the advantage of the Isle of Man.

#### Alternatives to Petrol.

ATTENTION may well be called to the admirable suggestion made by Captain H.P. Deasy in his article on the Tourist Trophy competition on another page. There he advocates that encouragement should be given to the use of other fuel than petrol in the next Tourist Trophy race, and the Motor Union Committee might well give heed to that idea when drawing up their report. Or, in view of Mr. Napier's performance with naphtha at the Glencroe Hill Climb on Saturday, the Scottish Automobile Club might carry forward a series of investigations.

#### Finding the Winners.

A CAR of the type that came second in 1905 in the Tourist Trophy race out-distanced its competitors last week, and thus is industry rewarded. It was unfortunate for the car that probably would have been second that the maxim did not hold true in its case—the record being spoiled by the loss of ballast, and not from any want of merit in the car itself. But motor-car racing has its chances and its risks, and the element of uncertainty enters as largely into the automobile as a means of sport as in any other pastime. This was fully revealed in the interesting competition instituted by the Motor House, of Euston Road, N.W., which offered a prize for an accurate prognostication of the result. Out of the many hundreds who filled in the forms which appeared in the *M.C.J.* on the 22nd ult. there was no single reader who correctly named the three first cars in the exact order of their appearance before the judges' stand. This was one of the remarkable features of a competition which aroused widespread interest. Several competitors expressed a wish to become possessors of the prize before they had won it; one, a county J.P., pointed to his tolerant views and difficulty in walking as a reason for the award of the car to himself, and another entry, enclosing a copy of the "Winning Post," and addressed from a rectory, apologised for not communicating on a *M.C.J.* form. Evidently there are many people wanting small cars, but not one entitled to the vehicle offered by the enterprising Motor House.

#### A Club on the Track of an Offender.

A WEEK or two ago a motor-car ran into a mail-van on the road between Reading and Newbury, resulting in such injuries to one of the horses that the animal had to be killed. The car has so far been unidentified, the driver proceeding without stopping to see what damage he had done. The Berkshire Automobile Club is now offering a reward of £5 for information that will enable them to make an example of such a driver, and have issued a notice to motor repairers and others, offering to anyone who gives information leading to the conviction of the driver of a white, or light-coloured, motor-car, which, at 3.30 on the morning of September 6th, near Thatchem, on the Bath road, collided with and injured one of the mail-van horses. The car was proceeding towards London, and the effect of the collision must have been apparent on the left mudguard. Information may be given to the hon. secretary of the Berks A.C., Beenham Grange, Reading.

#### Technical Instruction.

METROPOLITAN polytechnics, from the East to the West, are going in for motor-car instruction, and the new syllabus of the Regent Street Polytechnic is comprehensive enough to meet the requirements of any intending student of automobilism. This is under the direction of Mr. H. J. Spooner, and both day and evening classes have been

arranged for instruction for motor-car engineers, drivers, and mechanics. Complete courses of driving lessons and instruction in running and workshop repairs have been provided for, and, altogether, this pioneer polytechnic—equipped with Panhard and Darracq cars and Daimler motors—is proving itself well able to compete with the many private schools that have been established. The subject of motor-car engineering has again been included in the syllabus of the City and Guilds of London Institute, which held its first examination in this branch in the summer just ended, Mr. A. A. Sharp, a draughtsman at the G.E.R. works at Stratford, and a student at the Regent Street Polytechnic, winning the silver medal and money prize. At the Institute of the G.E.R., at Stratford, Mr. J. L. Milligan, B.Sc., is conducting the automobile classes, in which students will be prepared for examination. With all this interest being taken in the technical aspects of automobilism, the facilities for obtaining knowledge in London are as widely distributed as anywhere in the kingdom.

direction from automobile organisations have not been well received by the authorities. They can, however, scarcely fail to recognise the need for such warning notices when attention is drawn to the matter by the coroners of the country.

### Crying Wolf.

FAMILIAR enough is the little joke of warning motorists of imaginary police traps, until drivers become somewhat sceptical of their existence and end their journey by running into one. A variation of the idea comes from Essex, where it was stated, at a meeting of the Saffron Walden Rural District Council, that so many motor danger signals had been erected at places where there was really no danger that both motorists and cyclists now paid not the slightest attention to them, and they were consequently useless. Whether this is intended to be used by the advocates for economy as a means of avoiding the erection of more signs we know not; but if the suggestion is



Mr. T. C. Pullinger on the Beeston-Humber at the Bungalow, Snaefell.

### Road Signals.

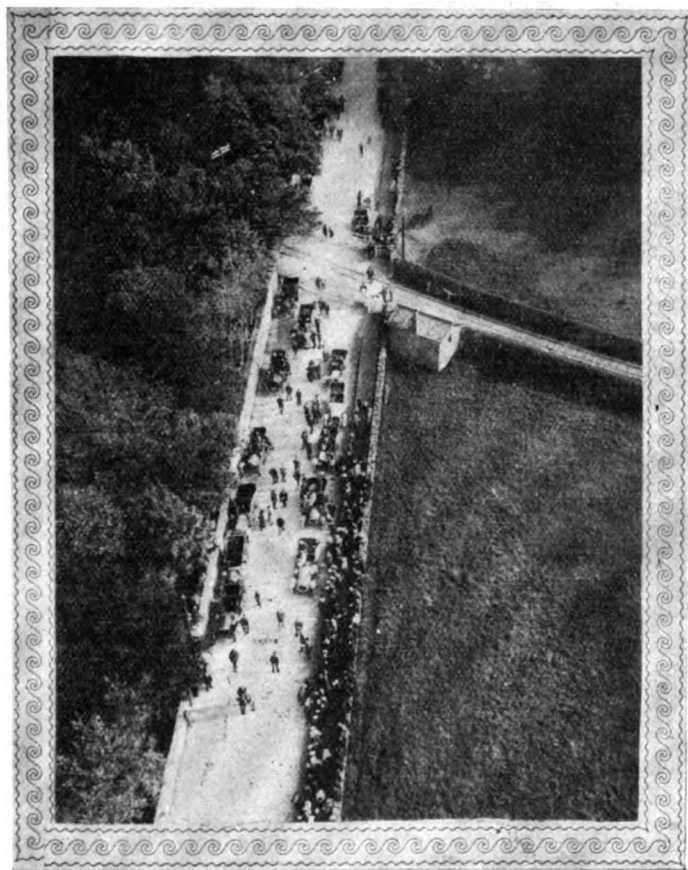
Now that the coroners have begun to make suggestions to the local authorities with reference to the erection of danger signals at dangerous corners, something really commensurate with the necessities of the situation may be done. At an inquest held at Canterbury on a man who was killed as the result of the motor accident between Bramling and Wingham, it was stated in evidence that the deceased had ample room in which to pass with his vehicle, but the marks on the road showed that he had made a sharp curve to avoid a heap of stones which lay by the side of the road, and then, in making a second turn, the car just caught the off wheel of a builder's van in front and completely overturned. A verdict of "Accidental death" was returned, and the coroner promised to communicate with the authorities in order to have a danger post erected on the top of Bramling Hill, which has at its base a very sharp corner close to the scene of the accident. Elsewhere suggestions in a similar

true the local authority need not worry. It has done its duty, which is more than can be said for many local bodies.

### The Motor Union and Obstruction of Motorists.

ANOTHER lesson has just been taught those who misuse the highway by the Motor Union, which was the prosecutor in a case of obstruction near Byfleet. The case was heard at Chertsey, when Frederick Channell was summoned for obstructing Mr. C. J. Hinsley while driving in his car between Woking and Byfleet. Mr. Granville M. Kenyon prosecuted on behalf of the Motor Union. It was stated that the car, containing Mr. Hinsley and three of his children and the driver, met a large wagon loaded with furze, tree branches, &c., and before it reached them the car was drawn close up into the hedge and stopped. As the wagon approached, the occupants of the car noticed that the driver was paying very little attention to his horse, and Mr. Hinsley shouted to him, but the load

was driven right into the car, the sticks reaching to the very centre of the vehicle. Mr. Hinsley's son had his arm torn, and the car, which had recently been re-varnished, was scratched. The man, it appeared, gave a false name at first. It was contended that there was plenty of room for the wagon to pass had the driver wished to do so, and it was stated that the driver had actually drawn in towards Mr. Hinsley's car in passing. The road was fifteen feet wide, and only three feet was allowed for the car to pass. Sir Charles Walpole stated that many carters occupied the middle of the road, causing other people to get out of the way, and forcing them into the gutter. Defendant had behaved very badly and would be fined 40s., or one month's hard labour. The list of successful prosecutions by the Motor Union in the defence of motorists and users of the highways generally is now very large, and others who have cases similar to that we have mentioned should communicate with the Secretary of the Union, at 1, Albemarle Street, London, W.



A View of the Start of the "Graphic" Trophy Race as seen from a Balloon.

To break our  
necks.

We should not like to think that Mr. Fawkes, of Farnley Hall, intended his speech at the meeting of the Wharfedale Rural District Council to be regarded as a serious contribution to the automobile problem. The Council was discussing a communication sent for their consideration by the Cheltenham Rural District Council in support of the minority report to the Motor Car Commission, when Mr. Fawkes said that he believed that in some foreign countries there was at the entrance to each village a gutter, and if the cars went over it at great speed they broke their springs. Certainly there was a footpath at Arthington that answered a similar purpose, and if a motorist went over it at more than six miles an hour he was thrown out of the car. This idea apparently so captivated the members of the Council that one of them said it would be better if motorists broke their necks instead of their springs. Possibly Mr. Fawkes

and his friends will not be surprised if we inform them that such is not the spirit in which local government should be conducted.

## THE "GRAPHIC" TROPHY.

LAST year the race for the "Graphic" Trophy fizzled out in a mist; this time the competitors were more fortunate and the climatic conditions were not averse to the contest, which was initiated in connection with the famous Irish Fortnight that followed the Gordon Bennett race in the Emerald Isle.

The course was over a stretch of road beginning at Quarter Bridge and finishing four and a half miles away on the road to Ballasalla—an "up and down hill" run. Although many of the motorists had sailed for the mainland there was a good concourse of spectators, headed by Lord Raglan, who was driven over the course on a 40-h.p. Crossley car which had been chosen as the pilot vehicle for the event.

One start is much like the other, for the variations are very few when the entrants are so experienced racers as set the pace for the Graphic Trophy. Some delay was caused by a protest made against the silencer of one of the Berliet cars—a protest, however, which was not supported by the deposit that would have given it form and force. The Daimler driven by Mr. Farnell made a false start, which was the premonition of trouble to the superstitious ones, who appeared very wise when the car subsequently stopped, and ultimately made the longest time of the day. Mr. J. E. Hutton, too, had ill luck, the water supply failing when he was near the end of his run, and thus putting him beyond the range of recorded time, which were as follows:—

	Car.	Driver.	Time. M. S.
1.	50-h.p. Napier ... ..	C. A. Glentworth ... ..	4 39
2.	30-40-h.p. Daimler ... ..	G. S. Barwick ... ..	5 3
3.	24-40-h.p. Berliet ... ..	W. Watson ... ..	5 7
4.	60-h.p. Beeston-Humber ... ..	C. H. Cooper ... ..	5 15
5.	40-h.p. Berliet ... ..	Bablot ... ..	5 45
6.	28-35-h.p. Isotta-Fraschini ... ..	H. E. Hall ... ..	6 23
7.	30-35 h.p. Sorex ... ..	E. A. Anthony ... ..	6 39
8.	20-h.p. Rapid ... ..	G. W. Roberts ... ..	7 26
9.	18-h.p. S.C.A.R. ... ..	H. A. Bate ... ..	8 18
10.	30 h.p. Daimler ... ..	A. Farnell ... ..	12 43

EIGHT entries have already been received for the Tourist Trophy race of next year.

THE award in our photographic competition, which closed on Saturday last, will be made next week.

THE race for the Vanderbilt Cup takes place on Long Island, U.S.A., to-day (Saturday). Lancia (Fiat) is looked upon as the probable winner, with Heath (Panhard) in second place.

"MERCEDES POINTS" is the title of a brochure brought out by Messrs. Ducros Mercedes, Ltd., of Long Acre, W.C., and gives a resume of the principal features of these well-known cars as well as hints on starting and driving. It will be sent to readers on application, and will doubtless prove of interest to a large number of motorists.

A NOTICE has appeared in the London Gazette respecting the liquidation of the Speedwell Motor and Engineering Company, Ltd. This notice is inserted according to the usual requirement of the Companies' Act, the business of the Speedwell Motor and Engineering Company, Ltd., having been acquired some time ago by the New Speedwell Motor Company.

THE entries for the Town Motor Carriage Competition of the A.C.G.B.I., which closed on Monday, are as follows:—18-h.p. White steam (two cars), 40-h.p. Napier, 14-18-h.p. Spyker, 12-16-h.p. Wilson-Pilcher, 12-h.p. Georges Richard, 15-h.p. Siddelay, 20-h.p. Lanchester (two cars), 8-16-h.p. Electromobiles (four), 14-16-h.p. James and Browne, 28-h.p. Ariel Simplex, 14-h.p. Georges Richard (two), 20-h.p. Pilgrim, 14-h.p. C.G.V., 16-20-h.p. Beeston Humber, 20-h.p. Dennis, 6-h.p. Electric (entered by Mr. Carl Oppermann), 10-h.p. Adams-Hewitt, 24-h.p. Germain, 22-h.p. Berliet, and 10-14-h.p. Renault.



# The Tourist Trophy Race.



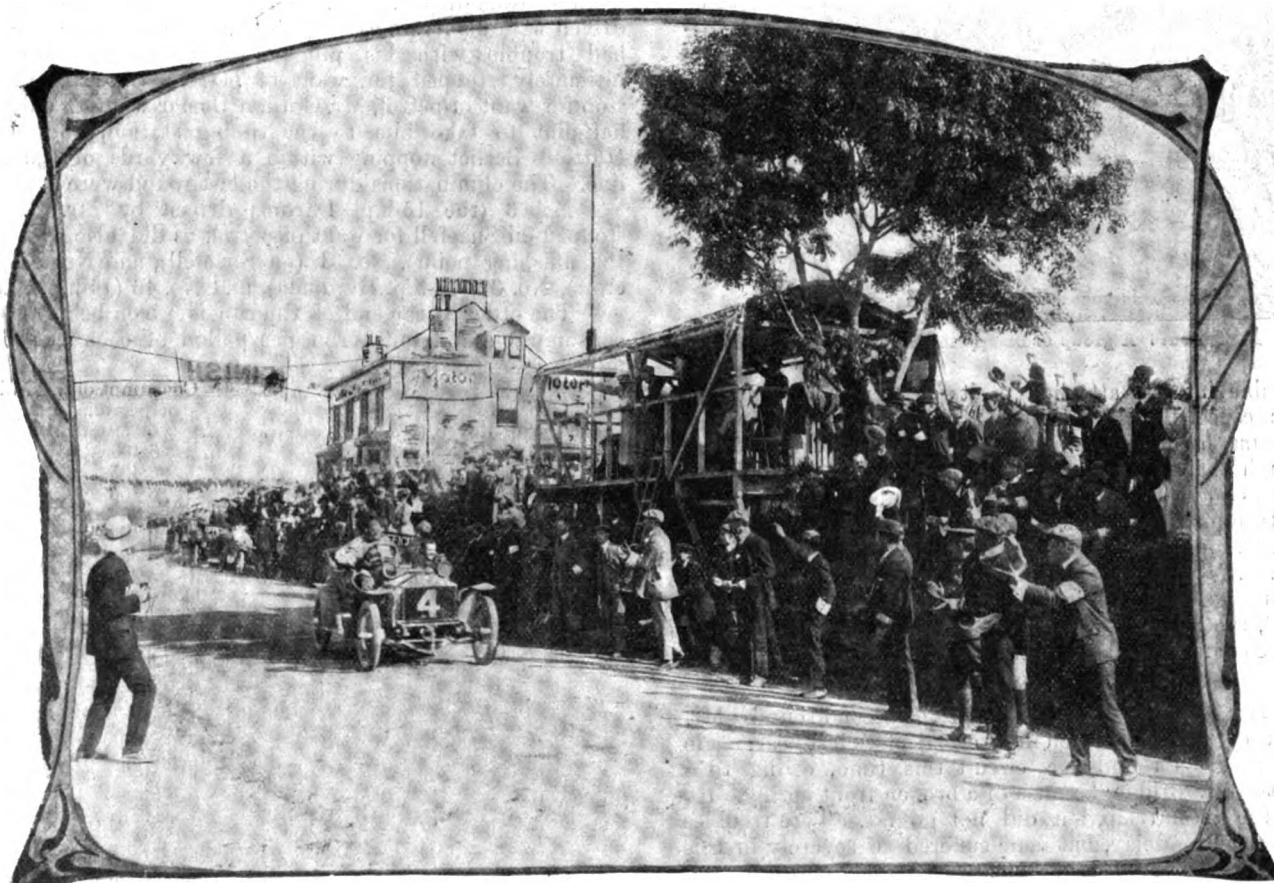
DOUGLAS.

**T**WENTY-NINE likely starters was the number to which the entry list of forty-nine had shrunk when we retired to rest on the evening of the great race last week. Delays in construction, mishaps on the course, unpunctuality in arriving at the enclosure, and other causes had led to the withdrawal of many cars that promised well, and in whose performances much interest was centred. But motor-car racing has elements of uncertainty almost as "glorious" as in cricket, and there were a few sceptical persons who wondered if all the twenty-nine would face the starter in the morning.

Thursday morning came, and with it the twenty-nine cars. They all started in their proper order, but many were finished

the starting point was the vantage point throughout the day, and there all the leading items and incidents of the great contest were to be obtained—thanks to the admirable telephone arrangements and the presence on the course of half-a-dozen White steam cars in charge of Mr. Frederic Coleman, which were to look after any lame ducks that might fall by the way—evidence of the friendly assistance steam might render to petrol. A little variety was imparted to the scene as compared with last year by the presence of captive balloons, from which observers were able to follow the event from the "highest point of view," now and again at too elevated a height to render cars distinguishable on the road.

Of course we expected last year's winner to be the first back



The Timekeeper's Box.—The Hon. C. S. Rolls Finishes First.

before their time, and only a third came triumphantly through the ordeal, although ill-fortune rather than demerits led to the discomfiture of many.

Good starts were made in practically every case, and Messrs. A. V. Ebbelwhite and C. P. Glazebrook, the official starters, did not lose many seconds in getting the cars away at intervals of a minute and a half—a thirty-second extension made possible by the many eliminations which had taken place. There were few incidents to record, general sympathy going out to Mr. Tom Thornycroft, whose sprained knee required a support for his leg, which was slung outside the frame.

## THE FIRST ROUND.

When the last car had gone we settled down to the usual occupations of such a day, straining eyes to catch first glimpses of the cars as they whizzed past the grand stand or idling by the telephone exchange for news of the race. The enclosure at

again; and so it was, with the Rolls-Royce No. 4 in hot pursuit. Then came a second Scotch car, the Argyll, which had started ninth and had picked up wonderfully well doing the lap 3 4-5 sec. slower than the Hon. C. S. Rolls, who covered the first round in 1 hr. 0 min. 13 3-5 sec.—the fastest circuit of the day. And here, though somewhat out of its sequence, a curious coincidence may be noted, the Rolls-Royce made slower times for each succeeding round, while the Berliet, driven by Bablot, which ultimately came in second, steadily bettered its running as the day wore on, as is seen in the following comparison:—

	1st Lap.	2nd Lap.	3rd Lap.	4th Lap.
	H. M. S.	H. M. S.	H. M. S.	H. M. S.
Hon. C. S. Rolls ...	1 0 13½	1 0 46½	1 1 25½	1 3 35
M. Bablot ...	1 9 14½	1 8 34½	1 7 43	1 7 26½

*Revenons a nos moutons.* Hardly had we got over the surprise at the skill with which the Argyll was being driven by Mr. A. G. George when news of disaster began to spread, and it was

evident that the process of elimination had begun. Eventually it was ascertained that the following had to retire in the first round:—

No. 29, 24-h.p. Deasy, had change-speed gear troubles.

No. 48, 12-h.p. Vici, unfortunately ran into a ditch at Keppel Bridge owing to its steering gear going wrong; its further progress was impossible, a circumstance all the more regrettable,



Looked out! A group of Disappointed Entrants.

as considerable interest attached to its first appearance in any competition, especially as its driver, R. Lascelles, was acquainted with the course, having driven the Simms car last year.

Although their times were recorded for the first round, the following cars gave up at its conclusion and did not make a second venture for the reasons stated:—

No. 6, 22-h.p. Minerva, driven by Mr. Warwick J. Wright, with Mr. J. T. Moore Brabazon as mechanic, did not start on the second round, its clutch leather being burnt right out.

No. 36, the 16-h.p. Swift, had to retire owing to the sliding sleeve of the change-speed gear seizing.

#### SECOND ROUND.

There remained twenty-five cars for the second round. Mr. P. W. Northey, who had driven into second place last year, made very slow progress round the circuit this time, owing to a stoppage at Sulby Bridge because of a broken front spring. He started on the second lap, but did not go far. Tyre troubles now began to cause delay, but none suffered so severely in this respect as the Arrol-Johnston, which was stopped more than an hour owing to punctures. Mr. M. Ross Browne was travelling well on his Minerva and got into third position. Both the Stars travelled as consistently as they did in the first round, despite the fact that their bodies were really of the touring order.

The retirements on this round were as follows:—

No. 24, 18-h.p. Siddeley, owing to broken radius rod.

No. 5, 20-h.p. Rolls-Royce, broke the front spring.

No. 35, 14-h.p. Climax, had a broken crank-shaft.

Thus there remained twenty-two cars for the

#### THIRD ROUND.

Again the Hon. C. S. Rolls led, finishing 11 2.5 sec. in front of the Argyll, which, for a car of medium power, was doing remarkably well. Then it was discovered that this vehicle had lost some of its ballast. Immediately all thought of the way the sandbags had bumped and jumped over the rough road, and the reason was thus found. Investigation, however, revealed the fact that the floor-boards had given way and the ballast had reached the earth by the simple law of gravitation, a circumstance that elicited much sympathy for Mr.

George, whose driving had been a feature of the race thus far. His unofficial time for the whole race was 4 h. 28 min.—a speed of 38.38 miles per hour. In this round no fewer than four cars retired with their petrol exhausted, while before the last vehicle had completed the circuit Mr. Kolls entered upon the final lap. The cars that fell out in the third round were:—

No. 7, Mr. Ross Browne's 22-h.p. Minerva, rendered *hors de combat* by a burst clutch.

No. 8, 20-h.p. James and Browne, retired owing to defects in the water circulation.

Nos. 28 and 33, Star cars, ran out of petrol, as did also the S.C.A.R., No. 47, and Mr. MacConnell's Bianchi.

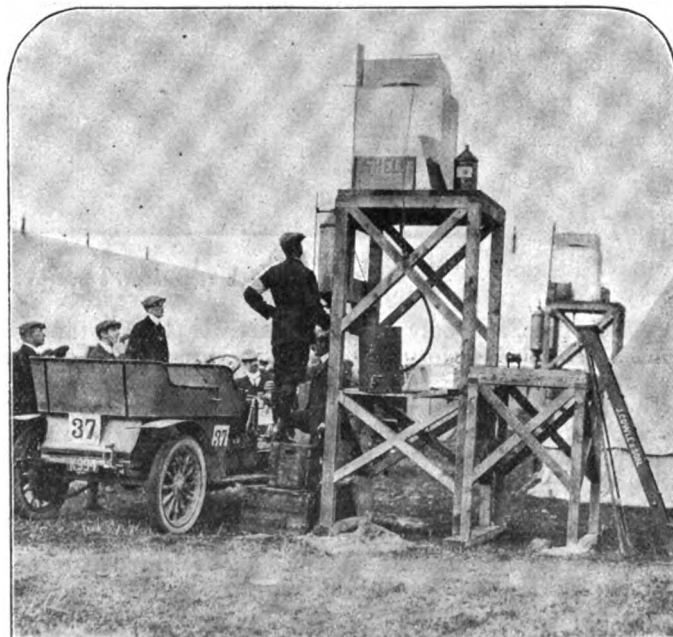
#### FOURTH ROUND.

Ere the last of the cars had completed its third round Mr. Rolls was thundering away on the last lap, with Mr. J. S. Napier hurtling along at a good speed. In fact, once rid of tyre troubles, the Arrol-Johnston did well, and actually did the fourth lap only two-fifths of a second slower than the first lap of the winning Rolls-Royce. Mr. Tom Thornycroft, who had pluckily driven with his leg in a sling rather than abandon the contest, had trouble with his plugs throughout the trip, and he ultimately stopped for want of petrol. Six cars came to a stop for want of petrol, Mr. Gordon Usmar wanting only another half-pint to take him to the timing station, and Mr. J. E. Hutton's Berliet stopping within a few yards of the finishing line. The eliminations during the last round were as follows:—

No. 3 (the 15-h.p. Darracq driven by Mr. S. Girling) stopped on Snaefell for want of petrol, as did also No. 26 (near the finishing point), No. 31 (on Snaefell), and No. 27 (Thornycroft), No. 37 (25-h.p. Hardman), and No. 46 (14-h.p. Academy).

The order at the end of the run is given below, the petrol consumption and miles run per gallon of each car being as follows:—

		Consumption of petrol.	Miles per gallon.
1.	Roll-Royce (No. 4) ... ..	6.369 gal...	25.27
2.	Berliet (No. 23) ... ..	6.406 ...	25.13
3.	Darracq (No. 2) ... ..	6.435 ...	25.19
4.	Clement (No. 15) ... ..	6.156 ...	26.15
5.	Beeston Humber (No. 17) ...	5.75 ...	28
6.	Coventry Humber (No. 18) ...	6.422 ...	25.07
7.	Arrol-Johnston (No. 1) ...	6.382 ...	25.25
8.	Siddeley (No. 25) ... ..	5.45 ...	29.54
9.	Scout (No. 32) ... ..	6.363 ...	25.3



The Hardman Car receiving its supply of Petrol.

Nothing could detract from the win of the Hon. C. S. Rolls, who has thus secured the trophy at a considerably faster pace—

39.5 miles per hour—than that of Mr. J. S. Napier—33.9 miles per hour—last year. In 1905 there were forty-two starters; eighteen finished. This year nine were officially received at the end of the race out of twenty-nine starters. Only the Rolls-Royce and the Arrol-Johnston have been among the finishing cars in both years, although the credit of such an achievement may also be given to the Argyll. In the first Tourist Trophy race the Beeston-Humber, Clement, and Scout were unfortunate in their petrol consumption; their performances last week, however, were eminently satisfactory in that respect, the first named having plenty of fuel to spare at the conclusion of the four circuits, which, in company with the Coventry Humber, had been most consistently traversed, as the following table, in which fifths of seconds have been omitted, will show:—

	1st lap.			2nd lap.			3rd lap.			4th lap.		
	h.	m.	s.	h.	m.	s.	h.	m.	s.	h.	m.	s.
Beeston Humber	1	14	4	1	13	28	1	13	42	1	14	46
Coventry Humber	1	12	35	1	16	47	1	15	31	1	16	0

These cars started eleventh and twelfth respectively, finishing fifth and sixth, thus qualifying, had such an award been available,

## SOME TECHNICAL FEATURES OF THE RACE.

ALTHOUGH the result of the 1906 Tourist Trophy race may be deemed satisfactory from the point of view of higher average speed and increased mileage per gallon of fuel of the successful vehicles, yet the relatively small number of the latter gives rise to the thought that the improvement which has taken place during the past twelve months has not been of an all-round character. Thus in 1905, out of the forty-two starters eighteen, or 42.9 per cent., finished, while 40.5 per cent. retired, either owing to breakdown or accident, and 16.6 per cent. failed from want of petrol. This year the number of actual starters was much smaller, and out of the twenty-nine only 9, or but 31.2 per cent., succeeded in finishing. The number of withdrawals due to accident or breakdown declined to 34.4 per cent., but on the other hand ten cars, or 34.4 per cent., ran out of petrol—a large increase as compared with last year. The principal feature of this year's event is, of course, the great increase in average speed.

### THE TIMES OF THE CARS ON EACH ROUND.

Car No.	Entrant.	Car.	Driver.	1st Lap.	2nd Lap.	3rd Lap.	4th Lap.	Average Speed. [Official.]
				H. M. S.	H. M. S.	H. M. S.	H. M. S.	M. H. P.
1	John S. Napier ...	18-h.p. New Arrol-Johnston.	John S. Napier ...	1 3 23.5	3 20 27 1.5	4 21 47	5 22 1	30.2
2	A. Rawlinson ...	15 h.p. Darracq ...	A. Lee Guinness ...	1 28 18 3.5	2 31 51 1.5	3 37 9	4 42 48 1.5	34.1
3	A. Rawlinson ...	15-h.p. Darracq ...	S. Girling ...	1 11 11 4.5	2 22 0	3 36 20 2.5	—	—
4	Hon. C. S. Rolls ...	20-h.p. Rolls-Royce	Hon. C. S. Rolls ...	1 0 13 3.5	2 1 02.5	3 2 25 3.5	4 6 03.5	39.29
5	Hon. C. S. Rolls ...	20-h.p. Rolls-Royce	Percy W. Northey...	1 53 51	Retired.	—	—	—
6	W. J. Wright ...	22-h.p. Minerva ...	Warwick J. Wright	1 36 36 2.5	Retired.	—	—	—
7	D. Citroen ...	22-h.p. Minerva ...	M. Ross Browne ...	1 7 59 3.5	2 16 45	Retired.	—	—
8	T. B. Browne ...	20-h.p. James and Browne.	C. L. Cattell ...	1 29 36 3.5	2 59 52 2.5	Retired.	—	—
12	Alec Govan ...	16-h.p. Argyll ...	A. E. George ...	1 1 17 2.5	2 2 54 1.5	Retired.	—	—
15	A. Mosses ...	20-h.p. Clement ...	G. Brand ...	1 12 47 1.5	2 22 04.5	3 24 21 1.5	4 47 20	33.6
17	T. C. Pullinger ...	16-h.p. Beeston-Humber.	T. C. Pullinger ...	1 14 41.5	2 27 32 1.5	3 41 15	4 56 11.5	32.6
18	Edward Powell ...	20-h.p. Coventry-Humber.	L. Coatalen ...	1 12 35	2 29 22	3 44 53	5 0 52 4.5	32.1
13	J. E. Hutton ...	22-h.p. Berliet ...	M. Bablot ...	1 9 14 2.5	2 17 48 3.5	3 25 31 3.5	4 32 58 1.5	35.4
24	J. D. Siddeley ...	18-h.p. Siddeley ...	M. Grahame-White	1 16 29 2.5	Retired.	—	—	—
25	R. R. Brown ...	18-h.p. Siddeley ...	A. E. Crowdy ...	1 15 41.5	3 20 33 2.5	4 39 27 2.5	5 47 19	27.8
26	J. E. Hutton ...	22-h.p. Berliet ...	J. E. Hutton ...	1 14 44 1.5	2 31 11	3 58 36 4.5	—	—
27	Tom Thornycroft ...	14-h.p. Thornycroft	Tom Thornycroft ...	1 21 72.5	2 42 42.5	4 8 39 4.5	—	—
28	E. Lisle ...	18-h.p. Star ...	G. F. Prew ...	1 27 15	2 51 42	Retired.	—	—
29	Cpt. H. H. P. Deasy	24-h.p. Deasy ...	R. A. Bell ...	Retired.	—	—	—	—
31	Gordon Usmar ...	16-h.p. Vinot ...	Gordon Usmar ...	1 23 34 4.5	2 44 29 3.5	4 2 39 4.5	—	—
32	J. Percy Dean ...	18-h.p. Star ...	J. Percy Dean ...	1 41 10 4.5	3 58 15 3.5	5 21 25 2.5	6 57 18 1.5	23.1
33	J. Lisle ...	17-h.p. Scout ...	J. Lisle ...	1 20 41.5	2 41 21.5	Retired.	—	—
35	J. Mayfield ...	18-h.p. Climax ...	T. Watson ...	1 39 45 1.5	Retired.	—	—	—
36	Robert Burns ...	16-h.p. Swift ...	R. Every ...	1 19 47 1.5	Retired.	—	—	—
37	W. L. Hardman ...	25-h.p. Hardman ...	W. L. Hardman ...	1 34 47 1.5	2 58 45 1.5	4 27 59 1.5	—	—
38	H. P. MacConnell ...	16-h.p. Bianchi ...	H. P. MacConnell ...	1 23 39 2.5	2 28 37 1.5	Retired.	—	—
46	Turberville Smith ...	14-h.p. Academy ...	Turberville Smith ...	1 29 40	2 59 13 4.5	4 29 63.5	—	—
47	Percival L. D. Perry	18-h.p. S.C.A.R. ...	H. A. Bate ...	1 12 51 2.5	2 23 17 4.5	Retired.	—	—
48	W. King Perrens ...	12-h.p. Vici ...	Richard Lascelles ...	Retired.	—	—	—	—

for a team prize. As it was they attained distinction for the Humber Company. The Berliet car was finely driven throughout, steadily winning its way from the unlucky thirteenth in the order of starting to fifth, fourth, third, and second in the four laps. It was noted that Mr. A. E. Crowdy drove his Siddeley car with the most economical consumption, and that, profiting by his experience last year, Mr. J. Percy Dean husbanded his resources and did not really attempt to make any great demonstration of speed, contenting himself with showing off the reliability of his car.

The investment of the presentation of the Trophy with a little ceremonial was a capital finish to a notable day. In the presence of the Club officials at the Palace—not (be it noted by strangers) the residence of Lord Raglan, but a place of popular resort—the Governor of the island handed the Trophy to the winner, who gracefully paid a tribute to the hard fortune that had been so unkind to the Car from Scotland—a reference that hugely delighted the sympathetic crowd and was well deserved.

In view of the altered course, it was fully expected that last year's best average of 33.9 miles per hour would be improved upon, but not to the extent of nearly six miles. As regards the fuel consumption, and looking at the figures for the winning car alone, it would appear that no improvement had taken place in this respect, the mileage per gallon, 25.27, being below that of the Arrol-Johnston last year, against which 25.4 miles was recorded. Striking, however, an average of the performance of all the successful cars, we find that just as the average speed has risen, so also has the quantity of spirit consumed fallen, the 1906 average for nine cars working out at 25.9 miles to the gallon, as against 24.3 miles for eighteen cars in 1905. While not sufficiently speedy to win the race, the performance of the Siddeley car, driven by Mr. Crowdy, is worthy of remark, his record of over 29½ miles to the gallon being considerably higher than the best result achieved in 1905.

Turning now to a brief survey of the competing cars, it may be mentioned that, with the exception of the Arrol-Johnston, all

were fitted with four-cylinder engines. Of the latter, the smallest were the Climax and Academy, they having a bore of 80 mm. by 90 mm. stroke, while the largest was the Hardman, 110 mm. by 130 mm. Both the latter, strangely enough, ran out of petrol. The Arrol-Johnston engine, which is of a design little exploited since the Koch heavy oil car of fragrant memory, deserves more than passing comment. Its two horizontal cylinders, with four pistons, give a rapid and large expansion without high piston speed that must otherwise accompany a long

less than twenty-four of the competing cars were fitted with magneto-ignition. Although ten were also provided with a reserve set of coil and batteries, it is a remarkable testimony to the efficiency of the high tension magneto system, however, that eight vehicles were fitted with high tension magneto only, one car had both low and high tension magnetos, five relied solely on accumulator ignition, while an equal number had only the low tension magneto. Of the cars which finished, three, including the winner, had both high tension magneto and coil



Mr. Grahame-White on the Siddeley Car, Rounding the Hairpin Corner, near Ramsey.

stroke, and there can be no doubt that this largely conduces to efficiency, which is apparently not detracted from to any important extent by the increased complication of the extra lever and connecting rod needful. Unfortunately, tyre troubles prevented the winner of the 1905 event repeating the success this year. Looking at the cylinder dimensions, we find a decided tendency towards the adoption of long stroke engines, as out of the twenty-nine actual competing cars only four had motors with equal bore and stroke, all the rest having a stroke greater than the bore. Gravity feed is still the favourite means as regards the supply of the petrol to the carburettor, seventeen cars employing this method as against ten having a pressure feed, and two with both systems. The result of the race was a case of honours divided, four of the nine vehicles which finished, including the winner,

and accumulators, three had high tension magneto only, two low tension magneto, and one accumulators.

As regards clutches, the leather-faced cone type still holds its own, twenty out of the twenty-nine starters being fitted with them. There was one instance of a car with a metal-to-metal cone clutch, and of the multiple disc type of clutches there were five examples. Of the nine machines which finished, six had clutches of the leather cone type, two multiple disc clutches, and one an expanding metal clutch. Turning now to the change-speed gear, all the cars had the sliding pinion type, twenty-four vehicles having four speeds and five three forward gears. With three exceptions, all the vehicles had a direct drive on the top speed. The Rolls-Royce has a direct gear on the third speed, while the Wolseley and James and Browne drive through a side shaft in

#### DETAILS OF THE NINE CARS WHICH FINISHED.

Order of Finish.	Car.	Driver.	H.p. at revs. per min.	Bore.	Stroke.	Clutch.	No. of forward speeds.	Transmission.	Average speed m.p.h.	Miles per gallon.
1.	Rolls-Royce	Hon. C. S. Rolls	22 at 1,000	3 15-16 in.	5 in.	Leather cone	4	LA	39.29	25.27
2.	Berliet	Hablot	22 at 1,200	100 mm.	120 mm.	Expanding metal	4	SC	35.4	25.13
3.	Darracq	A. Lee Guinness	15 at 1,200	90 mm.	120 mm.	Leather cone	4	LA	34.1	25.19
4.	Clement	G. Brand	22 at 1,000	95 mm.	130 mm.	Multiple disc	4	SC	33.6	26.15
5.	Beeston Humber	T. C. Pullinger	20 at 1,000	100 mm.	100 mm.	Leather cone	4	LA	32.6	28
6.	Coventry Humber	L. Costalen	20 at 1,000	4 in.	4 in.	Leather cone	4	LA	32.1	25.07
7.	Arrol-Johnston	J. S. Napier	18 at 1,000	4 3-4 in.	6 1-2 in.	Multiple disc	4	LA	30.2	25.25
8.	Siddeley	A. F. Crowdy	18 at 1,000	4 in.	4 in.	Leather cone	4	SC	27.8	29.54
9.	Scout	J. P. Dean	20 at 1,200	90 mm.	115 mm.	Leather cone	3	LA	23.1	25.3

having pressure feed, four having gravity feed, and one both systems. Coming to the question of automatic governors, twelve of the cars which competed were without governors at all, and of the cars which were governed only one, the Arrol-Johnston, was adapted to act on the exhaust valve. Fourteen cars had the governor operating on the throttle, while on two cars it was arranged in such a way as to vary the lift of the inlet valves. Six of the cars which finished had governors. A further point of interest was the varying methods of ignition adopted. No

the gear-box on all speeds. The method of transmitting the power from the gear-box to the road wheels has resolved itself into the use of two systems—the side chain transmission and the cardan shaft with rear live axle. The latter was the most popular, eighteen of the competing cars being fitted with this transmission and eleven with the side chain drive, while the relative figures of the vehicles which finished were six and three, figures which also exactly represent the number of British and foreign (French) cars which survived the ordeal.



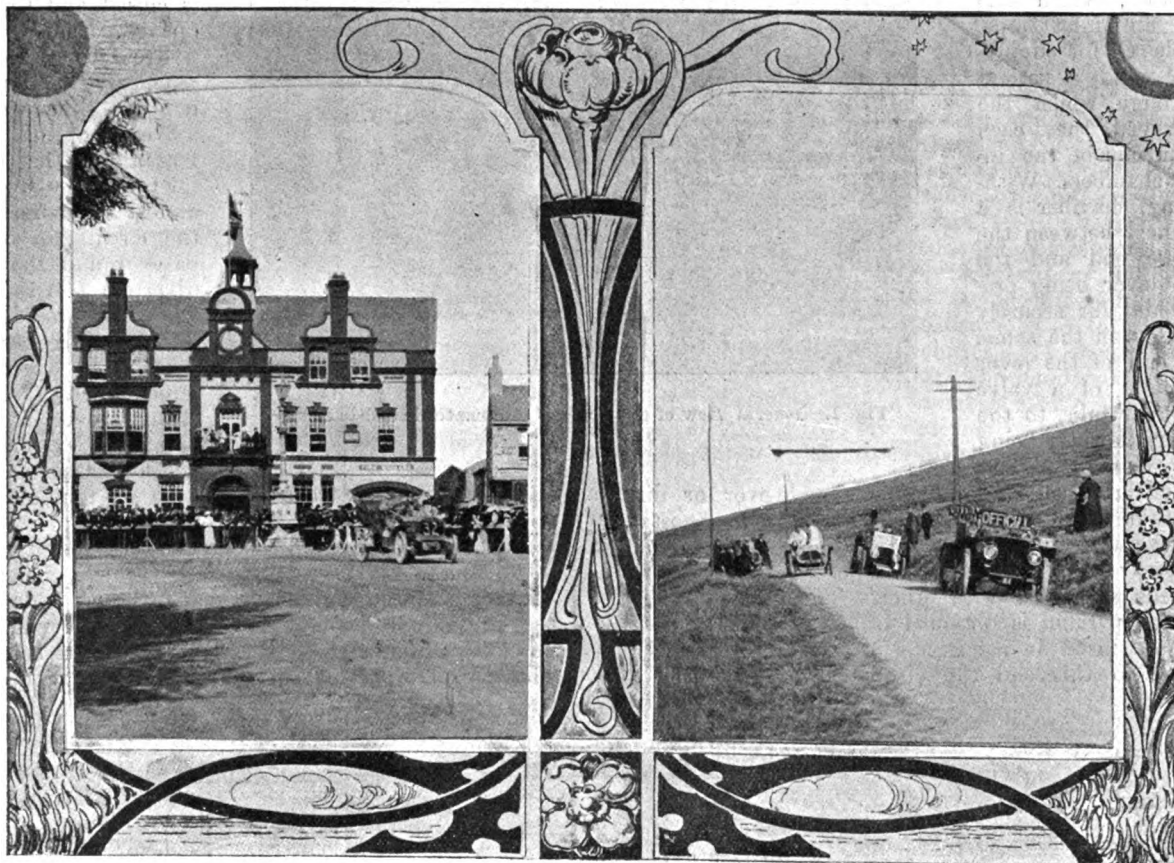
## SOME VIEWS ON THE TOURIST TROPHY RACE.

BY H. H. P. DEASY.

A RACE such as that for the Tourist Trophy is of great value to the public and to manufacturers, and it is only by modifying the rules, as the result of practical experience obtained by the holding of the race, that its value and interest to the general public will be enhanced each time it is held. With a view to exclude from the Tourist Trophy Race cars that are not ordinary touring cars such as are sold to the public, I would suggest the following modifications of the rules for next year's race:—

1. The minimum chassis weight to be increased to about 2,000 lb., with a view to the fostering of a strong, serviceable type of car, suitable for ordinary touring conditions. 2. A minimum clearance of 10 in., so as to discourage low chassis, which are such

Club, except by permission, and under official observation. 8. The minimum dimensions of the body to be increased, and the minimum weight of the body to be decreased. Several competitors in this year's race had to fasten large quantities of sheet lead, &c., on the floor boards in order to raise the weight of the bodies to what was necessary to comply with the rules. 9. The allowance of petrol to be increased, as it is very doubtful whether cars of the suggested increased weight could do twenty-five miles on one gallon of petrol. Mere speed is now a far less important factor in judging motor-cars than many others, such as strength, size, weight and general suitability for touring and ordinary use. 10. The order of starting in the race to be determined by ballot. 11. Practising on the course to be strictly limited, and those competitors who break this rule to be subject to a heavy fine, and disqualification if the rule is broken twice. I was informed that practising on the course was indulged in at all hours of the day for some time previous to this year's race. 12. Heavy fine for inconsiderate or reckless driving in the Isle of Man and



Mr. J. Percy Dean on his Scout Car passing through Ramsey.

Photos by]

Mr. J. S. Napier on his Arrol-Johnston passing one of the Official White Steam Cars on Snaefell.

[Mr. Frederic Coleman

a fruitful cause of raising dust. 3. A minimum track of 4 ft. 3 in., which will be necessary if the previous suggestion is adopted. 4. A minimum distance from the dashboard to the front edge of the back tyres of 1.6 metres, as this is the distance which nearly always regulates the size of the side doors and dimensions of the front seat. The minimum wheel base might well be discarded, as if manufacturers can build cars with short wheel bases, complying with the above rule, that can be driven in safety at a high rate of speed on a course like that in the Isle of Man, so much the better. 5. The efficiency of silencers to be tested. 6. That, in lieu of debarring from the race those competitors who arrive late, they should be allowed to compete, provided they pay a suitable fine, which might well be on a sliding scale, according to the amount of time their cars are late. 7. No adjustments of any kind or description to be allowed after the cars have entered the enclosure and been handed over to the

disqualification if repeated. I saw two competitors driving out of Douglas on a dusty road at a speed that was very excessive, and decidedly dangerous. The amount of dust raised by those two enemies to automobilism was sufficient to add materially to the difficulties of obtaining permission to hold another race in the picturesque Isle of Man. I venture to prophesy that, if practising on the course is not strictly limited to certain times, and if stern measures are not taken to prevent reckless and inconsiderate driving in the Isle of Man at race time, the roads of that now hospitable and friendly island will no longer be available for the Tourist Trophy race. 13. It is now high time to encourage the use of alcohol, or some other fuel than petrol. I therefore suggest that three substantial money prizes be given to the three cars running on any other fuel than petrol (the price of which must not exceed 1s. per 20 miles), which make the best performances in next year's race. This is a matter which might well be taken up by the Society of Motor Manufacturers.

## THE DORWALD CARBURETTOR.

**I**N a recent issue we referred to a new automatic petrol-paraffin carburettor which has been devised by Mr. G. L. M. Dörwald, and which is being put on the market by Messrs. Geo. Neal and Co., of Fenchurch Street, London, E.C. We are now able to give some further particulars of the device, the action of which will be gathered from the illustrations herewith published. The carburettor consists of two float chambers, A B (Fig. 2)—one for petrol and the other for paraffin. The motor is started on petrol in the usual way, the feature of the apparatus lying in the automatic mechanism, by which the change from petrol to paraffin is made when the desired temperature is attained. Into the spraying chamber, which also serves as an air inlet pipe, opens a nozzle C for supplying the petrol, and a second nozzle D through which the paraffin is sprayed, they each being fed from one of the independent float chambers. Within the spraying chamber is a lever E fulcrumed between the two nozzles, one end and the centre of the lever being provided with cones for securely closing the outlets in the same. On the other end of the lever rests the spindle of a valve K, covering an air inlet to the mixing chamber, the valve being kept normally closed. Above

the spraying chamber is the automatic change-over or disc chamber G, within which is arranged an ingenious thermostat, consisting of several "ether capsules" H. The latter are constructed of two thin corrugated copper discs, enclosing cotton wool pads saturated with ether. The necessary heat to vapourise the paraffin is obtained from the exhaust gases, which are also utilised in connection with the operation of the thermostat; to this end the burnt gases are caused to

the paraffin jet, and at the same time forcing up the air inlet spindle F to permit the admission of the requisite quantity of additional air to the mixing chamber. Simultaneously another small valve, operated also by the lever E, closes the inlet to the jacket of the disc chamber, in order to prevent the "ether capsules" from becoming overheated. When the petrol nozzle is open and the petroleum one closed the air drawn in through the opening J at the extreme left of the spraying chamber is then mixed with the inflowing spirit, the explosive mixture thus

formed passing into the combustion chamber of the engine along the pipe M N, O being the usual piston-type throttle valve. When the exhaust gases have heated the capsules in the chamber G to the proper temperature to vapourise the heavy hydrocarbon the petrol nozzle is closed and the paraffin one opened, the escaping heavy hydrocarbon then becoming vapourised and passing to the engine. Simultaneously the air valve is opened to supply the larger quantity of air needed for the heavy hydrocarbon, and almost immediately afterwards the circulation of the exhaust gases round the chamber G is diverted. An auxiliary air valve is provided at L, this being arranged to open when the engine exceeds a predetermined speed. The automatic change over from petrol to paraffin is extremely ingenious, and under normal working con-

ditions takes place in from five to six minutes after starting up the engine.

One of the Dörwald carburettors has recently been fitted to a 24-30-h.p. Dennis double-deck vehicle, belonging to the Southend Motor Omnibus Company, and a demonstration of the same was made a few days ago, a run of seventeen miles from Southend to Rochford and back being undertaken. The consumption for the journey was 1 pint of petrol and

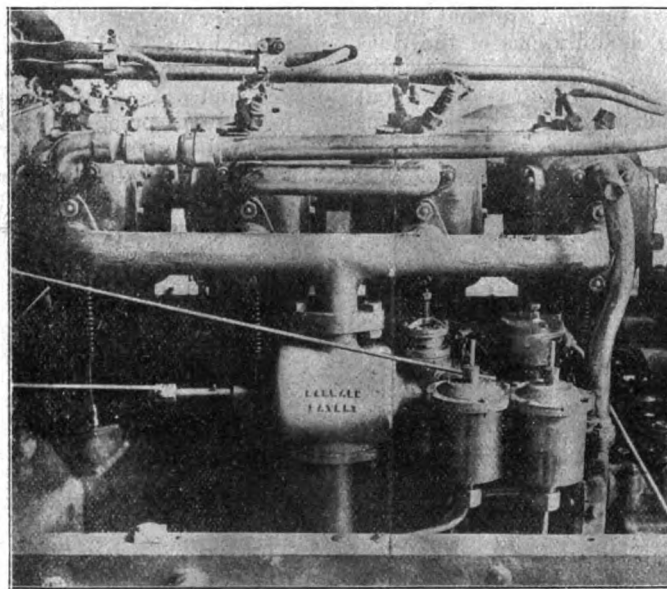
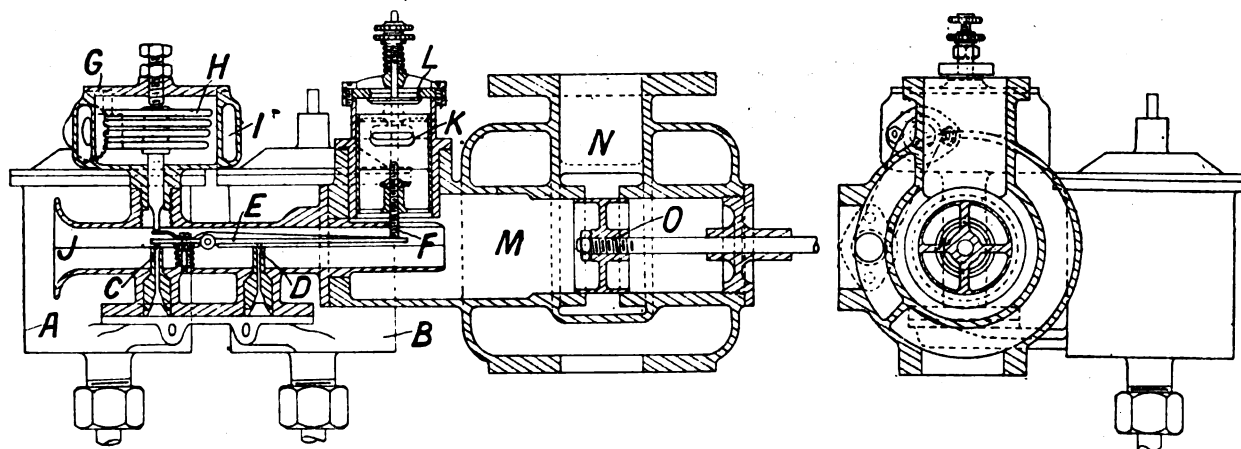


Fig. 1.—General View of the Dörwald Automatic Petrol-Paraffin Carburettor.



Figs. 2 and 3.—Longitudinal and Transverse Sections of Dörwald Carburettor.

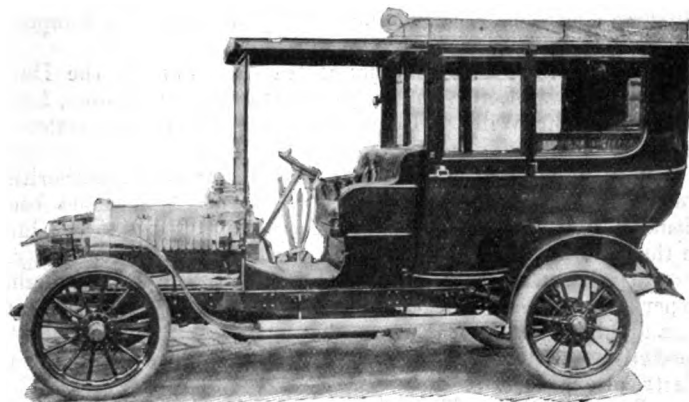
pass through the jacket surrounding the mixing chamber, while a portion is diverted to the disc-chamber jacket. When the engine is started cold only the petrol nozzle is open. As soon, however, as the exhaust gases have heated the disc chamber G sufficiently the capsules expand, and by means of a short spindle connected therewith depress the extreme left end of the lever E, so closing the petrol nozzle. As the lever is pushed down at one end it rises at the other, thereby opening

1½ gallons of paraffin. Taking the former at 1s. 1d. and the latter at 5d. per gallon, the total fuel cost for the seventeen miles was 10.37d., or .61d. per mile. The carburettor, as fitted on the bus referred to, differs slightly from that shown in the drawings given herewith, several minor alterations having been made during the experimental stage. In the first place, in stead of four "ether capsules" only two are now employed, these having proved ample for the work.

At the end of the Tourist Trophy race Lord Raglan was driven home on the Beeston Humber car which had done so well in the contest.

THE Drill Hall and other convenient buildings in Blackpool have been secured by Messrs. Jackson Bros., of the Central Motor Garage, Abingdon Street, Blackpool, as garages during the forthcoming meet.

MESSRS. S. J. WILLIAMS AND CO., of Shepherd's Bush Road, London, have submitted samples to us of a new waterproof material they are introducing for motorists' clothing. It appears to be light and durable, and should be of interest to motoring tailors, to whom it is intended to supply the cloth in the piece.



The 30-h.p. Hotchkiss recently supplied by the London and Parisian Motor Company, Ltd., to Mr. V. A. Little. The vehicle is fitted with a luxurious limousine body by Hooper.

AMONG engineering firms interested in automobilism who are encouraging their younger workers to become thoroughly efficient in their work is that of Hans Renold, Ltd., of Manchester, who are refunding the fees paid by employees who regularly attend classes in approved public institutions in the city.

A MOTOR-CAR manufacturer, at Clerkenwell County Court, added to an explanation that he took no responsibility in allowing one of his drivers to instruct a new hand in street driving, "That is a trade custom." To which Judge Edge retorted:

There is nothing in that. The trade is too recent to have established a custom."

A FACTORY operative named Alice Whitworth, Broadley Fold, Healey, was summoned at Rochdale for an assault on Mr. Herbert Bright, who stated that while he was motoring along Whitworth Road on the evening of September 6th the defendant threw a tea can at him. The can missed him but hit one of three ladies in the car. The chairman said this was an offence which was becoming far too common. A fine of 5s. and costs was imposed.

MESSRS. DAVIES BROS., of Llanelly, are disposing of their interest in the Stepney Spare Wheel, the merits of which have been fully set forth in the *M.C.J.* on previous occasions, to a company, in the formation of which Messrs. Trapnell and Co., of Cheltenham, are taking much interest. The manufacture of the wheel has grown so rapidly that 1,000 wheels were actually delivered in August last, and the invention is receiving recognition on the Continent as well as in this country.

As a motor-car was going down Bridge Street, Witham, it had to pass another car running in the opposite direction. At the critical moment a little girl ran across the road from behind the latter car, and would in all probability have been seriously injured if the driver had not immediately turned his car sharply to the right, running into the front of a house, knocking out a few bricks. Upon striking the house the car rebounded into the road and stopped. The occupants escaped with a severe shaking and the child was unhurt.

## HERE AND THERE.

THE regulation limiting the speed of motor-cars in certain streets of Harrogate to ten miles per hour came into force on Monday last.

THE staff of the Automobiles de Luxe, Ltd., have made a presentation to Mr. R. W. King, who has been chartered accountant to the firm. The event took place at a dinner in honour of the recipient last week.

A skittish new motor at Croydon  
Her master declared was a hoyden,  
She was fast and provoking  
And frequently smoking,  
That Miss-behaved motor at Croydon.

E. M. M., Bromley.

A NEW automobile soap has been brought out by the Sanitas Company, Ltd., of Locksley Street, Limehouse, E., which, from the trial we have given, will do thoroughly all that is claimed for it in the way of removing grease and oil from the hands of motorists, chauffeurs, machinists, &c. At the same time it minimises the drying and injurious after effects usually attendant on the use of a grease remover.

THE Parliamentary Committee of the Trade Union Congress has consented to assist the Cabmen's Union to try and obtain the use of Hyde Park for hackney carriages. The present regulations restrict the use of the park to the owners of private carriages and motor-cars, to the exclusion of the cab-hiring public and to the detriment of cabmen. This arrangement is said by the drivers to give an undue advantage to private jobmasters.

THE New Arrol-Johnston Car Company, Ltd., have lately issued a useful little handbook of the 12-15-h.p. new Arrol-Johnston car. It gives full instructions as to the lubrication, care, and running of these vehicles, and should prove indispensable to users of this model. The handbook, which is fully illustrated, concludes with a number of hints to drivers and a price list of spare parts, the ordering of which is facilitated by each being given a definite number.



The 40-h.p. Crossley landaulet just shipped by Messrs. Jarrott and Letts, Ltd., to the President of the Chilian Republic.

In view of the fact that there are practically no cars in Chili, it is noteworthy that the President was not satisfied with a carriage of low power, but considered that only one of the most powerful type would suit his requirements.

A MOTOR-COACH, or char-a-banc, with a carrying capacity equal to a dozen passengers, will probably be put on the road between St. Kilda and Port Melbourne, Victoria, at an early date, a syndicate having recently purchased one of these vehicles for that purpose.

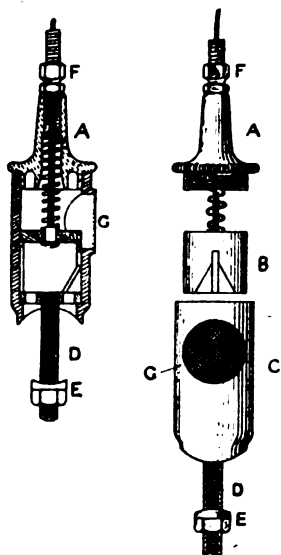
A MOTOR volunteer corps is reported to be in course of formation in Russia.

MESSRS. A. WOOD AND SONS have a motor garage at 132, High Street, Hounslow.

MESSRS. WEST, LTD., have lately supplied a 20-22-h.p. West car to the Bristol Corporation.

THE Shanghai municipal authorities have ordered a Beaufort Princess phaeton for the use of their officials.

ALL well-designed cars nowadays embody some form of additional air inlet in connection with the carburettor, but it is by no means general, and on motor-cycles in particular it is still very rare, while there must still be running on the roads a multitude of cars and cycles which contain no provision at all for an extra air supply when needed. In this connection the arrangement just introduced by the Bowden Patents Syndicate, Ltd., is of interest, as it has the recommendations of being inexpensive, light in weight, simple in construction, and applicable to any existing machine. The accompanying illustration will give an idea of the attachment, which is operated by the Bowden wire mechanism, and the following description will make it still more clear:—C is the body of cylindrical form having a circular opening G in its side or wall. This opening is covered by a fine gauze, the object being to exclude grit and other foreign matter. B is a bucket or plunger which is a good fit for the interior diameter of C. The bucket is closed at the top, so that when



below the opening G no air is admitted, but when drawn upwards by means of the wire mechanism a triangular-shaped aperture registers more or less with the gauze-covered opening G, and allows air to be drawn in. A is a screwed cap closing one end of the body piece C, the object of the thick stem being to carry the adjustable stop F, and to take the circular spring used for returning B to its normal position. The other end of the body C is so shaped as to be a close fit over the inlet pipe of the motor. D is a screwed stem for passing at right angles through the inlet pipe, E being a shaped washer and nut which, when screwed up, holds the device tightly to the inlet pipe, no other fixing being necessary. The device will work in any position, so that it may be placed at the most suitable part of the inlet pipe. The method of fitting is as follows:—Drill one side of the inlet pipe with a hole  $\frac{3}{4}$  in. in diameter. The opposite side must be drilled  $\frac{1}{4}$  in. Pass the stem D through the large hole and out through the small one, then make all tight by the nut and washer.

A RESIDENT of Saffron Walden, who has been engaged in making armorial bearings for harness for the last fifty years, says that since the introduction of motor-cars the industry has collapsed.

FOR the second year in succession the Tourist Trophy race has been won by a car using the "Shell" motor spirit of the General Petroleum Co., Ltd. This fuel was also used by the winner of the Graphic trophy, on the following day.

THE County Chemical Company, Ltd., have opened a depot at 235, Deansgate, Manchester.

AT Lower Ford Street, Coventry, Mr. Edward Hewer is commencing the manufacture of motor-car bodies.

TWO out of the first three cars that finished in the Tourist Trophy race were fitted with "Continental" tyres.

MESSRS. DEAN AND BURDEN, LTD., are erecting a new factory near the L. and S.W.R. station at Salisbury.

EARL MANVERS has developed into an enthusiastic motorist, and may frequently be seen motoring to the meets of his hounds.

MOTORISTS driving through the New Forest and Epping Forest are asked by the respective verderers to drive with care and caution.

CAPTAIN W. F. O'CONNER, the British Trade Agent at Gyantse, and the adviser of the Grand Lama of Tashi-lhunpo, is taking an 8-h.p. motor-car out to Tibet.

AMONGST recent purchasers of Humber cars are the Duke of Marlborough, Lord Amptill, Lord Howard de Walden, Lady Inverclyde, Sir William Cooper, and Dr. Wood, headmaster of Harrow.

THE motor mail service arranged by the postal authorities for the Sleaford and Bourne districts of Lincolnshire has been abandoned, it having been found after trial trips that the hills in the Falkingham district cannot be negotiated with certainty.

MR. HENRY F. JOEL, A.M.I.C.E., who has had considerable experience with electrical motor-cars, has taken offices at 110, Strand, London, W.C., where he purposes practising as a specialist on such vehicles, and to practice as a consulting electrical engineer.

THE Caledonian Tyre Repairing Company, 52, St. Enoch Square, Glasgow, have brought out a "burst tyre gaiter," which is fitted between the cover and the tube. They have also introduced a new device in motor tyre wrappers which is proving a great success. It can be attached and detached in thirty seconds.

WE learn from Messrs. J. Keelo and Co. that they have been appointed sole agents in London, Kent, Middlesex, Hertfordshire and Essex for the pleasure and commercial cars built by the Enfield Autocar Company, Ltd. For the 1907 season two models of the former will be built, 15-h.p. and 20-30-h.p., while the industrial vehicles will comprise one and three-ton vans and lorries.

MR. MITCHELL, of the Palmer Tyre, Ltd., has made a careful study of pneumatic tyres and attaches great value to testing the pressure of tyres previous to starting out on a journey. The Palmer Tyre, Ltd., are selling a special gauge put up in a neat leather case, by the use of which it is not necessary to have a pressure gauge attached to the pump. The latter can be used with or without this gauge, as it is so fitted that by turning on a cock one can use it with a pump, and by turning it back it can be used as a test for the pressure. Therefore by using this gauge there is no necessity to take out the pump to test the pressure.

AN ingenious lamp shade for use on the head lights of motor vehicles, to prevent powerful lights being a danger to other road users, and to increase their effective range, has recently been devised by Mr. K. H. Evans, of Exeter. The shade consists of a number of thin plates fixed horizontally in front of the lamp in such a manner that the parallel beam of light is not interfered with except by the edges of the plates, which should be as thin as possible. Plates only  $4\frac{1}{2}$  in. wide from front to back and  $\frac{1}{2}$  in. apart give a very great amount of protection, all the light which would rise and dazzle other road users being caught by the underside of the plates and reflected downwards. The upper side of the plates being dull black, all stray light falling on them is absorbed, and none reflected upwards. Mr. Evans informs us that the arrangement is based on the following principles:—"1st, The brighter the foreground is illuminated the more difficult it is to see distant objects. 2nd, Rays of light which rise are useless to the driver and dazzle other road users." In view of the many objections which have been made to the glare of headlights, Mr. Evans' arrangement is well worth consideration.



## CONTINENTAL NOTES.

## The International Balloon Race.

Rarely has Paris been so excited over a sporting event as on Sunday last, when the first international balloon race was started from the Tuileries Gardens. Altogether sixteen balloons went up, France being represented by three competitors, Germany three, Spain three, Belgium and Italy one each, America two, and Great Britain three, the British contestants being Mr. F. Hedges Butler, Prof. Huntington and the Hon. C. S. Rolls. The first balloon was let loose at 4 p.m., the last one—that of Prof. Huntington, getting away at 5.16 p.m. The competitors drifted slowly away towards the west, the breeze varying between E.N.E. and E.S.E., which destroyed all chance of beating the long-distance record of 1,203 miles made by Count de la Vaulx in October, 1900. News of the aeronauts began to arrive early on Monday morning, and as the telegrams came in it was found that nine of them, including Mr. Butler, had descended on French soil, while the seven others had been carried across the Channel into England. Some anxiety prevailed as to the whereabouts of Mr. Rolls, as he was not heard of until mid-day Tuesday. It appeared, however, that he came to earth near Sandringham on Monday night, after being in the air just over twenty-six hours. The leading competitors have been placed as follows:—1, Lieutenant Lahm (America), landed near Whitby 400 miles; 2, Signor Vonwiller (Italy),

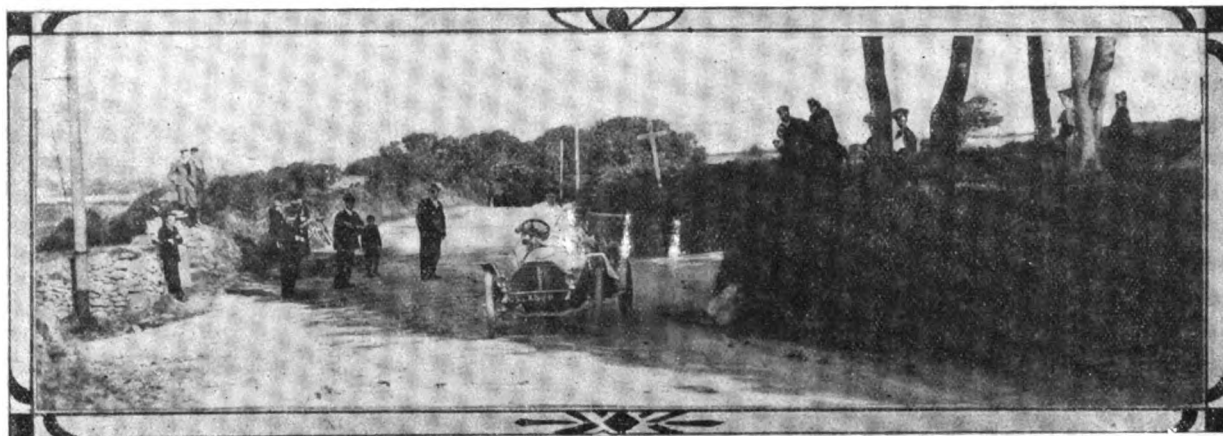
on the 28th inst. Categories will be provided for both racers and tourists, the usual classes being provided for in each section. The trials will take place over a distance of a kilometre, a flying start being allowed. In conjunction with the meeting it is also proposed to organise a series of kilometre speed trials on the level at Dourdan for the 21st inst.

## A German Reliability Trial.

Under the auspices of the German Motor Cyclists' Union a three days' reliability trial has just been held in Germany. The first day's run was from Berlin to Breslau, a distance of 325 kilometres; the second, from Breslau to Dresden, 299 kilometres; and the third, from Dresden to Leipzig and back, 271 kilometres. There were forty-six entries and of these thirty-three started. In the class for cars up to £125 the winner was Herr A. Ruppe on a Piccolo, and in the £125-£175 section Herr Ressler on a Lautin-Klement voiturette. The first-named made a clean score, while the latter was only penalised to the extent of ten marks.

## Motor-Cycle Races in France.

The Auto-Cycle Club of France is organising a race for touring motor-cycles for the 28th inst. The event will be held on a forty-two kilometre course, which, starting at Dourdan, takes in Anthon-la-Plaine, Ablis, and Saint Arnoult. This will have to be covered five times, giving a total distance of 210 kilometres. The competing machines will be divided into the



The Tourist Trophy Race.—Mr. J. S. Napier on his Arrol-Johnston Car at Willaston Corner.

reached New Holland, Lincolnshire, 370 miles; 3, Comte de la Vaulx (France), landed at Walsingham, Norfolk, 294 miles; 4, C. S. Rolls (England), 287 miles. Captain Kindelau (Spain) came down near Chichester, M. Balsan (France) at Singleton, and Professor Huntington (England) near Sittingbourne.

## Motor-Car Regulations in Germany.

A new series of motor-car regulations came into force in Germany on the 1st inst. The following are the principal clauses of the same:—All cars must be provided with strong steering gear and be able to turn in a small circle; two separate brakes must be fitted, and all vehicles weighing over 7 cwt. must be capable of reversing. Every vehicle must carry a plate fitted by the maker showing the horse-power and weight of the machine, and in addition carry identification plates both at the back and front. No person under eighteen years of age may be entrusted with the driving of either a motor-car or motor-bicycle, nor anybody else who has not satisfied the proper authorities that he fully understands the management of the vehicle and is without a certificate of proficiency countersigned by the police of the district where he resides.

## The Gaillon Hill-Climbing Competition.

The annual hill-climbing competition on the Sainte Barbe hill at Gaillon, France, organised by the "Auto," is to be held

following three classes:—1, light motor-bicycles of a maximum cylinder capacity of 220 cubic centimetres; 2, motor-bicycles of a third of a litre cylinder capacity; and 3, tri-cars 500 cubic centimetres engine capacity.

## Public Services in Germany.

A proposal to establish a public motor-car service between Slegsdorf and Bad Reichenhall, Bavaria, is under consideration. A company has just been formed at Steinen, Baden, to run a number of motor-vehicles in the district. A number of single-deck buses have lately been put in service between Wiesbaden and Schlangenbad.

## A Swiss Fuel Consumption Trial.

The Geneva Section of the Swiss Automobile Club is organising a consumption trial for the 16th inst. It will be held over a 130 kilometre course, the award being made on the formula: total weight divided by quantity of petrol consumed.

## Miscellaneous Items.

A service of motor-cabs is shortly to be started in the town of Mainz, Germany.—A 20-kilometre motor-bicycle race is to be held on Sunday next on a 30-kilometre course near Barcelona, Spain.—The formation of a motor volunteer corps is reported to be receiving the consideration of the Swiss military authorities.—Five 16-h.p. Pilain cars are now being used by the postal authorities at Lyons.

## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
87-88, Charing Cross Road, W.C.]

### A TRIBUTE TO THE M.C.J.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As you are aware, we are holding a tourist trophy competition, and we would be obliged if you would send a representative round here on the 28th to witness the opening and judging of the guesses of the competition.

The majority of the forms have been taken from the *M.C.J.*; hence our reason for asking you to favour us as above; and again, we think it will be interesting for you to see the very great number of letters we have received from competitors in all parts of the country, the majority of whom, we take it, are regular readers of your paper. Thanking you in anticipation of acceding to our request.—Yours truly,

THE PROPRIETORS OF "THE MOTOR HOUSE."

trials, I should like to give my experiences. I asked permission to run Stanley steam cars, and not being a member of the clubs entitled to run in this meeting, I was unable to enter cars unless I became a member. The secretary of the Notts. Club very kindly told me that if I sent my subscription I could join this club and run my cars. This I accordingly did, and entered cars in classes C, D, and E, that is, in the £200, £350, and £500 classes. This occurred a week before the races. The day before the races I was ready with my three cars in Manchester to start for Skegness, 130 miles. At 10 o'clock in the morning of this day I received a programme of the races. The car I had entered in the £200 class was put in the £350 class, the one entered in the £350 class in the racing event (this latter machine was put to run against the 100 h.p. Darracq in its heat), the machine entered in the £500 class was correctly placed. As all my cars absolutely complied with the rules of the race committee and my entry forms were filled in correctly, also illustrated catalogues of the different machines sent, I leave it to the motoring public to judge as to the conduct of the committee of the Notts. Club in connection with these trials.—Yours truly,

F. WILKINSON.

### HANDCROSS HILL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—During the inquest on the persons injured in the recent motor-bus accident on Handcross Hill, it was suggested by Mr. Beaumont in his evidence, and I think by some other persons, that the hill was in a dangerous condition, and that it should be altered,



Preparing for the Tourist Trophy Race.—The Scene in the Enclosure at Douglas.

### EMANCIPATION DAY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have been surprised to notice that whilst the suggestion has been made, and is being taken up, that a meet of motorists should be held on November 14th to celebrate the tenth anniversary of the abolition of the red flag and three-mile-an-hour speed limit, no mention has been made of heavy vehicles.

Great though the progress since 1896 has been in touring cars, in commercial vehicles it has been greater, and, therefore, no celebrations would be complete that left out of account the utilitarian vans, lorries and omnibuses, which the above-mentioned law served to create.

Cannot you, with the great influence your journal possesses, suggest a meet on November 14th of commercial vehicles somewhat on the lines of the old May-day parade on the Embankment, that served so admirably as landmarks in the records of progress. Needless to say, I shall be pleased to start the ball rolling by arranging for the presence of a set of Beaufort commercial vans, buses and lorries.—Yours truly,

J. EDGAR LOUND.

### STEAM CARS IN COMPETITION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Seeing that certain gentlemen have considerable grievance against the Notts. Motor Club in connection with the Skegness speed

both in the matter of camber and also in that of gradient. The crown of the road is undoubtedly a great deal too high. On so steep a gradient as this very little camber would be sufficient. On the question of gradient, the hill road has already been raised in one part by about 18 ft., but this was insufficient. It would not be a very expensive matter to make a new road for the upper portion of the hill, the new road commencing either from the foot of Handcross village street or from a point from between this spot and the angle in the present road at which the hill commences. This new portion of the road would join the present hill road at a point about one-third of the way down the hill. In addition to this, the raised portion of the hill should be further raised about 10 ft. The two alterations would materially reduce the gradient of the hill and render it much safer for all traffic.

Long before this motor-bus accident occurred Handcross Hill was notorious for frequent vehicle accidents. It is decidedly the sharpest gradient in the length of the road between London and Brighton, and this road has in all probability the largest road traffic in the South of England for a fifty-mile stretch of country road. In 1897 I myself had an accident there with what was, I think, the first motor-van built in this country. It was during one of the earlier long trial runs of the van. The vehicle was a covered-box van having a twin-cylinder engine of about 15 h.p., and was loaded on this occasion with one ton of old iron, chiefly in the form of anvils and flywheels. The van ran well and without incident as far as the top of Handcross Hill, carrying its load of old iron, the foreman, who was driving, a fitter, and myself. Having

passed the brow of the hill, the speed increased, in spite of our ramming on the brakes as hard as possible. With the increasing speed it took a serpentine course from side to side, until the speed and swaying of the van were such that, in spite of the efforts of the driver, the van charged the bank on the left. This was at a point, I think (from the statements appearing in the Press at the time of the 'bus accident), a little higher up than that at which the 'bus struck. One wheel ploughed through the bank; the off wheel, striking at a greater angle, was flattened sideways against the bank, which circumstance probably saved the man and ourselves from dropping about fifteen feet into the field at the side. The driver was shot out of the front, but saved himself from dropping into the field by gripping hold of some part of the front of the van. The fitter was thrown into the hedge. At the moment of impact I saw an anvil and a flywheel rising from the floor to meet me, but fortunately these only barked my legs, what time my head came into contact with the closing partition at the front of the van, which also arrested the flight of the anvils and flywheels. We found on examination that the leather on the brake drums was burnt.

It would be doubly unfortunate if this lamentable 'bus accident should pass into the have-beens without any attempt being made to remedy the dangerous condition of the hill in some manner.—Yours truly,

J. D. ROOTS.

### BETTING ON THE RACE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I noticed with regret that certain journalists connected with the daily Press have been recording evidence of betting taking place on the Tourist Trophy race. Of course it is impossible, I suppose, to wholly suppress this love of gain in such a way; but it is a pity that it has been introduced into motor events, and there are many members of the Automobile Club who deplore the practice.—Yours truly,

A COUNTRY RECTOR.

### SUNDAY MOTORING—A SUGGESTED NEW TAX.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am not the fortunate possessor of a motor-car, and therefore when I am on the public roads I am more acutely conscious of the disadvantages than of the advantages of motoring. I recognise, however, that the motor-car has come to stay, and that all the wild talk one hears and reads about preventing motorists from using the public roads is so much nonsense. It is clear to me also that we cannot circumscribe motoring within a certain area or confine it to particular roads, and thus I am driven to the conviction that the proper limitation would be one of time and not of space. Viewed from this standpoint it is clear that there is one day in the week on which the general public has a much larger interest in keeping the roads free from the nuisance of dust and smell and danger—I must urge you to recognise that these are very real annoyances to the pedestrian—than he has upon others. That day is Sunday. Sunday is practically the poor man's only day in the country. We are now an urban people, and the clerk, artisan and shopkeeper can only hope to get into clean air and among the trees on a Sunday. Therefore I think that the claims of the many poor pedestrians and bicyclists ought on that day to outweigh the claims of the few rich motorists. I suggest that a heavy licencing fee should be levied upon Sunday motoring. I think that the fee should in the first place be sufficiently heavy to be prohibitive to the majority of motorists. What that figure should be I do not venture to suggest, but, for the sake of argument, I put forward for discussion a fee of £100 a year. Every motorist who wished to motor on Sunday would have to take out a licence and carry it with him on Sunday, and the various policemen who are on duty to prevent an illegal rate of speed would check the licences; the machinery for inspecting the licences is in fact already in existence.

Such a tax upon Sunday motoring would not interfere with the commercial and industrial uses of the motor: it would, in fact, be a tax upon the rich man's amusement, which is of all taxes the most legitimate. The tax would serve the purpose for which I propose it if the number of motors on the high roads was greatly diminished upon Sundays; it is not absolutely necessary to postulate that the motor should be driven clean off the roads on that day. One is not annoyed by meeting one or two in the day, but by the continual rush and whirr of these great vehicles flying past at a high rate of speed, and turning the most beautiful parts of the country into the likeness of Clapham Junction. Therefore, if a few very rich men were to persist in motoring on Sunday I do not think that there would be much complaint, and the Exchequer might realise a handsome profit. If only 5,000 motors in all England, Scotland, and Ireland were to appear on the highways on Sunday the profit to the public revenue would be half a million, or something less than half a million if the "police traps" were debited to the national Exchequer. But I do not wish to lay stress upon the financial advantage of the proposal, as my object is to reduce Sunday motoring to very small dimensions.

I can understand that there may be a considerable outcry from motorists against such a proposal, because many of them are busy men who can only get away from work on Sunday, and because they would therefore be deprived of almost their only opportunity of enjoying what are, I suppose, the pleasures of motoring. I recognise that this is so and say that it is a balance of rival claims and that the interest of the

greater number ought to prevail. *Ceteris paribus* it is more likely that the rich man can take a holiday on a weekday than the poor man, and therefore many of them who are not prepared to pay this heavy fee will take their motoring pleasure on some other day—Saturday is obviously the day which they will choose. For the very considerable number of motorists who cannot indulge in a whole holiday on Saturday, the licence upon Sunday motoring would be, I recognise, an inconvenience, but the dissatisfaction against the existing practice is so strong, that unless motorists are prepared to make some concession to the general public, with whose convenience they so greatly interfere, other restrictions much more severe will certainly be imposed upon them. I believe that if the many candid and temperate lovers of motoring, who recognise that they do inflict a considerable amount of discomfort on their fellow citizens, were to join hands with those who desire to see reasonable restrictions imposed, they would save themselves and the other more reckless motorists from the vindictive legislation of a not very patient democracy.—Yours truly,

T. MORISON.

### AUTOMATICALLY-CONTROLLED IGNITION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As the questions of automatic timing and the most effective method of controlling the carburettor have been a good deal discussed lately, we wish to point out that we believe we were the first firm to automatically adjust the moment of the spark to suit the speed of the engine, and that our system of positively controlling the carburettor,



The Argyll Motor-car on the Devil's Bridge at Kirkby Lonsdale.

somewhat similar to that adopted by the Albion Motor Car Company gives undoubtedly the best results. We fitted the governed ignition as early as July, 1903, and we were therefore fully seven months ahead of the Brotherhood-Crocker Company. We still have the original engine to which this was fitted, and the method of advancing the spark now in use on our cars is identical with that first constructed. We also adopted on our first car the positive control of the carburettor by means of the governor. The mixture is thus controlled and regulated so that it is always scientifically accurate, both in regard to the speed of the engine and to the work the engine is called upon to do. This has enabled us to have the simplest of all controls.

We have only one control lever, which is set to give the maximum speed required at any time, and the engine then attends to its own adjustments, and keeps very closely indeed to this maximum speed, provided the hills are not too severe.

We have still further developed this simplicity of control by fitting only two pedals. One decelerates the engine—and therefore the car—until the engine is only just running, further movement of this pedal then applying the main brake. The other pedal controls the clutch in the ordinary manner. The great advantage of this arrangement is that to slow or stop the car the movement of the pedals is always downwards; and this, combined with the fact that there are only two pedals, makes mistakes in driving practically impossible. With the ordinary arrangement of clutch pedal, accelerator pedal and brake pedal, even the best driver sometimes makes a mistake in a moment of anxiety.—Yours truly,

NEW ENGINE COMPANY.

## THE REPAIR OF TYRES.

TO THE EDITOR OF *The Motor-Car Journal*.

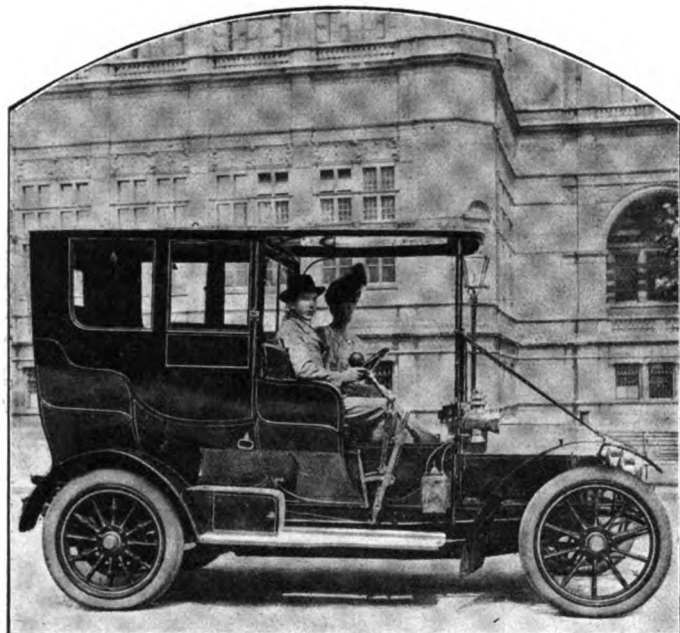
SIR,—I recently took off a pair of old tyre covers from the driving wheels of my 14-h.p. Brooke, which had done good service, and being tempted by the low price, purchased a pair of new covers from a certain firm. The covers looked well but the rubber was evidently of the lowest grade, and from the fact that the receipted account bore a notice printed in smallest type on the extreme margin, "No guarantee given with rubber tyres," it was evident the firm had no confidence in their goods.

These covers began to unduly wear immediately, the so-called rubber seeming to melt away before the eye, and I had not run much over 200 miles—certainly not 300—before the canvas was exposed and the burst up occurred.

Complaint to the sellers was followed by their promise to consider the matter on receipt of the covers. On these being returned, they explained the tyres had been run on grass, and reckless driving of the car only could account for the disappearance of rubber from the treads. As a special favour and a concession under the circumstances they offered to pay me 7s. for the remains of the covers, and pointed out that the inner tube must have been weak and so caused the cover to burst. They add the information that in most cases the giving way of covers is due to the bad condition of the inner tubes—certainly an ingenious explanation.

I need hardly say I accepted with gratitude the magnificent offer for the remains of the rubber, feeling it was highly valued at that.

I have now invested in a pair of tyres by well-known makers, who



The Hon. Charles Weld Forester and Mrs. Forester on their 30-25-h.p. Brotherhood Car. The body, by Hamshaw, of Leicester, is of the "Leicester Phaeton" type, with detachable limousine top.

have a reputation to maintain, and can therefore not afford to put rubbish in their manufactures.

I would ask you to publish my letter as an experience which may be of some use to fellow motorists, and need only add that I am considered a careful driver and rarely use my brake, knowing the damage sustained by tyres therefrom.—Yours truly,

SM 140.

[We are afraid that the complaint of our correspondent with regard to second-hand covers is not an isolated one. It would often be well if intending buyers asked for references or some particulars with regard to the firms advertising covers abnormally cheap.]

## INEFFICIENT LUBRICATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was greatly interested in your remarks on this subject in a recent issue of the *M.C.J.* If any one thing more than another causes unsatisfactory service, it is imperfect lubrication. This is the case with many of the so-called careful drivers, who, having consideration for the car in not rushing it over all sorts of roads at high speed, cannot understand why the machine deteriorates rapidly. Often their education in the use of machinery has been confined to the maintenance and use of a horse-drawn carriage, in which an occasional greasing of the axles is sufficient, and they do not realise that the modern motor-car is really a road locomotive, rather than a horseless vehicle. There are many motor

traders who can recall instances of striking differences in the wearing qualities of cars of exactly the same model in the hands of different owners. One motorist will get satisfactory service throughout an entire season of continual use of a car, while another in the same neighbourhood, using his car less frequently, perhaps, will have frequent trouble and have to pay considerable sums for replacements and repairs. Usually the owner who has the bills to pay blames the manufacturer of the car, and never thinks that he himself is largely responsible for the difference in efficiency and durability.

Troubles with ignition or gears, or with carburation, for example, are attended to in season, because they are immediately manifested when the car is put in motion, whereas there is often no easily recognized symptom of defective lubrication. A seized piston or bearing is warning enough to the most inexperienced, but great damage may be done to mechanism that has just sufficient lubrication to keep it from seizing, but not enough to prevent destructive wear. Scrupulous attention should be given to lubrication to see that there is always an adequate supply of oil or grease in the proper receptacles, and that it gets to the point to be lubricated. Too liberal lubrication is merely wasteful, too little is destructive, and lubricants are cheaper than new machined parts.—Yours truly,

A COUNTRY GARAGE OWNER.

## A SLIPPING CLUTCH.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The leather cone clutch on my small car has developed slipping tendencies. I should be glad if you would inform me the best treatment to obviate the trouble.—Yours truly,

CLUTCH.

[The best treatment for a slipping clutch is to first thoroughly wash the leather with paraffin to remove all the grease which may be on, and afterwards dust with a little French chalk or fuller's earth. An occasional dressing with equal parts of castor oil and paraffin is beneficial.]

## TAIL LAMP TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to Mr. Elwood, re tail lamp troubles, in the *M.C.J.* of the 22nd ult., I would advise him to get a 20th Century acetylene bicycle lamp; they seldom if ever go out, and show such a good light that you at once perceive if the light is out without getting down, and they are so constructed that you can turn them to hang any way you like.—Yours truly,

C. E. G. O'RORKE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Replying to the letter of Mr. F. Elwood in the *M.C.J.* of the 22nd ult., I should like to draw his attention to the rear lamp which is called the Dependence, and the use of which I am sure would get over all his difficulties. I have had two of these lamps on two different cars, and have found them everything that could be desired. I do not remember either lamp ever going out, and they have never given me any trouble whatever. This lamp throws a beam of light on to the road so that the driver may know that his lamp is all right, and I have found this a great comfort. I may say that while the Dependence was being repaired at one time, after being damaged in an accident, I used another lamp, and on more than one occasion found on arriving home that the light had gone out.—Yours truly,

W. F. BRERETON.

## THE CONTROL OF THE ROADS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Motoring is in its very early infancy. What is required in the way of improvements, and what will doubtless come in time, may be summed up as follows:—Roads constructed in conformity with the requirements of high-speed traffic, including the provision of footpaths, employment of dustless materials, removal of high hedges at cross-roads, improved regulations as to speed of vehicles and driving to the common danger, universal lighting, causing obstruction, straying cattle, dogs, and children, Government control of the roads; while, for the safety of all, greater attention should be paid to those motorists (the minority, not the majority) who drive recklessly in any manner whatsoever.—Yours truly,

H. WAYMOUTH PRANCE, A.I.E.E.

THE BARDON CAR.—A correspondent writes:—"Herring," who wishes to know where to obtain Bardon parts, should communicate with Messrs. Doran, Taggart and Co., of High Street, Putney."

FREEDOM FROM PUNCTURE.—Referring to the illustration given in our last issue of the Daimler car of Mr. E. P. Prestwich, which is said to have been driven 6,000 miles without tyre troubles of any sort, Mr. S. F. Edge writes that the statement appears contrary to the usual experience, and adds, "Could Mr. Prestwich be asked if he will definitely make a statement that the car on which he is shown has been driven 6,000 miles and he has never had any tyre troubles of any sort?"



## CLUBS AND ASSOCIATIONS.

## DERBY.

ON Saturday last the closing run of the present season of the Derby and District A.C. took place to Dovedale. Though this was the last event of the year, it was the first occasion on which the club had met purely for the purpose of a run, all the others being meetings for the holding of competitions, or at the invitation of various gentlemen who wished to entertain the members at their country residences.

The meeting place was at the Peveril Hotel, and shortly after 3 o'clock the cars commenced to arrive by various routes, and opportunity was taken to renew acquaintance with the Dale, some of the more energetic ascending Thorpe Cloud, the highest peak in the neighbourhood, from whence a beautiful view could be obtained of the surrounding scenery, whilst others strolled through the gardens. Tea was served at 4.30 at the hotel, and soon afterwards, in view of the waning daylight, the members commenced to disperse, with regret that the season was all too early ended and with hopes that next year would prove as interesting and as fortunate in the matter of weather as the present one has been. The afternoon was perfect from a motoring point of view and the Dale and its surroundings looked at their best.

Amongst those present were Messrs. C. T. Leech and A. R. Robot-ham, 18-h.p. Daimler; Mr. H. M. Clifford and Mrs. R. S. Clifford, 12-h.p. Richard-Brasier; Mr. and Mrs. Alfred Swingler, 30-h.p. Daimler; Mr. Arthur Harvey, 10-h.p. Alldays and Onions; Mr. and Mrs. Geo. B. Fletcher, 9-h.p. Mohawk; Mr. and Mrs. C. R. Hewitt and Messrs. Aspdin and Guilman, 8-10-h.p. Humber; Mr. Norman Sayer, 15-h.p. Serpollet; Mr. and Mrs. H. E. Currey, 9-h.p. Oldsmobile; Mr. and Mrs. R. A. Wragg, 12-h.p. Wol-eley; Mr. and Mrs. C. J. Allin, 8-10-h.p. Humber.

It is hoped that next year the Motor Union will, at the invitation of the Derbyshire Automobile Club, hold one of their provincial meetings in the county.

## THE SCOTTISH AUTOMOBILE CLUB.

The hill-climbing performance test on the ascent through Glen-croft to Rest-and-be-Thankful was successfully carried out on Saturday last by the Scottish Automobile Club. Full details of the test hill were given in our last issue. The following are the gradients;—

580 ft.	...	...	...	level.
615 ft.	...	...	...	1 in 62.
740 ft.	...	...	...	1 in 43.
600 ft.	...	...	...	1 in 18.
310 ft.	...	...	...	1 in 10.
500 ft.	...	...	...	1 in 13.
650 ft.	...	...	...	1 in 12.
340 ft.	...	...	...	1 in 9.
430 ft.	...	...	...	1 in 8.
515 ft.	...	...	...	1 in 7.

5,280 ft.

The following were the best times on the mile stretch:—

	Min.	sec.
Mr. Brooman White's 60-h.p. Mercedes	...	2 19
Mr. Thos. Shaw's 28-38-h.p. Ariel	...	3 1
Mr. W. Walker's 14-h.p. Germain	...	3 16 3-5
Mr. Hugh Kennedy's 15-h.p. Darracq	...	3 17 2-5
Mr. L. C. Seligmann's 24-h.p. Gladiator	...	3 17 2-5
Mr. Thomas Potter's 15-h.p. Darracq	...	3 22
Mr. Owen R. Williams' 15-h.p. Darracq	...	3 40
Mr. William Weir's 20-h.p. Darracq	...	3 41
Mr. A. Johnson Fergusson's 22-h.p. Crossley	...	3 51 4-5
Mr. James M. Wilson's 10-12-h.p. Humber	...	4 3
Mr. H. M. Napier's 20-32-h.p. Darracq	...	4 4 1-5
Mr. Ed. J. Thompson's 20-32-h.p. Darracq	...	4 8 4-5
Mr. F. C. Buchanan's 10-h.p. Humber	...	4 23 1-5
Mr. A. Hunter Crawford's 10-h.p. De Dion	...	4 54 1-5
Mr. John A. Peacock's 16-h.p. Chenard and Walcker	...	5 18
Mr. Alexander Mackenzie's 16-h.p. Albion	...	6 7

Mr. Napier's 20-32-h.p. Darracq was driven on common naphtha, costing about 4½d. per gallon.

Mr. Alex. Blair and Mr. A. G. Rennie officiated as timekeepers, and Mr. J. R. Nisbet as starter.

## COVENTRY MOTOR CLUB.

THIS club held a consumption trial for its motor-cycle section in connection with its closing run on Saturday last. A tenth of a gallon of Pratt's motor spirit was measured out to each motor-bicyclist, who had to travel along the London-road in the direction of Daventry, and was instructed to remain exactly where his petrol ran out. Pedalling

chains were removed but special tanks were permitted, and only spray carburettors allowed. The winner proved to be Mr. R. W. Ayton, who did twenty-two miles, or at the rate of 220 miles to the gallon, his machine being a 3-h.p. Rover. The second was Mr. F. E. Marshall on a 3-h.p. Triumph, his distance being sixteen miles, but it would probably have been further had he provided a special tank which he could have drained to the last drop. The same applies to the third man, Mr. H. N. Smith on a 3-h.p. Clarendon, who did 14½ miles. Mr. G. H. Spicer on a 3½-h.p. Riley did 13½ miles, whilst Mr. V. A. Holroyd did nine miles on a twin-cylinder 5-h.p. Vindec. The officials were conveyed by a 30-40-h.p. Daimler car kindly lent by the Daimler Motor Company.

## HERTFORDSHIRE COUNTY.

THE Hertfordshire County Automobile Club held its final fixture for the season on Saturday last, and all but two of the twenty-eight entrants faced the starter.

The hill selected, known as Durrants, runs from Two Waters to Leverstock Green, and was chosen principally for its road surface, and because it was well off the main road. On Saturday, however, the competitors and officials were hampered in their work by the continued passing of vehicles of all descriptions.

The motor-bicycle class was won by the Rev. A. J. McKinney on a 3½-h.p. Quadrant, Mr. J. S. Harwood, 3-h.p. Triumph, being second, and Mr. Wells, on a Vindec Special, third.

In the tri-car class Mr. Victor Riley was first with his 5-h.p. Riley, closely followed by Miss Seed, who drove a 6-h.p. Raleighette.

In the car section seventeen faced the starter and some very exciting contests were witnessed. The winner in this class was Mr.



Mr. W. G. James on the 3-10-h.p. Crypto Car.

Photo by]

[Mr. T. R. Marriott

G. H. Gray, who drove his 6-h.p. Rover. Mr. Gray also secured the cup presented by Mr. N. Micklem, K.C., M.P., for the best handicap performance in any class. Dr. Fisher on his 8-h.p. De Dion won the Humber vase, presented by Messrs. Humber, Ltd., for the best performance by a private owner who had had his car in his possession a stipulated period. Mr. Collier, 12-h.p. De Dion, was third.

The most sensational climb was that of Mr. Grigg, whose 35-h.p. Daimler made the fastest time in any class during the day. The perpetual use of the electric siren during the climb was an absolute necessity, and gave colour to the terrific pace the car made.

The thanks of the committee are due to a large number of voluntary helpers who kindly acted as signallers over a very bending course. Mr. C. McWhirter was the judge, Messrs. A. J. Salmon and W. Whittall clerks of the course, Mr. E. Webster clerk of the scales, Messrs. D. K. Hall and H. James starters, and Mr. T. Williams acted as secretary of the very successful meeting.

## THE CRYSTAL PALACE.

A HILL climb, promoted by the Crystal Palace Automobile Club, will take place on Capt. Kidd's Hill, Hartfield, East Grinstead, on Saturday, October 20th. In this contest only genuine touring cars will be eligible. Only petrol will be allowed as a fuel, and oxygen and other methods of increasing power will be strictly barred. The catalogues and entry forms are now in the printer's hands, and Mr. H. Hollands, the hon. secretary, 16, Anerley Grove, Norwood, S.E., will be glad to forward them to anyone interested.

## THE MOTOR UNION.

THE Motor Union have decided to celebrate the tenth anniversary of the coming into operation of the Motor Car Act of 1896 by holding their annual dinner on that date—the 14th November. The dinner will be held in London, and the Union have decided to invite a considerable number of representative mayors, chairmen of county councils, chief justices, county surveyors, and members of Parliament to meet the officers of the Union and its various affiliated clubs.

## MOTOR-CYCLE UNION OF IRELAND.

THE members of the Dublin section of the Motor Cycle Union of Ireland brought the season to a close on Saturday, at Portmarnock. W. Ladley, in the second heat of the mile handicap, covered the distance in 1 min. 24 sec., establishing a new Irish record. Mr. T. W. Murphy started, the handicaps were framed by Messrs. Walter Keating and W. H. Meredith, and the times were taken by Messrs. T. W. Murphy and C. O'Connell.

The results were as follows:—

## One Mile Novice Handicap.

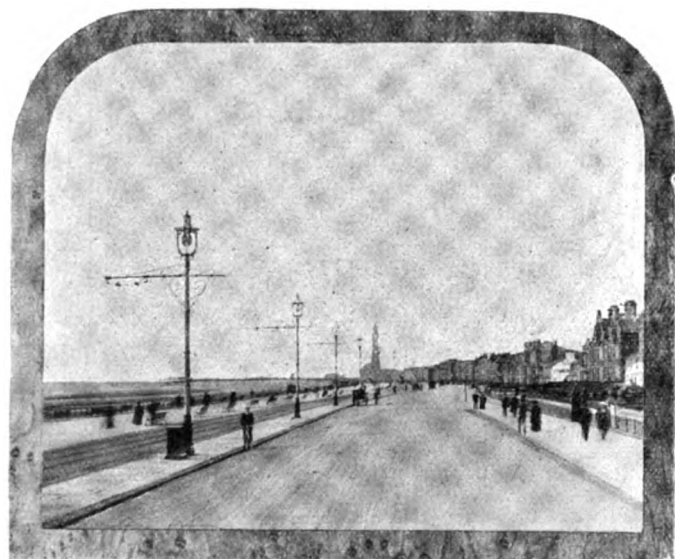
R. Dewar, 3-h.p. Triumph, 10 sec., 1; J. Walshe, 2½-h.p. F.N., 20 sec., 2; E. Cannon, 2½-h.p. Minerva, 15 sec., 3; J. A. Armstrong, 3-h.p. Swallow, 15 sec., 4; won easily by five yards, a length between second and third. Time, 1 min. 34-2-5 sec.

## One Mile Members' Handicap.

Name.	Final.	Car.
1. J. G. Drury ...	...	3-h.p. Triumph.
2. J. A. Armstrong ...	...	3-h.p. Triumph.
3. C. G. H. Lewis...	...	2½-h.p. F.N.

W. Ladley, who finished first in the second heat, when he created a new Irish record, was disqualified for pedalling beyond the 50 yards flag, and did not go in the final.

Ten Miles Go-as-you-please, a handicap for the Shaw cup, presented to the Union by Mr. Hampden Shaw, C.E., vice-president, to be run over an out-and-home course of one mile each way. The cup to be won



The Promenade, Blackpool, on which the Races are to be held next week.

twice in succession before becoming the property of any individual holder.

Name.	Car.	Handicap.	Time.
		M. sec.	M. sec.
1. C. G. H. Lewis ...	2½-h.p. F.N.	45	16 17
2. C. B. Franklin ...	3-h.p. Triumph	55	16 35
3. J. G. Drury ...	3-h.p. Triumph	1 0	16 56
4. W. Ladley ...	8½-h.p. Morehampton	scratch	16 10
5. R. W. Howison ...	2½-h.p. F.N.	4 0	20 23
6. Dr. White ...	3½-h.p. Morehampton	15	16 54
7. R. Hurse ...	2-h.p. Morehampton	3 0	21 57
8. J. Walshe ...	2½-h.p. F.N.	3 0	20 35
9. J. A. Armstrong ...	3-h.p. Triumph	1 10	18 52

Also competed: W. H. Guilfoyle, 2½-h.p. Minerva, 1 min. 30 sec.; S. Black, 2½-h.p. Buchet, 3 min. Won easily. The cup now becomes the property of the winner.

## MOTOR CYCLING CLUB.

A COMPETITION of the Motor Cycling Club was held last Saturday in the grounds of "Lightwater," near Bagshot, by the invitation of Major-General Sir H. E. Colville. Subject to the confirmation of the committee, Mr. W. A. Sale is first in the bicycle class, with Mr. D. S. Baddeley second. In the passenger class, Mr. A. S. Wilson comes first, with Mr. R. G. Booth second.

ON Monday the North Wales A.C. held its last meet of the season at Baron Hill.

THE Blackheath A.C. is holding its final run of the season to-day (Saturday) to The Beacon, Westerham Hill, Kent.

## THE BLACKPOOL MEET.

As we mention in our Comments on page 651 the Blackpool Automobile Meeting will be held, the attempt to frustrate the welcome offered by the Corporation having failed in the Courts on Tuesday; and the preparations are now well forward, while the extension of the time for receiving entries should lead to a great accession of interest.

The Competitions Committee consists of Messrs. A. Huntley Walker (chairman), A. L. Parkinson, G. J. Nearing, H. Butcher, N. S. Taylor and J. Potter, with Messrs. A. Huntley Walker and J. Potter as joint hon. secretaries, assisted by Mr. N. S. Taylor. The latest date for the entries has now been postponed to Wednesday next, the 10th inst., and some of the regulations governing the meeting are of special interest. Cars entered in the various tourist events, with the exception of Nos. 7 and 22, must be of the regulation tourist type, furnished with efficient silencers, and must carry the full complement of passengers of the average weight of 150 lbs. Any car which has competed in a competition for racing cars since 1903 will be ineligible for the tourist events. The chassis price must be the maker's recognised chassis price, and must have appeared in a catalogue published previously to the 17th ult.

Any car which has competed in this year's Tourist Trophy Race will be allowed to compete at the Blackpool meeting fitted with the same body and wheels, but no car will be allowed to compete in the tourist events, in the class where four passengers must be carried, unless the same is equipped with a bona fide comfortable body. No body will be accepted which consists of two additional seats placed at the back. A special marshal will be appointed to examine all bodies fitted on touring cars previous to the same being marshalled at the post, and he will be given power to decide whether or not these conditions have been strictly carried out. Any body which is considered as a special racing body will not be allowed to compete—such as cannot be honestly described as a genuine touring body.

The programme for Friday next, the 12th inst., consists of fifteen events. For motor-cycles there will be two events, a standing mile handicap for touring cycles and a mile scratch race.

The events for touring cars are more numerous. Events 3, 4, 5 and 6 will be standing mile runs for cars the chassis price of which is not more than £300, £450, £650 and £900 respectively. Event 7 will be open to any touring car, petrol or steam, unrestricted as to price, and three prizes will be offered—a silver cup value £50, a silver cup and a gold medal.

Event 8 will be a standing mile race for any type of steam touring car and a silver cup and a gold medal are being offered.

As we mentioned last week, there will be a race for motor-cars carrying twenty-two passengers, and this event—No. 9—should prove a popular attraction.

Friday's programme will conclude with the racing car classes. Event No. 10 will be for racing cars not exceeding in weight 650 kilos; Event 11, for four-cylinder cars not exceeding 1,000 kilos in weight; Event 12, for racing cars of four, six, or eight cylinders not exceeding 1,000 kilos in weight; Events 13, 14, and 15 will be similar to 10, 11, and 12, with the exception that they will be run over the full mile instead of the kilometre, with a standing start in all six classes. In all these a £50 silver cup will be awarded.

Saturday's events will be mainly distinguished from those of the previous day by the flying starts that will be allowed. The programme will commence with two motor-cycle races and the Events 18, 19, 20, 21 will be flying kilometre races for touring cars the chassis price of which is not more than £300, £400, £650, and £900 respectively—all entries to be fitted with touring bodies and efficient silencers. In Event 22 any touring car may compete in racing trim.

Steam cars and motor-buses will again have their sections—Events 23 and 24, over the flying kilometre. In all the classes prizes of similar value to those for the Friday are being offered.

In the racing car events several special awards will be competed for. The "Guinness" cup will go to the racing car not exceeding 650 kilos which is first in Event 25; one cup of the Blackpool Motor Club is offered in Event 26 for four-cylinder racing cars up to 1,000 kilos in weight; the Corporation's £200 cup will be the award in Event 27, for four, six, or eight cylinder racing cars not exceeding in weight 1,000 kilos. All these sections from Nos. 16 to 27 are over the flying kilometre course. The meet will conclude with a standing mile handicap for racing cars not exceeding in weight 1,000 kilos; a standing mile handicap for cars belonging to members of the Blackpool and Fylde District Motor Club and the standing mile handicap for the £200 Darracq cup.

In addition a special silver cup will be presented to any competitor establishing new world's records. Altogether a most interesting two-days' racing is promised, and there is likely to be a record gathering of motorists at Blackpool next week end.

The Patrol Committee of the Automobile Association are making special arrangements for the protection of members driving to and from Blackpool during the race meeting. A long line of confidential agents ready and willing to render aid and give information already extends from London to Warrington, and from that point to Blackpool the road will be under the charge of a company of picked cyclist patrols to assist motorists.

## PUBLIC MOTOR SERVICES.

THE Bath Electric Tramways Company have consented to run a motor-bus service to Potterne, Lavington, Tilshead, Upavon, and Rushall, if the Corporation will provide free accommodation for three buses during the experimental stages. The surveyor has been asked by the Council to prepare an estimate.

THE London Power Omnibus Company are now running motor-buses from Oxford Circus to Brixton, via Westminster and Kennington.

MR. H. TUDOR THORNLEY, of 25, West Bute Street, Cardiff, who is promoting the Cardiff and District Motor Omnibus Company, primarily for the purpose of running motor-buses to the districts of Whitechurch, Llandaff, Taff's Well, Radyr, Llanishen, and Penarth, from St. Mary Street, Cardiff, attended before the Corporation Cabs Committee, but Councillor Kidd said he thought the matter was such a serious one that they ought to hold a special meeting on the subject, and this course was decided upon.

THE agitation against motor-omnibuses in the Manchester suburbs culminated on Monday afternoon in a deputation to the Hackney Carriages Sub-committee of the Watch Committee. It was headed by Judge Parry, who appeared, he said, for practically all the residents and ratepayers along the Stretford and Ladybarn omnibus route. As the law stood, he continued, the committee was not bound to grant licences to the company to run vehicles if there were proper grounds against them. The objections he made were that the type of omnibus was dangerous at corners; that they created dust and mud nuisances; that they were a serious danger to children and invalids; and that they tended to reduce the value of property along their course. The committee's decision will be given when the renewal of the licences will be applied for.

EWENS, the conductor of the motor-omnibus which was wrecked on Handcross Hill in July last, has just been discharged from the Sussex County Hospital, Brighton.

THE residents of Kilburn and Cricklewood main road and those in West End Lane are making indignant protests against the motor-bus. The Hampstead Borough Council is also considering its noise and vibration so far as they disturb that district.

## ROAD REPORTS.

KILMARNOCK.—The Kilmarnock District Committee of the County Council is advising that body to petition the Secretary for Scotland with a view to the reduction of the speed limit through the village of Fenwick to ten miles an hour.

BOGNOR.—The local authority are considering a proposal by their surveyor to make the roads in the town "waterproof," as a solution of the dust nuisance, and several districts are now being visited with that object in view.

LONDON.—Birdcage Walk is closed for repairs. The road between the Mall and Storey's Gate is also being attended to.

WREXHAM.—The Urban District Council are about to spend £550 in improving their roads.

EXPERIMENTS AT EPSOM.—At Epsom some tarring machines have been in operation on the road by arrangement between the Epsom Urban District Council and Messrs. Robert Johnston and Company, 45, Parliament Street, London, who are the concessionaires for Great Britain of Johnston's Lassally Road Binder. The machines consist of a steam boiler for the heating of coal tar, and a wheeled distributing tank, by means of which combination tar, heated to a temperature of 200 deg. Fahr., can be applied to a road at the rate of 2,500 square yards per hour, penetrating into the strata of road material to a depth of two inches in the case of a good, hard surface road, and three or four inches where the foundation is of a loose flint nature. As the tar cools and hardens in the interstices, it binds the road.

LINCOLNSHIRE.—The milestones in the Holland division have been receiving a course of correction from the county surveyors. Many in North Holland were totally undecipherable, and these have been re-dressed and lettered, or replaced by new ones, and guide-posts have also been set up. In South Holland, it was found necessary to alter the positions of several of the milestones, measurements proving that they were inaccurate.

WESTCLIFF-ON-SEA.—Dustroy Ltd. arranged an inspection of a road laid with Taafalt at Westcliff-on-Sea on Wednesday.

## AUTO-CYCLE CLUB.

THERE were fifty-eight entries in the Auto-Cycle Club's penalty run from Woodford on Saturday. The course was to the forty-second milestone from London, and the winner of the club prize was found in the Woolwich and District Motor Club with 73.9 points; the Walthamstow Motor Club obtained 70.11 points, the Essex Motor Club 69.16, and the West Essex Motor Club 63.7 points.

THE first paper of the winter season of the British Motor-Boat Club will be read before the members of the British Motor-Boat Club at the Craven Hotel, Charing Cross, S.W., on the 18th inst., by Lieut. Markham, on "Horse power—What it is—How it is measured."

## NEW COMPANIES REGISTERED.

THE NUTSFORD PATENT SPRING WHEEL COMPANY.—Capital of £500. Registered office: Main Street, Newmilns.

PARAGON MOTOR WORKS.—£5,040. London Road, King's Lynn.

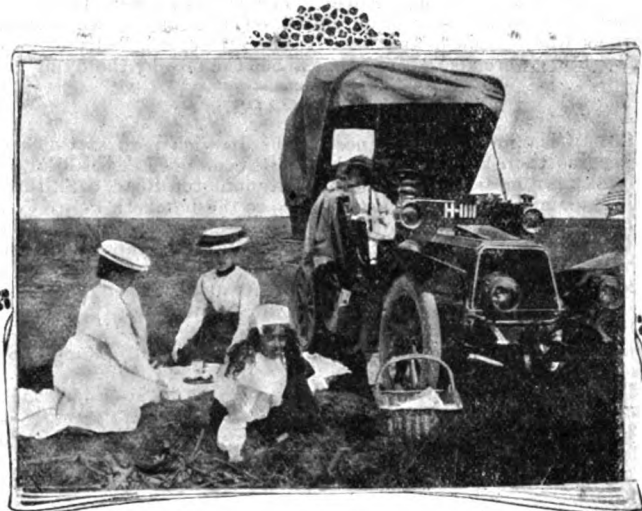
NEW CROKER-BARNES.—£2,000. To take over the business of tool manufacturers and engineers recently carried on by the Croker-Barnes Tool Syndicate, Ltd. First directors, W. R. Biddell, E. C. Harvey and S. H. Croker.

EMPIRE GARAGE.—£5,000. To acquire the business of a motor garage proprietor carried on at Goldsmith Street, Nottingham, by Mr. H. H. Sansom. First directors are Messrs. H. H. Sansom, A. R. Atkey, and M. Ross Browne.

THE NORTHERN MOTOR COMPANY, LTD.—Capital, £10,000. To acquire as a going concern the business now carried on by the Northern Motor Company at Belfast. The directors are Messrs. Charles W. Henderson, Maynard Saitin, Robert Liddell, J. Price Thompson, and H. M. Barbour, all of Belfast. Registered office: 38, Chichester Street, Belfast.

THOMPSON'S MOTOR CAR COMPANY, LTD.—Capital, £5,000. To acquire the business of motor-car contractors and hirers carried on at Dublin and elsewhere by R. Woods, C. Thompson, and F. G. Thompson, under name of Charles Thompson and Company. The directors are Messrs. R. Wood, C. Thompson, and F. S. Thompson. Registered office: 41, Lower Sackville Street, Dublin.

ELECTRIC VEHICLES DEVELOPMENT COMPANY.—£1,000. First directors Messrs. H. B. Van Daalen, G. Bruffit, F. Griffiths, and H. F. L. Pilet. 149, Bishopsgate Street Without, E.C.



A Picnic Party on Roundhay Hill, near Devises, one of the highest points in Wiltshire. The road leading to this point is most precipitous and the surface extremely rough. The car shown in the illustration belongs to Mr. Charles Smith, hon. sec. of the North London Automobile Club, who has been informed that he is the only Motorist who has taken an automobile up the hill.

CENTAUR MOTOR AND ENGINEERING COMPANY.—£100. West Orchard, Coventry.

GROSVENOR ENGINEERING WORKS.—£5,000. To adopt an agreement with H. Beadle and E. T. Giles, and to carry on the business of engineers, electricians, &c. First directors Messrs. H. Beadle (chairman) and E. T. Giles. 20, Danvers Street, Chelsea, S.W.

## MOTOR-CAR ACCIDENTS.

THE Countess of Derby had a narrow escape from serious injury on Friday of last week, being thrown head foremost from a motor-car and rendered unconscious. She was travelling from Knowsley to Witherslack Hall in one of the Earl's motor-cars. As the car was descending Stonebridge Brow, near Broughton, on the Preston to Lancaster main road, and was about to pass a victoria, the chauffeur saw a motor-car dashing down the opposite hill, and, seeing that a collision was imminent, he at once turned the motor-car into the fence. Unfortunately, it struck a telegraph pole with great force, and Lady Derby was thrown headlong into the fence, while the chauffeur was pitched forward. The countess was found to have been badly shaken, but no bones were broken, and when she recovered consciousness she was taken in the victoria, which was driven by Mr. Rideal, J.P., of Preston, to Preston, and thence by train to Witherslack. Mr. Rideal complimented the chauffeur on his presence of mind, and said his action was the right one under the circumstances.

Two large motor-cars which were said to be racing along Manchester Road, Middle Hulton, near Bolton, came into collision and both were completely overturned. There were two passengers in each

car besides a driver, and all were flung out. The occupants were badly shaken, but escaped serious hurt.

DRIVING a cart without lights near Cromer, Edward Howes collided with a motor-car and was thrown on to the road, dying in hospital from his injuries. At the inquest Captain J. G. Duff, who was driving the motor-car, said he was going uphill at about fourteen or fifteen miles an hour, and was close to his side of the road. A police superintendent said he believed that Howes was dazzled by the motor-car lamps. A verdict of "Accidental death" was returned, the jury adding that they considered the motorist was driving too fast while passing the cart.

TRAVELLING at high speed round a sharp corner, a motor-car occupied by Dr. J. Lloyd, of Chirk, and a chauffeur, collided with a cyclist, crashed into the parapet of a bridge, and precipitated part of the masonry into the river below. The accident occurred on the Glynceiriog-road, in Denbighshire.

"CHILDREN should not be allowed to wander along highways at dangerous places. Chauffeurs could not be expected to look after machines and children," was the remark of the Horley coroner on Monday at the inquest on Harry Sargent, aged three, who was killed by a motor-car between Horley and Redhill on Saturday evening. The child was running across the road after an apple, and was run over, despite every effort of the chauffeur to avoid it. A verdict of "Accidental death" was returned.

ON Saturday afternoon, as Mr. Taylor, jun., accompanied by his mother and his two sisters, was driving a motor-car in the direction of South Shore, Blackpool, he tried to avoid a dog which was running across the road. The car swerved sharply towards the footpath, and whether the wheels caught the kerb or not is uncertain, but one of the tyres burst and the car toppled over. The occupants were thrown into the road. The driver escaped uninjured, but the glass screen in front of the driver was smashed, and Mrs. Taylor's face was badly cut. Her two daughters were also severely cut about the face by the flying glass.

#### POLICE TRAPS.

THERE is a measured distance on the Ipswich road at Colchester. For speeding there three motorists have just been fined at the local court.

THERE is a measured furlong in the Kennington Road, S.E., through which three motorists have just been led to the Lambeth Police Court.

THE Mayor of Harrogate has publicly declared in the police court that the local Bench are not in sympathy with police traps on quiet roads and in lonely places.

MIDWAY between Doncaster and Selby, at Eggborough, is a police trap, from which few motorists emerge without trouble.

P.S. WAGHORN is again busy superintending traps in the villages of Slaughtam Clayton and Newtimber. The district of Poling (Sussex) is also police infested.

THERE has been a measured quarter of a mile at Edgerton, near Huddersfield.

THERE is a frequently worked police trap in the Roundhay Road, Leeds.

AGAIN police activity is being displayed at Loampit Vale, Lewisham.

THE Automobile Association patrols were on the Brighton road on Sunday. A motor trap was apparently working on a straight piece of open country road between Kingswood and Reigate Hill.

THE measured mile at Lancing is again in full working order.

SUPERINTENDENT MARKS has been very watchful at Cobham of late.

#### THE STORAGE OF PETROL.

AT the Marlborough Street Police Court, the West End Motor Company, Ltd., have been summoned for keeping petroleum without a licence, their licence having lapsed owing to its conditions having been violated. Mr. Guttridge, supporting the summons on behalf of the London County Council, said that one of the conditions of the licence to store petrol was that only one vessel of it should be opened at a time, and then in the open air. A London County Council inspector, however, guided by a smell, found a boy with an open jar of petrol in the company's garage. The lad was cleaning a car with the petrol, and there were five pools of it on the ground. A representative of the company said he could only express great regret at the boy's action, which was a direct infringement of his orders. It was the only complaint the company had received in two years. Mr. Kennedy imposed a fine of 40s., with 23s. costs.

#### THE NOISE OF THE CAR.

BEFORE Hon. Sheriff-Substitute Wilson, in the Sheriff Court, a motor-car driver named Victor Wells, Lawers House, was charged with having on August 21st, on a piece of ground in front of Fisher's Hotel, Pitlochry, and adjoining the main road or street in Pitlochry, failed to stop the machinery of his car so far as was necessary for the prevention of noise, whereby a pair of horses yoked to a carriage, in charge of William M'Lean, Fisher's Hotel, were alarmed. Accused pleaded guilty, but in extenuation said that he was not aware that he was infringing the law. The man who was driving the horses never said anything to him about the noise. Mr. Jameson, Procurator-Fiscal, said that so far the statement made by accused was correct. The man who was in charge of the horses was coming round to

take up his position in front of the hotel door, but he could not get forward on account of accused standing there with his machinery making a considerable noise, which had the effect of frightening one of the horses. The head ostler, noticing that the horses were plunging and rearing, asked the accused to move on or stop his machinery, but he refused. The noise continued for about ten minutes. The Fiscal thought a man in his position ought to have known the law, or at any rate he must have known that the noise was a great nuisance to people and dangerous to traffic. There had been complaints about the excessive noise at this hotel from visitors, but he thought his Lordship might take into account that this was the first case of its kind, and not impose a severe sentence. The Hon. Sheriff-Substitute agreed with the latter remarks made by the Fiscal, and imposed a fine of £2.

#### TECHNICAL INSTRUCTION.

IN view of the rapidly growing importance of the automobile industry, and the necessity for thorough technical instruction for those engaged therein, the governing body of the Northampton Institute have arranged the following courses for the session 1906-7. The full course consists of lectures, drawing office work, laboratory work, and workshop practice, according to the following syllabuses, and those who are able to devote the necessary time to it are strongly recommended to take a full course. In no case will students be admitted to workshop practice without taking some other section of the full course. We give the syllabus of this instruction as a matter of interest for the directors of other technical institutes undertaking similar work as follows:—

*Fuels for automobile work.*—Petroleum, petrol, alcohol, &c.; heat value and testing for flash point, burning point, viscosity, &c.; cracking or fractional decomposition. Indicated horse-power of internal combustion motors and difficulty in ascertaining it accurately. Brake horse-power, mechanical efficiency, four-stroke and two-stroke cycles, vaporisation and carburation. The value of compression.

*Carburettors.*—Essentials in the design of a good carburettor; various types in use.

*Engines and details.*—Materials used for construction; single and multiple cylinders, various types of motors for cycles, light cars, heavy cars, and road vehicles generally; power, speed, weight, &c.; position of engine; cylinder and piston details, combustion and clearance chambers; cooling of cylinder, pistons and piston rods, connecting rods and crank shafts; body of engines and methods of attachment to cars, valves, lifts, regulation, &c.

*Ignition devices.*—High and low voltage; electro-magnetic induction, the induction coil and construction of trembler and non-trembler coils; magneto-ignition, primary batteries and small accumulators and testing; the wiring of one or more cylinders for high and low voltage.

*Silencers for exhaust.*

*Lubrication and lubricants.*

*Transmission gear and gearing.*—Chain drive, live axle, and cardan shaft drive; bevel and worm gearing; speed gearing of varying types. Steering gear. Friction clutches—cone, disc and expanding ring.

*The chassis.*—Frames and suspension springs; brakes, &c.; wheels; axles; tyres.

Steam cars and steam generators, fuels and special burners, and other auxiliaries necessary for complete vehicles.

#### CASES AGAINST MOTORISTS.

AT the Retford Borough Police Court, Albert Farnell, of Bradford, has been charged with driving a car at a speed dangerous to the public, and in a manner dangerous to the public, on the North Road, Retford. Inspector Hampson was on duty on the North Road about 10.20 in the morning of the 15th ult., when he saw a car coming towards him, numbered A.K. 57. The speed would be quite thirty miles per hour, and probably nearer forty. He did not time the car, but considered himself a good judge of speed. Defendant was sworn, and stated that he represented the Daimler Company in Bradford, and had driven every type of motor-car since they were first introduced into this country. He drove in the 1,000 miles trial. He had also driven in various hill-climbing competitions, and was probably one of the best drivers in England. On this particular day he was driving from Bedford to Nottingham, and was then going on to Melton Mowbray. He should say, when stopped by the constables, he was travelling from twenty to twenty-five miles an hour. There was absolutely nothing in the road, and there was no danger to anyone. For the defence Mr. Thomas submitted that no danger to the public had been proved, and therefore he had no case to answer. Danger did not consist in the actual speed of the car but in the conditions of the road and the traffic where the car was driven. Defendant was fined £5 and costs in each case. Mr. Thomas protested against two fines being inflicted for practically one offence. No evidence had been offered as to the manner in which the car was driven.

AT Broxton (Cheshire) Police Court, Samuel Corpe, 96, Hammer-smith Road, London, was fined £5 and costs for exceeding the speed limit along the Whitechurch road. The police trap extended over fourteen miles, constables being placed at intervals along the road. They stated that the defendant travelled from Tushington to Broxton at the rate of thirty-one miles an hour, and from Broxton to Rowton at the rate of thirty-five miles an hour. The rate of speed for the fourteen miles was thirty-two miles an hour.

AT the Shoreham Petty Sessions, on Monday, five motorists were fined sums ranging from £5 to £8 for exceeding the speed limit.



# THE Motor-Car Journal.

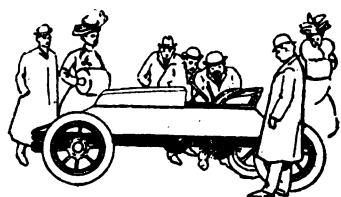
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## COMMENTS.



WE are glad to learn that the Motor Union have decided to convene a representative conference to consider the Report of the Royal Commission on Motor Traffic and the proposals for further legislation and additional taxation in regard to motor-cars which have been made in various quarters. The conference will be held on

the afternoon of November 14th at the Hotel Great Central, Marylebone, N.W. The chairman and honorary secretary of all the provincial clubs affiliated to the Union—eighty in number—as well as the 125 honorary correspondents of the Union throughout the country, will be invited. A representative gathering will thus be secured, and a definite decision will probably be arrived at as to the attitude to be taken by the organised motorists of the United Kingdom towards the recommendations of the Royal Commission.

### Cases Against Motorists.

How motorists have contributed to the county funds, provided opportunity for the display of prejudice on the part of J.P.'s, and assisted the police to find a new recreation in lonely lanes and secluded roads, only those who have followed the reports of cases in the courts can adequately comprehend. Here and there special sittings are frequently held to dispose of unusually large batches of cases, while the clerks to the magistrates feel that something has gone awry when motorists are not among the defendants. With regard to the reports of cases, they so frequently contain repetitions of points fairly well known that latterly we have only dealt with those in which novel or knotty questions arise. It will be seen that this week we have revised our method of publication of legal cases, now dividing them according to the section of the Motor Car Act under which they occur. The policy, however, of dealing only with those involving points of general interest, those in which the penalties seem excessive, or where there seems good cause for prosecution, will be continued. Readers throughout the country are invited to keep us informed of any special cases occurring in their districts, should these happen to be outside the areas covered by our regular correspondents.

### Motor-Car Imports and Exports.

WITH the turn of August an easing off in the importation of foreign-built cars into this country is usually experienced, and September last, while showing an increase over the same month of last year, proved no exception to the rule. According to the returns now available no less than 408 cars, valued at £186,446, were imported during last month; parts were responsible for a further sum of £128,179, giving a combined total of £314,625, which compares with only £256,969 in September, 1905. As regards the imports during the first nine months of the current year, these have amounted to 4,821 cars, worth £2,009,533, and parts to the extent of £1,430,097, the

aggregate of £3,439,630 contrasting with only £2,698,251 in the first nine months of last year, or an increase of roundly £741,000. Turning now to the exports of British motor-cars and parts, these, during August, amounted to £89,506—the largest so far recorded in any one month. For the first nine months of 1906 the shipments comprised 829 cars, valued at £294,821, and parts estimated at £215,445, the total of £510,266 representing an increase of £216,702.

### Local Club Competitions.

AGAIN the question of the presence of trade competitors in local club competitions has cropped up, and Mr. Charles Jarrott suggests that club competitions should be confined to members of the organisation living within a twenty miles radius of headquarters, and that every car taking part in a club event should be the *bona-fide* property of the owner, who should have owned it for a certain period, say, one month, prior to the event. The day, he thinks, will possibly come when automobile sport will cease to exist, but at the present moment it answers a very useful purpose in stimulating interest amongst users, and while it is possible it should be fostered and encouraged in every proper way. Stringent laws should be devised to govern these events, and to assist the various provincial and local clubs, who have not had the same experience with competitions as the parent Club has had, as to the course to be adopted by them to secure fair treatment for their members in club events.

### Post Office Motor Vans.

THERE is little doubt that the Post Office has got beyond the experimental stage with regard to its motor-vans, and the leading officials have been convinced as to the efficiency of the services in which the automobile plays part. Within the last few weeks it has been decided to considerably extend the service, with the result that the railway companies may find a decrease in the amount of their Post Office work ere long. Motor mail vans are now running from London to Hastings, Brighton, Eastbourne, Redhill, Epsom, Epping, Romford, and Hitchin—to mention only those that have succeeded in the south. The time is rapidly coming when they will be almost universally employed.

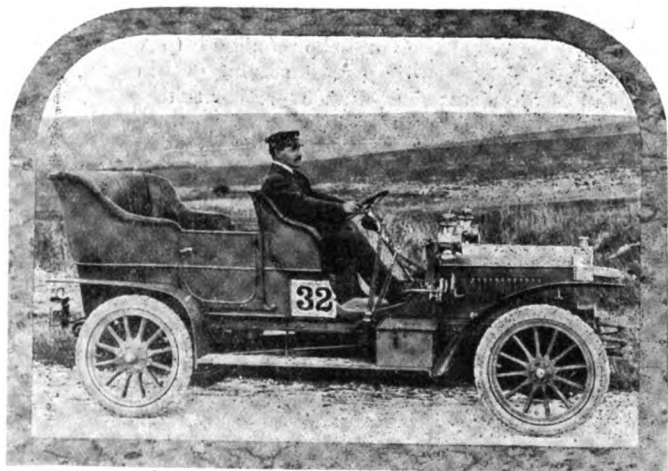
### The Argyll's Ill Luck.

THE reply of the Argylls Motors, Ltd., to the letter of Mr. J. W. Orde with reference to the advertisement in which the Scotch car was mentioned as second in the Tourist Trophy race is so clear and satisfactory that it may be regarded as the last word on the subject. An authoritative statement of what really happened will be of general interest. In the third round, one of the sandbags was actually thrown over the side of the car owing to the excessive roughness of the road. This in itself was sufficient to disqualify the car under the rules of the race, and demonstrates the enormous hammering which the floor boards must have been subjected to. In the fourth round, when running without ballast, Mr. George had to change his gears at approxi-

mately the same places in climbing the mountain, and there was no obvious difference in the speed of his car. Tourist cars are not designed to carry sandbags and the public do not require them for this purpose. Obviously, had there been two passengers in the back seat, the Argyll might have finished second without any disqualification. The question, however, remains as to the desirability of securely fastening dead weight in future competitions. As things are Mr. A. Govan has suggested that he should be allowed to advertise "Argyll finished second, but was disqualified through floor boards breaking and losing ballast."

#### The Town Motor Carriage Competition.

THE Town Motor Carriage Competition, under the auspices of the Automobile Club, will be held on Monday next, at the Wolseley-Siddeley garage at York Street, Westminster. Visitors interested in the trial will be admitted, on presentation of card, to the gallery which runs round this large building. In this way the event will be in the fullest sense public, while at the same time the Club officials will be able to carry out their duties entirely without hindrance, no persons other than officials being allowed on the floor of the building. Last week we gave the entries in this competition, which has attracted nineteen makes of car



Mr. J. Percy Dean, on the Scout Car on which he finished ninth in the Tourist Trophy Race. As will be seen, the vehicle is fitted with an actual touring body.

#### Our Photographic Competition.

IN our next issue we hope to publish the photographs which gained the prizes in our recent Competition. Meanwhile it will be of interest to competitors to know that they have been awarded to Miss M. Davy, "Copyhold," Cuckfield, Sussex (first prize of one guinea) and Miss E. N. Fisher, of Steinhilme, Warlingham, and Mr. J. Southey, "Clovelly," St. Ronans Road, Southsea, to each of whom a prize of half a guinea will be sent.

#### Emancipation Day.

NOVEMBER 14th next, being the tenth anniversary of Motor Emancipation Day, will not be allowed to pass unrecognised. The celebration will be confined to the actual pioneers of the industry, with the exception of invitations to distinguished guests for the meeting at the Hotel Metropole, London, followed by a run to Reigate, and luncheon at the White Hart Hotel—as on November 14th, 1896. The afternoon will be left to the formation of impromptu parties, &c., and the return to London will be made at the general convenience of participants and guests. In the evening a dinner will take place. For the purpose of the present reference the term "pioneer" is held to

include the following:—(a) Those who rendered the industry service in obtaining the repeal of the prohibitory statutes, (b) those actually engaged in a reasonably responsible position in the design, construction or manufacture of motor-cars on or prior to November 14th, 1896; (c) those who were engaged (again in responsible positions) in journalism devoted to the movement; (d) those owning or driving motor-cars on or prior to November 14th, 1896; (e) those who actually participated in the run to Brighton on November 14th, 1896. Messrs. Charles Jarrott and C. M. R. Turrell are hon. secretaries of the organising committee.

#### Non-Skidding Devices.

THE coming of cooler days and longer nights heralds a period of wet and greasy roads in many towns where tram lines add to the worries and perplexities of the motorist. Many drivers, fearing the risks and dangers of sideslips, are already seeing that their non-skids are in good order, while the recent introduction of some new types is evidence of the makers' desire to supply the demand. It would be of service to motorists generally if those who have had experience of these devices would contribute some impressions to our Correspondence columns, which are always open to the practical side of motoring as well as the interesting or theoretical aspects of the industry.

#### Notice of Prosecution.

EVEN magistrates are beginning to recognise the imperfections of the present motor-car law, and we are glad that Dr. Wright, of Halifax, who was fined £3 and costs at Huddersfield for driving a motor-car at the rate of 26½ miles per hour, pointed out to the Bench the unfairness of police methods, inasmuch as, not having been stopped at the time of the alleged offence, he had no opportunity of making a defence. The chairman of the magistrates agreed with much that the doctor urged, and said that he and his colleagues were of opinion that some plan should be devised in cases of that kind where parties, having passed measured distances, should be notified that they had been timed. Motorists had no chance of defending themselves. This is one of the peculiarities of the position. Motorists charged under Section 1 of the Act have no time limit; apparently they can be served with summonses weeks after the incident alleged to have taken place. On the other hand, in the case of those entrapped in "police controls" notice of the intention to prosecute must be sent within twenty-one days. Even this is too long an interval, and when motorists are alleged to have committed an offence when at a distance from home, injustice may easily be perpetrated.

#### The Necessity for Watchfulness.

THE holiday season is nearly over, and the time for consideration of the Motor-car Commission's report by the motoring organisations cannot be far off. Already the highways leagues and other associations of an unfriendly nature are cogitating on the subject, and many of the councils are advising their M.P.s on the matter, while a conference of all the rural and urban authorities of Cheshire will be held at Chester on the 13th inst. to consider the report and to make representations thereon to Parliament. Each council is invited to send two members. This is the beginning of an important movement that is likely to spread throughout the country. Local clubs should watch the deliberations at these gatherings and be prepared to reply to their conclusions where necessary.

#### The Storage of Petrol.

INCITED thereto by recent accidents to persons who have been using petrol in drying and cleaning, the L.C.C. is now engaged in a vigorous campaign wherever petrol is stored, and, from what we hear, it is evident some lessons are to be taught the careless people who disregard rules and regulations. Unfortunately, in most cases which come before the courts—and

a goodly number are said to be on the way thither—the punishment falls, not upon the person directly responsible, but upon someone whose instructions have generally been disregarded. This is the unfortunate part of the matter; at the same time it should be sufficient warning to all who store petrol to take care that their assistants realise the dangers, and are prepared to avoid the risks incidental to the storage of that spirit.

#### Railway Traffic.

SCOTCH railway passenger traffic during the past season has not continued the progressive advance that delights those responsible for the management of the lines. The extraordinary increase in the number of motor-cars going north is the reason assigned for this by Sir David Stewart, the Chairman of the Great North of Scotland Railway Company. Before the

the five miles' distance that has sometimes been favoured in Hertfordshire is the longest recorded up to the present.

#### Progress in Australia.

WE learn from one of our correspondents in Australia that the Brisbane Municipal Council have decided to carry out a six months' street watering trial by means of motor vehicles, those of the Yorkshire Patent Steam Wagon Company having been selected for the purpose. If at the end of the period the scheme proves successful the vehicles will be purchased outright, and further developments made in other directions. Until about three months ago there were no bye-laws under which motor-cars could run on public roads in Queensland, so that progress has been somewhat delayed. Another obstacle that stands in the way of any great business being done is the



Miss Mercedes, after whom the Mercedes cars were named, at the wheel of Herr Dreher's 120-h.p. Mercedes car, which made the fastest time in the recent Hill Climbing Competition up the Semmering, near Vienna.

[Allgemeine Automobil Zeitung.]

shooting season commenced the number of automobiles that passed one signal-box on the way north averaged thirty per day, most of them from England. That means a shrinkage in the first-class traffic receipts, which Sir David hopes will find partial compensation from the good advertisement which these motor travellers are likely to give northern Scotland among their friends. In that way there is hope.

#### A 14-mile Trap

ARE police traps being lengthened? The question is suggested by the confession of the police in a Cheshire police court. A motorist was charged with exceeding the speed limit along the Whitchurch road. It was said that the police trap extended over fourteen miles, constables being placed at intervals along the road. This is a new form of trapping, and one that we have not yet experienced in the south, where

cheapness of horses, which are sold at prices ranging from £5 to £8. Then, too, there is the duty, which adds about 40 per cent. to their cost in the country of origin. There are, however, several active automobile organisations in the colony, and on the 1st ult. the Automobile Club of Australia held a hill-climb at Sydney, when a 10-12-h.p. Clement-Talbot car was first out of eighteen competitors, the driver being a lad—K. Winchcombe—only sixteen years of age.

THE Hutchinson tyre, the London agency for which is at 13, Maddox Street, W., is of the beaded edge type, the rubber and fabric employed being of particularly durable quality, combined with sound principles of construction. Users who have had them in use for some time have been able to testify as to their immunity to cuts and the consequence of riding over rough places.

## THE BLACKPOOL MEET.

**A**LTHOUGH so late in the season, the Blackpool Automobile Meet promises to be a success. The sensational reports which have been set afoot as to disputes between the local organisation and the central bodies may be dismissed. That these should have obtained credence in print is really surprising. Owing to the uncertainty that prevailed in consequence of the application for an injunction the A.C.G.B.I.'s authority could not be invoked till somewhat late, and then a special permit for the meeting to take place was accorded.

Tuesday, Midnight.

Although just now one of the busiest of men, Mr. Huntley Walker, the chairman of the Blackpool Motor Meet, granted an interview with a representative of the *M.C.J.* at the Hotel Metropole, Blackpool, this evening. He gave the assurance that no trouble whatever existed between the officials of the Meet and the Automobile Club in London. A slight difficulty had arisen with regard to the closing time for entries, but upon a representation being made from the Committee at Blackpool, the time had been extended to Tuesday midnight. Regarding the entries these had not all been entered up, but the number was consider-



Mr. A. Huntley Walker, President of the Blackpool Automobile Club, the organising body for the Blackpool Races, at the Wheel of his Darracq Car.

ably in excess of 300—far away the biggest entry in any motor meet yet held in this country. Mr. Walker was sanguine in anticipation of a most successful meet.

The entrance fees up to Tuesday morning amounted to £1,000, and an important decision arrived at at a meeting of the Executive on Monday night was that no part of the receipts from entrance fees, should be spent in any way to which the slightest objection could be taken, and that the necessary entertainment of officials and specially invited guests, &c., would be provided for by a fund voluntarily raised.

Among the principal drivers who will take part in the meet are Mr. A. Lee Guinness, with a 200-h.p. Darracq; Demogeot, who made the world's record for the mile in Florida, with a 120-h.p. Darracq; Gabriel, 120-h.p. De Dietrich; Messrs. Du Cros, 130-h.p. Mercedes; Pope, 110-h.p. Itala; Warwick Wright, 100-h.p. Darracq; Cecil Edge, 90-h.p. Napier; Baker, 120-h.p. Fiat; and Huntley Walker, 80-h.p. Darracq. Tessier, who holds important motor-cycle records, is also said to be a certain competitor, and in the motor-'bus section the following are entered:—Two Darracq-Serpollets, one Fiat, one Ryknield, one by the Lancashire Steam Co., and two Critchley-Norris vehicles.

Wednesday.

An important piece of news comes in the report that Wagner, who covered 297 miles in 290 minutes in America on Saturday, is a possible competitor. Had he sailed immediately after the great race such would have been possible, but his presence is certainly problematical, although assurances on the point were freely given yesterday.

Many powerful cars have already arrived, the hotels are filling, and local enthusiasm is being aroused to a high pitch of enthusiasm.

## MOTOR-BUSES AND THE PREVENTION OF SKIDDING.

**O**NE of the problems that is urgently awaiting a solution, in connection with the rapid adoption of motor-'buses, is that of preventing their tendency to skid on greasy roads. Hardly a week passes without some device having this object in view being brought to our notice, the latest being that which has been invented by Dr. Wallis, of Staines, and which is being introduced by Mr. T. H. Wright, of 29A, Charing Cross Road, London, W.C. The arrangement, which has been experimentally fitted to a Leyland 'bus, has this week been subjected to trials in London, and has, we understand, received the approval of the Scotland Yard authorities. The apparatus is of an exceedingly simple character. A light two-wheeled trailer, which is connected by a ball-and-socket joint to the casing of the differential, runs behind the centre of the back axle; a small cross-bar on the trailer is attached at each side by means of Bowden wires to two sand boxes under the seats inside the 'bus. When the vehicle skids, the trailer, being independent in its movements, remains in a normal position. The jerk on the attachments, however, opens a valve on the side where the skid occurs, causing a stream of sand to shoot out under one of the wheels, instantly arresting the skid. We went for a short trial run on Wednesday morning on the 'bus in quest of a "skiddy" road, but unfortunately did not meet with success. Dr. Wallis, however, informed us that on the previous day, when the roads were in a more greasy condition, the device fully proved its efficiency, and as a result several of the motor-'bus companies have already decided to give the device a trial.

A COMPANY has lately been formed at Fielding, New Zealand, to establish a service of motor-omnibuses in the town.

MESSRS. CHARLES WINN AND CO., St. Thomas Street, Birmingham, are making several specialities for motor-cars, including a patent mechanical oil distributor.

DOUGILL'S ENGINEERING, LTD., have sent us a photo of a Frick car they have recently built to the order of Mr. T. Palmer, of Leeds. The vehicle is of the standard short chassis double-cylinder type, with the exception of having a curved dashboard, which adds much to its appearance. The transmission mechanism is of the Frick friction type, which gives all speeds forward and reverse from zero to maximum, and a direct drive on any speed.

THE task of adjudicating upon the "Motor House" Tourist Prize competition proved no light one, owing to the many hundred entries from all parts of the United Kingdom as well as the Isle of Man. Curiously enough no single competitor selected the first three winners in the exact order of precedence in the race, so that there has been no claimant for the first prize of a 6-h.p. Clement car. Less than a score of competitors gave the correct winner, and only one the first and second in the official order of the finish, he being Mr. C. J. Webb, of Wandsworth Common, S.W., who gave the Rolls-Royce No. 4 as first, and Berliet No. 23 second. The third and fourth prizes were those awarded to competitors whose estimate of the miles per hour most nearly approached that made by the winning car—Miss M. Lloyd, Merton Road, Bootle, Liverpool, who gave 39½ miles per hour, and Mr. W. H. Roberts, Tyn-y-Coed, Church, Rhyl, whose estimate was 38½ miles per hour.



## THE VANDERBILT CUP RACE.

THE third annual contest for the Vanderbilt Cup was run off in the United States on Saturday last in the presence of a vast concourse of interested spectators. The course, which was located on Long Island, started and finished at a point near Mineola, whence the cars went east on the Jericho road, then north, and finally west and south until Mineola was again reached. The course measured 29.71 miles, and was covered ten times, giving a total of 297.1 miles, as against 283.2 miles in 1905. The eliminating contest for the American team was held on the 22nd ult., when the best time—5 h. 27 min. 45 sec.—was made by Tracy on a 90-h.p. Locomobile, the next two places being taken by Le Blon (Thomas) and Harding (Haynes). Although they did not finish, Lytle (Pope) and Christie (Christie) made the next best performances, and were selected to complete the team to represent the United States. Afterwards an objection was made to Lytle on the ground that his car was towed for some way during the trials, and after an inquiry he was disqualified, his place being taken by Lawwell on a 110-h.p. Frayer-Miller.

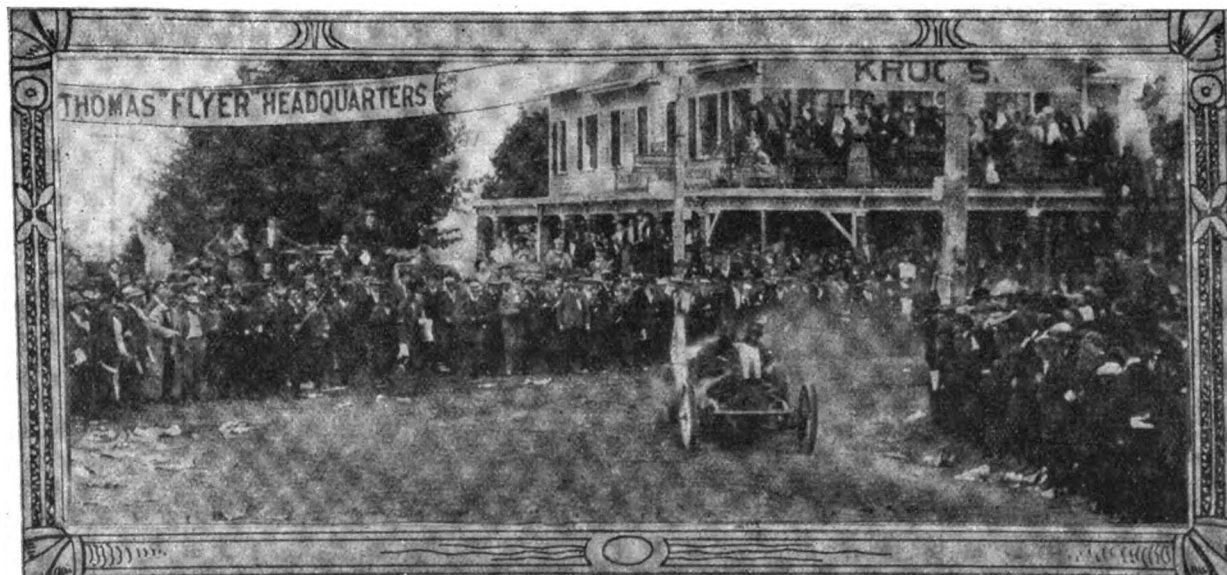
## THE COMPETITORS AND ORDER OF STARTING.

No.	Driver.	Car.	Country.
1.	Le Blon	115-h.p. Thomas	America

who did it in 28 min. 36 sec. Out of the seventeen competitors sixteen succeeded in completing the first round in the following order:—

Driver.	Car.	Time.
		M. S.
Wagner	Darracq	28 36
Jenatzy	Mercedes	30 2
Duray	De Dietrich	30 18
Lancia	F.I.A.T.	30 27
Nazzaro	F.I.A.T.	30 41
Clément	Clément-Bayard	31 21
Shepard	Hotchkiss	32 20
Lawwell	Frayer-Miller	33 34
Christie	Christie	34 7
Luytgens	Mercedes	34 32
Cagno	Itala	35 17
Tracy	Locomobile	38 48
Heath	Panhard	39 50
Fabry	Itala	41 28
Harding	Haynes	45 18
Le Blon	Thomas	51 32

The only one who did not complete the lap was Weilschott, who lost control of his Fiat at one of the curves. The car plunged down an embankment, through a fence, and dashed among the onlookers. A boy was thrown a distance of twenty feet and two other spectators are reported to have been injured. Weilschott and his mechanic were rendered unconscious.



The Eliminating Contest for the American Vanderbilt Cup Team.—Lawwell on the Frayer-Miller Car at Krug's Corner.

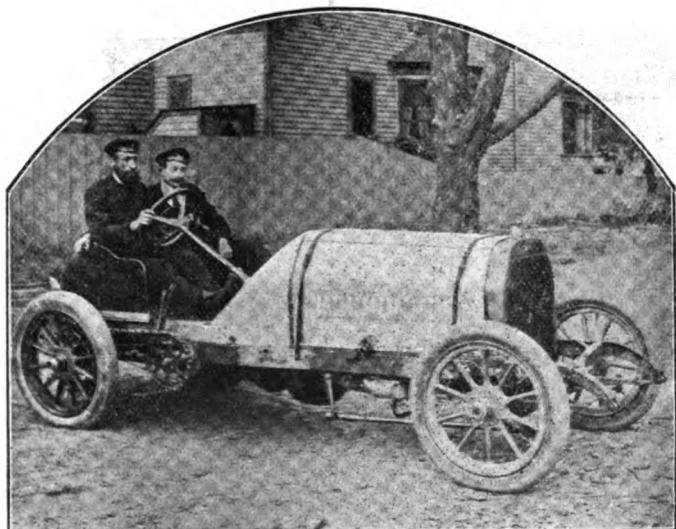
2.	Heath	120-h.p. Panhard	France
3.	Jenatzy	120-h.p. Mercedes	Germany
4.	Lancia	120-h.p. F.I.A.T.	Italy
5.	F. Lawwell	110-h.p. Frayer-Miller	America
6.	E. F. Shepard	130-h.p. Hotchkiss	France
7.	Luytgens	120-h.p. Mercedes	Germany
8.	Nazzaro	120-h.p. F.I.A.T.	Italy
9.	Tracy	90-h.p. Locomobile	America
10.	Wagner	100-h.p. Darracq	France
12.	Cagno	120-h.p. Itala	Italy
14.	Harding	60-h.p. Haynes	America
15.	A. Clément	100-h.p. Clément-Bayard	France
16.	Weilschott	120-h.p. F.I.A.T.	Italy
17.	Christie	60-h.p. Christie	America
18.	Duray	120-h.p. De Dietrich	France
19.	Fabry	120-h.p. Itala	Italy

As will be seen from the table, there were seventeen competitors, No. 11, Foxhall-Keene on a Mercedes, withdrawing at the last moment, and the No. 13 not being allotted, it being deemed unlucky. The start was fixed for 6 a.m., but, owing to fog and a wet track, it was not till 6.30 that Le Blon was dispatched, the others following at minute intervals. Jenatzy was the first to complete the initial lap, his time for the circuit being 30 min. 2 sec., but this was easily eclipsed by Wagner,

Wagner maintained a terrific speed and completed the second round in 56 min. 22.5 sec., Lancia (Fiat) and Jenatzy (Mercedes) being second and third respectively. The position remained unchanged in the third round, which was completed by Wagner in 84 min. 19.5 sec. Fifteen competitors completed the fourth circuit Lawwell (Frayer-Miller) having retired owing to a collision with a cyclist. The order and times at this point were:—

Driver.	Car.	Time.
		H. M. S.
Wagner	Darracq	1 52 21
Lancia	F.I.A.T.	1 57 13
Jenatzy	Mercedes	1 57 32
Duray	De Dietrich	2 0 27
Clément	Clément-Bayard	2 1 54
Shepard	Hotchkiss	2 5 21
Cagno	Itala	2 17 18
Nazzaro	F.I.A.T.	2 21 29
Luytgens	Mercedes	2 22 4
Heath	Panhard	2 27 11
Christie	Christie	2 28 36
Le Blon	Thomas	2 30 9
Fabry	Itala	2 31 11
Tracy	Locomobile	2 34 9
Harding	Haynes	2 38 55

The positions of the leaders remained unchanged at the half distance, although Lancia, in his fifth round, made a great effort and gained nearly four minutes on Wagner, who was now leading by less than a minute. The times were:—Wagner, 2 h. 24 min. 30 sec.; Lancia, 2 h. 25 min. 20 sec.; Duray, 2 h. 28 min. 53 sec.; Jenatzy, 2 h. 32 min. 6 sec.; Clement, who had been delayed by tyre troubles, 2 h. 38 min. 26 sec.; Shepard, 2 h. 39 min. 14 sec.; Nazzaro, 2 h. 50 min. 50 sec.; Luytgens, 2 h. 54 min. 48 sec.; Cagno, 2 h. 55 min. 38 sec.; Heath, 3 h. 0 m. 40 sec.; and Fabry, 3 h. 5 min. It was in this round that the fastest lap of the day was made, the honour falling to Tracy, who on his Locomobile covered it in the remarkable time of 26 min. 21 sec. Considerable excitement prevailed in the sixth circuit, when Wagner overtook Lancia and Jenatzy, thus obtaining a substantial lead. The round was, however, marred by a serious accident. Shepard, while traversing the Jericho turnpike, was suddenly confronted by a man who had stepped across the road. The driver wrenched at his steering wheel and swung the car to one side, but it was impossible to avoid striking the unfortunate man, and he was hurled a considerable distance, death being almost instantaneous. Tracy, on the Locomobile, was also involved in an accident in this lap. The course, which had been treated with an anti-dust preparation, was, owing to the rain, in



Le'Blon on the Thomas Racer he drove in the Vanderbilt Cup Race.

a dangerous condition, with the result that Tracy's car slipped badly at one of the awkward corners and ran into some spectators, inflicting such injuries on a young man as to necessitate the amputation of both his legs. The differential gear of the car being broken, Tracy was forced to abandon.

In the seventh lap Wagner still led easily, with Lancia and Duray close up. The struggle was an exceedingly keen one, especially when in the ninth round Lancia passed Wagner, and eventually finished first. Wagner, however, started six minutes behind his Italian rival, and was consequently the winner, the result being as shown below:—

Driver.	Car.	Country.	H.	M.	S.
1. Wagner	... Darracq	... France	.. 4	50	10 2.5
2. Lancia	... F.I.A.T.	... Italy	... 4	53	28 4.5
3. Duray	... De Dietrich	... France	... 4	53	44
4. Clement	... Clement-B.	... France	... 5	1	59
5. Jenatzy	... Mercedes	... Germany	... 5	4	38

Owing to the public having swarmed on to the course to such an extent as to render it dangerous, the authorities stopped the race, although Le Blon, Heath, Harding, Nazzaro, Fabry, and Christie were still running. Cagno is reported to have retired because of a burst cylinder and Luytgens with a broken clutch. Wagner's speed works out at an average of about 61.4 miles per hour as against the 62 miles of Hemery last year, and the 52 miles achieved by Heath in 1904.

The subjoined table gives an analysis of the result of the race as regards the teams of the competing countries:—

	No. of cars which started.	No. of cars that finished.	No. of cars still running when race was officially stopped.	No. of cars which retired.
France	5	3	1	1
Italy	5	1	2	2
America	5	—	3	2
Germany	2	1	—	1

As will be seen from the foregoing description, the race was marred by a number of serious accidents, the majority of which were due to the spectators themselves, who, despite all efforts to prevent them, persisted in swarming on the course. The authorities had erected 8 ft. high wide-meshed wire netting on both sides of the roadway for a mile near the grand stand, through which a perfect view could be obtained, but the crowd tore away the obstruction so that they could stand on the road, putting their own lives in danger and hindering the racers.

As a result of the accidents a meeting has been held by the race authorities, when it was decided to abandon the Long Island course, owing to its proximity to New York, which permitted so many spectators to be present. It is estimated that over 200,000 people witnessed the race.

## THE FORD FOUR-CYLINDER CAR.

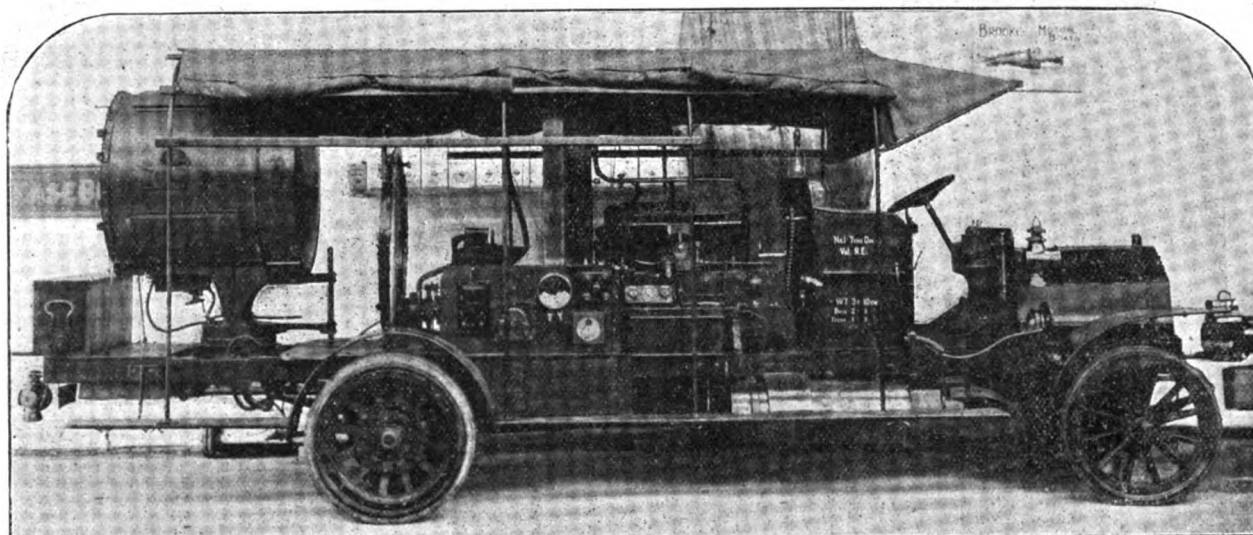
**A**FTER an unavoidable delay extending many months, the Central Motor Car Company, Ltd., of Long Acre, London, W.C., have at last received delivery of a number of the 15-h.p. four-cylinder two-seated cars which are now being turned out on a large scale by the Ford Motor Company, of Detroit, U.S.A. In view of the low price special interest attaches to the car from the point of view of the man of moderate means, who will now be able to enjoy the pleasures of riding behind a smooth-running multi-cylinder engine, from which he has hitherto been barred by the relatively high cost of four-cylinder vehicles. We gave an illustration and some brief particulars of the new car in the *M.C.J.* of February 24th last, but it may be of interest if we recapitulate the leading features. The frame is of pressed steel construction, the engine being located at the front end under a bonnet. The four cylinders are cast in two pairs, and the valves are all mechanically actuated off one cam shaft. A departure from the usual arrangement is found in the fact that the flywheel is fixed on the forward end of the crank shaft, its arms being formed to act as a fan in drawing a current of air through the radiator. The change-speed gear is of the planetary type, so largely used in American-built cars; it is arranged to give two speeds forward and a reverse, the drive on to the rear axle being through a cardan shaft and bevel gear. Two brakes are provided, both operated by pedals; the road wheels are 28 in. diameter, shod with 2½ in. tyres. The steering is controlled by an inclined hand wheel, and an unusual feature is the location of the reduction gear at the upper instead of the lower end of the column, the ease of adjustment being in this way, it is claimed, increased. Another noteworthy point is the suspension; at the rear the frame is supported on the axle by double-elliptical springs, and at the forward end by a semi-elliptical transverse spring, and we may add that three-point suspension is adopted, both for the engine and change speed mechanism. We had a short run on one of the new cars on Tuesday last, and were much struck with the flexibility of the engine, which is such that it is possible to crawl along on the top gear at a rate as slow as four miles per hour, the motor responding to the slightest touch of the throttle lever. Later on we hope to give the vehicle a long test in the country, when we shall be able to speak of its speed on the level as well as of its hill-climbing capabilities.

H.R.H. THE DUC DE MONTPENSIER has purchased the 130-h.p. De Dietrich racing car on which Gabriel was classed fifth in the recent Circuit des Ardennes.

## AN AUTOMOBILE SEARCHLIGHT.

WE are able this week to give an illustration of the Portable Motor Searchlight equipment built by Messrs. J. W. Brooke and Co., Ltd., Lowestoft, in the spring of the year to the order of the Tyne Division (Vol.) Royal Engineers. Since completion this outfit has been through severe trials, and has proved a distinct success, never yet having had a failure with the exception that in the first instance twin 3 in. tyres were fitted to the back wheels and had eventually to be altered to twin 5 in. During the naval manœuvres it rendered special service at Portsmouth and Stokes Bay, and was useful for field work at Salisbury during night attacks. Its usefulness has also been fully demonstrated at Aldershot, and it is now stationed at Clifford's Fort, North Shields, the headquarters of the Tyne Division of the Royal Engineers.

The chassis is built up of steel channels with the necessary cross members of the same dimensions. The wheelbase is 12 ft. and the track 4 ft. 8 in. The motive power is supplied by an 18-h.p. Brooke four-cylinder motor, with low tension magneto and high tension electric ignition, driving through a leather-faced cone clutch to a three-speed gear-box, giving twelve miles per hour on top speed. The generating dynamo developing 200 amps. at 80 volts is coupled direct to a 35-h.p. Brooke four-



General View of the Automobile Searchlight Plant built by Messrs. J. W. Brooke and Company, Ltd.

cylinder motor, also having duplicate ignition, and cooled by independent honeycomb radiator with large fan. The petrol supply is carried in two large circular tanks, one at each side of the car, and so arranged in duplicate, as is the whole outfit, that the light can be kept running and one tank filled whilst the other is in use. This duplication applies to accumulators, strainers, pressure valves, pressure pump, &c. The advantage of the two separate engines lies in the fact that whilst the generating motor can be adjusted, and when this engine is in operation any adjustment can, of course, be made to the propelling motor.

The projector itself is of the hand-fed type, 36 in. diameter—the largest size used—and a spare lens, as will be noticed, is carried in a frame between the dynamo and projector. Future outfits are being improved, inasmuch as the projector is being carried in a trailer that can be detached and got into otherwise inaccessible positions, the cable drum being carried on the main equipment, and in addition a distributing board is being arranged in order that two or three 18 in. projectors may be run instead of the one 36 in.

THE Albion Motor Car Company, Ltd., has received a repeat order from the Gareloch Motor Service Company, Ltd., for another 16-h.p. Albion char-a-banc.

## CONTINENTAL NOTES.

### Motoring Pilots.

The varying rules and regulations with regard to motoring which obtain in Switzerland are said to have given rise to a new occupation—that of guides or pilots to motorists, who station themselves at the customs-houses on the frontier and offer their services to visitors to point out the best roads, give intimation as to the local motor-car regulations, and to conduct the party to the places of note in the district.

### The French Motor-Car Industry.

At a meeting of the *Chambre Syndicale de l'Industrie Automobile* in Paris last week, it was announced that the exports of motor-cars from France during the eight months ending with August last had attained a value of £3,612,880, an increase of about £880,000 over the corresponding period of 1905.

### Public Services in Germany.

A proposal to establish a public motor-car service between Malchow, Rabel, and Teterow is at present under consideration. The Bavarian Government has approved the scheme for the starting of a motor-car service between Straubing and Stallwang. One has also lately been commenced between Lilienthal, Borgfeld and Horn.

### More Speed Trials in France.

*Les Sports* is organising a series of kilometre speed trials, both on a hill and on the level, for the 4th prox. The event will be held at Origny-Sainte-Benoite, about six miles from Sainte Quentin.

### A French Motor-Cycle Reliability Trial.

The Moto-cycle Club de France is organising a 1,000-kilometre motor-cycle reliability trial; the event is to be divided into three stages and will be run off on the 30th and 31st inst., and on the 1st November; classes will be provided for voiturettes, tri-cars, motor-bicycles having a cylinder capacity of one-third of a litre, and light motor-bicycles.

### Miscellaneous Items.

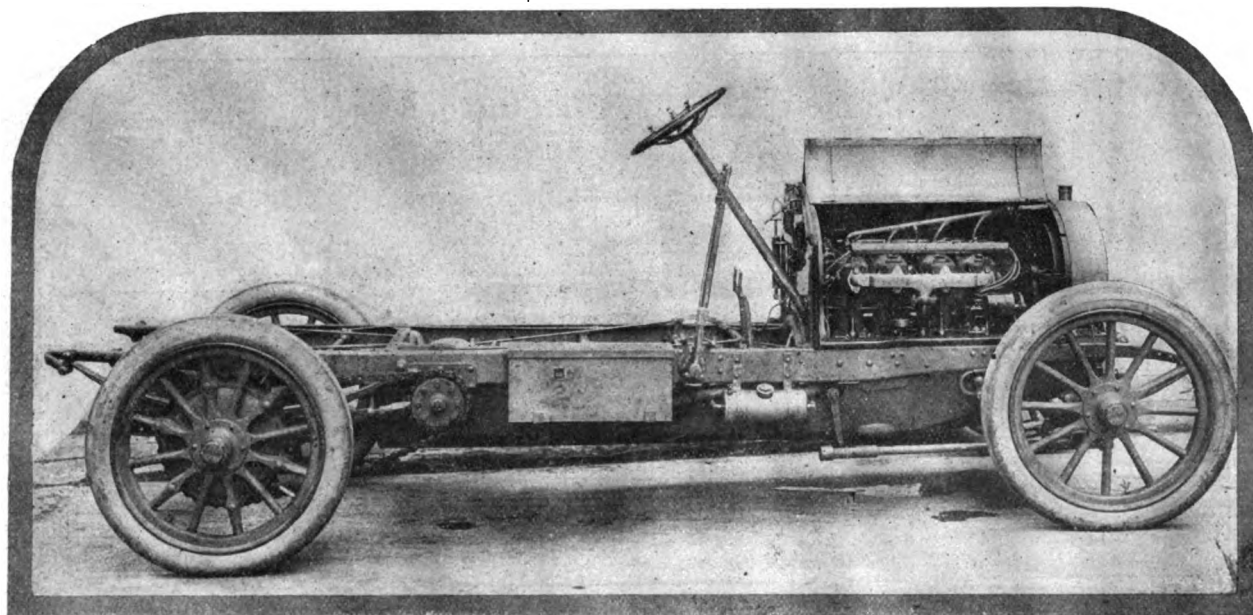
In order not to clash with the Gaillon hill-climb, the Auto-cycle Club de France has postponed its Grand Prix motor-cycle race from the 28th inst. to the 11th November.—The German military authorities are reported to be making a census of the motor-cars in the country which would be available in time of war.—A motor-car exhibition is to be held in Madrid in May next.—The *Alba Automobilwerke Gesellschaft* is the name of a company which has just been formed to establish a large motor-car factory at Trieste, Austria.

## THE LEON-DUSSEK 24-30-H.P. CAR.

WE are able this week to give an illustration of the 24-30-h.p. Leon-Dussek car which has recently been put on the British market by Motoria, of Hanover Square, London, W. The vehicle, which is of French construction, has a pressed steel frame, narrowed in front to increase the lock of the steering wheels. The engine, which comprises four separate cylinders 110 mm. bore by 130 mm. stroke, has the inlet and exhaust valves arranged on opposite sides, all being mechanically actuated. The mixture is furnished by a pressure-fed Krebs automatic carburettor, while two systems of high-tension ignition—magneto and accumulators—are provided. The water circulation is maintained by a gear-driven pump and a frame ribbed-tube radiator of a distinctive shape. A large belt-driven fan is also provided to draw a current of air through the radiator. The lower half of the crank case is so fitted that it may be detached to give access to the big ends, without disturbing the bearings in any way. Lubrication of the engine is maintained by pressure, any excess of oil in the base chamber being returned to the oil reservoir. The cone clutch is furnished with springs under the leather to allow the load to be taken up without shock. A double universally-jointed shaft connects the

## PETROL LEAKS AND THEIR DANGERS.

THERE is one point in connection with motor-cars to which too much care cannot be given; we refer to the possible development of petrol leaks, which are to be avoided not only on account of the loss of fuel, but because of the danger of fire which they involve. An occasional glance under the vehicle, when it is at rest, with the engine stopped and the petrol still turned on, may prove profitable. The fuel tank should also be inspected to see whether it has become leaky, through the opening of its seams by vibration, or whether the union connecting the pipe to the tank is leaking or not. The tanks of some of the cheaper classes of cars are made of galvanised iron. When this is the case, the drops of water which are almost inevitably taken in with the spirit remain upon the tank bottom and finally rust it through. When a leak due to this cause has developed, it is practically no use to solder it, as other holes will appear in a short time. It is better to discard the tank entirely and replace it by a strongly-made one of heavy-gauge copper. The petrol pipe should also be examined for leaks, and similarly the union which connects it to the carburettor float chamber. This pipe should have sufficient slack in it to prevent its being strained under any conditions, and may well comprise a coil, of



View of Chassis of Leon-Dussek 24-30-h.p. Car.

clutch with the gear-box, which latter is adapted to give four speeds and a reverse. The various gears are controlled by a single lever, which, while working in a "gate" quadrant, has a rocking instead of a sliding motion, by means of which the operation of changing gear is facilitated. The gear-box is of a relative large size, all the shafts within it running on ball bearings. In the car illustrated the final drive is by side chains, but it can also be supplied with cardan shaft transmission on to a live axle. The brakes are of the metal-to-metal type, the foot-controlled one contracting on a drum on the differential shaft, while those on the rear wheels, and operated by a hand lever, expand inside drums attached to the hubs. The car has a wheel base of 9 ft., so that any type of side-entrance body can be fitted.

We may add that two other sizes of the Leon-Dussek cars are being made—16-20-h.p. and 35-45-h.p. Both have four-cylinder engines, the dimensions of the former being 95 mm. by 120 mm. stroke, and of the latter 135 mm. by 140 mm., the normal speed being 1,000 revolutions per minute. In general arrangement they follow the lines adopted in the vehicle above described, and will well repay inspection at the hands of those seeking a reliable and well-built car at a reasonable price.

one or two turns, to render it flexible under the strains of service. It should not be so placed as to come in contact with any other part of the mechanism which might abrade it and in time cause a small hole. If any of the unions are found to leak they should be disconnected, the ground surfaces wiped perfectly clean and given a coating of white soap, which will be found to stop light leaks. If, however, this expedient is ineffectual, the bearing surface will have to be ground in with fine emery and rouge or whiting. Finally, we may add that the soldered connections of the petrol pipe to its unions will bear watching from time to time. If the precautions we have mentioned are taken, there should be little danger of fire due to petrol leakage, with the attendant risk of the destruction of one's car.

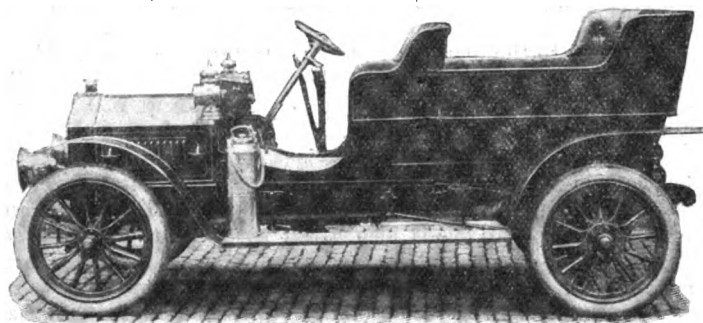
MR. WALTER GRAHAM, of Brixton, writes that "it is now about eighteen months ago since I purchased a 9-h.p. Jackson car, and I estimate that during that time I have done somewhere between 15,000 and 16,000 miles, failing once only through the accumulator running down. The engine is running now as well as ever, and the gear, which I have had taken out and cleaned, I find in perfect condition."



THE Woodstock Manufacturing Company, of Bristol Street, Birmingham, have been appointed agents for the Clyde cars in that city.

FOUR motor buses are being acquired from the Lancashire Steam Motor Company, Ltd., for the Todmorden Town Council. They are to be tyred by the Shrewsbury and Challiner Tyre Company, Ltd.

THE illustration reproduced herewith depicts the Heron car just supplied by the Heron Motor Co. to the Birmingham Corporation Fire Brigade, for inspection purposes and emergency work. The car is a special one throughout, and is both longer in the frame and wider than usual, in order to give



accommodation for a roomy tonneau. In fact, it is more like a wagonette, as there is room for three persons on each side, with ample knee space. The extra seats are removable, so converting the tonneau into an ordinary one, and affording accommodation for carrying gear, &c. Two hand fire extinguishers form part of the equipment. The engine is a 14-h.p. Aster, and the transmission through a strong gear-box, giving three speeds forward and reverse, to a cardan shaft and rear live axle.

MESSRS. A. C. CROWDER AND CO. have added facilities for the repair of tyres to their establishment in the Addington Road, Bow, E., where they are able to undertake repairs to cars, &c.

MESSRS. W. JESSOP AND SONS, LTD., are extending their premises at the Brightside Works, Sheffield, in order to cope with their increasing business, more particularly in crankshafts, axles and gear blanks.

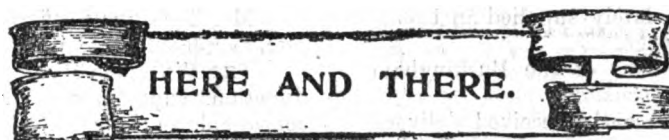
MR. J. H. BELCHER is responsible for the curriculum of the Technical Institute, Coventry, where special classes in motor-car body construction and design have just been established, under the superintendence of Mr. W. M. Lovett.

MESSRS. ROGERSON, HORTON AND CO. have opened a new garage and repair shop in Egginton Street, Rochdale Road, Manchester, with accommodation for more than a score of cars and appliances for motor-car repairs of every description.

SIR J. HAMILTON GOULD-ADAMS, Lieutenant-Governor of the Orange River Colony, has just placed an order with Messrs. Jarrott and Letts, Ltd., for a 16-h.p. De Dietrich. The vehicle, which is to be sent out to the Orange River Colony, will be specially fitted up to meet Colonial conditions.

ACCORDING to the chairman of the Haywards Heath magistrates the Slaugham cross roads are the most dangerous in the county. In addition to the legal warning erected there, another has been put up by a private association, and it is to be hoped that these will not be disregarded by motorists going that way.

THE recent announcement of the General Petroleum Company, Ltd., that they are introducing a cheaper spirit, has created considerable interest. The necessity for more air, to the extent of 25 per cent., may be a drawback to many, but in this connection we may refer to the auxiliary air inlet recently introduced by the Bowden Patents Syndicate, Ltd. This device is inexpensive, can be fitted to any existing car or cycle, and enables the air supply to be increased almost to any extent at the option of the driver.



THE new sign of the Reo motors in Broad Sanctuary is now a feature of the great open space facing the Houses of Parliament and Westminster Abbey.

WE learn from Mr. Reginald Ward that in the course of a recent journey from London to Aix-le-Bains on his 16-20-h.p. Beeston Humber, it was only necessary to change speed once on the whole trip.

THE Daimler Motor Company has subscribed £100 towards the prize fund of the Blackpool Automobile races, and in addition are giving several special cups for competition among owners of Daimler cars.

SEVERAL drawings and photographs of representative types of British motor-wagons have lately been on exhibition at the office of the Director-General of Commercial Intelligence, Clive Street, Calcutta.

THE steam wagon which has lately been put in service to convey pottery between Hanley and Liverpool is a 6-ton standard machine constructed by Messrs. Alley and MacLellan, Ltd., of Polmadie, Glasgow.

"A SOAP is known by its lather" is the maxim with which Messrs. G. T. Riches and Co. have introduced Jergens' Pumiss Soap to our notice. This is made chiefly of pure vegetable oils and quickly effects its cleansing purpose.

A CORRESPONDENT at Moreton-in-Marsh writes that he has run his Iris car nearly 2,500 miles since it was delivered to him in the middle of July, and "it has been most satisfactory and regular in its running." He adds that the car is very easy on tyres.

THE accompanying illustration depicts Mrs. E. Kennard, of Market Harborough, and her latest motor-bicycle—a machine built by the Advance Motor Company, of Northampton. It is fitted with a 3-h.p. Advance engine, high-tension magneto igni-



Mrs. Kennard on her new Motor-Bicycle.

tion, spring forks, Bowden twisting handle to actuate throttle, &c. The machine was built specially to the order of Mrs. Kennard, who informs us that it is the only one of its predecessors which could be ridden at high speed without any whip or swaying.

FOUR of the first seven cars in the Tourist Trophy race used Price's Patent Candle Co.'s oils, and for the second year in succession the firm supplied oil for the winning car. The selection of this oil for the Rolls-Royce car was only made after an exhaustive series of experiments extending over several months before the race was run.

ITALA AUTOMOBILES, LTD., have lately supplied an 18-h.p. Itala car to Col. Sir Augustus FitzGeorge.

THERE is a motor garage at the rear of the Buckingham Hotel, Blackpool, for the convenience of visitors.

THE EARL OF DUNRAVEN has recently received delivery of a Crossley 40-h.p. touring car fitted with a handsome Roi des Belges body.

MR. R. VARLEY, of Lindfield, is advising the leading people of Sussex to convene public meetings in all the principal towns of the county to discuss the driving of motor-cars.

BRITISH manufacturers of motor-cars are invited by Mr. C. D. Bradford, the hon. secretary of the Natal Automobile Club, to send him catalogues of their latest machines.

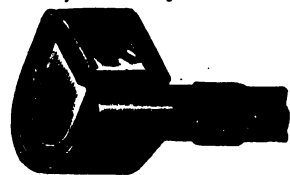
A MOTORIST has been fined 40s. and costs at the Lambeth Police Court for failing, as the owner of a motor-car, to notify his change of residence to the London County Council.

AT the Northampton Institute, Clerkenwell, where Mr. D. G. Snodgrass is instructor in automobile design, opportunities are being given for students specialising in work connected with motor-cars.

LYTHAM, which is only seven miles from Blackpool along the coast, is keenly interested in the races, and Messrs. Williams Bros., the local motor firm, whose garage is in Henry Street, have laid in large stocks of accessories, tyres, &c., in view of the event. Their facilities for repairs are of a good order.

A NOVEL motor-bus was seen in Long Acre, W.C., the other day; it consisted of an ordinary horse-drawn bus, the front wheels and shafts of which had been replaced by an *avant train*, or motor fore-carriage. The engine is located under the bonnet, as usual, and transmits its power to the front road wheels, which act both as drivers and steerers.

MESSRS. NICKELLS AND CO., of Eastcombe Terrace, Blackheath, have just introduced an improved form of their



instantaneous valve connector for use on tyre inflators. As now made, the connection is made by simply squeezing a spring stirrup together, an air-tight joint being made by a small strip of rubber, which can be readily renewed. The device is not only simple and ingenious, but will be found a great time saver, as the operation of screwing on and off the usual connection is entirely obviated. Furthermore, no adapters are needed, as the Nickells connector, which is being stocked by Messrs. Brown Bros., Ltd., and the Lacre Motor Car Company, Ltd., fits any type of valve.

DURING the recent visit to Leeds of H.R.H. Princess Louise and the Duke of Argyll, the whole of the party were conveyed to and from the various official functions in motor-cars. Messrs. George and Jobling inform us that one of the vehicles—an Argyll—was in the works at Alexandria up to 9 p.m. on Friday, the 28th ult., and was running in the royal procession through Leeds at mid-day on the following Saturday.

ALTHOUGH it is now some time since the Gobron-Brillie British Motor Company, Ltd., removed from their New Bond Street address, they are still receiving letters re-directed from their old premises. Their address, however, is now 175, Piccadilly, W., where a large stock of Gobron-Brillie cars are always on view, for immediate delivery. It is their intention to carry a large stock of accessories and clothing, for which a special showroom is reserved.

IT has been decided not to hold a motor-cycle contest concurrently with the Dunlop Co.'s 1,000 Miles Reliability Motor Car contest to be held around Victoria in November. In the previous two reliability trials held between Melbourne and Sydney, the two events have been held over the same course at the same time, but the practice has not been too great a success, for whilst public attention was focussed on the doings of the cars the performances of the two-wheelers were overlooked. This fact, coupled with the lack of suitable accommodation at Hamilton and Stawell for a large body of motor-cyclists, in addition to the big motor-car contingent, has decided the company to run the 1,000 miles trial in November for motor-cars only.

MR. T. GIBBON BROOKS, of the Cardiff Motor Garage, has lately supplied a 32-h.p. Siddeley car to Sir W. T. Lewis.

THE Willesden Paper and Canvas Works, Ltd., of Willesden Junction, supplied the large scoring boards which proved so serviceable to those following the Tourist Trophy race.

FROM the Star Cycle Company, Ltd., Wolverhampton, comes a neat and attractive show-card of the Starling car, copies of which the firm will be glad to send to any motor-car agent.

MR. WALTER J. IDEN, who has had a lengthened experience in the construction of motor-cars, has been appointed to the position of chief designer by Messrs. Crossley Bros., Manchester.

A MOTOR fire-escape has lately been built for the London Fire Brigade by Messrs. John Morris and Sons, of Manchester. The chassis was supplied by the Belsize Motor and Engineering Company, it being of the Belsize standard 40-50-h.p. four-cylinder type.

OWING to the increase of their business the Vulcan Motor Company are largely extending their works at Southport. We also learn that they are bringing out a Vulcan 25-30-h.p. six-cylinder car for the 1907 season.

THE Chauffeur's Blue Book is a new publication of the Automobile Publishing Company intended to assist drivers in the many points that concern them—on the road, the car, and in the garage. Advice is also given with regard to questions likely to arise with the police, and the little work has much to commend it.

A DELIGHTFUL souvenir of Malvern, from whose hills can be seen the beacons of Brecknock, recently described in our columns, comes from the Belle Vue Hotel of Great Malvern. The convenience of the visitor is studied in the compilation of the handbook, as is demonstrated by the publication of a timetable of the motor-car service between the town and Malvern Wells.

ACHILL HEAD, in the Island of Achill, off the coast of Galway, has for the first time been climbed by a motor-car. Both the ascent and the descent are very dangerous, the narrow road being bordered by a precipice on the one side, and the surface of the track being terribly rough. The car which performed the feat was a 40-h.p. Martini landaulet with a party of five persons aboard.

MOTORISTS and horse owners have petitioned the Worcestershire police with reference to the injury done to tyres and to horses' feet by the presence in one of the Birmingham suburban roads of tacks and nails, which, it is believed, have been maliciously scattered about in consequence of the dust caused by motor-cars. Some time ago a petition complaining of the dust nuisance was presented to the local authority, but it was ruled out of order.

MR. HENRY MOORE, of Brighton, sends the result of his test of Moseley's perfect tyres as follows:—Weight of the car without passengers was 24½ cwt. Usually three, four, and five passengers were carried over almost every lane in Sussex. The distance run was 4,312 miles. He had four punctures only, and without great physical exertion was able to insert new tubes by the roadside. The tyres are still running, and will, he has no doubt, average 4,750 to 5,000 miles.

WE learn that the Caledonian Tyre Repairing Company, of 52, St. Enoch Square, Glasgow, have secured the agency for Mr. J. McConechy's patented corseting and fortified retread, the use of which is claimed to secure more resilience than usual, and to prevent the cracking or bursting of the walls of the tyre. It has a narrow ground contact, and throws up less dust than is ordinarily the case, acting as a repellant of road flints and not an absorbent. The corseting is fitted into the walls of the tyre cover, and the air tube when inflated presses on these semi-inextensible circumferential bands. They act as a fulcrum, throwing the air pressure on to the tread of the cover. Puncture is obviated because the thickest part of the tread is alone in ground contact. An Argyll car recently fitted with this corseting has lately demonstrated its merits, Mr. A. Govan testifying to the increased life of the tyre ensured by the adoption of this new device, which is put upon the market by the Caledonian Tyre Repairing Company.

## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
87-88, Charing Cross Road, W.C.]

### THE TOURIST TROPHY RACE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The Tourist Trophy Race now being finished, and the various competitors having aired their complaints, I would, with your permission, give an outsider's view of the whole competition and its want of utility. When I use the words "outsider's point of view" I wish to suggest that, never having taken part in this competition and never desiring to, I can view it with an unbiassed mind. The suggestion that the cars that were driven were of the ordinary type supplied by the makers is hardly correct, and the photographs of the vehicles themselves prove that, practically, very few of them are similar to the ordinary commercial article. As an education to the general motoring public the race is therefore useless from this point of view.

Why are these cars fitted with touring bodies to carry four people, when they only carry two people? What object is gained by it? What sense is there in having four seats when they are not filled? Why are all the competitors bound to carry the same weight? Surely, if one manufacturer can build lighter than his competitor he is entitled to the advantage and not the disadvantage of being handicapped to the level of the worst of the manufacturers. What sense is there in the limit of petrol consumption on the lines now taken? Surely, if a competitor can get round the course in half the time with one-third more petrol than is at present allowed, his performance would prove greater efficiency than the performance accomplished by this year's winner. By all means take petrol consumption into consideration—it is both a most useful and necessary part of such a competition—but do not limit it, simply use it as part of the formula.

Dealing with, in my opinion, the most important item of all, Is this race of any utility to the British industry? Being well acquainted with the methods of foreign manufacturers, I, without hesitation, suggest that it is harmful to the British industry, for it is used by foreign competitors as a means of arguing that the British cars are only raced at an average rate of forty miles an hour in the greatest competition organized by the British Club, and they put against it the speed attained by their own great cars in their own great races. It is very well for those in the motor industry, or those who take a great interest in motoring generally, to argue that one is a "touring race" and the other is a "sporting contest," but the general public do not go so deeply into the rules—which in fact, they never read—and they only compare the speeds. I venture to suggest that the triumph of French cars in the Vanderbilt Cup will do more to affect sales of French cars in America than the victory of Mr. Rolls, whom I congratulate, in the Tourist Trophy contest will do to affect British trade.

I feel sure that the authorities at the Automobile Club have the very best of intentions in promoting this race, but, viewed purely from a manufacturer's point of view, I consider it does more harm than good to the British industry. If we are going to have races in the Isle of Man, let them be races with one rule only: the first car in wins. With sensational performances much will be done which may startle the whole universe and help to make British motor products spoken of throughout the world. If we cannot have races in Great Britain, then I suggest that British manufacturers build British racing cars to compete abroad. France and Germany owe their present position to this and to nothing else. My firm, for one, will be building racing cars for next year's competitions, and outside that will take no part in any competition which is not of a sensational character, and in doing so we have one object only, and freely admit it, and that is sensational advertisement. If other British manufacturers would look at it in the same light, I believe greater strides would be made in obtaining a universal market for British products than is being done under the present system.—Yours truly,

D. M. WEIGEL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We note that Capt. H. H. P. Deasy suggests, as a modification of the rules for the Tourist Trophy Race, that the minimum chassis weight should "be increased to about 2,000 lbs., with a view to the fostering of a strong, serviceable type of car, suitable for ordinary touring conditions."

We cannot agree with this suggestion, as it is, in our opinion, not at all necessary that a chassis should weigh anything like 2,000 lbs. in order to be strong. If the finest material is used a car may be very strong and yet very light. The Tourist Trophy chassis which we entered this year weighs only about 1,600 lbs. complete with tyres. This chassis has proved that it is as strong as any made, by its splendid performance in the Liedekerke Cup, where the winner averaged about forty-nine miles an hour for about 268 miles, and where also our other two cars arrived without any defect whatever, and secured for this achievement the team prize. This proves decidedly that by using the best, and therefore the right material, a car may be light and yet strong, or even stronger than

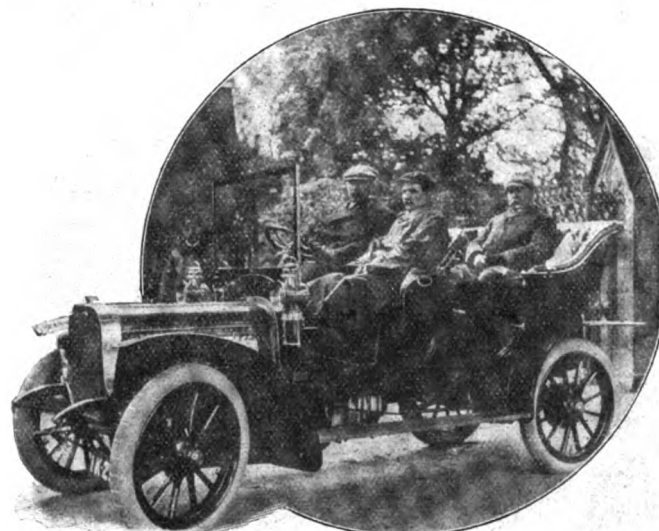
a much heavier car, where generally the quality of material is replaced by quantity. In view of Capt. Deasy's suggestion it is interesting to note that out of the twenty-nine competitors in this year's race only five of the chassis weighed over 2,000 lbs., and of these none finished, three breaking down owing to mechanical defects, the other two for want of petrol, whilst amongst the fifteen cars weighing under 2,000 lbs. which did not finish only four did not arrive owing to mechanical trouble.

This shows that weight alone does not make a car "strong" and "serviceable" for touring purposes. Nearly every inquiry we get from owners, who have been motorists already for some time, is for a lighter chassis than what they have been using. This would look as if the public tendency was in the direction of lighter, not heavier, chassis. We think that it is much better to encourage a light and strong vehicle than a heavy, lumbering machine, in which the wear and tear is much heavier everywhere, and especially on the tyres. Moreover, a heavy chassis requires bigger tyres, which raise more dust on the road than smaller tyres, and this is a point-worthy of consideration alone, as everyone who has the motor movement truly at heart must recognise that anything which can be done to diminish the dust nuisance is for the benefit of that movement.—Yours truly,

METALLURGIQUE CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Looking at the table of weights of the cars in the Tourist Trophy Race I see that the average weight of the chassis in the last contest was greatly in excess of the minimum weight laid down in the Club rules. The object of the race is to develop an economical car both in construction and service. Now, with the minimum weight of chassis as low as 1,275 lbs. it defeats this object and tends to encourage useless



The Right Hon. Sir Henry Robinson, President of the Local Government Board for Ireland, at the wheel of his Argyll Car.

waste of money by drilling and cutting away every pound of material that is not absolutely necessary to complete the race. If the minimum chassis weight were raised from 1,275 to 1,600 lbs., and the load carried reduced from 1,125 to 1,000 lbs., it would encourage the evolution of a car of much more wholesome proportions.—Yours truly,

T. THORNYCROFT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Now that the Tourist Trophy Race is over, I should like, as one of the competitors, to express my due appreciation of the great courtesy of all the Automobile Club officials, and of the excellent way in which all the arrangements were made and carried out. The organization was undoubtedly deserving of high praise. There are some people who apparently consider it smart, and quite the correct thing, to find fault with the Club, and to condemn it in unmeasured language. I fail to see any justification for this hostile and unfair condemnation, and would strongly suggest that these critics should in future make adequate investigations before expressing such criticisms.

There is one suggestion I should like to make, and that is that the rules for next year's Tourist Trophy Race should be settled without delay, while the valuable experience obtained in this year's race is fresh in our minds.—Yours truly,

H. H. P. DEASY.

### PETROL CONSUMPTION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—A little table on page 648 of a recent issue of the *M.C.J.* is the "text" on which I do not wish to preach a sermon, but to make some comments and a suggestion.

Supposing an intending buyer of a car, noticing the increasing price of petrol, decided to make economy in fuel consumption a special point

in deciding his choice, surely the table referred to would be a puzzle rather than a help. Certainly it contains some very curious results of the trials, and these need explanation. Why, for instance, should one 8-h.p. De Dion require thirty-nine and another seventy-three ounces, while a 12-h.p. of the same make required only thirty-seven ounces? Again, we find two other cars of 12-h.p., both by good makers, and of these one consumed sixty-nine ounces, and the other only fifty-eight ounces, while an Argyll of the same h.p. comes last with seventy-seven ozs.? Seeing these differences, it would seem reasonable to suggest that in all such trials the type of carburettor should be mentioned, as well as the mode of control, whether automatic or not.—Yours truly,

A. S. L.

### LIABILITY RE DOG.

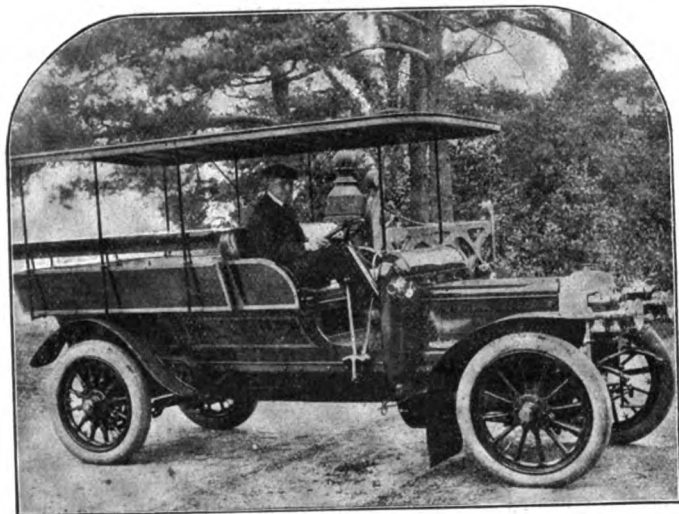
TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In view of threatened litigation, I should be extremely obliged if you would send me a copy of the issue of the *M.C.J.* which in the spring contained a report of a dog accident case at the Croydon County Court.

The judge, I believe, laid down that a motor-car has as much right on the highway as a dog, and he would not give a plaintiff any damages unless he showed that the dog was under proper control and that there was negligence on the part of the defendant.—Yours truly,

J. B. ROOKE.

[The case referred to was reported in our issue of April 28th last. A motor-car ran over a dog, and in the course of his summing up, the judge said that a motor-car had as much right to be on the highway as a dog had, and there was an obligation on the owner of a dog to see that it was properly trained and under proper control; otherwise he could not hold anybody liable for any damage that might come to it. He held that the owner of the dog had failed to establish his claim and gave judgment for the defending motorist with costs.]



The 28-h.p. Daimler Shooting Brake recently supplied to Mr. Asheton Smith. The vehicle has an 11 ft. wheelbase and the body work is of natural wood varnished.

### THE FREEDOM FROM PUNCTURE RECORD.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—On perusing the last issue of your always most interesting journal, I read, with some astonishment, Mr. S. F. Edge's—may I say—challenge to Mr. E. P. Prestwich's statement that he (the latter) had driven his Daimler car 6,000 miles without a puncture; for I could refer you and Mr. Edge to a gentleman-motorist who has driven 15,000 miles on Collier tyres without a puncture. I trust, in fairness to Mr. Prestwich, you will find space for this in the next issue of your valuable journal.—Yours truly,

MAGNA EST VERITAS, ET PRÆVALEBIT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The paragraph re "Freedom from Punctures" appearing in your issue of the 6th inst. has just come to my notice. I have much pleasure in informing Mr. Edge that the performance referred to in your previous issue is quite correct. The 30-40-h.p. Daimler, as depicted, has carried me over 6,000 miles, and that without punctures, bursts, or tyres troubles of any sort. The front pair of tyres were remarkably well, and to my knowledge were never once pumped up, and have only just been replaced by a new pair. I only hope that the good luck attending me in 1906 may precede my wheel tracks in the season of 1907.—Yours truly,

E. P. PRESTWICH.

### STEAM CAR EXPERIENCES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to "Medicus's" letter in your issue of the 29th ult. we daresay we have had as much experience of steam motor-cars as most people and we find them extremely useful. We have driven these cars for about three years, and we consider them thoroughly suitable for hilly country and bad roads. We have had practically no trouble with tyres. We can get steam up in ten minutes, and after stopping half-an-hour or an hour, in two minutes. The steam car is not so economical as a petrol car, as it consumes rather more petrol per mile, but the engine certainly lasts longer, as its speed is not nearly so great. Steam cars are not so difficult to keep in order as petrol vehicles, and they do not require anything like so much attention. We should think a 7 or 8 h.p. car would suit your correspondent's requirements perfectly well, but it would not go more than about twenty miles per hour on an average. The cars are driven by a single lever, so that there is not nearly the complication that there is in petrol cars.—Yours truly,

THE WATFORD ENGINEERING WORKS.

### CONTROLLING ENGINE SPEED.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In my car the governor commences to close the butterfly valve, which is placed in the mixture inlet pipe, as soon as the engine makes about 1,000 revolutions a minute, and by pressure on the foot accelerator this action of the governor is stopped and the revolutions may be increased to 1,200. I understand that on some cars the accelerator pedal is used for the opposite purpose—that is, to close the valve and thus slow the engine. Can you or any of your readers advise me which is the best method?—Yours truly,

S. C. G.

### THE BIAS OF JUDGES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Whatever may be argued for or against motoring on the high road, there can be no question that the motor-car is at present legalised by Act of Parliament, and not only has a right to proper use of the roads but also a right to fair judgment in the courts of justice.

It is therefore with much uneasiness that one sees reports in the papers that show the judges to be so biassed against motorists that the evidence is not fairly considered. Personally I have lost confidence in at least one county court judge.

I was driving at night round a dangerous corner, keeping to my left carefully, at about seven miles an hour, when a pair-horse brewers' van coming in the opposite direction at about the same pace collided with my car. The collision occurred at the railway arch south of Godalming, and I was proceeding towards Portsmouth. The facts were not even disputed, the van was acknowledged to be on its wrong side, and it was cutting off some of the corner, as horses will do if permitted. My car occupied 11 ft. of the roadway, while the van took 19 ft. The road was 30 ft. wide, and the off wheels just came into collision. Yet the county court judge told me I had ample room to pass, and did not blame the other side at all.

I was the defendant. The brewers, knowing well the advantage they had in court against a motor-car, did not expect me to fight the case. An appeal would probably have wasted more money.—Yours truly,

W. GUISE TUCKER, Major-General.

### MOTORISTS AND INSURANCE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I noticed in your last week's issue a letter from Mr. Letts, re motorists and insurance. I can fully endorse all he says regarding insurance with a good company. I was unfortunate enough to break a front wheel of my car, which caused considerable damage to it. I left the car there, and came home by train, telephoned to a motor depot in Birkenhead to bring it home, also informing the Car and General Insurance Company (which company I was fortunately insured with) about the accident. In less than a week the company had sent me a cheque, covering damage to my car, long before the latter was ready.

I hold no brief for the company, but consider such promptness much to be commended, and ought to be widely known.—Yours truly,

R. BAINES.

### A PROTEST FROM AN OWNER OF HORSES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—A few weeks ago I was driving along a road little frequented by vehicular traffic, and there was no car or cart in sight. I admit I was in the middle of the road, where I had a perfect right to be. All at once I heard a motor horn sound behind. I immediately got out of the way, and a large motor-car came dashing by me, with the owner holding his fiat out to me, threatening me with a summons. Of course, I thought the man was not in his right mind.

However, when I got farther along the road, to my surprise, he had a constable, and was exclaiming that he was a magistrate, and wanted my name and address, as he was going to summon me for being all over



the road. The policeman, knowing me, did not stop me, nor did I stop, as I knew the policeman. However, when I saw the policeman again he gave me the man's address, and he really was a magistrate. I have been anxiously waiting to receive the summons, that I might know where I was wrong in jumping out of his way directly I heard his demands, but it has not arrived yet.

If we drive at half the pace of the motors we are charged with furious driving. Now every person has to fly out of their way, for they are really kings of the road. I pay £100 a year rates and taxes, and have, it seems, no right on the highway.—Yours truly,

F. KING.

### THE NEED FOR INSPECTION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—There is one point which has not been mooted so far in newspaper correspondence, that is, the large increase there will be within a year or two of second-hand motor-cars. These will naturally fall into the possession of less wealthy and responsible people than the first owners, and if stringent rules are not now made and enforced, for inspection, &c., the danger and annoyance from the half-worn-out car will be much worse than the new cars at present in use.

The danger is from the driving of the inexperienced owner; therefore, it is more than ever requisite that the driver should be certified as competent and his car as fit for the road.—Yours truly,

WILLIAM HAYES.

### PROMPT REPAIRS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—May I bring to the notice of your readers the following instance of promptness, courtesy, and enterprise shown by a well-known British firm?

On Sunday, September 23rd, I started from London with a friend in a 28-36-h.p. Daimler, counting on getting to my destination, some 320 miles to the north, by six o'clock on Monday night. Passing through Hatfield I had the misfortune to smash my near front wheel owing to a bad side-slip. The car for the time being was rendered useless and things looked black. But, before beating an ignominious retreat to London and falling back upon the train, I determined to try headquarters, and telephoned through to Coventry, some seventy-five miles away, explaining my predicament. Within three hours of the dispatch of my message a car arrived upon the scene at Hatfield in charge of two skilled mechanics with a new wheel, which they promptly fitted to my car, thus enabling me to proceed upon my journey without any further delay, and complete a six' days tour, which I did without another hitch, the car behaving splendidly from start to finish in spite of the tremendous shock it had been subjected to.

I am sure you will agree with me that this display of business enterprise, combined with all that appeals to one's sporting sentiment, deserves to be brought before the notice of the motoring public.—Yours truly,

ALEX. C. SCRIMGEOUR.

### RE SUNDAY MOTORING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Your correspondent, Mr. T. Morison, seems to think that by far the greater number of Sunday motorists belong to the "very rich" class, an opinion which is not borne out by close scrutiny. Many people imagine when a four-seated car passes them that the owner must of necessity be a very wealthy man, a deduction which is entirely erroneous. Mr. Morison's contention apparently is that the roads are maintained primarily for the benefit of the cyclist and pedestrian, and that motorists are only allowed their use on sufferance, a contention which is a decided fallacy, as the roads are made and intended for all.

For a large number of motorists Sunday is the only possible time for a run into the country, and were this pleasure withdrawn they would immediately sell their cars. Hence the result of such an edict as your correspondent desires would fall heavily on the employees of motor manufacturers, as the output of motor-cars would materially decrease.

Another fact that should not be forgotten is this, that so long as the beanfeaster and the poor man with a propensity for alcoholic liquor takes his country airing on a Sunday, the blissful state of perfect peace and security so longed for by Mr. Morison will never be realised, a statement that can be easily verified by driving along one of the main thoroughfares out of London on a Sunday evening.

Looking at the question from a national point of view, I cannot perceive how this proposal can possibly be entertained. For a long while the political cry has been relief and comfort for the poor man; it is about time now that the man of moderate means came in for a little consideration, for which he has waited so long.—Yours truly,

VICTOR PEACH.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the correspondence in your columns on a suggested tax on Sunday motoring, I ask all our motorists, was ever such a ridiculous suggestion sent to an automobile paper? Your correspondent, Mr. T. Morison, writes very well about all the Sunday pleasures of the clerk, artisan, and shopkeeper, but he, apparently, as he is not a

motorist, is too selfish to think of the pleasure of a man who is cooped up in an office all the week and wants a Sunday's refreshing breeze on an automobile or motor-bicycle. Surely we have enough to put up with in taxation, police summonses, &c., without an additional tax of any kind being put upon us, let alone for such an utterly absurd reason, as for motoring on Sundays. Your correspondent must be either an utterly selfish non-motorist, or a person who considers it wicked to enjoy one's self, no matter how harmlessly, on Sunday. As to it being "these rich motorists," this is the old spiteful designation of motorists, whether they be rich or poor, and it is the designation most generally used when the writer fails to find any sufficiently spiteful expression for motorists without having to expose the fact that he hates us.—Yours truly,

ALAN A. L. HICKMAN.

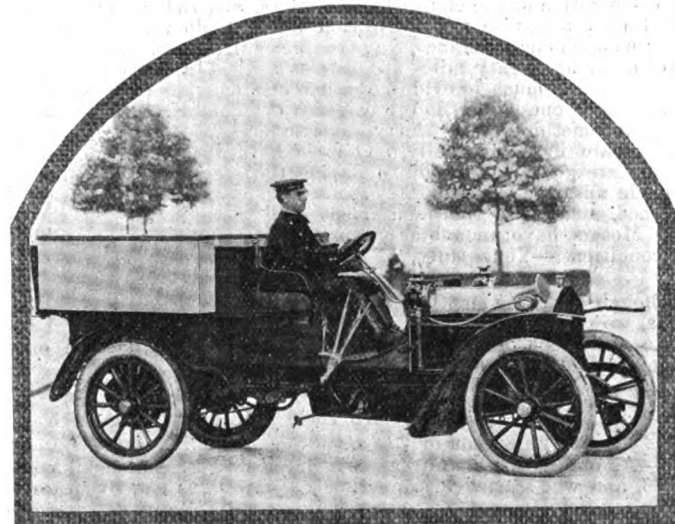
### COIL TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be obliged if you could advise me as to the trouble I am experiencing with the coil of my 10-12-h.p. double-cylinder car. The coil seems to run down the accumulators quicker than it should. Also the platinum on the coil trembler burn away in a very short time.—Yours truly,

R. S. POTTER.

[Properly adjusted tremblers should show very little sparking at the platinum points. If excessive sparking occurs, it is either due to wear on the platinum, or the formation of points and hollows on the surfaces. If the blades are not properly adjusted, the coil will take too much current, causing excessive sparking, and exhausting the current in the accumulators sooner. To obtain a proper adjustment an ampere-meter should be connected in the battery circuit, and the tremblers adjusted until the best spark is obtained without an excessive current passing. The current should be about 1½ to 2 amperes if it is a good coil.]



The 18-h.p. Siddeley Shooting Brake supplied by the Wolseley Company to the Mackintosh of Mackintosh. The vehicle is finished in natural wood, a special feature being the detachable boxes for carrying guns in 1 perfect safety.

### VALVE POSITION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Now that the 1907 designs will soon be making their appearance, the question as to the best location for the inlet and exhaust valves might, I think, be usefully discussed. Personally, I am strongly in favour of placing them in the cylinder heads—an arrangement which would appear to be particularly advantageous, both in respect to its advancement of the thermal action of the motor and mechanically. Theoretically, it serves the purpose of delivering the gases directly to the combustion chamber without diverting them from their course in any way. It permits the employment of a far simpler casting, and lends itself well to any of the various methods of cylinder construction, absolutely independent of the nature of the cooling system. It simplifies the contour of the combustion chamber, eliminating all stresses at the time of explosion except such as are normal to the walls, rides the cylinder of pockets and angles, and allows the clearance volume to be handled in terms of bore and stroke, which, not to mention the greater ease of calculation which it entails, greatly reduces the cost of construction. While the arrangement thus possesses a number of advantages, it has its drawbacks in that it must of necessity increase the total length of the cylinder, and also because of a certain natural awkwardness in operating the valves. To this end it is necessary to employ some form of rocking spindle, to use offset tappets, or to mount a cam shaft upon the heads, in order to obtain a direct movement for opening the valves. All three methods are in use, the first being the most common. The

whole question is an interesting one, especially to motor engineers, some of whom I hope will send you for publication their views on the subject.—Yours truly,

C. R. ANDERSON.

### THE DISTRIBUTION OF TAR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be pleased if, through your journal, the Motor Union would give us any information regarding the proposed competition for the best mechanical appliance for the distribution of tar on the roads which was put forward at their meeting at Bath.—Yours truly,

F. DUDLEY.

### THE CONTROL OF THE ROADS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The solution of this question will certainly not be advanced by intemperate partisan letters on either side. It seems that there are a few definite propositions which must be recognised before we can get any "forrader."

First, the great majority must see that, whilst we have the power to regulate matters so that we shall not be annoyed or deprived of our rights and privileges as users of the public highways, we cannot, in our own interests, talk about abolishing motor-cars or taxing them out of existence, &c. It is to be hoped that the time is not approaching when the majority will think that they are advancing their interests by acting tyrannically.

But still more is it necessary that the motoring fraternity should, to use the words of a motoring friend of mine, recognise, fully and unreservedly, that they are a well-nigh intolerable nuisance to the rest of the world. The nuisance can undoubtedly be mitigated, but if it is to be thoroughly and satisfactorily done it must be by means of the cordial co-operation of the motorists themselves, and that we shall not get until they recognise the proposition set out above, and cease lecturing us upon our ignorance, &c., and preaching about the greater safety of a car at twenty miles an hour as against a horse at ten. The safety is not much in evidence when one emerges from a side street and finds oneself within thirty yards of a motor tearing down the street at something nearer thirty miles an hour.

Motors are increasing daily, and it is absurd to suppose that the public are going to submit to having the streets of the great towns made unsafe, and the country roads destroyed, as far as pleasure is concerned, merely for the amusement of a small number of rich people. Motors have undoubtedly come to stay, but hardly under present conditions.—Yours truly,

CRCIL B. PALMER.

[Although probably motorists may not regard themselves as nuisances, we gladly print Mr. Palmer's letter as an instance of the temperate statement of the case against the automobilists, some of whom may reply.]

### WANTED, A SIMPLE CAR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As one of those who has been interested in automobilism since 1896, and who started his career on a 3½-h.p. Benz car, I venture to express my opinion that motor-car builders are rapidly departing from simplicity in design and equipment. There does not seem to be any particular reason for this regrettable departure except the desire to give all that can be afforded for a stipulated amount of money. The simple car is the car of the future, as only a very few years will show, and the maker who will begin on the policy of extreme simplicity will have his reward in an ever increasing business and possibly small but satisfactory and steady profits. There are to-day cars on the market with so many complicated parts and numerous pieces as to not only bewilder the buyer and user but to make repairs more necessary and costly, thus placing the motor-vehicle outside the reach of the average man. Nearly all the things found on the modern car are undoubtedly of more or less convenience, but they are by no means absolutely necessary to the average man. The present day design of the motor-car does not tend toward extreme simplicity. The car with all the modern conveniences will always have its place with a share of the public, but it cannot be the car for the individual who, through force of circumstances, is compelled to be his own driver and mechanic. A man so situated wants a simple car—the simplest that can be made—and such a car will prove so popular as to bring sufficient credit and remuneration to its maker.—Yours truly,

R. CHADWICK.

### AUTOMATICALLY-CONTROLLED IGNITION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—From my experience of the automatic control of the ignition as fitted to a Brotherhood car, I can assure "J. R. C." that it gives the most satisfactory results in practice. I have run my car over 4,000 miles, the greater part having been on the Continent, and have never had a moment's trouble or difficulty with any part of the ignition system. The comfort of being able to dispense with hand control is obvious, and I consider that the manner in which the timing is con-

stantly varied automatically in ratio to the speed of the engine makes for the greatest possible efficiency.

The whole of the ignition arrangements on the Brotherhood car are so admirably devised and carried out that I should want a good deal of persuading before I changed for any of the magneto systems in vogue. I may add that the engine control by means of the sliding pedal is also a great source of comfort to the driver, whose hands are always free for steering and handling the side brakes, and whose attention is not diverted by having to operate various hand-moved levers.—Yours truly,

E. A. DE PASS.

### THE DUST NUISANCE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Some considerable time ago the Automobile Club had trials with cars fitted in various ways to endeavour to find out what was best suited to minimise this trouble, when they found that cars which were clearest of obstructions underneath caused the least dust, yet in face of this manufacturers will still keep on introducing cars with a large petrol tank underneath at the back.

Even in the Tourist Race several cars were so fitted, and I think that manufacturers might give a little more attention to this question, and if the public when buying cars would taboo all such obstructions, a great deal would be done in effecting an improvement.

I have had a car with tank fitted underneath which was a terrible dust raiser even at fifteen miles per hour, but now I have removed it it does not raise half the dust at thirty miles per hour, whilst at twenty there is nothing to complain of.

Were it not for this dust nuisance I feel certain there would practically be no antipathy to motorists.—Yours truly,

A. FIELDING.

### LUBRICATON TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I recently changed to another kind of lubricating oil for the engine of my car, and since then I have been greatly troubled with overheating and by smoke from the exhaust. The new oil seems to give excellent results in every other respect, and was highly recommended to me by an experienced user, so I can hardly believe it is the sole cause of the imperfect working. I have tested the water circulation, and adjusted the ignition and the mixture, and I am certain there is nothing wrong with any of these. If you can give me any suggestion as to the cause of the trouble I shall be greatly obliged.—Yours truly,

W. HUNTINGDON.

[This seems to be another case in which the carbon deposit in the cylinder is playing the greater part in causing trouble. It is most essential that cylinders should be periodically cleaned or overheating is almost certain to occur. We should advise, as in other cases where everything appears to be in perfect order, the removal of the cylinders and the thorough cleaning of the heads. With reference to the smoke from exhaust, in all probability the oil that is now being used is thinner than previously used, allowing a greater quantity to pass into the crank case; this ought to be remedied by adjusting the lubricators somewhat.]

### A SYSTEM OF BRANDING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Although a motorist myself, and a keen one at that, I would gladly second any efforts towards the suppression of the motor hog, and with your permission will make the following suggestion. Instead of the present comparatively trifling fine, let the motorist after the first offence be limited to a speed of fifteen miles an hour, and indicate the same by a differently-coloured number plate. For the second offence, bring down his speed to twelve miles an hour, again altering the colour of his plate (at his own expense, of course), and should he exceed this limit reduce his speed to eight miles, and let the same be manifest to all users of the road by a larger plate with black numbers on a white ground, surrounded by a deep black border. The punishment in this case would be infinitely greater than a fine or even a short imprisonment in the second division. Matters such as changing cars and the alteration of the police trap calculations, &c., are mere details that could easily be arranged.

Referring to recent very lamentable accidents, why not make it illegal for a person, whether on foot or wheels, to run behind any moving vehicle? If this is impracticable, something might be done by teachers at public schools warning their pupils of the great danger of such a practice.—Yours truly,

GUILBERT PITMAN.

EXHAUST MOTOR WHISTLES.—Mr. A. Batchelor, who enquires for an exhaust operated motor whistle, is referred to the "Excelsior" supplied by Messrs. G. M. Monnet and Company, 9-15, Oxford Street, London, W.C.

HIGH-TENSION PLUGS FOR MAGNETO IGNITION.—F. T. writes:—"Could any reader tell me where I could get some sparking plugs marked E.K. for high-tension magneto ignition?"

M.

## CLUBS AND ASSOCIATIONS.

## AUTOMOBILE ASSOCIATION.

AMONG the 175 new members elected at the last meeting of the Automobile Association Executive Committee were the Duchess of Bedford, the Marquis of Linlithgow, the Marquis of Northampton, the Earl of Albemarle, the Earl of Cavan, Earl Compton, the Earl of Guildford, the Earl of Londesborough, Lord Stanley, Lord Ninian Stuart, Lady Bowyer, Sir Augustus FitzGeorge, Sir David Salomons, Mr. H. Beerbohm Tree and Mr. E. W. Hornung.

## ESSEX COUNTY.

A SUCCESSFUL hill-climbing contest was held by the Essex County Automobile Club, at Bottledown Hill, about one and a half miles from Billericay, on Saturday. The course in places was very loose, and provided a good test for the cars. There were two competitions, one a

and starting once, whilst the lady passenger held a glass of water, the lady arriving with most water in glass being the winner. A time limit of two minutes was imposed. Prize, silver-plated butter dish. First, Mrs. Phillpott, driver Mr. Phillpott, 6 h.p. Siddeley; second, Mrs. Pattison, driver Mr. Pattison, 8-h.p. Panhard; third, Mrs. Jones, driver Mr. H. Nixon, 6-h.p. Regal.

Egg and spoon race for motor-cycles, six entries, once round the track with spoon (holding egg) in mouth, standing start. Prize, silver-plated spoons and tongs in case. First, S. W. Phillpott, 1½-h.p. F.N. cycle; second, B. Pattison, 3½-h.p. Brown cycle; third, E. K. Davies, 3-h.p. Davy cycle.

Musical chairs, for tri-cars and motor-cars, ten entries; competitors drove slowly round track, and on electric gong stopping the lady passengers ran to chairs placed in the centre, there being one chair short each time. Prize, pair of silver-plated fish carvers in case. First, Mrs. Wylie, driver Mr. Wylie, 6-h.p. Wolseley car; second, Mrs. Phillpott, driver Mr. Phillpott, 6-h.p. Siddeley car; third, Mrs. Jones, driver Mr. H. Nixon, 6-h.p. Regal.

Quick lunch race, for motor-cycles, six entries; competitors had to ride round track, then, stopping and eating a biscuit, ride once round, pick up and light cigarette (two matches only allowed), ride once round, stop and drink lemonade from bottle, and ride to finish. Prize, silver-mounted biscuit box. First, G. Aldington, 2½-h.p. Kerry; second, E. Davies, 3-h.p. Davy motor-cycle; third, W. Holt, 3-h.p. Noble motor-cycle.

Potato race for cars, ten entries; competitors once round track



The Essex County Club's Hill-Climbing Competition near Billericay.—Mr. C. F. Hill's 20-h.p. Wolseley Car at the Starting Point.

handicap, which included a stopping test half way through the ascent, and the other a straightaway speed test.

The winner of the handicap was the Rev. E. T. Maw, 8-11-h.p. Panhard, Dr. Montague Tench, 12-16-h.p. Clement, being second. Other competitors were:—Mr. C. F. Hill, 20-h.p. Wolseley; Captain J. B. B. Newman, 30-h.p. Rochet-Schneider; Mr. J. S. Brown, 20-22-h.p. Brown; and Mr. Burnett Tabram, 12-h.p. Wolseley.

The speed test resulted in favour of Mr. E. A. Lewis, 24-40-h.p. Fiat, Mr. J. S. Brown, 20-22-h.p. Brown, being second. The silver cups were presented after tea, at the residence of Mr. Burnett Tabram.

## SOUTHERN MOTOR CLUB GYMKHANA.

THE above club held a very successful closing function for the season in the form of a gymkhana on Saturday in private grounds adjoining the main Ewell road at Cheam. There were eight events on the programme and sixty-nine entries. Although somewhat late in the season, the weather was all that could be desired, and this no doubt assisted in the very gratifying attendance, it being estimated that approximately 250 members and friends attended, a large muster being ladies. The officials were:—Judges, Messrs. A. Vickers, J. Stanbury, and H. Luff-Smith; starters, Messrs. H. Fenn and G. Connor; stewards, Messrs. Lloyd Davies, Phillpott, Belcher and W. L. Lorkin (hon. sec. of club); sports hon. sec., H. Jones. The events resulted as follows:—

Glass of water race for passenger motor-cycles and motor-cars, thirteen entries. Competitors had to drive once round track, stopping

dropping potatoes into eight flower-pots. Prize, cigarette case. First, H. Jones, 6-h.p. Wolseley, eight points; second, S. Phillpott, 6-h.p. Siddeley, seven points third; R. Russell, 5-h.p. Wolseley, six points.

Potato race for motor-cycles, seven entries. Competitors rode round track collecting potatoes from flower pots. Prize, silver-plated toast rack. First, E. Davies, 3-h.p. Davy; second, G. Aldington, 2½-h.p. Kerry; third, W. Phillpott, 1½-h.p. F.N. Winner won by seconds only.

Bomb race for cars and tri-cars, eleven entries. Competitors rode down centre of track and endeavoured to run down and burst all balloons placed at awkward positions. Prize, silver-plated cruet. First, J. C. Brodie, 3-h.p. tri-car, two bombs; second, S. Phillpott, 6-h.p. Siddeley, one bomb; third, T. Wylie, 6-h.p. Wolseley, one bomb.

Slow race for cars, six entries, once down track on top speed and reverse up track to finish. Prize, silver-plated jam dish. First, A. Aloof, 20-h.p. Minerva, slowest time; second, H. Jones, 6-h.p. Wolseley, second slowest time; third, T. Wylie, 6-h.p. Wolseley, third slowest time. Among the members and friends present were Mr. Worger (Humber), Mr. Nixon (De Dion), Mr. Duffin (Decauville), Mr. Russell (Wolseley), Mr. and Mrs. Wylie (Wolseley), Mr. and Mrs. Jones (Wolseley), Mr. C. Pattison (Panhard), Mr. and Mrs. Phillpott (Siddeley), Mr. Pratt (De Dion), Mr. and Mrs. Vickers (Rover), Mr. G. Hind (Humber), Mr. Aloof (Minerva), Mr. Billing (Humber), Mr. Luff-Smith (Siddeley), Mr. Sharp (Wolseley), Mr. Gutteridge (De Dion), Mr. Stanbury (Daimler), Mr. Newton (Panhard), Mr. Ward (Clement car), Mr. Alexander (Phoenix tri-car), Mr. Brodie (Noble tri-car), Mr. Holt (Nobleside-car), Mr. B. Pattison (Danville tri-car), Mr. Harding (tandem tri-car), Messrs. Belcher, Chapman, Aldington, Phillpott, Davies,

Pattison, White, arrived on motor-cycles, and last, but not least, Mr. Walsh, 2-h.p. Hay motor, solid tyres, variable speeds, acceleration by whip and controlled by straps.

The club has decided that intending members (ladies and gentlemen) may join now, and their subscription will carry on until the end of 1907. The hon. general secretary is Mr. W. L. Lorkin, 31, Rhodesia Road, Clapham, S.W.

#### LADIES' A.C.

THE members of the Ladies' Automobile Club of Great Britain and Ireland were so fortunate as to have most splendid weather for their first autumnal and last 1906 meet. This was by invitation of Lady Salomons, at Broomhills, Tunbridge Wells, on Thursday last week. There were about thirty of the members and their friends present and these spent a most enjoyable afternoon visiting Sir David's noted work rooms, stables and garage, as well as Lady Salomon's picture gallery, library and gardens. Among those motoring friends present were:—Mrs. and Miss Amsden, Mr. and Mrs. Buttemer, Mrs. T. B. Browne, Miss Hills, Mrs. Hartung, Mrs. Henry Edmunds, Miss Edmunds, Mrs. and Miss Litchfield, Mrs. Merryweather, Mrs. Wilson Noble, Mrs. Nightingale, Mrs. Manville, Mr. and Miss Pilcher, Mrs. Piggott and Miss d'Esterre-Hughes.

#### BLACKHEATH.

THE final run of the season took place on Saturday last, to the Beacon, Westerham Hill, Kent, when the club was favoured with perfect weather and a good attendance, amongst those present being Messrs. F. C. Allworth, F. T. Beadle, H. Beadle, L. Beadle, H. A. Cunis, A. Jackson, T. Marshall, and F. Thorne. After tea the challenge cup, given by Mr. Alex. Duckham, was presented to Mr. Marshall, also the first prize for the hill climb which took place in the summer.

#### LINCOLNSHIRE MOTOR CYCLE CLUB.

AT the first general meeting of this club at Lincoln, on Wednesday, the 3rd inst., Mr. A. W. Foster in the chair, it was announced that there were already seventy members. Local centres or branches are to be formed in various towns in the county. There will also be riders from the Lindsey, Kesteven, and Holland divisions, as well as riders from the country on the committee, so that there will be very complete representation. The first event will be a hill climb at North Carlton, near Lincoln, in a few weeks, and there will be lectures, entertainments, &c., during the winter, and competitions, meets, inter-club meets, &c., in the summer. The officials are: chairman, Mr. A. W. Foster; vice-chairman, Mr. Godfrey Lowe (hon. sec. Lincolnshire A.C.) hon. sec., Mr. G. J. Wilkinson, 18, York Avenue, Lincoln; treasurer, Mr. J. R. Halkes, and hon. solicitor, Mr. C. Nelson.

#### AUTO CYCLE.

UNDER the auspices of the Auto Cycle Club a consumption trial for all types of motor-cycles, a passenger motor-cycle trial, and the quarterly trial for all types of motor-cycles will take place on Saturday, the 20th inst., starting from Uxbridge at 9 a.m. over a course of 125 miles. The three competitions will be run simultaneously, but they will be kept quite distinct in making the awards.

#### MOTOR YACHT CLUB.

IN spite of the Enchantress having gone into winter commission and the weather having become considerably colder, members still seem to find a good deal to attract them to the club, as is evidenced by there having been a large tea party on board on Saturday last, and a dinner party on the next day. Several cabins are being kept ready for use, though it is necessary to give the steward notice. The launch no longer meets members at the Town Quay, but by a little study of time tables it will be found that by changing at St. Denys a train can in some cases be got on to Netley with only a short delay. The best method, however, is to take a fast train to Southampton West, and, if only a hand-bag is carried, to take a tram to the floating bridge and a cab from there to Netley hard, where, if notice is given, a boat will always be sent off to meet members.

THE Yorkshire A.C. will open the winter session with a smoking concert on November 9th, at the Hotel Metropole, Leeds, the provisional headquarters of the club.

THERE were fourteen competitors for the Herts Automobile Club's hill climb at Pegsdon Hill, near Hitchin, on Saturday. The winner was Dr. Day, on a 6-h.p. Rover, Mr. R. Lely, 18-h.p. Vauxhall, being second, and Mr. E. Blain, 12-h.p. Hallamshire, third.

#### ROAD REPORTS.

**HAILSHAM.**—On the Pound Field road, about 200 yards from Chalvington Cross, there is a very dangerous corner. Mr. T. Young, a neighbouring property owner, has offered the Hailsham Rural District Council a piece of land so that the corner may be taken off.

**TAALFALT.**—The inspection of the new stretch of road at Westcliff-on-Sea which has been prepared with Taalfalt by Dustroy, Ltd., and to which reference was made last week, was a great success. Although the preparation had been laid two years ago it has stood the test extremely well, and Taalfalt will evidently have to enter into the calculations of surveyors and others responsible for the maintenance of roads.

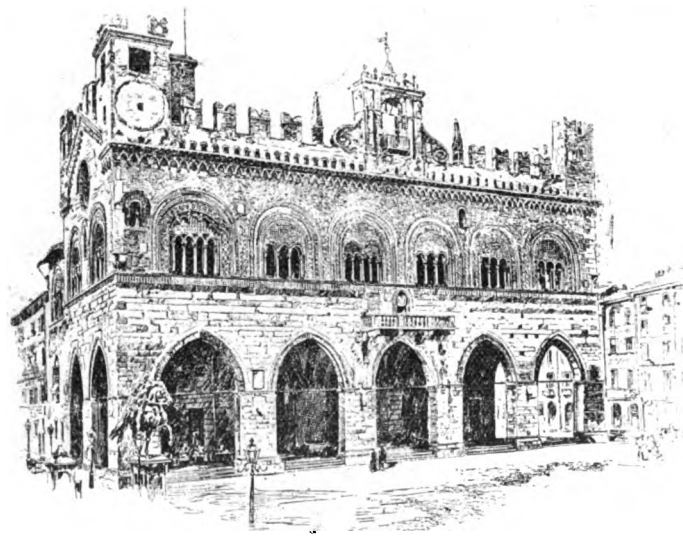
## CASES UNDER THE MOTOR-CAR ACT.

### SECTION 1.—RECKLESS DRIVING.

AT Bradford, Sydney Stansfield Dixon, the secretary of the local automobile club, was fined £10 and one guinea costs, and his licence endorsed, for driving a motor-car to the danger of the public. Several witnesses testified to a great rate of speed, and the defendant declared that if the car could do what the witnesses had said he would make a present of it to anybody who could prove it.

At Epping, H. T. Knight, of Plumstead, was fined £10 for riding a motor-bicycle to the danger of the public. A clergyman stated that the defendant was travelling at a rate of nearly twenty-five miles an hour, and after he passed the witness he knocked down and seriously injured a little child. The Bench said they strongly deprecated such a speed on the main roads. It was a dangerous practice which would have to be put down.

The county magistrates at Hyde were engaged for over seven hours on Monday in hearing the charge against Ernest Hennell, chauffeur, of Upper Wimpole Mews, Devonshire Street, London, of driving a motor-car at an excessive speed in Stalybridge Road, Mottram, on September 8th. A little girl named Kathleen Oliver was killed by the car that the defendant was driving. A great deal of evidence was called, the witnesses for the prosecution alone numbering twenty-three. The Glossop Borough Surveyor (Mr. Haynes), who saw the car immediately before it knocked the girl down, said its speed was "upwards of thirty miles an hour," up a gradient of 1 in 24. In the end the magistrates imposed a fine of £10 and costs, with five guineas for the prosecuting advocate's fee and 5s. for each of the twenty-three witnesses for the prosecution. Three previous convictions were reported against



Touring in Italy.—The City Hall, Piacenza.

the defendant. On behalf of the defendant Mr. Wharton gave notice of appeal.

### SECTION 3.—LICENSING.

At the Highgate Police Court, Walter Johnson, of Stroud Green, was summoned for not keeping a record of the name and address of a person driving one of his vehicles, and, further, for employing an unlicensed driver. Eric Wilmott, Charteris Road, Finsbury Park, was summoned for driving without a licence. Police-sergeant Martin stated he asked to see Wilmott's licence at Stroud Green, where he was riding a motor-bicycle, which collided with a bus. He produced several dilapidated pieces of paper which witness produced stuck on a sheet of foolscap. It formed part of a licence, and inquiries showed it was taken out at Coventry and had expired. Mr. Johnson had no entry in a register of the driver of the bicycle. Johnson was fined £4 and 12s. costs and Wilmott £2 and 6s. costs.

### SECTION 6.—STOPPING IN CASE OF ACCIDENT.

The Marquis of Tullibardine and Lord Kinnaird were witnesses in Dundee Sheriff Court for the defence of Hugh Roberts, motor-car driver to the Marquis, who was charged with having on the public road between Mylnefield Fens and Dundee, failed to stop a motor-car on the request of Thomas Stark, farmer, Newmill of Gray, who was in charge of a horse, and signalled for the purpose by putting up his hand. The Marquis of Tullibardine said he did not see Stark holding up his hand when the car was approaching, but the driver afterwards told him that he did so when it was too late to do anything. The car was travelling at the rate of five miles an hour when it passed the farmer and his horse. Sheriff-Principal Ferguson found the charge not proven.

This case illustrated the advantage of the Scotch law with regard to cases of doubt.



## SECTION 9.—THE SPEED LIMIT.

At a sitting of the Kingston-on-Thames county justices, on the 4th inst., for hearing cases against motorists of exceeding the legal speed limit on the Portsmouth road, between Esher and Cobham, and on the Cobham and Esher roads at Walton, fifteen defendants were dealt with, and the fines imposed in the fourteen cases, one being dismissed, totalled £73 19s. 6d., the penalties ranging from £10 to £2.

Joseph Sutcliffe, a motorist, who was summoned at Leeds for having driven his car at the rate of nearly twenty-five miles an hour, complained that the policeman's method of timing speed with a stop watch was unsatisfactory. The magistrate said that no one would dispute that wherever human agency was called into play there was always likely to be a certain margin of error. The actual observations made by two officers, with the aid of a stop watch, however, were far more likely to be correct than the defendant's mere guess at the speed. Allowing for a small margin of error, the defendant would still be well over the mark. Sutcliffe had not been served with a notice of prosecution as well as a summons, and on this technical point he was entitled to a dismissal. The case was accordingly dismissed.

At Hove County Police Court, on Monday, Alderman Henriques, after imposing penalties upon motorists for exceeding the speed limit, commented on the uselessness of fines. Some people, he said, apparently thought nothing of paying a £5 fine for a day's amusement. If, however, the Bench had power to suspend licences for two, three, or four months it would afford greater satisfaction to the Bench and the public. Fines of £4 and costs were imposed in a number of cases, the speeds varying from thirty-four to twenty-eight miles.

A batch of sixteen motorists were proceeded against at the Buckrose (East Riding) Sessions at Norton, Malton, on Saturday, the "capture" being the result of a trap set by the police on the road from Malton to Scarborough on September 9th and 16th, and the result of the hearing was the infliction of fines totalling over £53, besides the costs. The chief offence was for driving at a speed exceeding the limit of twenty miles per hour.

## NO LIGHT.

At Chichester, on Saturday, William Knibbs was summoned for driving a motor-car without a back light on 25th September. Defendant said he could only account for the light going out through a violent shaking on the road at Cosham. He was fined 5s. and 10s. costs. Defendant: It's cost me £2 to get down to the Court, and it was only an accident. The Mayor: If it had not been, the fine would have been much heavier.

A LONDON motorist has been fined 15s. and costs at Scarborough for giving a false name when summoned for having furiously driven a motor-car.

## THE ENGINEERING AND MACHINERY EXHIBITION.

THE Engineering and Machinery Exhibition at present being held at Olympia, London, W., is attracting considerable attention amongst engineers, and on the occasion of our visit last week we came across quite a number of representatives of motor-car manufacturers and agents. A particularly noteworthy feature of the Show is the large display of machine tools, the bulk of which is shown in operation, being operated by means of electric motors. This section is of especial interest to motor-car manufacturers and traders, as it includes a number of tools specially designed for the automobile industry. The exhibitors include Messrs. Churchill and Co., Messrs. Selig, Sonnenthal and Co., Messrs. Ludwig Lowe and Co., Messrs. Buck and Hickman, Messrs. Suchard and Schutte, Berlin, Messrs. Burton, Griffiths and Co., Messrs. Pfeil and Co., Messrs. Armstrong, Whitworth, Ltd., Messrs. Joshua Heap and Co., Ashton-under-Lyne, Messrs. J. Holroyd and Co., Milnrow, near Rochdale, Messrs. John Stirk and Sons, Halifax, Bateman's Machine Tool Company, Ltd., Leeds, and Messrs. Geo. Richards and Co., Ltd., Broadheath, near Manchester. The only automobile exhibit is that of Messrs. Savage Bros., Ltd., who are showing one of their 5-ton steam wagons, combined with which is a portable electric lighting plant. Samples of their wood-tired wheels for motor-wagons are also on view. Tangent Wheels, Ltd., Balham, have a display of their special wheels for commercial and public service vehicles, which is attracting considerable notice. The Albany Engineering Company are present with a range of their Albany rotary pumps, which are now largely used for water-circulating purposes on motor-cars. A novel form of circulating pump is also shown by the Positive Rotary Pumps, Ltd., of 23, Northumberland Avenue, London, W.C. The Hele-Shaw disc clutch, which is exhibited by the British Hele-Shaw Patent Clutch Company, is shown in a variety of forms, it being made for general engineering purposes as well as for motor-cars. Price's Patent Candle Company, Ltd., have a large stand, on which are shown samples of their various oils and greases, including those especially prepared for use on motor vehicles. Messrs. W. H. Wilcox and Company, Ltd., made a large display of miscellaneous engineers' supplies, including lubricators, oil and water circulating pumps, oils and greases. The Joseph Dixon Crucible Company have an interesting exhibit of their graphitic and graphitic lubricants, now so largely used for reducing friction. An ingenious dynamometer for measuring the horse-power developed by petrol motors is to be seen at the stand of Messrs. W. G. Walker and Co., of Westminster. The apparatus, which is of a simple character, has already been adopted by a number of

motor-car manufacturers. The Roe Steel Castings Company, of West Drayton, show a large range of castings made by their special process, included in which are a number of motor-car components. Specimens of steel for automobile purposes are also to be seen at the stands of Messrs. S. Osborn and Co., of Sheffield, Messrs. Willans and Robinson, and Messrs. Jones and Colver, Ltd., Sheffield. Roller bearings are shown by the Empire Roller Bearing Company, and by the Hyatt Roller Bearing Company, both of Westminster. Acetylene lamps and generators for motor-cars as well as for general lighting purposes are shown by the Thorn and Hoddle Acetylene Company, Ltd. Messrs. J. and E. Marx show the well-known Carlo cleaning and polishing cloths, while a new one is seen in the "Perfecta," exhibited by Messrs. Boardman Bros., of Manchester. The Standard Metal Engraving Company and Messrs. Weiubrenner and Co. each make an interesting display of name-plates for machine tools and motor-vehicles. Other exhibitors include Fastnut, Ltd., whose "Fastnut" washer, for securely holding nuts in place, is already favourably known in the automobile world, the "Autoloe" of the Autoloe Syndicate, Ltd., and the "Sparklet" tyre inflator lately introduced by Aerators, Ltd., and which is being marketed by the Parsons Non-skid Company. The Exhibition remains open until the 17th inst.

## PUBLIC MOTOR SERVICES.

THE motor-buses at Shanklin, Isle of Wight, continue to be largely patronised. The motor-buses will continue to run to the principal places of interest throughout the winter.



Motor-buses on the Taaft-treated road at Westcliff-on-Sea. (See page 686).

It is probable that a motor service will be instituted next summer between Dulverton and Lynmouth.

THE ratepayers of the parish of St. Bride, Fleet Street, London, have adopted a resolution calling the attention of the City Corporation to the noise made by motor-buses.

THE St. George's (Westminster) Board of Guardians have decided to petition the Home Secretary with a view to legislation regulating the noise of motor-omnibuses, &c. A report from the medical officer at the Fulham Infirmary stated that accurate medical work was impossible in the day time owing to the noise. We notice, too, that in Fleet Street, London, most of the newspaper office windows are kept closed nowadays.

MR. W. WORBY BEAUMONT believes that the horsed-omnibus will ultimately be displaced by the motor-omnibus on all the important roads in London and elsewhere, and that, too, within four or five years from the present time. This will mean the disappearance of the 3,000 horsed-omnibuses with which the public have been familiar. At the end of the present year the number running will probably be 800 or 850.

At the hearing of a summons for reckless driving against a motor-omnibus driver on Thursday week, at the West London Police Court, the defendant acknowledged that he did not know the rules of the road as to passing other vehicles, pleading as an excuse that he had only been driving one month. This ignorance and the consequent risk to the public was strongly commented upon by the magistrate. The incident serves to illustrate one of the principal "raisons d'être" of the A.C.G.B.I.'s driving certificate, as knowledge of the law, embracing rules

of the road, speed limits, meaning of signs, &c., is essential to the would-be possessor of the certificate.

THE agitation against motor-omnibuses in the Manchester district culminated on Monday in the refusal of the Hackney Coach Committee to recommend the renewal of the provisional licences to run the vehicles. The licences were granted to the Manchester District Motor Omnibus Company for three months, and they expire on the 16th inst. The opposition to the motor-omnibus came from the suburban townships of Manchester. Mr. D. Boyle, the managing director of the company, appeared before the committee on Monday, when a special report was considered. According to observations made on certain routes the passengers only averaged about four on each journey. Mr. Boyle said the omnibuses had carried 120,000 passengers, but recently there had been a sort of boycott. Experience had demonstrated, he said, that the single-deck omnibus was preferable, and he asked for the renewal of the licences on the undertaking that a more modern type of car would be put on the roads. Mr. Hall, the solicitor of the company, pointed out that a refusal to renew the licences would entail considerable loss on local people who had invested money in the company. The committee unanimously agreed not to recommend the licences for renewal. This decision is subject to the confirmation of the Manchester City Council.

GOOD help has been rendered to holiday makers during the season now closing by the vehicles of the London and South Coast Motor Service, Ltd., which have been running between Folkestone and Hythe, Canterbury, Hastings, Tunbridge Wells, Margate, Ramsgate, Broadstairs, &c.

### NEW COMPANIES REGISTERED.

VALIABLE COMPRESSION MOTOR SYNDICATE.—£3,000. No initial public issue.

PREMIER TAXAMETER COMPANY.—£100. Manufacturers of and dealers in taximeters and other appliances for registering fares, distances, or speeds, &c. No initial public issue. Registered without articles.

BANCROFT LOCK LEVER TYRE COMPANY.—£2,000. To acquire from Mr. H. Bancroft certain patents for improvements in detachable bands for attaching pneumatic tyres, wheels of motor-cars and other vehicles, &c. 70, Market Street, Church, Lancashire.

MOTOR CORPORATION.—£5,000. 19, Basinghall Street, E.C.

### MOTOR-CAR ACCIDENTS.

A SERIOUS accident has befallen Mr. Arthur Clifton, of Battle, who was cycling home from London, and, as far as can be ascertained, he was knocked down by a motor-car between Sevenoaks and Tonbridge. He was rendered unconscious, and whether the driver of the car alighted or not is unknown, but the young man was left lying senseless in the road. He was found in this helpless condition by another motorist, and conveyed in the latter's car to the nearest doctor, by whom he was medically attended. He is now in a very serious condition.

COLONEL FOX, chief officer of the London Salvage Corps, met with an accident on Saturday night while on his way to a fire. In response to an alarm from a factory at Bermondsey the corps turned out, and Colonel Fox, as is his custom, followed them in a motor vehicle. While sharply turning the corner of Southwark Bridge Road the off wheels rose from the ground, and although the car did not overturn, the chief officer was thrown out with considerable force. Colonel Fox is likely to be confined to his bed for some days to come.

### A QUESTION OF TRADE DISCOUNT.

AT Bow County Court, on Wednesday of last week, before Judge Smyly, K.C., De Dion Bouton, Ltd., brought an action to recover £5 8s. damages for misrepresentation from W. Bull and Co., of 38, Queen's Road, Plaistow. Mr. Tindal Atkinson stated that last November the defendant called at the company's premises and purchased a 6½-h.p. engine. He handed in a business card which read, "W. Bull and Co., cycle and motor manufacturers, 38, Queen's Road, Plaistow," and at his own request he was allowed the usual trade discount of 15 per cent., which amounted to £5 8s. on the price of the engine. It was not till some months later that it was brought to the notice of the plaintiffs that the defendant wanted the engine for his own car and not for trade purposes. The company then made further inquiries, and found that as a matter of fact Mr. Bull was a printer by trade, but when business was slack he bought and sold a few second-hand cycles. When questioned the defendant admitted that he had not sold the motor-car, and under all the circumstances the plaintiff company felt bound to take action for the recovery of this money, not only to safeguard themselves but the retail trade in general. A representative of the Collier Tyre Company stated that in 1903 the defendant purchased a pair of tyres from them. On the strength of the card he then presented he was allowed a trade discount of 15 per cent., and the same thing occurred in 1904. Defendant declared that he had "taken up general engineering" for the past eighteen years. He was self taught, and had mended printing machines, cycles, bedsteads and mangles. He bought the car in question when it was out of repair and repaired it with the help of another man in order to sell again. When he gave the order for the engine he did not ask for the trade dis-

count, and even if he did hand in the card it was not with the idea of misrepresentation. His Honour said the defendant had bought the engine for his own car and for his own purposes, and had obtained this discount of 15 per cent. when he was not really entitled to it. Judgment would be given for the plaintiffs for the amount claimed with costs on the higher scale.

### CLAIMS AGAINST MOTORISTS.

AT Marylebone, before Sir William Selfe, on Tuesday, Messrs. Charles Richards, Ltd., Paddington, jobmasters, sought to recover from Madame Reyntein, of Ovington Square, W., damages in respect of injury to a horse and brougham, said to have been caused by the negligence of defendant's chauffeur. Mr. Drury, plaintiffs' counsel, stated that one of plaintiffs' coachmen was driving Viscountess Monck, of Eaton Square, towards Kensington, when defendant's motor-car, without any warning, was driven straight across the road in the direction of Hans Road. The motor-car was going rapidly, and an accident was inevitable. Plaintiffs' horse was badly injured and the brougham was, practically speaking, smashed up. One of the wheels of the brougham was smashed, and had it not been for the coolness and determination of the driver the accident might have assumed a very much more serious character. The horse was prevented from bolting after it had collided with a tradesman's cart. The jury awarded plaintiffs £41 15s., and judgment was entered for that amount.

### POLICE TRAPS.

THERE is a trap all round Canterbury on the main roads, also at Sturry and Bridge.

A TRAP on the Portsmouth road between Ripley and Guildford has been unearthed by the Automobile Association's patrols and photographed.

POLICE traps are again being worked on the London road, Pyecombe, and at Poling—both in Sussex.

THE Dumbartonshire police have been recently very vigilant upon the Glasgow and Stirling road through the parish of Cumbernauld, between Mollinsburgh and Castleary, where there is a detached portion of that county. There are several measured distances between Condorrat and Eastfield and Cumbernauld, and between Cumbernauld and Castleary. No warning is given at the time, and the timing is done by men in plain clothes. Automobilists should exercise great care when driving in that district, which is under the jurisdiction of Sheriff Blair.

THE Chief Constable of Ayrshire has advised the Scottish Club secretary that a number of complaints have been made to him about excessive speeds on the Kilmarnock road, particularly between Fenwick and Kilmarnock, and has asked that the influence of the club might be used to ensure that any cause of complaint might be removed. Before making this communication the Chief Constable has taken the precaution of timing a large number of cars, and he states that he is satisfied that the complaints are well grounded.

THE meeting of the Cyclists' Touring Club to confirm, or otherwise, the proposal to enlarge the scope of that organisation's operations will be held on the 12th inst. at the Caxton Hall, Westminster.

THE Automobile Association's cyclist patrols will be on several roads in Lancashire during the Blackpool races. The cyclist company is being strengthened by a few of the smartest A. A. patrols in the southern district.

THE headquarters of the Blackpool Meet are at the Hotel Metropole; at the Clifton Hotel the Continental Tyre have established a depot and provided a staff of fitters in connection with the event.

MESSRS. J. C. AND J. FIELD, LTD., of Lambeth, are introducing some motor oils and greases of high grade. These are the result of careful experiment and should rapidly go into automobile favour. Among the specialities are "Fieldine"—this being the distinctive name of the motor preparations—motor oil, gear oil, and motor grease, all of which are supplied in rectangular tins of convenient capacity.

A NEW non-skid band known as the "Lac" Leather Non-Skid is being put upon the market by Messrs. R. S. Currie and Company, of 76, Salisbury Road, West Kilburn. This consists of a chrome leather band to which a band of belting is securely riveted by metal studs of somewhat different appearance to those that have become familiar. Mr. R. S. Currie is the engineer to the Ladies' Automobile Club and has well thought out the design of this new band, which has already elicited favourable commendation from those who have used the "Lac" device.

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## COMMENTS.



THE first list of officers appointed to the Army Motor Reserve has appeared in the "London Gazette." With very few exceptions the officers of the late Motor Volunteer Corps have been granted commissions in the Army Motor Reserve. Captain Ker-Seymer and Captain Macmillan have received majorities, taking charge of administration in England and

Scotland respectively. It may also be noted that Lieutenant Windham, R.N., who held a majority in the Motor Volunteer Corps, now holds a captain's commission in the Army Motor Reserve, as his duties as King's messenger occupy so much of his time that he finds himself unable to accept the responsibility of a major's rank.

### Brighton.

BRIGHTON, the Biarritz of England, has ever been a favourite resort, and now that the Automobile Association scouts have made it possible to travel safely on the road thereto without being "held up," the weekly gatherings of motorists have become very large, as can be seen by the number of cars standing outside and round about the hotels. On both the last two Sundays this has been especially noticeable. At the Metropole, the rendezvous apparently of people from all parts of the world, the number of cars has certainly not fallen far short of one hundred, filling the garage, and extending in single line nearly to the top of the street adjoining, as well as standing three deep outside the hotel. The "Metropole," perhaps the best of all the Gordon hotels, is certainly one at which it is a pleasure to be a guest, the accommodation for motorists being especially good, roominess and airiness being the chief characteristics, although both are equalled by its cuisine.

### A Commissioner on the Report.

THE dinner of the Society of Motor Manufacturers and Traders at the Hotel Cecil, London, on Wednesday of last week, was notable as being the first occasion on which a member of the Royal Commission on Motor-Cars has spoken on that subject since the issue of the report. From the remarks made by the Marquis of Winchester, it was very clear that the Commissioners are anxious that the Government should place their propositions upon the Statute Book without any alteration from the form in which they have been given to the country. He paid warm tribute to the work of Viscount Selby in connection with the report, and also the enthusiasm with which Sir W. Forward, M.P., developed a technical knowledge of automobilism during the sitting of the Commission, bringing his ideas into line with those of the motoring community. He trusted that the views of the two official gentlemen who differed from their colleagues on the question of speed limit would have little weight with Parliament. The Marquis cordially approved of the appointment of a central authority to maintain the public roads of the country, and dealt very reasonably with the objection taken by the Royal Commission to

the fines paid by motorists being devoted to road repair and improvement. All along we have taken the view that such a policy was unwise, as making an innovatory distinction in the common law so far as motorists were concerned. There are many arguments in favour of advocating that taxes levied on users of the road should be applied to purposes of road improvement, but to suggest that fines for legal offences should be similarly allocated seems rather to put a premium on such exactions, and in practice would doubtless work out at a disadvantage to motorists.

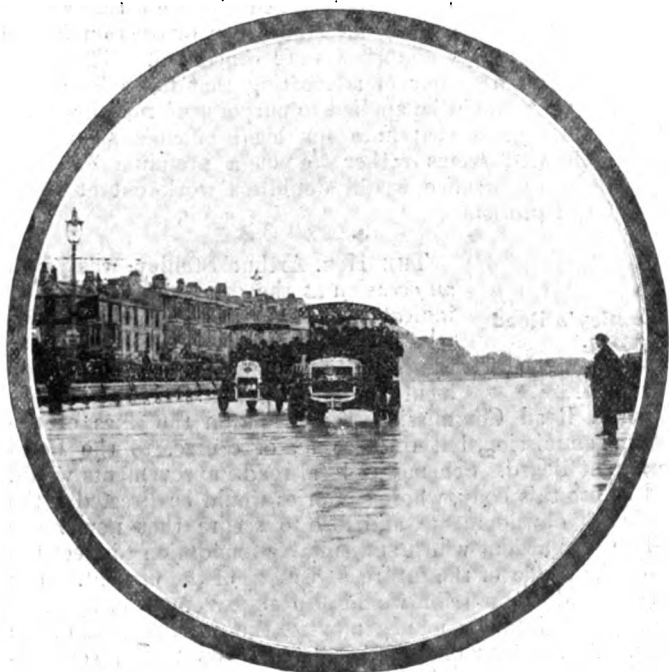
### Mr. Stanley's Road Bill.

THE Hon. Arthur Stanley was given an occasion at the dinner referred to, to indicate the main provisions of the Bill which he is introducing with regard to the control of the highways. In his usual lucid manner he showed this would establish a Road Commission, somewhat on the lines of the Railway Commission, but responsible, of course, to the Local Government Board. Schemes of local road improvements would be laid before this body, whose enquiries would be directed to the need of such developments, and also to secure that new roads should be of sufficient width and suitable foundation to meet the needs of the traffic of the future as well as of the present. The proposed Road Commission would also endeavour to bring some kind of system into the management of the great arteries of the country. As a matter of fact, there are no fewer than seventy-two authorities responsible for the various parts of the Great North Road, and this naturally leads to confusion in control, and great lack of that uniformity in road construction desired by those who pass along its entire length. With regard to the proposed taxation Mr. Stanley was in agreement with all practical motorists that a tax on the basis of horse-power is the least scientific method that could be suggested.

### Practical Consideration.

A VERY practical speech was made by Mr. E. P. Hooley, the county surveyor for Nottinghamshire, who pointed out the absorbent power of granite, and dwelt upon the importance of road material being made waterproof on all sides before being laid on the road—a striking example of the value of which system can be seen in his county, where the roads are a delight to the user. Lord Montagu, who has done much good work in his own county of Hampshire, as well as in inciting local authorities elsewhere to road improvement, was able to touch upon the subject with knowledge of the financial aspect of the situation. This is the crux of the matter in several places, especially when we remember that the cost of road maintenance is increasing to-day at a very rapid rate. In Worcestershire, for instance, the cost per mile was £64 five years ago, now it is £86, and finality has not yet been reached. The suggestion was made by Lord Montagu, however, that the various localities should be encouraged to spend some settled amount upon road repair, the Government contributing an equal amount towards the cost. He is not altogether enamoured with the Commission's present suggestion with regard to the taxation by weight based upon the laden car, this appearing to place heavy touring vehicles built and equipped for reasonable use at the dis-

advantage of the higher powered but lighter vehicle built only for getting over the ground in the shortest possible time. Probably this is one of the subjects on which the Marquis of Winchester might be able to influence the framers of the new measure in order to secure that the basis of taxation might be the weight unladen, instead of insisting that this should be done when they are fitted with the tanks, &c., for the road. Other speakers at the dinner included Sir J. H. A. Macdonald, whose enthusiasm dates from the first 1,000 mile trial, Mr. Sidney Straker, the President of the Society, and Mr. Langridge, President of the Surveyors' Institute. Altogether the Society of Motor Manufacturers and Traders may be congratulated on the success of their initial meeting for the 1906-7 season, the speeches being pointed and clear, in place of that general roaming over the subject without indicating much in the end, which too often vitiates after-dinner oratory.



Motor 'Bus Racing at Blackpool. The Contest between the Critchley-Norris and the Leyland.

#### The Bench as Prosecutor.

AMONG the legal cases reported this week is one heard at the Cowbridge Police Court, in which the magistrates on the Bench appear to have been prosecutors as well; or, at least, one of them seems to have incited the police to prosecute in the first instance. On the 25th ult., after the business of the court had ended, Mr. Jenkins, from the Bench, asked the police superintendent why no steps had been taken to prosecute the driver of a motor-car who was alleged to have driven furiously through the town. The superintendent stated the matter was under consideration, whereupon Mr. Jenkins aid that unless the police took the matter up they would hear more about it. Hence the prosecution reported on another page.

#### Horse Power.

THE hope expressed by Mr. Sidney Straker on the occasion of the Press inspection of his new car on Monday with regard to the standardisation of horse power will be of interest to our readers. On several occasions leading makers have taken advantage of our correspondence columns to ventilate their views on the subject. Latterly the wonderful performances of cars of comparatively low power at race meetings and hill climbs have occasioned some surprise, the modesty of the manufacturers with regard to horse power being remarkable. Should the proposed

taxation by horse-power ever be seriously made further shrinkage with regard to the published attributes of their vehicles may be expected. Meanwhile, however, the vagaries of power will still amuse the trade and confuse the novice. However, Mr. Straker seems somewhat optimistic with regard to the joint efforts of the A.C.G.B.I. and the Society of which he is president in effecting some regulations which will tend to prevent cars being described as of 17-43-h.p.—or ranges of power equally wide and elastic.

#### Reigate welcomes Progress; but fines Motorists.

REALLY Reigate must look to the reputation it attained when, on the famous Motor Car Emancipation Day, it flung out a banner on the outward wall with the inscription that "Reigate welcomes progress," i.e., the motor-car. On Saturday last a batch of motorists assembled at the local police court, and all were fined save one. At first sight it would seem that there was a spark of sympathy on the Bench, but when the evidence is studied the wonder is that they should have expressed any doubt. It was obviously a case that warranted instant dismissal, despite the awesome presence of Inspector Jarrett, whose trapping propensities have given him renown throughout the county of Surrey. In the London Road, Kingswood, the inspector had a measured distance, and stationed himself at what he described as "the winning point." When questioned by the defendant Inspector Jarrett admitted that the measure was taken, not on a straight piece of road, but on a curve. He measured it with an eleven yards tape, taking the middle of the bend, which, he admitted, would make a difference of fifteen yards if the driver kept to the side of the road. The defendant said that he had measured the distance and found it 200 yards, not 220 yards, as stated by the inspector. If the car passed on the inside of the curve it would be twenty yards less. It was a most unfair trap, the distance being almost half a circle, and it was possible for anyone to go over the measured distance twenty yards less than the inspector said, and the loss of two seconds would make all the difference between being within and over the limit. Even Inspector Jarrett must be careful.

#### Industrial Alcohol.

THOSE who have lately taken a public interest in the question of industrial alcohol in its relation to automobile development will be glad to learn that the Society of Motor Manufacturers and Traders have appointed a sub-committee to consider the matter after consultation with any authorities likely to be able to assist in the matter. In view of this special attention may be drawn to the investigation which Prof. C. E. Lucke, of Columbia University, New York, is to make for the Department of Agriculture of the possibilities of alcohol as fuel. It is expected in the United States that large quantities of denatured alcohol will be used for that purpose in small engines, automobiles, and motor-boats, and the result of Prof. Lucke's experiments, as well as those which have been carried on in foreign countries, will be collected and published. Persons who have patented vapourisers, carburettors, or complete engines, which it is desired to test, may send the apparatus to Prof. Lucke at New York.

#### A Solicitor on the Law.

LAST week the Law Society met at Manchester, when "Motors and Highways" was the subject of a paper by Mr. W. E. Rowcliffe, who combines motoring enthusiasm with legal knowledge. Mr. Rowcliffe, having traced the course of legislation with regard to automobilism, ventured—and with truth—to think that many of the complaints raised against motorists are chiefly due to the dust nuisance. The public are well protected against the reckless drivers of motor-cars; but the motorist likely to be summoned for exceeding the



speed limit is at a decided disadvantage owing to the period of twenty-one days being granted to the police in which to give warning. And here we would remark that the mere call of an officer to intimate that it is the intention of the police to prosecute is not sufficient legal notice. Mr. Rowcliffe himself recently appeared for a client who had been thus notified, and was able to secure from the Bench a ruling to the effect that a constable could not be regarded as a "notice," the Motor Car Act of 1903 clearly intending that the intimation, if not given at the time of the offence, must be followed in writing. We agree with the criticism of the present law as to endorsement, which certainly requires all the amendment suggested by the Royal Commission. Altogether Mr. Rowcliffe's paper, though dealing with matters which have been learned by motorists in the police courts and elsewhere, must have proved highly useful and interesting to the legal audience to which it was read.

#### The Settlement of the T.T. Blunder.

OUR anticipations last week as to a satisfactory termination of the episode between the A.C.G.B.I. and the Argyll Co. has been realised, the latter having made written amend to the former, and the position assumed by the Club having been recognised as untenable in view of the official overlooking of Rule 29, which says that vehicles finishing the course—as was done by Mr. A. E. George's Argyll car—shall be driven to the enclosure under supervision to be re-weighed. "If after the race the weight of chassis and weight of load carried respectively are found not to conform to the regulations the car shall be disqualified." This rule should have been adhered to, and the times of the car taken, before disqualification consequent on the lost ballast took place. The incident proves the necessity of officials being fully conversant with the rules, and the advisability of fastening dead weight in competing cars. "All's well that ends well," and the Argylls are again doing well in automobile competitions with full official sanction.

#### In South Africa.

ON the Rand the motor-car is proving its serviceability to the managers of mines, metallurgists, and others in enabling them to maintain a personal touch with those responsible for various operations in mining. Throughout the Transvaal and the Rand the automobile is now used to visit the diamond and tin properties where formerly the post cart was the only means of conveyance. Several important agencies have already been given to local firms and others are pending. The Transvaal Motor Garage is the agent for the Darracq and Wolseley cars. At Johannesburg the Continental Motor Garage is erecting a motor garage at a cost of £7,000, the building being of steel, with a floor area of 150 ft. by 70 ft. This will be ready for occupation in December. The Motor Car Emporium and Messrs. Wevell Brothers are other firms interested in the import of automobiles into the mining districts, and they, in common with the others, find plenty of business of a rapidly expanding character. The inaugural run of the Natal Automobile Club was held recently, when seventeen cars were driven out to Mount Edgecombe from Durban.

#### Motor Cars in Bombay.

THE Government of Bombay now have under consideration the rules that are to govern the use of motor-cars in Bombay. It is practically certain the Government will adhere to their decision to impose a speed limit. As to what that limit should be the Indian journals are giving expression to a strong feeling entertained by the principal users of the streets that it should not be more than twelve miles an hour. There can be no modern city where the traffic conditions are more dangerous than they are in Bombay. The absence of pavements, the fondness of the people for the middle of the streets, the eccentricities of untrained coachmen, the multitude of slow-moving bullock carts in charge of slower-witted drivers—these

make up conditions, in a crowded city, which demand the utmost caution. They are intensified when the irresponsibility of a large number of the local chauffeurs, and the inability of the police to exact that measure of respect from all classes of drivers which is the secret of successful traffic management in England, is considered.

#### At Hunting Meets.

SHROPSHIRE masters of fox hounds have quite taken to the motor-car, and so loyal are the farmers to the genial masters of the various hunts that it would seem that the last vestige of prejudice against motors would disappear from the country side. There are few more ardent followers of hunting than the genial master of the South Shropshire hounds, Mr. Dun Waters, and the other week, in the dress of the hunting field, he drove through Shrewsbury in a large car. Mr. Frank Bibby, the master of the North Shropshire hounds, has also brought the motor-car largely into his service. His large Daimler and powerful 40-h.p. wagonette are familiar on Shropshire roads. Amongst Montgomeryshire gentlemen, Mr. David Davies, M.P., another master of fox hounds, is a keen auto-



To check reckless drivers, the Wolseley Co. have erected a barrier at their Garage in Westminster, which is raised by a cord in the time-keeper's office. Every chauffeur must obtain a pass on leaving the gates, and his number and the exact time of his departure and return are recorded.

mobilst, and has quite a number of cars, while we learn from the "Oswestry Advertiser" that some London gentlemen are combining motoring and shooting in their brief periodical breaks from business in the City. Reaching Shrewsbury by train, their method is to hire a car from the Shrewsbury Motor Garage, and go on by road to Holyhead, where they have their shooting, staying a couple of days and getting back to Shrewsbury in time to catch the night train to London. Thus in a minimum of time they get the maximum of motoring and shooting out of a two days' trip to out of the way Anglesey.

CONSEQUENT on the pressure on our space, owing to the Blackpool race meeting, the prize photographs are unavoidably held over.

THE present insurance arrangements between the Motor Union and the General Insurance Corporation for the insurance of members' cars expire on December 31st next, and in view of this a special scheme has been prepared and will come before the general committee at their meeting on Wednesday next. Details of the proposals will be made known at an early date.

# The Blackpool Motor Meeting.



"A MERRY CHRISTMAS," said a friend to us on Saturday last, as we hurriedly made for shelter to escape from the hailstorm which added its quota of discomfort to spectators and competitors alike. The greeting was by no means *mal apropos*, for, truth to tell, the clerk of the weather came much nearer to preventing the Blackpool motor meeting taking place than ever did the few inhabitants who unsuccessfully invoked the aid of the law in support of their objection to the closing of a portion of the Promenade. As it was, the elements caused a curtailment of the first day's proceedings, and rendered those on the second anything but enjoyable. Everything that was humanly possible to render the event a success had been done by the organisers—the Blackpool and Fylde District Motor Club, of which Mr. A. Huntley Walker is the chairman, was the moving

Co.—who brought their cars down from Coventry in a special L. and N. W. train—Clement-Talbot, Ltd., and other concerns. Altogether 163 entries were received for the first day's events, and over 200 for the second, the gathering thus being by far the most important yet held in this country. The course was not so long as that made use of last year; it extended from below the Victoria Pier at South Shore to just beyond the Central Pier, a distance of nearly two miles. The cars ran on the Marine Parade on the seaward side, which extends right to the edge of the sea wall, the railings alone separating the vehicles from the beach. The spectators were confined to the land side of the Promenade, and enclosed between them and the Parade was the tram track, which was utilised for the return of the competitors to the starting point—a considerable improvement on last year, when the



A Bird's Eye View of the Track

spirit of the whole meeting—and it was unfortunate that the only thing they could not control proved infractious.

Arriving in the Brighton of the North late on Thursday the 11th inst., we found the town as full of motor-cars as of familiar faces, all the well-known motorists and motor traders of the country being present. The headquarters were, as usual, at the Hotel Metropole, the resources of which were taxed to the utmost. Some excitement had been caused in the afternoon by the arrival from London of a large party which had made the 250-mile journey in a couple of days by means of two Darracq-Serpellet steam omnibuses. A further contingent left the Metropolis on a Fiat bus on the Thursday morning and arrived in the small hours of Friday, having made the trip well under the twenty-four hours, including stoppages for refreshments, &c., en route.

As was expected, quite a fleet of Darracq cars took part in the meeting, which was, however, well supported by the Daimler

cars had to make their way back through the crowd. A run down the track on Mr. Gordon Usmar's Vinot car, which was being used for marshalling purposes, showed that much better plans had also been made to keep the spectators informed as to the results of the races, announcement boards being fixed at different points along the course, to which the names of the winners of the different races and their times were promptly communicated by means of the excellent temporary installation of thirteen telephones carried out by Mr. Charles Furness, the Blackpool Borough Electrical Engineer. On each day the usual luncheon interval was dispensed with, the programme being carried through without a break.

## FRIDAY'S RACING.

Promptly at the hour fixed—midday—the meeting proper opened with a standing mile handicap for fully-equipped touring motor-bicycles, in which pedalling was only allowed for the first hundred yards. The entries numbered twenty-five

and of these practically all put in an appearance. The event was run off in four heats, the first in each and the two fastest losers competing in the final, which resulted in a win for R. M. Brice, who, on his 3½-h.p. Brown machine, covered the mile in 1 min. 25 1-5 sec. (40·3 miles per hour) reduced by his 16 sec. start to 1 min. 9 1-5 sec. net. F. Hulbert, 3-h.p. Triumph (20 sec.), was second, and W. W. Genn, 3½-h.p. Minerva (10 sec.), third. The race was one of the most hotly contested of the day, the riders keeping well together, to the delight of the spectators. This was followed by the mile scratch race for motor-bicycles of any size or weight, in which the four British competitors—Messrs. Rignold, Rose, Tessier, and Genn—were pitted against the famous French racers Cissac and Giuppone, both riding 14-h.p. double-cylinder Peugeot's. There were two heats, Giuppone winning the first and Genn the second, Cissac having difficulty in getting away promptly. In the final, the high power of Giuppone's machine led him to victory in 1 min. 0 1-5 sec. (59·8 miles per hour), Genn, on his 6-h.p. Minerva, taking the second place with 1 min. 9 4-5 sec. to his credit.

The car events were all over a standing mile, the first one being restricted to vehicles of a chassis price of below £300. They had to be fitted with standard touring bodies and carry four passengers. The entries—nine in number—included two 10-h.p. Darracqs, a 14-h.p. Vulcan, a 12-14-h.p. Calthorpe, a

A. Lee Guinness on a 15-h.p. Darracq and the 24-30-h.p. Baye, and between the two Stars, only two-fifths of a second separating them at the finish. The result of the race was:—1, H. G. Day, 12-16-h.p. Clement-Talbot, 1 min. 26 2-5 sec. (41·6 m.p.h.); 2, J. Reid, 16-20-h.p. Beeston-Humber, 1 min. 27 sec.; and 3, Mr. M. Ross Browne, 22-h.p. Minerva, 1 min. 27 2-5 sec.

Sixteen cars faced the starter in the class for cars of a chassis price up to £650, they comprising a 30-h.p. Darracq, a 30-h.p. Thornycroft, three 28-h.p. Daimlers, a 40-h.p. Rapid, a 35-40-h.p. Beaufort, a 40-45-h.p. New Eagle, a 20-32-h.p. Darracq, three 20-35-h.p. Darracqs, a 24-30-h.p. Richard-Brasier, a 40-h.p. Bianchi, a 16-20-h.p. Coventry Humber, and a 20-h.p. Rothwell. Although good times were made, very few real contests were seen between the cars, which were sent off in pairs, the most keenly contested one being that between Mr. Warwick Wright's 30-h.p. Darracq and the 30-h.p. Thornycroft. The result was:—1, Mr. Warwick Wright (30-h.p. Darracq), 1 min. 18 1-5 sec. (46 m.p.h.); 2, Mr. A. Lee Guinness (20-35-h.p. Darracq), 1 min. 18 2-5 sec.; 3, Mr. Tom Thornycroft (30-h.p. Thornycroft), 1 min. 18 4-5 sec. The class for cars of a chassis price up to £900 naturally brought out some high-power vehicles, and increased the interest of the spectators. There were nineteen entries, and of these, notwithstanding rain and a wet track, the following sixteen



Miss Dorothy Levitt returning along the Tram Track to the Starting Point after doing the Flying Kilometre in 24 3-5 seconds.

12-h.p. Ribble, a 10-12-h.p. New Eagle, a 9-h.p. Vauxhall, and two 10-12-h.p. Humbers. These were sent down the course three at a time, the 14-h.p. Vulcan, driven by Mr. T. Rimmer, proving the winner, his time being 1 min. 37 1-5 sec. (37 m.p.h.), Mr. W. Ashford's 10-12-h.p. New Eagle being second in 1 min. 49 4-5 sec., and Mr. R. M. Wright's 10-12-h.p. Humber third in 1 min. 51 1-5 sec.

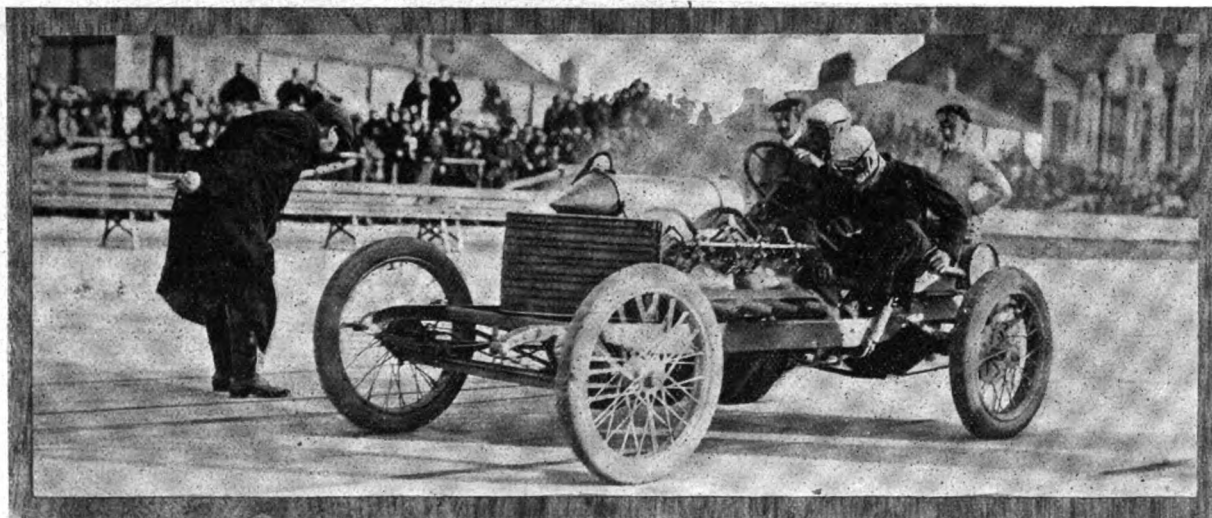
The mile contest for touring cars of a chassis price under £450 brought out the largest field of the day, no less than twenty-five out of the twenty-nine entries competing. The cars, among which were a number of those built for the Tourist Trophy event, included a 16-20-h.p. Argyll, three 15-h.p. Darracqs, two 16-20-h.p. Humbers, two 16-20-h.p. Rovers, an 18-24-h.p. Courier, three 22-h.p. Minervas, a 20-h.p. Calthorpe, five 12-16-h.p. Clement-Talbots, a 15-20-h.p. Unic, an 18-h.p. Germain Chainless, a 20-24-h.p. National, a 14-h.p. Germain, a 24-30-h.p. Baye, and two 18-h.p. Stars, the latter being driven by Mr. E. Lisle, sen., and Mr. F. R. Goodwin. An amusing feature was the extraordinary positions taken by the passengers to reduce "windage," they being huddled up in all sorts of strange attitudes. The cars were sent off in batches of three, and owing to some of them getting away badly very few real races resulted. Two of the best contests were those between Mr.

faced the starters:—Six 35-h.p. Daimlers, a 35-45-h.p. Daimler, a 40-h.p. Brouhot, a 50-h.p. Ariel Simplex, a 35-40-h.p. of the same make, a 50-h.p. Napier, two 30-40-h.p. Daimlers, a 60-h.p. Beeston Humber, a 40-h.p. Darracq, and a 40-h.p. Berliet. The cars were again sent down in couples, the most tightly contested race being that between Messrs. A. Farnell and R. S. Grigg's Daimlers. The 40-h.p. Darracq driven by Mr. A. Rawlinson, however, proved the speediest of the bunch, he winning the event amidst the cheers of the spectators in 1 min. 2 1-5 sec. (57·8 m.p.h.), Mr. E. M. C. Instone, on his 35-h.p. Daimler, being second in 1 min. 9 sec., and Mr. R. S. Grigg, on a similar car, third in 1 min. 9 2-5 sec. The feature of this event was the consistent running of the eight Daimlers which took part in it, less than nine seconds dividing the first and last of the team, which secured seven out of the first eight places.

Heavy rain was experienced during the major part of the time of the contest between the entries in the unrestricted touring car class. There were eleven starters, ranging from an 18-h.p. Germain to a 100-h.p. Mercedes, and including also a 50-h.p. Ariel Simplex, two 35-h.p. Daimlers, three 45-h.p. Daimlers, a 35-40-h.p. Beaufort, a 40-h.p. Mercedes, and a 40-h.p. Darracq. The last-named was again driven to victory by Mr. A. Rawlinson in exactly the same time as in event No. 6 (1 min.

2 1-5 sec.), Mr. E. E. Wadcoat's 100-h.p. Mercedes being second in 1 min. 8 4-5 sec., and Mr. Birtwistle's 45-h.p. Daimler third in 1 min. 9 1-5 sec. No entries having been received for Event 8, which was confined to steam cars, attention was next centred on the standing mile race for motor-buses, which, in spite of its probable undesirability from the point of view of causing the public to expect greater speeds than are reasonable and safe in this class of vehicle, did more to rouse the enthusiasm of the spectators than all the contests which had preceded it. Seven entries had been received, and of these all but one turned up, viz., a couple of Darracq-Serpollet steamers, a Fiat, a Ryknield, a Critchley-Norris, and a Leyland. The last two had char-a-banc bodies, while the others had the standard double-decker. Each vehicle carried its full complement of passengers, who caused much excitement in the way they urged their respective drivers on by cheers. The machines were sent off in couples; the Fiat first beat the Ryknield, then came the two steamers, and finally the Critchley-Norris and Leyland char-a-bancs, the latter being driven by Mr. H. Spurrier. As was to be expected, the Darracq-Serpollets from the point of view of speed proved superior to their petrol rivals. The authorities decided that no times should be published; instead, the best performance was treated as zero, and the time by which the other vehicles exceeded this

frequently blew the figures off the result boards and sent them careering along the track. The proceedings again commenced at mid-day, but there were relatively few spectators at the start. Although it had been decided to carry through the programme, the order was not adhered to, Event 18, the flying kilometre for cars of a chassis price up to £300, being the first to be run off. Out of the eight entries five turned out. The 14-h.p. Vulcan, driven by Mr. T. Rimmer, again showed its speedy qualities, its time being 1 min. 3 3-5 sec. (35.1 m.p.h.), Mr. R. M. Wright being second on his 10-12-h.p. Humber in 1 min. 4 4-5 sec., and a 10-12-h.p. Coventry-Humber, driven by J. S. Stafford, third in 1 min. 12 3-5 sec. The competitors in Class 19, chassis up to £450, were sent off in pairs, but no exciting finishes were witnessed, and it would have greatly increased the interest if the three fastest cars had been given a chance of racing between them for the first place. There were twenty-four cars in the event, the types including Argylls, Darracqs, Humbers, Rovers, Belsize, Couriers, Minerva, Calthorpes, Clement-Talbot, Unic, Germain, National, Baye, and Star. The 18-24-h.p. Belsize was driven by Mrs. Riley, who met with a cheer as she finished a couple of seconds in front of Mr. A. C. Gibbons, 18-24-h.p. Courier. The winner proved to be Mr. H. Ramotsy, who drove his 18-h.p. Germain over the flying kilometre in 51 sec. (43.8 m.p.h.), Mr. P. Graham's 16-20-h.p. Rover being second in 53 3-5 sec., and another 18-h.p.



The Hon. A. Lee Guinness on his 200-h.p. Darracq Racer.

was given in seconds, with the following results:—1, Darracq-Serpollet (No. 135) zero; 2, Fiat, 17 sec.; 3, Darracq-Serpollet, 29 2-5 sec.; 4, Critchley-Norris, 30 3-5; the Leyland and the Ryknield tying for the fifth place with 31 1-5 sec.

The racing car events were the next on the programme, but the rain was coming down so steadily that the officials, after considerable delay, decided that it would be unsafe to continue. In the meantime several of the racing cars went down the track at a rattling speed, by way of testing its safety, and one or two swerved somewhat unpleasantly near the grand stand. Mr. Walter Gibbons was among those who risked the rain and the danger of skidding, doing the standing mile on his 50-h.p. Itala, which had been stripped of its ordinary body, in 46 1-5 sec. The 120-h.p. De Dietrich, the 100-h.p. Darracq, and the 100-h.p. Itala, with Gabriel, Demogeot and Mr. H. R. Pope driving, also tested the safety of the track under the unfavourable atmospheric conditions, with the result that it was decided about 4.30 p.m. to bring the day's proceedings to a close.

#### SATURDAY'S RACING.

The second day, from the point of view of the weather, was, perhaps, even more disappointing than the first. Throughout the morning there were periods of sunshine and rain, both unfortunately being accompanied by a piercing cold wind, which

Germain driven by M. Servais third, in 54 1-5 sec., the latter just beating Mr. A. E. George's 16-20-h.p. Argyll by 1-5 sec.

Attention was next turned to the motor-bicycles, the flying kilometre for tourists (Event 16) being run off first. There were no less than nine heats, but no final, the winners being selected according to the fastest times made. The result was:—

Driver.	Car.	Start.	Gross time.	Net time.
		Sec.	Sec.	Sec.
1 H. Reed	5-h.p. Peugeot	3	45 4-5	42 4-5
2 W. W. Genn	3 1/2-h.p. Minerva	5	48	43
W. H. Wells	5-h.p. Vindec	4	47	43
3 A. Edmondson	5-h.p. Derwent	3	49 3-5	46 3-5

There were only five competitors in the flying kilometre scratch motor-bicycle race, W. W. Genn (6-h.p. Minerva), H. P. Rose (5-h.p. Roc), and A. N. Orr (7-h.p. J.A.P.) being the only English riders to face the redoubted Frenchmen, who carried off first and second place, with a big margin. The first was Cissac, who, while not equalling his record of 27 3-5 sec., established on the same track last year, covered the kilometre in 29 sec. (77.1 m.p.h.); Giuppone, on his 14-h.p. Peugeot, was second in 30 4-5 sec.; and W. W. Genn third in 38 4-5 sec.

Although still bitterly cold, the weather had now taken a brief turn for the better, and the number of spectators rapidly increased when it was announced that the next event would be

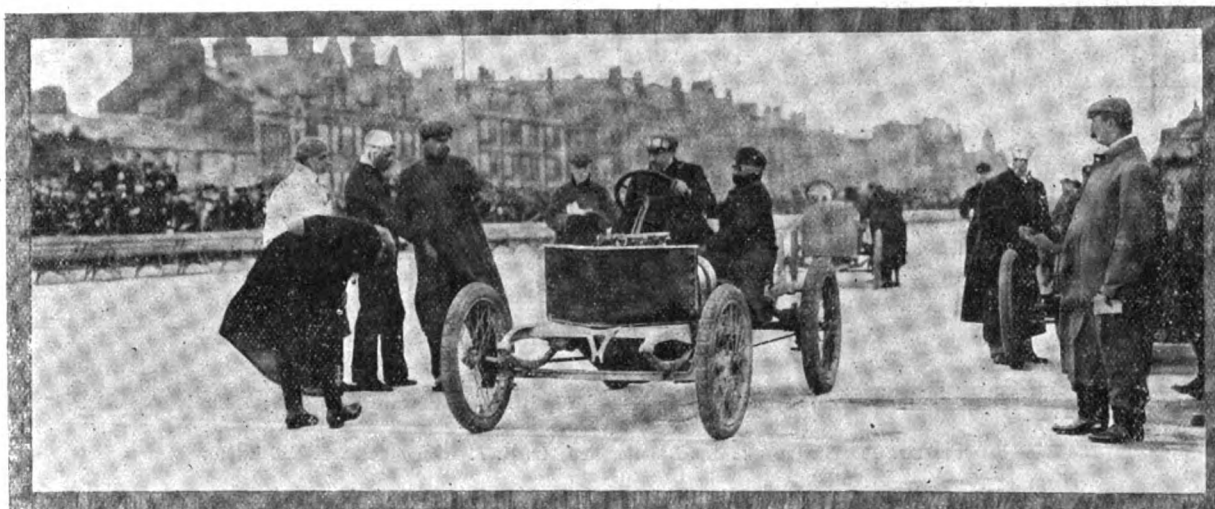
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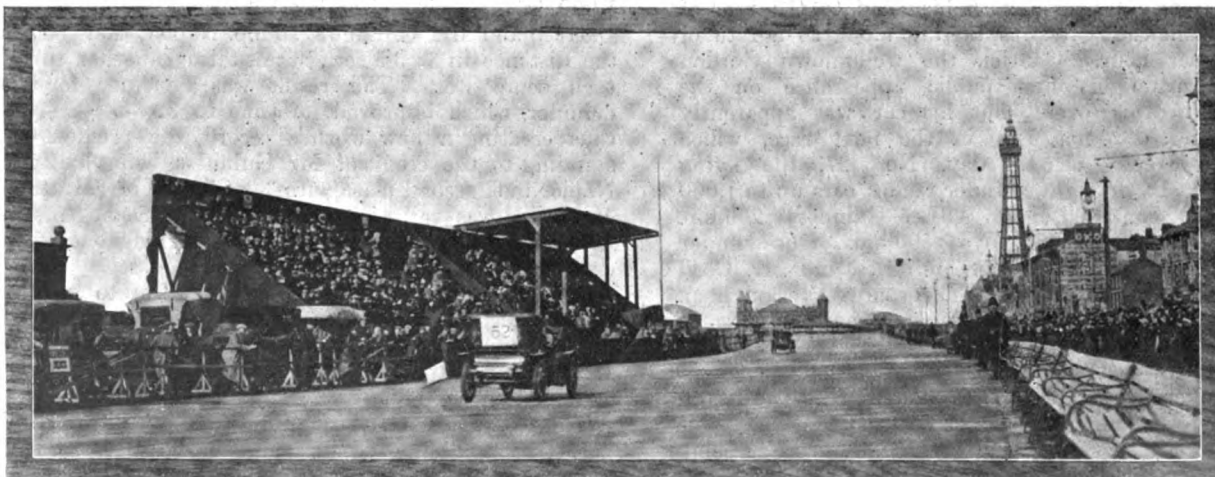
## THE BLACKPOOL MOTOR MEETING.



A View of the Track from the Starting Point.



Femogeot preparing to start in the Standing Kilometre Event.



A couple of 12-16-h.p. Clement-Talbot Cars passing the Grand Stand.

(Continued from page 694.)

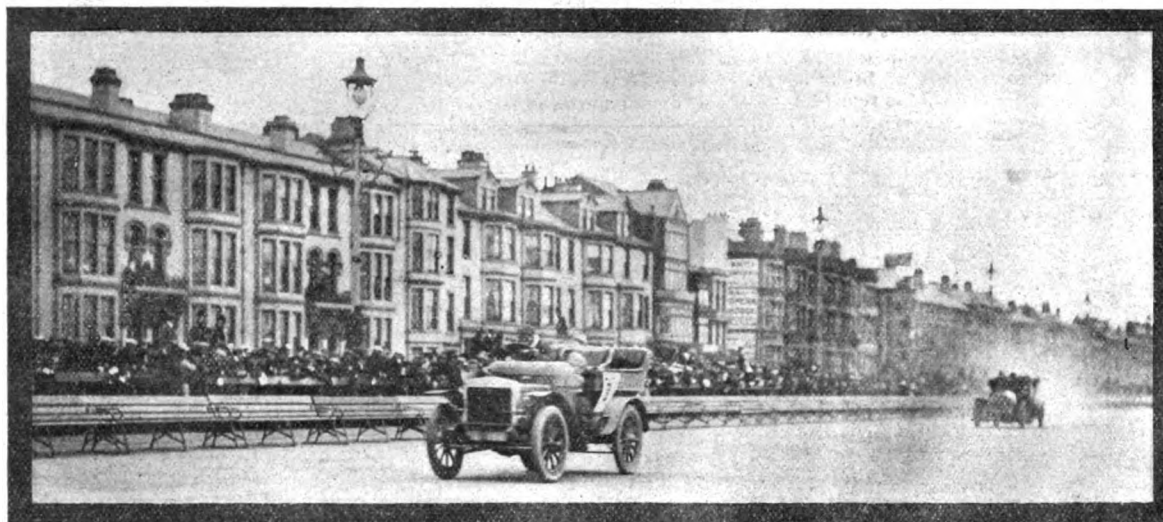
the flying kilometre for racing cars up to 650 kilogs. (Event 25). The entries included two 80-h.p. Darracqs, an 80-h.p. Napier, a 50-h.p. Itala, and an Argyll light racer, the latter being one of the Tourist Trophy cars, which had been stripped to such an extent that it was little more than a skeleton chassis. Although travelling against a strong wind, Mr. Huntley Walker drove his 80-h.p. Darracq into the first place with 30 2-5 sec. (73.5 m.p.h.) to his credit, Mr. Walter Gibbons (50-h.p. Itala) being second in 38 4-5 sec., and Mr. Orrell Wren's 80-h.p. Napier third in 41 4-5 sec. The Argyll was fourth in 45 2-5 sec., equal to 49.2 miles, a performance which brought its driver, Mr. A. E. George, many congratulations. The good weather did not last long, but five more racers turned out for Event 26—the flying kilometre for four-cylinder racing cars up to 1,000 kilog. The cars went down the track one at a time, the result being as shown below:—

Driver.	Car.	Time.	Miles
		Sec.	per hour.
Warwick Wright...	100-h.p. Darracq	26	86
Demogeot ...	100-h.p. Darracq	26 4-5	83.41
J. E. Hutton ...	135-h.p. Mercedes	27 3-5	80
H. R. Pope ...	100-h.p. Itala	29 3-5	75.51
Gabriel ...	120-h.p. De Dietrich	30 3-5	73

To save weight and reduce windage Mr. Warwick Wright had removed the radiator from his car, putting in its place a

A wave of excitement and expectation arose among the spectators when it was announced that the next item would be Miss Dorothy Levitt's attempt on the flying kilometre record, on the 90-h.p. six-cylinder Napier. Clad in a white mackintosh, she came along at a terrible pace, and when 24 3-5 sec. (90.9 m.p.h.) went up on the board, the freezing crowd thawed sufficiently to give the daring driver a rousing cheer as she drove back along the side track, as shown in one of our illustrations, to prepare for a second trial. Only a few minutes elapsed ere she was back again, covering the course in identically the same time. In fact, it is noteworthy that all the three runs the car made over the flying kilometre—once with Mr. C. Edge at the wheel, and twice with Miss Levitt—were all done in the same time, 24 3-5 sec. With the view of keeping up the interest of the visitors, one of Friday's events (No. 10, the standing kilometre for racers under 650 kilog.) was next taken in hand. Only three competitors, however, turned out, Mr. A. Huntley Walker winning easily in 41 2-5 sec. (52.75 m.p.h.), on his 80-h.p. Darracq, Mr. Walter Gibbons (50-h.p. Itala) being second in 49 3-5 sec., and Mr. Lewis Aspinall (80-h.p. Darracq) third in 1 min. 7 1-5 sec.

Events 11 and 12 were next proceeded with. They were both over the standing kilometre; the former was for four-cylinder racers up to 1,000 kilog., and was won by Mr. Warwick Wright on his 100-h.p. Darracq in 35 sec. (63.9 m.p.h.), Mr. J. E.



The Race between Mr. Geo. Burton's 28-h.p. Daimler and Mr. H. P. MacConnell's 40-h.p. Rapid.

small tank placed vertically in front of the engine. Notwithstanding this Demogeot, who first came into prominence by his exploits in Florida last January, was only four-fifths of a second behind him. The mechanic on Demogeot's car attracted much notice by lying full length, with his head to the rear of the vehicle, the while the latter was tearing along at a rate of over 83 miles per hour. Gabriel, the well-known Gordon Bennett driver, made his first public appearance on the Blackpool track in this event, but his car was apparently not *au point*, and did not run in the next race, which was the "great event" of the day, No. 27, the flying kilometre for four, six, or eight-cylinder racing cars up to 1,000 kilog. The "field" consisted of Mr. A. Lee Guinness's 200-h.p. eight-cylinder Darracq, Demogeot's 100-h.p. four-cylinder Darracq, Mr. J. E. Hutton's 135-h.p. Mercedes, and Mr. Cecil Edge's 90-h.p. six-cylinder Napier. The contest, although an easy win for the "200," did not result in any new times, much to the disappointment of the Blackpool folk, who are always proud when records—not merely those connected with automobiles—are broken in their popular seaside resort. The record is 19 sec., held by Mr. Guinness, who on Saturday was only able to do the kilometre in 21 sec. (106.5 m.p.h.), Mr. C. Edge being second in 24 3-5 sec., and Demogeot third in 27 sec.

Hutton (135-h.p. Mercedes) being second in 38 4-5 sec., Demogeot (who drove his 100-h.p. Darracq dangerously near the fence) third in 39 sec., and Gabriel (120-h.p. De Dietrich) fourth in 41 4-5 sec. The struggle for first place in the open 1,000 kilog. racing class lay between Mr. Guinness's 200-h.p. Darracq and Mr. C. Edge's 90-h.p. Napier, they both covering the distance in 33 3-5 sec., necessitating another run down for each competitor. The result was a victory for the eight-cylinder, which improved its time to 32 3-5 sec. (70.7 m.p.h.), thus creating a new world's record, the previous best, also standing to the credit of Mr. Guinness, being 33 2-5 sec. The Napier took second place with 33 4-5 sec., Mr. Hutton (135-h.p. Mercedes) was third in 38 1-5 sec., and Demogeot, who again drove too close to the left, almost touching one of the official cars near the grand stand, fourth in 39 3-5 sec.

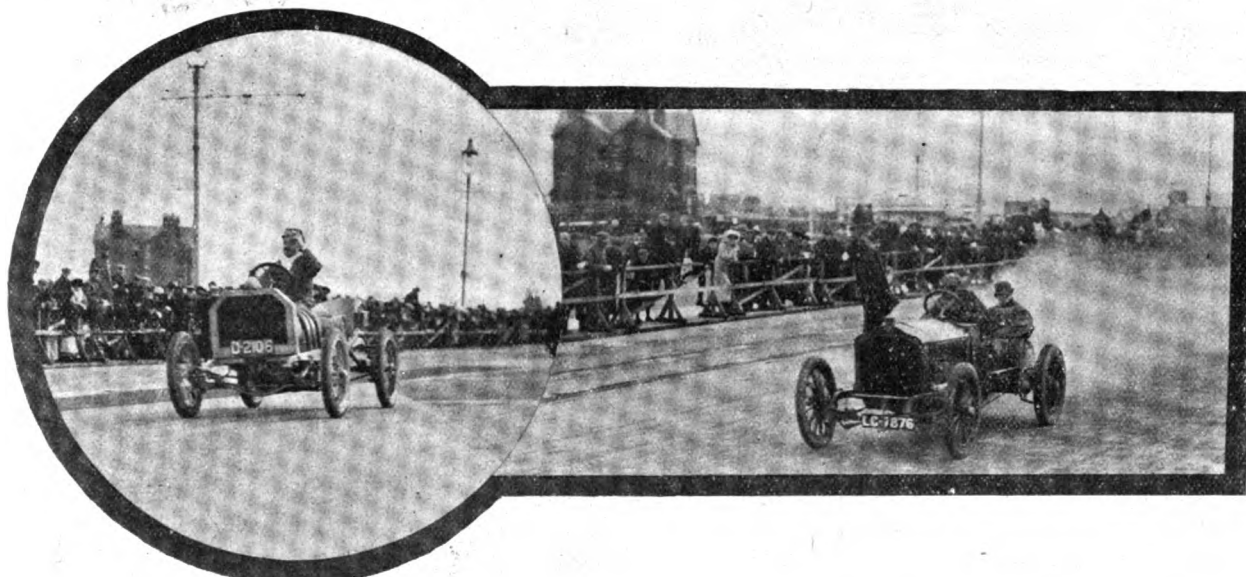
The flying kilometre for touring cars up to £650 (Event 20) next claimed attention. Seventeen vehicles competed, including three Daimlers, six Darracqs, a New Eagle, a Thornycroft, a Beaufort, a Rapid, a Bianchi, a Hardman, a Rothwell, and a Humber. The best race was that between Mr. Warwick Wright's 30-h.p. Darracq and Mr. Tom Thornycroft's 30-h.p. car, these taking second and third places in respectively 45 4-5 sec. and 46 sec. The winner was, however, found in

Mr. Ralph Jackson, who drove a new make of car, a 40-45-h.p. New Eagle, in the fast time of 43.45 sec., equal to fifty-one miles per hour. The more powerful cars in Event 21, for cars up to a chassis price of £900, followed, the eighteen competitors including no less than eleven Daimlers, two Ariels, a Napier, a Berliet, a Humber, a Darracq, and a Brouhot. Mr. Rawlinson, on the 40-h.p. Darracq, repeated his victory of the preceding day, finishing first in 33 sec. (67.7 m.p.h.), beating Mr. A. Farnell's 35-h.p. Daimler (second) by a fifth of a second, Mr. E. M. C. Instone taking the third place on his 35-h.p. Daimler with 35.45 sec. The speeds in this class for the flying kilometre ranged from 43.6 to 67.7 miles per hour. The steady running of the Daimlers was again the principal feature, all the places from the second to the ninth being taken by these cars. Just a dozen took part in the unrestricted touring car contest over the flying kilometre (Event 22). Of them five were Daimlers, two Germans, two Mercedes, while the Darracq, Ariel, and Rochet-Schneider were represented by one each. The speedy qualities of Mr. A. Rawlinson's 40-h.p. Darracq—the cylinder dimensions of the engine are given as 160 mm. by 140 mm.—again demonstrated themselves, the car finishing in 32.45 (68.1 m.p.h.), or just a fifth of a second in advance of Mr. A. Huntley Walker's 100-h.p. Mercedes, which went down the track at the same time, so furnishing one of the

Mr. Walter Gibbons again being second on his 50-h.p. Itala in 1 min. 11.45 sec., and Mr. L. Aspinall (80-h.p. Darracq) third in 1 min. 43.15 sec. Little interest was evinced in Event 29, a standing mile handicap, confined to members of the automobile clubs in Lancashire, notwithstanding that the race was well supported by motorists in the County Palatine. Eighteen competitors took part in it, the cars ranging from a 9-h.p. Riley to a 60-h.p. Mercedes, and the starts from 5 sec. to 55 sec. When the times were worked out it was found that the first two places had been taken by Daimlers and the third by the De la Buire, as follows:—

Driver.	Car.	Start. sec.	Actual min.	Time. sec.	Net Time. min. sec.
1. H. Lonsdale	30-h.p. Daimler	15	1	21.45	1 6.45
2. Gordon-Chapman	30-h.p. Daimler	15	1	22.25	1 7.15
3. H. Hollingdrake	15-20-h.p. De la Buire	24	1	32.15	1 8.15

Another event deprived of its interest by the weather was No. 30, the standing mile handicap open to any type of Darracq touring car, for which the first prize was a £200 cup. In addition, cups of the value of £10 were offered for the drivers of the cars making the best times according to the class of car. Eighteen competed, but neither the times nor the allowances were announced, and it was not until Monday that the result, which is given below, was made known. The £200 cup was secured by Mr. J. Lumb, jun., 20-32-h.p. car, Mr. J. Keele



Mr. A. Huntley Walker on his 80-h.p. Darracq.

Gabriel on the 120-h.p. De Dietrich.

most exciting races of the day. The third place was taken by Mr. Percy Martin, who on a 45-h.p. Daimler covered the kilometre in 33.15 sec. The results in this event were altogether of a notable character, only a fifth of a second dividing the first three, while eight cars finished within 4.25 sec. of the winner.

Event 23, which was for steam cars, having proved barren of entries, No. 24 was next proceeded with, it being a flying kilometre contest for motor-buses, which was run off in a blinding hailstorm. The Darracq-Serpollet (No. 135) again romped in an easy winner. Following the example set on the previous day, the actual times were not given out, the result being that the Fiat was second, 9.45 sec. behind the winner; the Critchley-Norris (No. 183), third, 11.35 sec.; the Darracq-Serpollet, fourth, 11.45 sec.; the Leyland, fifth, 17 sec.; the Ryknield, sixth, 30.25 sec.; and the second Critchley-Norris, seventh, 54.45 sec.

The wretched weather was by this time having its effect on the spectators, the crowd thinning down considerably, and on the grand stand, which previously had been packed, there remained but a few cold and miserable, yet enthusiastic, spectators determined to see the meeting through at all costs. The first event after the 'buses was No. 13, the standing mile for cars up to 650 kilog. There were only three competitors, Mr. Huntley Walker winning on his 80-h.p. Darracq in 57.15 sec. (62.9 m.p.h.),

being second on a 10-h.p., and Mr. H. Kennedy third on a 15-h.p. As regards the small cups for the class winners, these have been allotted to Messrs. G. F. Heath and Co., 20-35-h.p.; Mr. J. Lumb, jun., 20-32-h.p.; Mr. H. Kennedy, 15-h.p.; Messrs. Hopkins, Sully and Co., 15-h.p.; Messrs. G. F. Heath and Co., 10-h.p.; and Mr. J. Keele, 10-h.p.

Time was now getting on and the light rapidly failing, yet there were still three racing car events to run off, which apparently the officials at the start agreed to combine into one—a decision which somewhat mystified those at the finishing point, the big racing cars coming down in anything but the expected order, while towards the end it was with the utmost difficulty that the drivers of the monsters could see their way or the time-keepers their watches. Indeed, the last few cars made their runs by the aid of the electric light, which, combined with the flashes of flame bursting from the engines of the racers, rendered the scene one long to be remembered. Altogether the finishing contest was of an exciting character, and it was fortunate that no accident occurred. The three events which were rolled into one were all over the standing mile as follows:—No. 14, for four-cylinder 1,000 kilog. racers; No. 15, 1,000 kilog. cars of any number of cylinders; and the standing mile handicap. The first of the trio was won by Mr. Warwick Wright in 51.15 sec. (70.3 m.p.h.), Mr. Huntley Walker being second in 54.35 sec.,

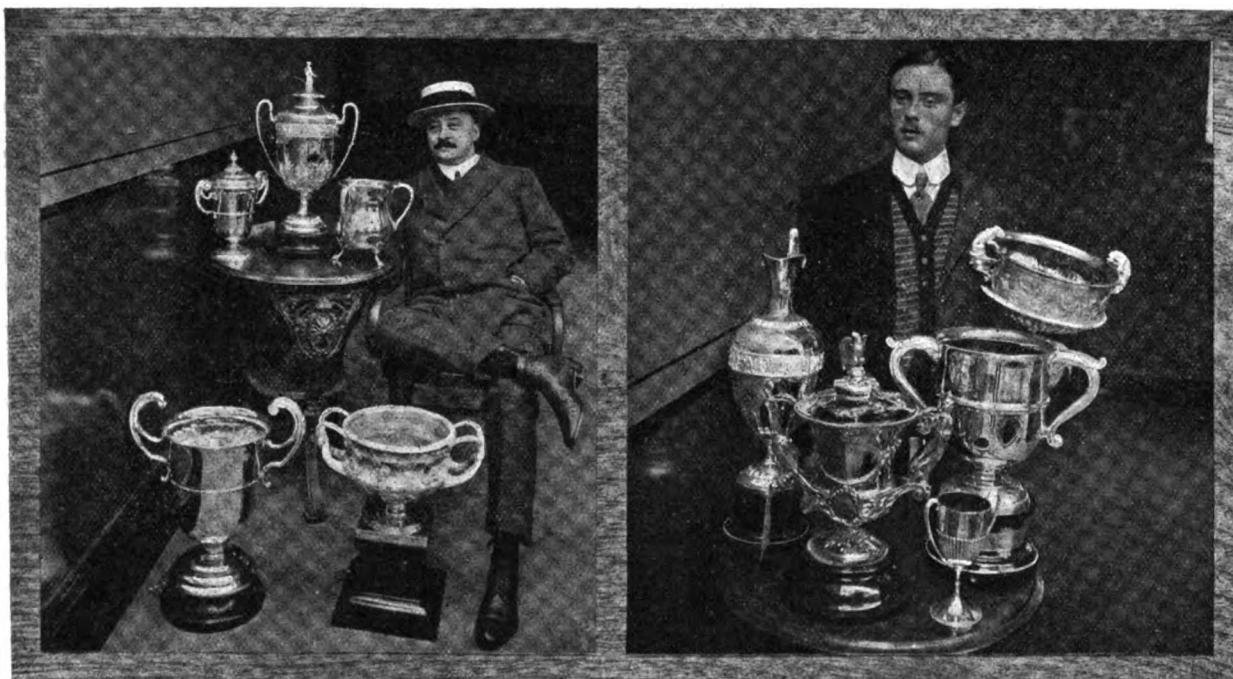
and Demogeot third in 56 3-5 sec., all three places being thus taken by Darracqs. In Event 15 Mr. Guinness with his "200" was the winner in 45 3-5 sec. (78.9 m.p.h.), Mr. C. Edge (Napier) second in 51 1-5 sec., and Demogeot (Darracq) third in 56 3-5 sec. The handicap (Event 28) proved a win for the Argyll light racer, the starts and times of the competitors being shown in the following table:—

Driver.	Car.	Start. sec.	Actual min.	Time. sec.	Net Time. sec.
1. A. E. George	Argyll light racer	40	1	2 3-5	43
2. A. L. Guinness	200-h.p. Darracq	—	—	45 3-5	45 3-5
3. C. Edge	90-h.p. Napier	5	—	51 1-5	46 1-5
4. Warwick Wright	100-h.p. Darracq	3	—	51 1-5	48 1-5
5. Huntley Walker	80-h.p. Darracq	5	—	54 3-5	49 3-5
6. Demogeot	100-h.p. Darracq	3	—	56 3-5	53 3-5
7. J. E. Hutton	135-h.p. Mercedes	2	—	58 1-5	56 1-5
8. H. R. Pope	100-h.p. Itala	4	1	1	57
9. Gabriel	120-h.p. De Dietrich	3	1	16 1-5	73 1-5

The third record of the meeting was established in this joint event, Mr. Huntley Walker's 80-h.p. Darracq setting up new world's times for the 650 kilog. racer class, the previous best being 56 sec., standing to the credit of Hanriot and a Clement-Bayard.

largely due the success of the meeting—for success it was, despite the bad weather. Pressure on space prevents us from recording the names of all the officials, but among those we came in contact with, and to whom, in addition to the always genial chairman, Mr. Huntley Walker, our thanks are due for their assiduous attention, are Mr. Hugh Butcher, Mr. G. J. Nearing, Mr. Norman S. Taylor, and Dr. Walter. The various events were run off with a dispatch which contrasted pleasantly with the tedious waits of previous years, while another testimony to the efficiency of the arrangements was the absence of protests, Mr. Bird informing us that the clerks of the course had had but one to deal with.

The social functions of the meeting included a dinner on the Friday evening, given by Messrs. A. Darracq and Co., Ltd., to their friends, and one to the competitors and guests by the Blackpool and Fylde District Motor Club on the Saturday. Both were held at the Hotel Metropole, and at the first Mr. J. S. Smith-Winby, chairman of the Darracq-Serpollet Omnibus Company, Ltd., presided. The speeches were commendably brief, the most important being that of Alderman Grime, who, on behalf of the Blackpool Corporation, welcomed the visitors.



Mr. A. Huntley Walker and the Hon. A. Lee Guinness with the valuable Cups they won at the Blackpool Meeting.

The special prizes offered by the Daimler Co. to owners of competing Daimler cars were awarded as follows:—Standing mile for touring cars under £650, Mr. Geo. Burton (28-h.p.); ditto, for chassis under £900, Mr. R. S. Grigg, 35-45-h.p.; ditto, for chassis of any value, Mr. A. Birtwistle (45-h.p.); and flying kilometre for cars up to £900, Mr. F. A. Bolton (35-h.p.).

#### A SUCCESSFUL GATHERING.

Notwithstanding the adverse conditions which prevented the racers being driven "all out," new times were set up in three events. Two of them are world's records, and have already been chronicled. The third is the British record of 21 sec. for the flying kilometre, which was established by Mr. A. Lee Guinness, his time being 2-5th sec. better than that created by Mr. Clifford Earp on the same track last year. Colonel Holden, Captain Orr-Ewing, and Mr. Alfred F. Bird acted as clerks of the course, Aldermen T. Bickerstaffe, Brodie, Grime, and Heap as the judges, while Messrs. Ebbelwhite, Dutton, Glazebrook, and Straight ably carried out the duties of timekeepers. Quite a large number of members of the Blackpool Motor Club were enrolled as marshals and stewards, and to their energy was

Referring to the slight opposition that had been encountered to the motor races, he stated that the municipal authorities were strongly in favour of an annual meeting. October was, however, too late, and he suggested the second week in June as being a more agreeable and suitable date for next year's event. Mr. A. Huntley Walker occupied the chair on Saturday evening, and as he rose to propose the toast of the King he met with a deservedly hearty reception. He afterwards read the results of the various races, and paid a tribute to the help he had received from the members of the Blackpool and Fylde Motor Club and from the Corporation.

Owing to the late hours at which the races concluded the distribution of the prizes was deferred until Monday, when they were handed to the successful competitors, or at least to those who had waited for them, by Mrs. Huntley Walker, at the Town Hall. Mr. W. W. Ashley, M.P., presided, and spoke of the good the meeting had done the town of Blackpool by bringing competitors from all parts of England and the Continent. Mr. Huntley Walker described the track as the finest in the world, and stated that if the weather had been better there was no doubt that the times would have been very much improved upon.



## THE WEIGEL CAR.

WE learn from Mr. D. M. Weigel, the managing director of Weigel Motors, Ltd., that the new car, the construction of which has been in hand for some time, is now nearing completion and will shortly be on the road. The vehicle, which is of British construction throughout, with the exception of the magneto, is of 40-h.p. and comprises a number

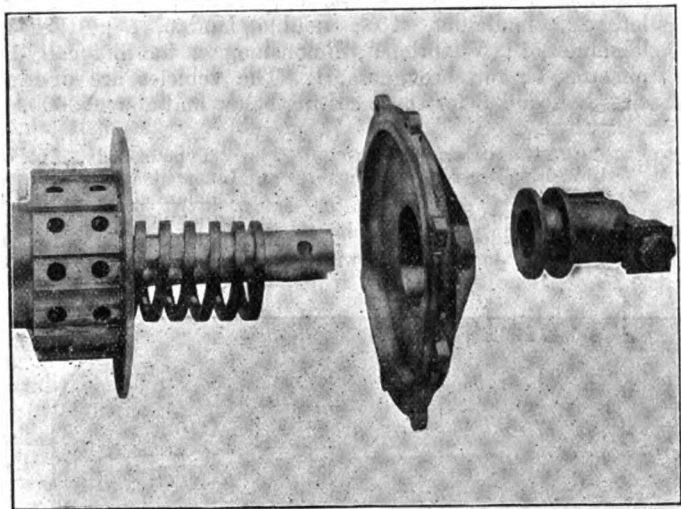


Fig. 1.

of interesting features. A full description of the car is not at present available, but in the meantime we are able to give some particulars and illustrations of the disc clutch and cardan joints employed. Fig. 1 shows the various parts of the clutch block, which is made in nickel steel from a forging weighing 65 lb., machined down to 13 lb. The drum and shaft are in one piece,

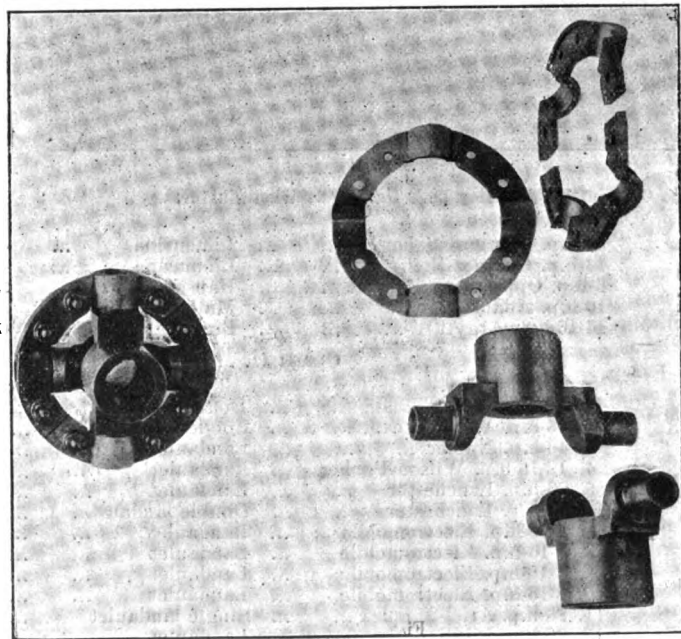


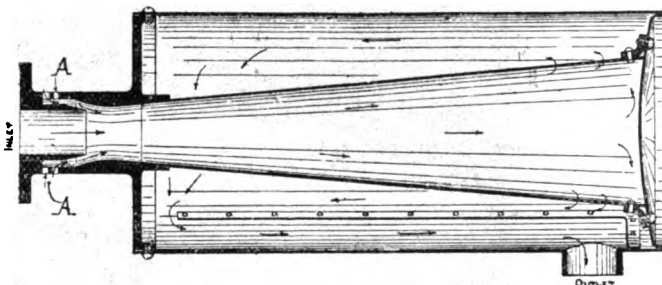
Fig. 2.

the drum itself being hollowed out. Upon it are fitted forty-one discs made of spring steel, the whole being enclosed in a box cast solid with the fly-wheel of the engine. The cover is in phosphor bronze, and is in one piece, its centre forming the bearing. The fork end at the rear, which is made of a special steel case-hardened throughout, forms part of the cardan joint between the clutch and the gear-box.

The parts of the special design of cardan joint are shown in Fig. 2. At the left the case-hardened steel joint forks are shown coupled together by the plates. The coupling rings, which are also made of a special steel, are case-hardened throughout, and brazed, bored, and ground together, thus ensuring perfect fit, and it will be noticed that on the outside periphery there is an internal and external flange ensuring absolute rigidity by the tight contact of the two flanges. The fork ends are ground so as to give a correct bearing fit to the coupling plates. The whole joint is contained in a brass box filled with grease.

## A NEW SILENCER.

AN improved form of exhaust-box for use in conjunction with petrol motors has recently been introduced by Messrs. Rankin Kennedy and Sons, of Scotstoun, Glasgow. The apparatus, which is known as the air-cooled Ejector Condenser Silencer, is claimed to provide a clean, cool, silent exhaust, without back pressure. As will be seen from the illustration, which gives a sectional view of the Ejector Condenser, it consists of a sheet metal cylinder enclosing an expanding cone with a specially shaped throat. The exhaust gases enter the silencer through a nozzle concentric with the throat, thus forming an annular space which is carefully calculated so that as the exhaust flows past a strong current of air is drawn in through holes A in the neck of the silencer. The gases are thus immediately cooled, and any oil, smoke, or vapour is condensed. Passing along the inner cone the exhaust expands and slows in



velocity as it reaches the wide end, where its direction of flow is reversed, the gases being broken up as it emerges into the outer cylinder. Here they are again expanded and still further reduced in velocity and the direction of flow once more reversed at the end of the silencer. The gases then enter a passage which conveys them to the outlet, where they emerge cool and silent. The apparatus is usually constructed of sheet steel, but can also be supplied in copper, brass, or, where the minimum of weight is required, in aluminium.

THE programme for the Southern Motor Club's gymkhana at Cheam on Saturday, the 6th inst., was supplied by the Vacuum Oil Company, Ltd.

THE Parsons Non-Skid Company have acquired the selling rights in the "Sparklet" tyre inflator recently introduced by Aerators, Ltd. It consists of a small and handy form of gas-cylinder filled with liquid carbonic acid gas, such as is used to aerate mineral waters. It is fitted with a pressure gauge registering the resistance in pounds per square inch offered by the tyre, so that the degree of inflation can be regulated, and with the usual connection with valve nozzle and adaptors. The inflator is sent out in a compact wooden case, containing two cylinders capable of fully inflating an 870 by 90 mm. tyre ten times—each cylinder weighing about 9½ lb. When the gas-cylinders are empty they can be exchanged for full ones at a fixed charge. By use of the apparatus the irksome operation of inflating a tyre by means of a pump is obviated; instead of using the latter, all that has to be done is to attach the connection to the tyre and cylinder, turn on the wing nut, and release the gas, which flows evenly into the tyre, the pressure being steadily registered on the gauge.

## TOWN CARRIAGE COMPETITION.

**H**ITHERTO the efforts of the A.C.G.B.I. have been mainly directed, so far as competitions have been concerned, to improving the reliability of the motor-car as a vehicle for touring and endurance. There is no doubt of the good results that have followed its endeavours; and, although at present there seems little agreement as to what constitutes a touring body, many enthusiasts are sanguine enough to suppose that such a desirable settlement will ultimately be arrived at.

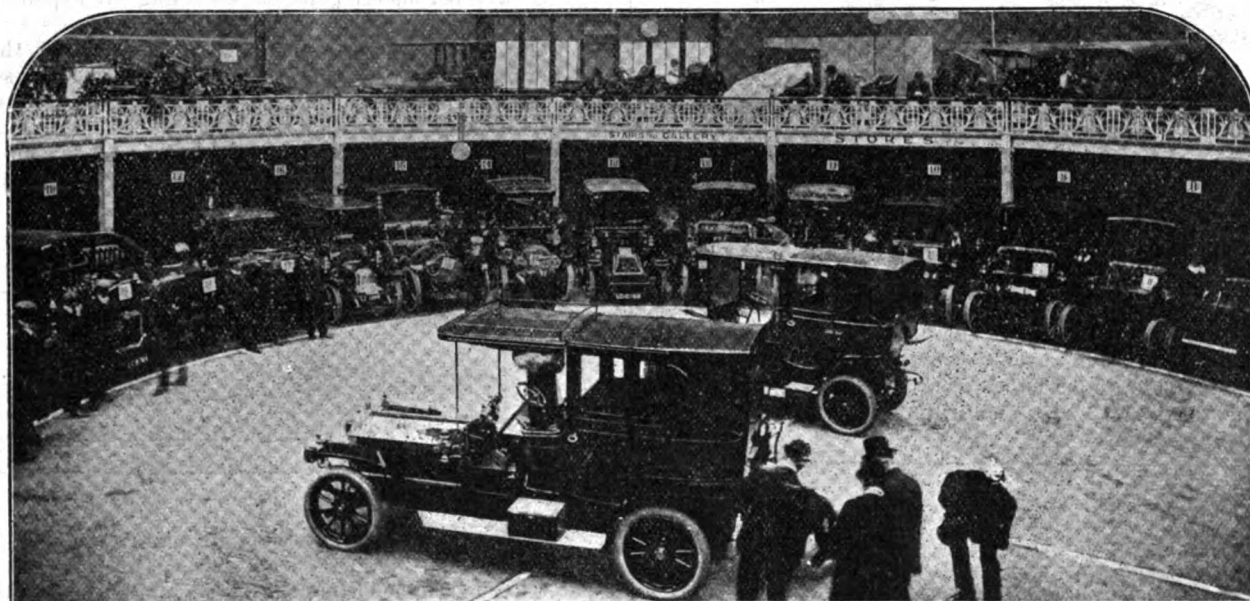
Meanwhile the Club has determined to encourage the design of carriages for town work—vehicles suitable for professional men by day and Society folks in attendance on evening functions. Motoring is often associated in the public mind with grimy faces, frost-bitten features, and general discomfort; an inspection of the carriages which were assembled at the Wolseley garage at Westminster on Monday and Tuesday would dispel that illusion. It was a collection of luxurious carriage work, in the design of which the comfort of the travellers was evidently the first care. This, however, was but one point of fourteen upon

a circle on the ground floor of the Wolseley building, the gallery affording visitors an opportunity of observing what must have proved a somewhat wearying function. The vehicles were drawn from their places to the centre of the hall, and there critically inspected with a view to the award of marks, which will subsequently provide guidance to designer and purchaser alike. Fortunately the three types of vehicle—electric, petrol, and steam—known to motorists are represented.

Of the vehicles in the competition the types of bodies are distributed as follows:—Double landaulet, 4; single landaulet, 2; landaulet, 15; double landau, 1; three-quarter landaulet, 1; Victoria, 1; limousine, 6; hansom cab, 1; mail phaeton, 1; and brougham, 1. The vehicles are divided into classes A and B for those costing below and above £600.

## CLASS A.

Car.	Type of body.	No. of seats.
16-20-h.p. Beeston-Humber	Limousine	4
14-18 Spyker	Landaulet	4
12-h.p. Georges-Richard	Landaulet	3
15-h.p. Siddeley	Limousine	4 or 5
14-16-h.p. James and Browne	Double Landaulet	6



The Town Motor Carriage Competition.—A View of the Cars in the Wolseley Co.'s Garage at Westminster.

which adjudication is to be made and marks allowed. The officials were expected to consider the following merits:—

General design of car and finish of body.  
Absence of (a) smell and smoke, (2) leakage of lubricant, (3) noise, (4) vibration.

Smoothness of running and comfort of passengers. An examination will be made as to the use of adequate tyres, size of wheels, spring suspension, and means of preventing road shocks.

Ease of cleaning (a) exposed metal work and coach work, and (b) machinery (including oiling).

Ease of access for repair (removal of body, access to important working parts, access to tools, to lubricating holes, and "stauffers," &c., removal of under shields, access to concealed gear.

A skilled man (who may be the driver) shall be in attendance to disassemble or detach or adjust any part of which he may be called upon to display the accessibility.

Ease of starting (a) cold, (b) after recent use, with relation to smooth action of clutch (if any) and to smooth yet rapid acceleration.

Ease of stopping and speed-changing without jerk or noise. An examination of the brakes will be made both as to their efficiency and design.

Ease of manœuvring.

Comfort of passengers in relation to cushions, folding seats (if any), &c., number of passengers carried exclusive of driver, access to interior by side entrance, exclusion of rain, storage space for tools and parts.

Comfort of driver in relation to easy manipulation, shelter from wind and rain, ease of signalling to other vehicles (without special mechanical devices being required for this latter purpose).

The first two days of the week the cars were arranged in

14-h.p. Georges-Richard	...	Limousine	...	4
14-h.p. Georges-Richard	...	Limousine	...	4
6-h.p. Oppermann Electric	...	Hansom Cab	...	3
10-h.p. Adams-Hewitt	...	Mail Phaeton	...	3
14-16-h.p. Argyll	...	Brougham	...	6

## CLASS II.

No.	Car.	Type of Body.	No. of seats.
1.	18-h.p. White Steam	Double landaulet	6
2.	18-h.p. White Steam	Single landaulet	4
3.	40-h.p. Napier	Landaulet	6
4.	12-16-h.p. Wilson-Pilcher	Landaulet	4
5.	20-h.p. Lanchester	Landaulet	4
6.	20-h.p. Lanchester	Double landau	6
7.	8-16-h.p. Electromobile	Landaulet	5
8.	8-16-h.p. Electromobile	Landaulet	4
9.	8-16-h.p. Electromobile	Landaulet	6
10.	8-16-h.p. Electromobile	Landaulet	6
11.	28-h.p. Ariel-Simplex	Single landaulet	4
12.	20-h.p. Pilgrim	Landaulet	5
13.	14-h.p. C.G.V.	Landaulet	5
14.	20-h.p. Dennis	Landaulet	4
15.	24-h.p. Germain	Landaulet	4
16.	10-14-h.p. Renault	Three-quarter landaulet	4
17.	Krieger Electric	Double landaulet	3
18.	Krieger Electric	Victoria	2
19.	14-16-h.p. Argyll	Double landaulet	6
20.	14-16-h.p. Argyll	Landaulet	6
21.	14-16-h.p. Argyll	Limousine	6
22.	16-20-h.p. Argyll	Landaulet	6
23.	16-20-h.p. Argyll	Limousine	6

NEXT year's Tourist Trophy race will probably be held in May or June, 1907.

THE New Arrol-Johnston Car Company, Ltd., point out that the 24-30-h.p. four-cylinder new Arrol-Johnston car did 37.9 ton-miles per gallon of petrol in the Scottish Reliability Trials.

So far as they have been announced there is a noticeable tendency toward increased prices for 1907 models among American manufacturers of what are generally recognised as high-class cars.

PRESSED steel frames for motor-cars are now being turned out on a large scale by Messrs. Mehan and Sons, Ltd., of the Scotstoun Ironworks, Glasgow, who are also manufacturing motor bonnets, radiators, silencers, &c., for the trade.

INCREASING business has compelled the Continental Tyre and Rubber Company (Great Britain), Ltd., of 102-108, Clerkenwell Road, London, E.C., to open a branch depot at 183, Great Brunswick Street, Dublin, which is to be in the charge of Mr. Richard A. Morrow.

A NEW instrument for registering the gradient of hills is being brought out by the New Colleshill Works Company, Ltd., Whittall Street, Birmingham. It is adapted to be fixed on the front of the car, and arranged so that an electric light can be attached to it in order that the dial may be illuminated at night time.

"VOCATIONS FOR OUR SONS" is the title of a new book published by Mr. T. Fisher Unwin, in which Mr. J. W. Hicks gives a series of hints with a view to assisting parents in setting their sons on life's highway. The information in most cases is somewhat light. The range of subjects dealt with is, however, fairly comprehensive.

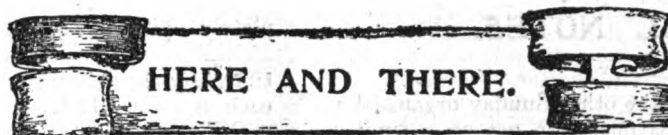
THE U.S. Department of Agriculture is developing a new industry in the production of alcohol from corn-cobs. Investigations are being made at Hoopeston, Ill., and have proved that the large quantities of corn-cobs which every year go to waste can be made to produce alcohol in sufficient quantities to justify the erection of a distilling plant.

MR. T. H. DURRANS has just returned from a trip to Torquay and back on his 8-10-h.p. "Brown" car. During the journey of 400 miles he had no other trouble than replacing one sparking plug and once emptying water out of the carburettor. With four passengers and luggage he went to Salisbury on 2½ gallons of petrol, and averaged 33 miles to the gallon the whole way.

IN order to prevent robberies from their big garage at Westminster, or the removal of any car except by the person authorised by the owner, the Wolseley Company has brought a new system into operation which is claimed to be absolute perfection, and by means of which the owner can learn whether his chauffeur has utilised the car for his own purposes without permission.

IN his report for the past year the auditor of Leeds Corporation accounts says the hire of motor-cars for eight months totalled £432. The tramways' accounts show that the cost of two motor-buses was £1,525 9s. 6d., and their takings from January to the end of March, 1906, amounted to £44 6s. 8d., or an average of 4s. 11d. each, per day. Six months of renewals and accessories cost £377 17s. 11d., which amount does not include petrol.

MESSRS. BOTWOOD AND EGERTON's new motor garage in the main street of Newmarket was opened last week, the site on which the building stands covering three-quarters of an acre. It is next door to the house formerly owned by Baron Hirsch, and said to have been given to the King by Sir Ernest Cassel, who acquired it. In addition to accommodation for a large number of cars there are ample facilities for repairs and also for the safe storage of a large quantity of petrol. In making the local arrangements Messrs. Botwood and Egerton have had the benefit of the advice and assistance of Mr. F. R. Harding Newman, who has gone into partnership with them in this venture.



A MOTOR SCHOOL is being established in connection with the motor accessory business of Messrs. Gutteridge and Zambra, Ltd., 308, Euston Road, N.W.

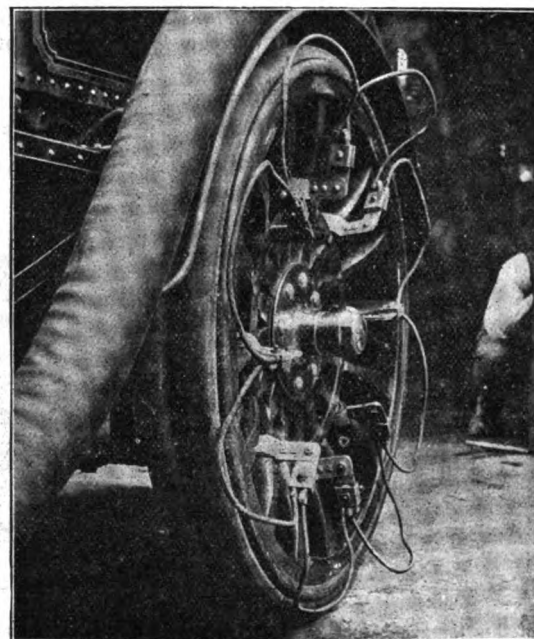
THE Electrical and Motor Company have just removed to larger premises in Bridge Street, Banbury, where they have accommodation for fifty cars. The garage is open day and night, and they have a good selection of vehicles for hire.

MESSRS. PETER ROBINSON, LTD., of Oxford Street, W., have issued a new catalogue of fashions in furs, many pages of which are devoted to garments for motorists.

THE Town Council of West Bromwich is making application for the sanction of the L.G.B. to a loan of £740 for the purchase of a motor tender for the Borough Fire Brigade.

FOR driving a motor-car on the footway at Knightsbridge—a narrow passage-way for pedestrian traffic only—a motorist has been fined 5s. and costs at the Westminster Police Court.

A CHAUFFEUR charged at Bow Street (London) Police Court on Monday with being drunk whilst in charge of a motor-car was sent to prison for a month without the option of a fine.



The Eyre Anti-Skid as fitted to one of the London County Council's Motor Fire Engines. The illustration is interesting as showing that the device can be applied to a vehicle weighing over five tons. A special cable was used as well as extra strong fittings.

ON Tuesday a 4,000 miles trial of the Straker-Squire C.S.B. car commenced, under the auspices of the A.C.G.B.I. This is the vehicle that did well on its first appearance in the Scottish Trials, and with which Messrs. Straker and Squire, Ltd., hope to establish as great a reputation as they have associated with their name in the motor-bus business. It is designed by M. Cornilleau, and, while rated at 25-h.p., gives 32-h.p. on the brake at 1,000 revolutions. At present the activities of the makers will be restricted to this one type, but ultimately it is their intention to make a six-cylinder car as well as a smaller model of 14-h.p. The trial now in progress should demonstrate the reliability of the new vehicle, which will be driven on successive days by Messrs. Sydney Straker, T. R. Squire, and G. O. Thompson respectively. At the conclusion of the test of the Club, which will comprise daily runs of 165 miles for more than three weeks, the car will undergo speed runs on the Bexhill track. The result of this severe trial should be to promote the prosperity of the new works which Messrs. Straker and Squire, Ltd., have erected in Nelson Square, Blackfriars, S.E., these being admirably designed for the purpose of automobile showrooms, offices, and works.

## CONTINENTAL NOTES.

### A Procession of Old Timers.

The "Auto" of Paris, which the other Sunday organised a parade of old cycles, is now endeavouring to get up a similar event for old motor-cars, which, if carried out, should prove both interesting and instructive. Those who are known to have old vehicles in their possession are being asked to take part in the demonstration, which will probably consist in a run from the A.C.F., in the Place de la Concorde, to Versailles. The idea is being enthusiastically taken up, several 1896 Panhards, an 1898 Renault, an 1897 Delahaye, and an 1895 Roger having already been promised.

### Balloons and Motor-Cars.

In celebration of the twenty-fifth anniversary of the foundation of the Berlin Aeronautical Association, a balloon chase was held on the 10th inst., when four balloons ascended, followed by seventeen motor-cars belonging to the German Volunteer Automobile Corps. During the race the car of Herr Sierke ran into a tree, the driver and one of the passengers being injured. Three of the balloons descended without being caught by the motorists. The Lerche, the fourth to start, was however captured, the car arriving on the scene 22 minutes after its



One of the Darracq-Serpellet Steam Omnibuses which last week journeyed from London to Blackpool. The luncheon interval at Stony Stratford.

descent, or in 8 minutes less than the limit fixed by the rules of the contest.

### The Dourdan and Gaillon Speed Trials.

The first portion of the joint Dourdan-Gaillon speed trial meeting is to be held on Sunday next, when the standing mile and flying kilometre tests on the level will be run off. About thirty cars have been entered, and these will be required to take part in the flying kilometre hill climb at Gaillon on the 28th inst. It is possible that the Hon. A. Lee Guinness will be present with his 200-h.p. eight-cylinder Darracq.

### A Competition for 1907 Models.

The Competitions Committee of the A.C.F. is organising a "1907 model" competition, restricted to the cars of those firms taking part in the forthcoming Paris Salon. The event will take place prior to the Show, the idea being to enable makers to demonstrate, by taking part in a touring competition, the capabilities of their latest cars. It is proposed that the trial shall consist of a run from Paris to Nice and back, the journey each way to be done in three days. The competing cars will be divided into four categories according to maximum cylinder diameter and total weight of the vehicle. Any type of body may be fitted to the chassis, on condition that they are com-

pletely equipped for touring. Each day's stage will be about 250 kilometres, which will have to be covered in a maximum time, any car arriving after this being penalised one point for each minute. Entries for the trials will be received at the A.C.F. up to the 15th prox.

### France in Favour of Motor-Car Races.

The great topic of the hour in France is the decision of the Sporting Commission of the French Automobile Club in favour of the continuance of an annual automobile race. As to the basis on which the regulations shall be laid no agreement was reached, some favouring the retention of the 1,000 kilog. limit restrictions, while others are anxious for a contest in which the bore of the engine cylinders shall not exceed a certain maximum; still a further group would prefer a contest between cars having engines in which the maximum cylinder capacity is fixed. It is urged by those who oppose the weight limit that while this has served a useful purpose it only encourages makers to put in larger and larger engines than ever, without at the same time obtaining a proportionate increase in speed. The question of the employment of *jantes amovibles*, or detachable rims, was also the cause of much discussion, as was also the length of the circuit on which the race shall be held. Before any definite line is taken the committee of the A.C.F. have resolved to ask the different motor traders' associations for their views on the subject.

### A Taximeter Motor-Cab Race.

A somewhat novel race was held in Paris last week, when half-a-dozen taximeter motor-cabs took part in a run three times round the great Boulevards, the total distance being 31½ kilometres (19.7 miles). The competitors included a 14-20-h.p. four-cylinder Chenard-Walcker, an 8-11-h.p. three-cylinder Panhard, a 10-12-h.p. Tony-Huber, a 9-h.p. Renault, an 8-h.p. Clement-Bayard, and an 8-h.p. Unic, the last four having double-cylinder engines. As was to be expected, the race was a victory for the most powerful car, the Chenard-Walcker finishing first in 1 h. 3 min. 35 sec., equal to 18½ miles per hour. The Tony-Huber was second, the Renault third, the Panhard fourth, the Clement-Bayard fifth. Unfortunately the Unic met with a nasty skid, which, owing to a collision with a refuge, put it out of the competition in the last round. There was only eight minutes' difference between the winner and the last man.

### The Chateau Thierry Hill-Climbing Competition.

Owing to the course comprising a turn, which, in view of the increased speed of modern cars, might prove dangerous, it has been decided that the hill-climbing competition annually held at Chateau Thierry, France, shall not take place this year. The decision has caused considerable local disappointment, so much so that the Commercial Union of the town has approached the "Auto" and has offered to have the road altered to suit the changed conditions. It is therefore proposed to revive the contest next spring if the projected work can be carried through in time.

### Miscellaneous Items.

The West Bohemian Automobile Club has just been formed in Teplitz.—Two new motor fire-engines have just been added to the equipment of the Fire Brigade in Berlin. One vehicle is driven by steam and the other electrically.—A large motor racing track is, it is rumoured, to be constructed near Berlin.—It is announced from Berlin that the Grosse Berliner Automobil Gesellschaft has secured the agency in Germany for the Humber cars.—It is reported that twenty motor-cabs, fitted with taximeters, are shortly to be put in service in Monte Carlo.—One of the largest fires that has occurred in Paris for some years took place early on Sunday last, when the oil and petrol works of Messrs. Deutsch, at Pantin, were burnt out.—A 14-20-h.p. Weyher-Richemond steam car left Paris on Monday for a tour of France.—A Leon Bollée six-cylinder car is expected to make its debut at the forthcoming Salon.



## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
27-33, Charing Cross Road, W.C.]

### THE TOURIST TROPHY RACE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Following what I conceive to be Capt. Deasy's good example in criticising the rules and conditions governing the 1906 Tourist Trophy Race, and offering suggestions for 1907, I should like to make the following remarks. I am at one with Capt. Deasy in his praise of the manner in which the race was carried out this year, and also of the consideration and courtesy shown by the committee under what were, perhaps, rather trying circumstances.

My only grumbles this year were that rules were not strictly adhered to by the committee, in the following particulars at least:—

- (1) As to tuning up in the tents.
- (2) Allowing some cars to have two tries at twelve m.p.h. in the morning, instead of relegating all failures at first attempt to the afternoon.
- (3) Not making the hill climb conditions same as set down in rules.
- (4) Not adhering to rule with reference to bored frames.

For next year's race I would suggest the following:—

1. The race to be held in late June or early in July, when daylight comes soonest in the morning.
2. That practicing be only allowed between daylight and 6 a.m., Sundays included. No car to start the round later than 5 a.m. Disqualification to be the penalty for running after this unless delay on road through breakdown can be proved.
3. Chassis minimum weight to be 1,700 lbs. It is evident from this year's cars that a chassis can be made strong enough at this figure.
4. No bored out frames allowed, unless to such an extent as is adopted in any well-known make of car as a standard.
5. A minimum clearance from the ground of 9 in. to assist in the prevention of dust raising.
6. A minimum distance from dashboard to front of driver's seat of, say, 2 ft. 1 in., and a minimum distance from dashboard to front of back tyres of, say, 4 ft. 10 in.
7. No wheel base to be given.
8. Minimum width of driver's seat to be as at present, but width of back seat to be increased to 3 ft. 8 in. inside upholstery at front of cushion.
9. Minimum height of top of front of cushion from the ground to be 3 ft. 4 in.
10. Minimum weights to be carried by chassis to be as follows (and these must be adhered to).  
Body, including floorboards, wings, brackets, as this year, 350 lbs. (this allows of a strong standard body being fitted).  
Ballast to be carried in any desired form equal to five passengers of 12 stone, 840 lbs.  
The weight of the driver and mechanic to be deducted from this.
11. The petrol allowance to remain the same, as I believe greater efficiency will be shown next year than this.
12. The rule as to order of starting to be strictly adhered to, i.e., entries to be received not sooner than the morning after the race. If more than one entry be then received at one time the order of starting to be balloted for. I believe this rule has already been broken for next year's race.—Yours truly,

JOHN S. NAPIER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—When considering the minimum weight that should be prescribed for a chassis for next year's Tourist Trophy Race, there are various points which should be, in my opinion, considered and settled before this, viz., the size and weight of body, wings, mudguards, steps, &c., and the minimum weight for driver, mechanic, and passengers, also the track and the distance from the dash to the front edge of the back tyres. I quite agree with the remarks of "H. W. E. B." that weight alone does not signify sufficient strength. Perhaps "H. W. E. B." has not borne in mind what are the requirements of a large section of the public in the way of a touring car. As far as I can ascertain, the majority of buyers require a car large enough to take five people and luggage, spare tyres, spares, &c. They also require a comfortable body, with sufficient leg space. Now, if these requirements are met, it means that the body must be a large and roomy one, which means increased weight, and, therefore, increased strength of the chassis, to enable it to carry that load successfully when driving fast over rough roads.

It is also well to bear in mind that there is an increasing demand for chassis suitable as regards size and strength for covered bodies. To my mind all these points should be carefully considered before arriving at a definite conclusion as to the exact minimum weight of chassis to be prescribed for next year's Tourist Trophy Race.

The minimum clearance of 7 in. suggested by Mr. J. Percy Dean is, I think, far too small, nor can I agree with him in his suggestion that the order of starting should be the same as this year, viz., in the order in which the entries are received. I think it would materially add to the popularity of the race if every competitor knew that he had a perfectly equal chance in this way, and that whether the entries are made now, or just before the closing of the list, there will be an equal chance to obtain a better position when starting. I quite agree that it is advisable to encourage a light and strong vehicle, but I do not think it at all in the interest of the public to encourage vehicles similar to many of those which took part in this year's Tourist Trophy Race, as they were far too light, and I doubt if many of them would have stood up over that course if called upon to carry a load equal to that of five passengers, luggage and spares, which is not an excessive load.—Yours truly,

H. H. P. DEASY.

TO THE EDITOR OF *The Motor-Car Journal*.

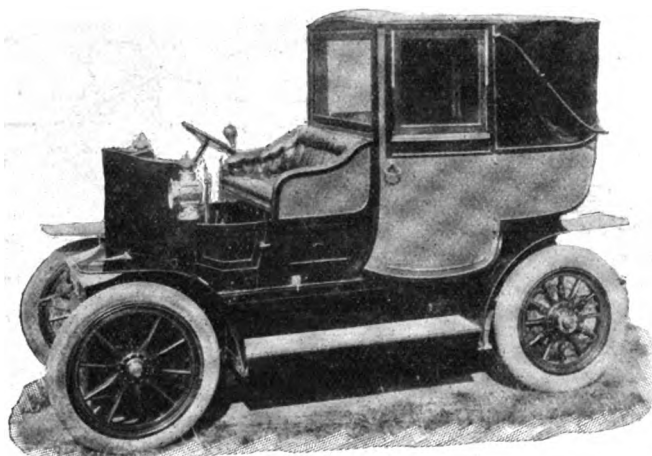
SIR,—Referring to Captain Deasy's article in your issue of the 6th inst., re the rules for the next year's Tourist Trophy Race, I cannot say that I am in favour of some of his suggestions for the modification of the rules, and I suggest:—

(1) The minimum chassis weights to be increased. I am of opinion that 1,800 lb. would be more the average weight of a touring car chassis than 2,000 lb. That is to say, speaking from the point of view of the petrol allowance of a gallon to twenty-five miles.

(2) The minimum clearance to be 7 in.

(3) The petrol allowance of one gallon to twenty-five miles should be again the allowance in next year's race.

(4) I do not see that it would be more convenient to the Club or competitors for the cars to start by ballot instead of as they enter.



The New 20-h.p. Pilgrim Car built by the Pilgrim's Way Motor Company, Ltd., which is taking part in the Town Motor Carriage Competition.

The remainder I am quite in favour of, and especially that the rules for next year's Tourist Trophy Race should be settled without delay.—Yours truly,

J. PERCY DEAN.

### THE BLACKPOOL MEETING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—When I received some time ago the programme for these races, I noticed several competitions, and particularly a series for various touring cars, the price of chassis under £300, £450, £650 and £900. After these there were events for any kind of touring car unrestricted as to price. My idea was that the last event was to compare the cars of all the previous classes competing together, and in entering my two Germain Chainless cars I had certainly no expectation of winning the award, but only to show what position they held amongst all the cars usually sold as normal touring vehicles such as one usually meets on the road.

When the event took place, I saw in the programme that instead of cars of all powers meeting together in order to establish a proportion of speed, only high-powered cars were entered, and that, in fact, the race was not one for touring cars unrestricted as to price, but for cars of a value of over £900, in which most of the cars in the last named class had entered again. Practically it was more of a contest for racing cars fitted with tourist bodies than a race for touring cars, the lowest power of all having a cubic capacity of about double that of the cars I entered. I do not think that the wishes of the organisers of the meeting have been understood in this competition, as the touring cars entered in this event were not at all the touring cars we meet on the road, but the majority of them very exceptional ones. It was too late for me to drop my entries and I let them start. Of course they could not make any show, as the proportion between them and the competing cars was

so big that comparison was impossible, but even then we were not last.

I think it is a great pity, as a race as I understood from the particulars issued by the committee would have proved very interesting, as some previous races in England and on the Continent have proved that the touring cars of very high power and price are not so fast in proportion as the good average car of moderate power. The expense in buying the former, and the expensive upkeep of same, especially as regards tyres, is not compensated by enough speed and hill-climbing capacity, the really good average touring car being that with a cylinder capacity of about 230 cubic inches and not the cars with enormous cylinders.—Yours truly,

T. MASUL.

### SOCIETY OF AUTOMOBILE DRIVERS.

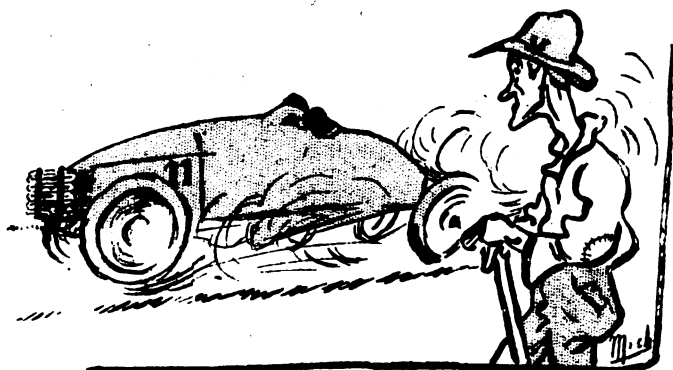
TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am writing to you to know if any of your numerous readers can give me any particulars of the Society of Automobile Drivers. I first wrote the secretary in February or March last year. I received a form to fill up as to experience and other particulars which a Trade Union would require, also names and address of late employers, and references. These I forwarded without delay, together with an "entrance fee" of 7s. 6d., which was to include membership badge. After much delay I received the badge, but no rules.

During the last twelve months I have written numerous letters asking for rules and subscription card. In reply to one of my letters several months ago I received a type-written paper with "Objects of Society and Rules," and was informed that the membership card would be forwarded by the secretary.

I have written many times since then and always enclosed a stamp for reply, but have had no answer to any of my letters.

I have not even received a balance-sheet or a statement of accounts for last year.



A Caricature of Gabriel, the well-known driver of De Dietrich Racing Cars  
[Le Chauffeur.]

I made inquiries when in town recently, but could find no official of the society. I was told that they meet but rarely now.

I am convinced that there is room for a Mechanic Drivers' Society, and if this one does not fulfil its objects then another should be formed.—Yours truly,

A. M.

### MOTORING IN WALES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Envy, hatred, and malice seem to be the characteristics of the anti-motorists who write to the newspapers.

Fact is more forcible than fancy. A Local Government inquiry has been held in Llandudno to consider an application of the district Council for power to reduce the speed of motors in certain streets to ten miles an hour. Here was an opportunity for anti-motorists to prove their statements before a judicial inspector. What does the report of this inquiry forcibly impress on one's mind?

1. An enormous amount of motor traffic passes through Llandudno daily.

2. The district Council failed to mention that a single accident had ever taken place there.

3. The police declined to support the Council in their application for a reduced speed.

4. No ratepayers appeared to support the majority of the Council at the inquiry; but, on the contrary, the principal property owners, hotel-keepers, &c., instructed a solicitor to appear on their behalf to oppose the application.

5. Motor-cars cannot be the terror which many correspondents make them out to be in the face of these facts.

During this summer thousands of motors passed through the long straggling towns and villages of North Wales. The children have all been playing in the roads as of yore, and I have not heard of a single fatal accident to a child.—Yours truly,

H. GREY EDWARDS, M.D.

### A MASCOT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—On Sunday last I drove my car from Clapham to Sevenoaks and back, and for the first time took, as an additional passenger, our black cat. I have often wished to try him as my mascot, but as he had never ridden upon any vehicle, and knowing how very timid cats are, I was very fearful that my pet would spring off the car and be for ever lost. He never gave us the slightest cause for anxiety and was soon reconciled to the road and its noises, and by the time we had passed through Bromley on our return journey had become positively blasé, sitting on back of front seat with his front paws resting first on my left and then on my right shoulder, and staring right before him as if on the look-out. Of course I quite intend he shall now accompany me whenever possible, and think you will agree that mine is the greatest curiosity in the way of motor mascots.—Yours truly,

C. M. HOLLOWAY.

### VALVE POSITION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The letter in the last issue of the *M.C.J.*, from Mr. Anderson, re valve position, is very interesting. It is a well-known fact amongst motor engineers and designers that considerably more power can be obtained from an engine with the valves mounted in the cylinder head, or on top. We have only to look at the recent successes of the leading firms and we see it confirmed when put to the test.

Take, for instance, the marvellous speed of the Darracq, the Fiat, and it is remarkable that all the Daimler wins have been since they built their engines with inclined valves, which, if not on the top, anyway puts them as near over the piston as possible, with the advantage that they can use larger valves than would be possible on top.

One of the chief advantages besides those mentioned by Mr. Anderson is that the combustion space can be machined all over; this allows of a higher compression being used, without pre-ignition, than is possible with an engine having outside valves with rough corners to get hot in the ports. Although more power is so gained by the overhead valves, the size of the same is limited, and the exhaust valve is always constricted. Designers realise this and attack the problem in different manners. From what I can remember the 300-h.p. Deiahaye, and also the Hutton, used duplicate valves or four valves to each cylinder; the Fiat and Pipe get theirs at an angle, which allows of larger valves, and also give theoretically the correct and ideal shaped combustion space; but I doubt if in practice a dome combustion space, with a dome head to the piston, works out as well as a flat top.

We have only to follow recent steam practice and notice how the turbine has jumped to the front. The internal combustion turbine seems as far off as ever; at present our nearest approach to it is to increase the number of explosions per revolution, or, in other words, increase the number of cylinders; and, as many makers are contemplating marketing six or eight cylinder engines, this question of valve design is worth looking into. As mentioned before, if both valves are interchangeable, the exhaust valve, even with an abnormal lift, still leaves a small passage, which constricts the exhaust. But, for argument sake, it is admitted that an engine so made does give more power than one with the valves hung on the side; imagine how this additional power amounts up per cylinder when the engine has six or eight cylinders; further, suppose this constricted exhaust can be got rid of in an efficient manner (without duplicate valves), the extra power is again multiplied by six or eight as the case may be. I have designed and am constructing such an engine of 60-h.p. with eight cylinders, valves, sparking plug, water inlet and outlet, all on top of head; but the cylinders have perforated auxiliary exhaust ports, which are water-cooled.—Yours truly,

W. L. ADAMS.

### AN ALLEGED COLLISION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I beg to enclose copy of letter I have addressed to each of the magistrates who sat on the Bench of the Maidenhead Borough Police Court on Monday last when a summons was heard against my chauffeur for driving my motor-car to the danger of the public. The facts contained therein are undoubtedly sufficient to show that the alleged collision could not possibly have taken place, and if the conviction is allowed to stand it will be a gross miscarriage of justice.

Motorists seldom escape punishment, because the word of the prosecution is always accepted in preference to theirs, but in this case the facts speak for themselves and the position could not be altered if a hundred witnesses were to be called and swore that the collision did take place. In motoring many things are possible, but in this particular case the alleged collision was impossible.—Yours truly,

A. F. CALVERT.

COPY.

Sir,—On Monday, the 8th inst., my chauffeur, Frederick Earle, was charged at the Maidenhead Borough Police Court with driving a certain motor-car at a speed which was dangerous to the public, the summons having been issued because it was alleged that he had collided with a van in Bridge Road. As a result of the unreliable evidence given at the hearing he was fined £5 and £2 14s. costs.

I have taken some little trouble in this matter, and I think that.

after I point out certain facts you will see that if the conviction is allowed to stand it will be a gross miscarriage of justice. There are certain facts which prove conclusively that the evidence given by the witnesses for the prosecution is unreliable and untrue.

It will undoubtedly be admitted that the whole case turned on the question of a collision, and if it had not been alleged that a collision had occurred no summons would have been issued. I would first point out to you that no witness for the prosecution ventured to suggest that there was a scratch of any sort or kind on the van or the motor-car. I have had the car thoroughly examined and can say positively that if a collision of any sort or kind had occurred the car would have been damaged, because the mud-guards, which project over some distance on either side, being made of very thin light aluminium, would have doubled up before any solid part of the car could have touched the van. I believe one witness, in order to get over the difficulty of there being no marks, suggested that the rubber tyres must have collided with the van, but this also was impossible, as the rubber tyre could not have got at the van without first destroying about five inches of the flimsy mud-guard.

With regard to the question of speed, as is usual in motor cases, the witnesses called swore that the car was travelling at the rate of twenty-five to thirty miles an hour, but the gentleman who caused the summons to be issued, Rear-Admiral Fleet, said that the car was going at no speed at all; in fact, he said it was going very slowly. He fixed the speed at not more than three miles an hour, but I have no desire to accept his estimate any more than the other witnesses; I prefer to accept the word of the defendant himself, who said that the car was travelling at between six and seven miles an hour.

I hope you will consider these definite facts as sufficient evidence that the driver was not in collision with the van, and was not driving at a speed dangerous to the public. It is very seldom that in a motor case such clear facts as these can be produced to disprove the false evidence which witnesses can always be found to swear to, and therefore I hope you will see your way to revise your decision and cancel the endorsement on this man's licence, as if it is allowed to remain it would be sufficient to show that an endorsement is a farce, and no importance of any sort or kind can be attached to it by anyone attempting to judge the character of a driver.

In conclusion I have only to say, after examination of the car, if anyone can be produced to say that it was possible for a collision to have occurred without smashing up the mud-guards and otherwise damaging the car, I will not only readily pay the amount of the fine with costs, but will double the amount and hand the balance to any charity you like to name.—Yours truly,

A. F. CALVERT.

### MOTOR-CYCLING ON THE ROADS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—My attention has been called to a case where a motor-cyclist was summoned at Epping recently for riding a motor-cycle at an excessive speed. The Chairman of the Bench remarked, in imposing a fine of £10 and costs, that the roads were not made for racing. As the defendant, in giving his evidence, stated that he was taking part in a trial organised by the Auto-Cycle Club, I would like to take this opportunity of pointing out that in the various trials promoted by this club there is a very stringent rule which states that any competitor who exceeds the legal limit of 20 m.p.h., or who does not drive cautiously through towns and villages, is disqualified. I can assure you that this club will do its level best to put down inconsiderate driving or excessive speed in any of the competitions over which they have control.—Yours truly,

F. STRAIGHT.  
Secretary, Auto-Cycle Club.

### SUNDAY MOTORING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It is now time that both makers and users of cars should pay profound attention to the general opposition the majority show to motors of all kinds, and unless something is done there will be some very severe restrictions placed on us. The many accidents and skidding of buses will most certainly have unwelcome measures at least proposed if not passed. Every day makers are turning out high speed cars which they know full well are destined to be a public nuisance, and the way these cars rush along the roads is a perfect disgrace, while if one does not get out of the way at once the driver and sometimes occupants will pass most uncomplimentary remarks in all known languages.

All cars should be made so that the legal speed cannot be exceeded. Many may think this a stupid proposal, but any hardship this regulation would carry with it will be nothing to what will be enforced, and when once the laws are made it will take a generation to get them modified. The motor racing man is a dangerous microbe, and should be treated as such; the speed cyclist brought the pastime into disrepute in the same manner. Mr. Morison's letter, I am afraid, speaks the mind of the public, and such a measure might slip through Parliament one of these times.

As a motorist I always proceed with due caution, as I cannot see the advisability of saving half an hour on the journey and wasting a day at the police courts, besides contributing to the county money-box. Buyers generally are waiting for the simple, reliable car within easy

reach of their pocket? What British maker will be the first to fill this need? I may add that I have a car of my own.—Yours truly,  
W. T. W., A. 1299.

### AUTOMATICALLY-REGULATED IGNITION.

TO THE EDITOR OF *The Motor-Car Journal*.

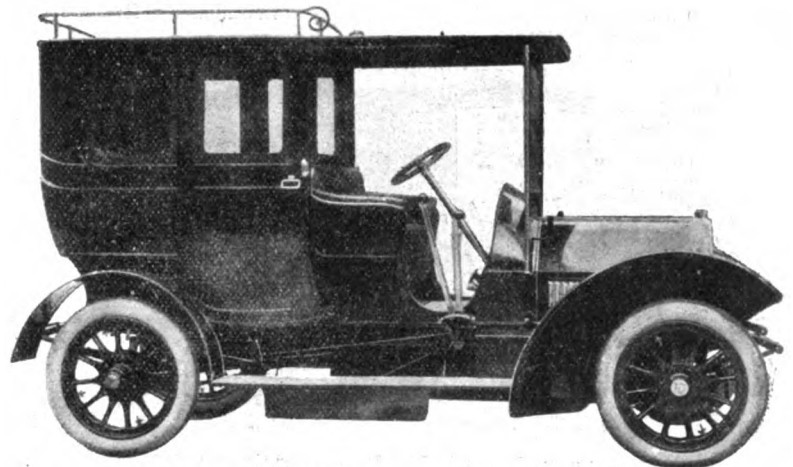
SIR,—In reply to the inquiry of "J. R. C." in your issue of September 29th, I beg to say that I have found the system adopted by the Albion Motor Car Company on their cars to work admirably. My car has run about 35,000 miles, I estimate, and I have driven it perhaps 20,000 miles myself. I consider the automatic regulation gear a very valuable feature, more especially for a car that is driven much in traffic. One controls the speed by keeping his right hand on the governor lever while steering with the left, and the governor adjusts the throttle, the extra air valve and the time of ignition. One has thus only one regulating lever to operate to change the speed from say six miles per hour to twenty or twenty-four miles per hour on the highest gear. The absence of complication in the control of the car conduces, I believe, greatly to safety and comfort in driving, especially in traffic. I may add that the gear has given me no trouble whatever, beyond replacing some of the links after the car had run 20,000 miles or so. I would further say that I have not yet had occasion even to open the governor box.—Yours truly,

ARCHIBALD BARR.

### CONTROLLING ENGINE SPEED.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Replying to "S. C. G.'s" query in the last issue of the *M.C.J.*, your correspondent will find that the method already fitted to his car is by far the best, and is most generally used. In fact, I do not know of



The 16-20-h.p. Beeston-Humber Car which is taking part in the Town Motor Carriage Competition.

any car fitted in the manner stated, and think he would have a great difficulty in controlling his engine if he reversed the action of the pedal, especially when releasing his foot to apply the foot brake.—Yours truly,  
H. J. T.

**PALMER TYRES LOST.**—On Saturday or Sunday last, between the Eltham Road, Lee, and Sundridge Park, two 30 in. by 3 in. Palmer motor tubes, in spare tube bag, were lost by a London motorist. A reward will be given if returned to the London office of the makers.

**COVER FOUND.**—While out on the road near Northampton on September 27th ult., Mr. R. J. Woolley-Massey picked up an outer cover which had evidently dropped off a car. If the owner will write and give particulars to the Victoria Garage, Shakespeare Street, Nottingham, the same will be forwarded.

**A.N. 475 WRITES:**—"Would the gentleman who was driving his car round the bend into Stanstead on Sunday, the 23rd ult., at 12.30 p.m., accept my sincere thanks for having rendered assistance to my friend and myself after the severe collision we had, by sending the pony and trap along from the cycle shop in Stanstead?"

**ROUNDHAY HILL, DEVIZES.**—Referring to the photograph reproduced in the *M.C.J.* of the 6th inst., Mr. P. Frost, of Ringwood, writes that some time ago he drove a Delaunay-Belleville car up the hill with a party of officers of the Wiltshire Regiment.

**HIGH TENSION PLUGS FOR MAGNETO IGNITION.**—Replying to "F. T.," who inquired in the last issue of the *M.C.J.* as to where the E K plugs can be obtained, we learn that they are supplied by Messrs.

E. Kalker and Co., 141, Much Park Street, Coventry.

**BARDON CARS.**—Replying to a recent inquiry for spare parts of Bardon cars, Mr. G. Tufnell, the Lightning Motor Engineering Works, 527, Leytonstone Road, London, E., writes to say he can supply such.

## CLUBS AND ASSOCIATIONS.

### MOTOR CYCLING CLUB.

THE awards won by the members of the Motor Cycling Club during the 1906 season comprise 98 awards given to 60 members, the distinctions consisting of 3 challenge cups, 1 special trophy, 3 special gold, silver, and bronze medals with jewelled centres, prizes to the value of £28, 59 gold medals, 2 gold centre medals, 6 silver medals, 2 bronze medals, and a quantity of certificates for meritorious performances.

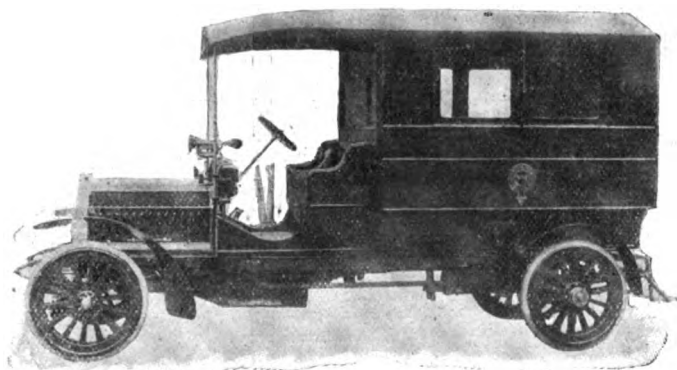
### THE CRYSTAL PALACE.

THE Crystal Palace Automobile Club's hill climb will be held on Saturday, October 20th. This competition will be confined to genuine touring cars, and the use of anything but ordinary petrol as fuel will not be allowed.

### BRITISH MOTOR BOAT CLUB.

It has been decided by the British Motor Boat Club to make a collection of lantern slides of motor-boats and motor-boating events. Eventually this collection will become of great value historically. The secretary will be pleased to receive slides from members or anyone else.

A paper on "Electric Circuits for Motor-boats" and on "The Construction and Use of Accumulators" will be read in January before the club by Mr. L. M. Waterhouse.



The Motor Ambulance recently supplied by Messrs. Dennis Bros., Ltd., to the Metropolitan Asylums Board.

### THE CYCLISTS' TOURING CLUB.

AFTER a long and animated discussion a meeting of members of the Cyclists' Touring Club at Caxton Hall, Westminster, on the 12th inst. adopted the resolutions necessary to confirm the decision of the special meeting at Newcastle last month, to broaden the basis of the club by admitting to membership all tourists, whether they toured by cycle or any other means. A postal vote of the whole membership resulted in 10,491 being in favour of the change and 2,231 against; and meetings in London and Newcastle in a large majority voted the same way. A show of hands gave in favour of the change 210, against 157; majority in favour 53. A poll was then demanded, and resulted as follows:—In favour 173; against, 156; majority in favour, 17.

The proposals now only require the sanction of the Court of Chancery, and the Cyclists' Touring Club ceases to exist, the Touring Club taking its place.

### PUBLIC MOTOR SERVICES.

**MANCHESTER'S OBJECTION TO MOTOR-OMNIBUSES.**—The Watch Committee of the Manchester City Council requested the Tramways Committee to take measures with a view to discontinuing the use of motor-omnibuses of the present type within the city at as early a date as may be practicable. The chairman of the Tramways Committee, seen subsequently, said that body had no desire to interfere with the decision of the Watch Committee. Their desire was to meet the wishes of the public. He added that the corporation had only three motor-omnibuses, one of which was not in use.

THE profits of the London Motor Omnibus Company, Ltd., after making ample allowance for depreciation, amount to £15,682, of which £4,000 is placed to reserve. The Preference dividend and an interim dividend at the rate of 10 per cent. per annum has been paid, and out of the remaining balance it is proposed to pay a dividend at the

rate of 10 per cent. per annum for the period from November 1st, 1905, to June 30th, 1906. The company commenced its service with five omnibuses ("Vanguard") on March 27th, 1905, and on June 30th, 1906, had 98 running, the daily average number of omnibuses in service throughout the period being 38½. The gross revenue and profits from all sources amounted to £124,938. The total number of passengers carried was 18,351,998. Premises have been secured in various parts of London, two of which (Albany Street and King's Cross) are thoroughly equipped and in full working order. Work on the remaining two (Camberwell and Shepherd's Bush) is being rapidly pushed forward, and should, before the end of the year, be in full operation. It has been considered necessary to have one large central repair depot, and with this object in view land has been secured in Walthamstow. Buildings are now in course of erection, and will be ready for occupation by the company towards the end of the present year. The garages and depot together, when completed, will accommodate between 300 and 400 motor-omnibuses.

THE practice which is followed by some motor-omnibus companies of paying their drivers and conductors by the number of trips made was strongly condemned on Saturday by Mr. Curtis-Bennett, who appeared at the North London Police Court to prosecute Henry A. Miller, driver of a "Pilot" motor-omnibus, for driving to the common danger in Stoke Newington Road. Mr. Curtis-Bennett stated that because of this practice drivers were anxious to go as fast as possible and often took great risks. In this case the magistrate said that there was not sufficient evidence that the omnibus was recklessly driven, and he discharged the driver.

THE inhabitants on the Hagley Road route of the motor-buses plying at Birmingham are to be invited to a public meeting of protest against the present inadequate service.

### AN INTERESTING PROBLEM.

IN our issue of the 15th ult. we invited our readers to send us the solution of the following problem taken from the 1905-6 calendar of Burlington House, Cambridge:—A cyclist and a motorist start at the same time from two places thirty miles apart; the car travels twice as fast as the bicycle. After meeting and resting, each starts back, travelling one mile per hour faster than they did on the outward journey; the cyclist reaches home five minutes earlier than the car does. What was the pace of each on the outward journey? The question has apparently been of considerable interest, as we have received quite a number of solutions. We append two, the first (A) being sent us by Earl Russell, and the second (B) by C. P., Oxford:—

(A.)

Let  $x$  = speed of bicycle in m.p.h.; then  $2x$  = ditto of car.  
In same time car does  $\frac{1}{2}$  (20 miles) and bicycle  $\frac{1}{2}$  of distance (10 miles).  
Return journey speeds are  $x + 1$ ,  $2x + 1$ .

Bicycle takes  $\frac{10}{x+1} \times 60$  minutes.

Car takes  $\frac{20}{2x+1} \times 60$  minutes.

$$\therefore \frac{600}{x+1} + 5 = \frac{1200}{2x+1} \quad \frac{1210x + 10x^2}{605 + 5x}$$

$$600 + 5x + 5 = \frac{1200}{2x+1} \quad 10x^2 + 1215x + 605$$

$$\frac{600 + 5x + 5}{x+1} = \frac{1200}{2x+1}$$

$$\therefore (605 + 5x)(2x + 1) = (x + 1)1200$$

$$\therefore 10x^2 + 1215x + 605 = 1200x + 1200$$

$$\therefore 10x^2 + 15x - 595 = 0$$

$$2x^2 + 3x - 119 = 0$$

By formulae

$$x = \frac{-3 \pm \sqrt{9 + 4 \cdot 2 \cdot 119}}{4} = \frac{-3 \pm 31}{4} = +7.$$

Outward pace of bicycle, 7 miles. Outward pace of car, 14 miles.

(B.)

Let  $x$  be the m.p.h. of cyclist on outward journey.

$2x$  will be the m.p.h. of motorist on outward journey.

Since they start 30 miles apart, they meet after going 10 miles and 20 miles respectively.

$\frac{10}{x+1}$  will be time in hours taken by cyclist on return journey.

$\frac{20}{2x+1}$  will be time in hours taken by motorist on return journey.

$$\frac{10}{x+1} + \frac{1}{12} \text{ (of an hour)} = \frac{20}{2x+1}$$

$$\text{or, } 2x^2 + 3x = 119$$

$$\left(x + \frac{3}{4}\right)^2 = \frac{119}{2} + \left(\frac{3}{4}\right)^2 = \frac{961}{16} = \left(\frac{31}{4}\right)^2$$

$$x = 7. \quad 2x = 14.$$

Cyclist's pace outward was 7 m.p.h.

Motorist's pace outward was 14 m.p.h.



## CASES UNDER THE MOTOR-CAR ACT.

### SECTION 1.—RECKLESS DRIVING.

THE maximum penalty of £20 and costs under Section 1 of the Act has been imposed on a motorist at the Uckfield Petty Sessions, the magistrates present being Mr. R. J. Streatfeild (Chairman), Mr. C. H. Corbett, M.P., Mr. E. G. Ramsbotham, Colonel Todd, Lieut.-Colonel Thompson, and Major R. L. Thornton.

At the Worksop Petty Sessions, Hardy Smith, of Langley Mill, was charged with recklessly driving a motor-car to the danger of the public, at Edwinstowe, on September 25th, and also on the same date and place with being drunk while in charge of a motor-car. Mr. Thornton, the presiding magistrate, said as it was a first offence defendant would be dealt leniently with. He was fined £3 and costs for reckless driving, and £2 and costs for being drunk whilst in charge of the car, and his motor licence endorsed.

During last week fines amounting to £111 were imposed by the Huntingdonshire magistrates upon eighteen motorists for driving to the danger of the public.

### SECTIONS 1 AND 6.—RECKLESS DRIVING AND FAILING TO STOP.

William Humm, a chauffeur, of Swansea, was summoned at Newport, on Saturday, for driving a motor-car to the danger of the public, near Chepstow, and for failing to stop although aware that an accident had occurred. Mr. Lewis Richards, J.P., the owner of the car, was summoned for aiding and abetting Humm in the latter offence. The case for the prosecution was that while a farmer named Leonard was driving with his family in a trap he had occasion to get out of the vehicle to adjust the harness. On looking up he saw a motor-car approaching, and as he had not time to get into the trap, he held up his hand for the car, which was about sixty or seventy yards away, to stop. The car, however, passed at a great speed, and his horse was frightened, and bolted. The occupants of the car, however, did not stop to render assistance. Immediately afterwards two other motor-cars came up, and the occupants rendered assistance to the police and the injured people. The police at Chepstow were also communicated with, and the car was stopped. Mr. Richards, for the defence, stated that until he saw the inspector at Chepstow he was unaware that an accident had happened. Eventually Humm was fined for driving to the danger of the public—£10 and costs. The other summonses were dismissed.

### SECTIONS 2 AND 3.—REGISTRATION AND LICENSING.

General Ceilan Milo Spitzer, an American, was summoned, at Marlborough Street, London, for aiding and abetting Eugene Ballon in driving an unregistered car and for employing an unlicensed driver. Mr. Huntley Jenkins, for the defence, said that the General, who was at present in America, had the car in question brought to England from a tour abroad, and before having it shipped for America, finding it necessary to ride in it once, told his driver to put on it an English registered number that he had formerly had on a car with the letters LC in front of it. The driver mistook his instructions, and only placed the letter LC in front of the American number, which he should have removed. With regard to the unlicensed driver, a licence had been applied for the day before the car was stopped. The General, not being aware of the stringency of our laws, had offended innocently, and considering that the driver of the car had already been fined, he asked the magistrate to impose only a nominal fine for a technical offence. Mr. Kennedy said there was no moral stigma attached to General Spitzer, who, however, had broken the regulations and would be fined 40s. and 2s. costs on each of two summonses.

### SECTION 9.—THE SPEED LIMIT.

At Newcastle on Saturday Alfred Peacock, Sunderland, was charged with having driven a motor-car at a speed exceeding twenty miles an hour at Wideopen on September 28. After hearing evidence the magistrates considered that the timing of a car could not be done accurately from one end of the trap only, and they therefore dismissed the case.

The Reigate county magistrates were engaged for several hours on Saturday hearing summonses against motorists for exceeding the speed limit, and fines, varying from £3 to £5 and costs, were imposed in a number of instances. Mr. Colin Defries, who was alleged to have travelled at the rate of thirty-four miles an hour, and against whom two previous convictions were proved, was fined £10 and special costs, and his licence was endorsed. Mr. George Iden, of Coventry, who claimed to have driven motor-cars more miles and to have been awarded more medals for designing cars than any other man in England, was ordered to pay £3 and costs.

On Saturday, at Doncaster, nine motorists were summoned, eight for exceeding the speed limit and one for driving to the danger of the public, at Askern, on the 4th inst. Fines were imposed in every case.

The motor timing expedition conducted by P.S. Waghorn on the Dicker Road on the 8th and 10th September resulted in eight speedy travellers appearing before the magistrates at the Hailsham Petty Sessions on Thursday of last week. Seven of them pleaded guilty, and were each quickly fined £7 and costs, the latter amounting to 8s. in some cases and a shilling more in others.

At Cowbridge Police Court, Mr. A. G. Thackeray, of Cardiff, was summoned for recklessly driving a motor-car through Cowbridge, and

was fined 20s. and costs. In opening his case for the defence, Mr. F. N. Shackel referred to a report which had appeared in the newspapers to the effect that the Bench had drawn the attention of the police to a motorist having driven recklessly through the town, and asked the police whether proceedings would be taken. Mr. Jenkins: Yes, the question came from me. Mr. Shackel contended that a prosecution should come from the police. On the Bench announcing the decision, Mr. Shackel asked the magistrates to make the fine 21s. in order to give defendant an opportunity to appeal, but this they refused to do. Mr. Shackel said he must press his point. This was a case in which they ought to have a chance of appeal. It was the most irregular case in his experience. The prosecution was brought by the Bench and decided by them.

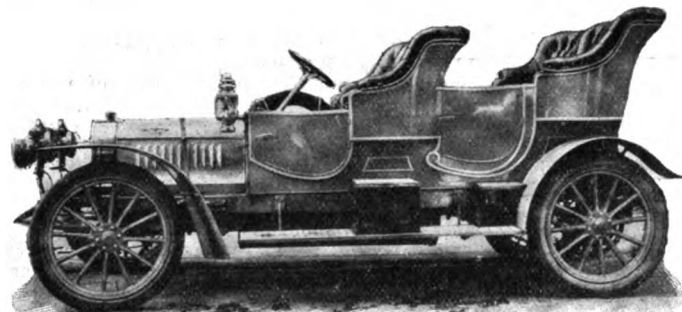
On Saturday, at Doncaster, nine motorists were fined for exceeding the speed limit.

### NO LIGHTS.

At Wilmslow, Edwin Williams, Lord Stanley of Alderley's chauffeur, has been summoned for not showing his numbers at the rear of the car. The police found him on the road near Chelford without lights. They were unable to see the numbers, but they knew it was his lordship's car. The defendant said he did not know his lights were out. He was fined 10s. and costs. A second chauffeur has been similarly summoned, the fine in his case being 20s. and costs. The magistrates had no option in endorsing the licences in both cases.

## HIGHWAY CONTROL.

THE members of the Society of Motor Manufacturers and Traders on Wednesday of last week gave a banquet at the Hotel Cecil, London. Mr. S. Straker presided, and about one hundred and fifty gentlemen were present. After the toast of "The King" the chairman said that they wished to discuss the question of "Highway Control and the Dust Problem." He declared that the question of road control would largely affect the destinies of motorism. As the London



A 24-h.p. Ader Car with side-entrance body, built by the Waterloo Motor Works, London, S.E., who propose to use the vehicle for hire work, for which purpose they are having a Cape cart hood made for it.

Chamber of Commerce had said, the time had arrived to secure some efficient and economic system of maintenance of high roads. He believed that the State should establish a High Road Department. Whatever the incidence of the tax on motor-cars there would be a good deal of money paid to the Exchequer, and that money should be spent in the improvement of the trunk roads.

The Hon. A. Stanley, M.P., declared that the people of the country had arrived at the conclusion that the roads of the country were meant for traffic, and not as play-grounds. Of course, motorists did not wish to inconvenience those living on a road, but surely a road was meant to secure a means of rapid communication? Roads must adapt themselves to the traffic on them, and motor traffic had come to stay.

Mr. E. P. Hooley, Road Surveyor of the County of Nottingham, declared himself in favour of a proper system of road maintenance. Patching should be done away with; more coating was necessary and on a scientific basis. He would use tar material all over it and through it, and not only on the surface.

Lord Montagu paid tribute to the work of the county surveyors in the maintenance of the roads, declaring that the good road was also the cheap road. He regretted that there was not in the Bill of 1888 a provision that a certain amount of the grant in aid should be applied to the main roads, and he would like all taxes due to the user of the high roads to be applied to the maintenance of those roads. Dust was the great enemy of the motor-car at the present day, many people suffered from it, and motorists should remember that, for such people had a great electoral power. A dustless road was, taking all into consideration, the most economical road.

The Marquis of Winchester declared that the Commission sought to bring the motorists under the ordinary laws of the country and to avoid putting them in a special category. Speaking personally, he could see no reason for a differentiation in connection with the fines paid by motorists so far as the attribution of the funds derived from them was concerned. Much depended on the systematic making of

roads, and too many roads were not built for the traffic they now had to carry. With the Commission, he believed in the creation of a central authority for our main roads. Were it not for the dust the public would find little fault with the motor, which brought some brightness into public life, for the motor did much for the tourist movement, and meant increased prosperity for remote localities.

Further reference to the subject will be found in our Comments on another page.

### ROAD REPORTS.

PERTSHIRE.—Recommendations with regard to the closing of certain roads to motor-car traffic and reducing the speed of automobiles in the vicinity of schools to ten miles per hour have been approved by the Perth County Council.

### THE MOTORIST'S TEN COMMANDMENTS.

WE cull the following from a Canadian contemporary:—

1. Thou shalt not scorch on the public roads or challenge thine enemy to a race on same.
2. Thou shalt not boast of thy mileage or of the tyres, for pride goeth before a puncture.
3. Thou shalt not gaily pass another by and refuse assistance, for thou may be in a like condition some day.
4. Remember thy sparking plugs and keep them clean and thy batteries charged.
5. Thou shalt not neglect to work for good roads so that thy going shall be smooth.
6. Fill thy tanks with petrol before starting on a journey so that you may not be stuck in the woods miles from home.
7. Honour an honest repairer, but keep a check on the chauffeur, so that thy automobile be not abused.
8. Do unto the drivers of other vehicles as you would have them do to you.
9. Thou shalt not borrow thy neighbour's pump, nor his jack, nor his tube, or anything that is thy neighbour's.
10. Thou shalt not try to improve on the work of the manufacturer, because they that take lessons from schools of correspondence are oftentimes shy of knowledge.

### THE LIABILITY OF REPAIRERS.

At Chester County Court, before Judge Moss, Mr. Stanley R. Smith, of Kelsall, sought to recover £5 odd for damages sustained by the alleged negligence of Mr. W. H. Monk, dealer, of Chester, or his servants. Plaintiff's case was that the car in question was sent to the defendant to be overhauled and repaired. The gear of the car was sent to the makers and repaired by them. It was returned to Chester, but was sent back by defendant. The makers returned it, replying that they had made the gear perfectly good. The gear was replaced in the car. Plaintiff did not use the car much between February and June, but on June 5th he was in the vehicle on his way to Prestatyn, when the shaft of the gear broke suddenly on a hill near the town. The car began to run back, and a serious accident was averted by the plaintiff only with great difficulty. The car was towed into Prestatyn Station and brought home by train. An expert who was called in said that the accident was solely due to neglect of proper adjustment of the gear when replacing the parts of the car together. If the ball-race had been properly adjusted it would have been impossible for the shaft to have worn away as it had. Plaintiff only claimed his out of pocket losses.

For the defence, Mr. E. Brassey urged that the specialists who had given evidence on the other side were business rivals, and had only seen the car after the accident. As one of them admitted, their opinion would have been of more value had they seen the car before the accident. His client was responsible only for the assembling and reassembling of the parts of the car. He neither guaranteed nor took any responsibility whatever for the work done by the makers, who had not carried out their instructions in repairing the car, and its dangers were pointed out by defendants to the plaintiff when it was returned by the company. His Honour, finding that the accident was caused by a faulty adjustment of the gear, gave judgment for the plaintiff with costs.

### MOTOR-CAR ACCIDENTS.

THE Right Hon. Sir J. H. A. McDonald, who was an occupant of a motor-car which met with an accident a few days ago, at Garstang, near Preston, writes to say that no one was badly shaken, that the journey was not resumed to Glasgow, and "that the whole thing was an ordinary sideslip, which, unfortunately, put the wheel sideways against a high kerb."

A MOTOR-CAR, driven by Mr. Outram-Cleveland, of Maidenhead, in attempting to pass an electric tram-car in Uxbridge Road, on Monday, crashed into another coming from the opposite direction. The motor-car became sandwiched in between the two tramcars, both of which were

badly damaged, whilst the motor-car was wrecked, and had to be towed to a neighbouring garage.

AN extraordinary motor-car accident occurred on Tuesday at Merstham, when Police-Sergeant Hardy was, with Constable Carr, knocked down near the entrance to Gatton Park. They were patrolling the road about an hour after midnight, when suddenly the lights of an approaching motor, driven by Mr. Adams, of West Kennington, flashed upon them, and before they had time to get out of the way the car ran into them, throwing them both heavily to the ground. Mr. Adams conveyed them to a doctor, and after receiving treatment they were conveyed to their respective homes.

### POLICE TRAPS.

NEAR Crewe is a police trap worked by police officers stationed three miles apart.

THERE is a police trap (one furlong in length) between Gunnersbury Station and Gunnersbury Lane, near Kew, being worked by a sergeant in plain clothes standing at the London end, the other plain clothes man being at the church near Gunnersbury Lane, with a uniformed constable on the opposite side of the road.

ON the Dicker road, Hailsham, is a carefully worked police trap, in which one of the officers gets behind a hedge, making observations through a hole therein.

WORTHING has at least two frequently worked traps, on the Brighton road and the Findon road respectively.

IN the Kennington and Brixton roads there are police traps—all leading to the police court at Lambeth.

MOTORISTS should be cautious when driving through Kensington, as police traps are again on the following roads:—Kensington High Street, from the Royal Palace Hotel to Holland Park, and likewise from Holland Park to Addison Road Railway Bridge.

THERE is also a trap in Earl's Court Road, and everyone coming through this Royal borough should drive slowly.

A MOTORIST warned of a police trap on the main road between Lewis and Eastbourne reports that he found it at the cross road leading to Berwick, seven miles from Eastbourne. The usual East Sussex electric timing arrangement worked both ways over 220 yards. Practically there was no traffic on the cross road on Sundays, and no houses near.

WE understand from Mr. E. Lamb, the secretary of the Stanley Show, that entries for the forthcoming show are coming in very satisfactorily. The office address is 19, Southampton Buildings, Chancery Lane, London, W.C.

HER Royal Highness Princess Louise (Duchess of Argyll) visited Leeds recently and opened a new high school at Headingley. The royal party, who had spent the night at Temple Newsam as the guests of the Hon. Edward Wood, drove through the town in four motor-cars, the authorities believing them safer than the usual carriages drawn by horses, which might take fright in the crowded streets. As a result the crowd were considerably disappointed in not having the usual pomp and circumstance of a royal visit, and Princess Louise was quite unrecognised until the Lord Mayor stepped forward to welcome her at the town hall.

### TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case; otherwise no liability will be accepted.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.

# THE Motor-Car Journal.

VOL VIII.]

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[No. 399.]

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## Our Commemoration Number.

IN a few days the tenth anniversary of the emancipation of the Motor Car will be celebrated by a series of runs and festivities that will demonstrate the remarkable progress that has been made during the last decade. Following the custom of the MOTOR CAR JOURNAL and its ancestor, *Industries and Iron* and the *Mechanics' Magazine*, we have devoted practically the whole of our present issue to a record of the progress that has been made. In 1896 *Industries and Iron*, from which the *M.C.J.* evolved, published a Special Issue, which formed a landmark of progress, and again, at the interval of ten years, we give a comprehensive survey, which will be found equally useful as setting forth an important chapter in the history of the movement.

In the following pages most of the usual features of the *M.C.J.* have been seriously curtailed or wholly suspended in order

that our record of the remarkable progress of the automobile movement during the last decade may be adequately chronicled. The history of the advance made during the past ten years is preceded by a review of the pre-Victorian period, as well as of the years when the "man with the red flag" regulated the pace of motor-cars. The Reminiscences of the historic run to Brighton on November 14, 1896, and the early experiences will be of interest to those who have only known the Motor Car in the days of its reliability. Then follows a complete account of constructional progress, in which we analyse the leading features of each succeeding year to the present time. The various movements that have arisen to popularise automobilism are also referred to, along with the incidents and Trials that have been comprehended in ten years of greater activity than have been given to any other industry.

### COMMENTS.



THE Automobile Association is the newest and probably the most active of the organisations devoted to the protection of motorists. This it does without recourse to the conventional legal methods; it rather seeks to keep motorists from courts in preference to assisting them therefrom when they get within legal clutches. From many of the southern roads it has driven the obnoxious police trappist, and it has rendered the "controls" very unprofitable on others. Anticipating trouble in the north owing to the number of fast cars on the road to Blackpool, the Automobile Association recently sent some of its best

men north to look after the interests of motorists going that way. They were veterans of the Portsmouth and Brighton roads—men who had time and again defeated the best laid schemes of Marks and Jarrett, and as they went north they looked forward jubilantly to a keen contest with the Northerners. They came back disappointed, for the Lancashire police took a sensible view of their duties. Constables there were, certainly, but they were stationed on the road in uniform, with the view of checking speed rather than encouraging it. Plain clothes men were hard to find, and traps were absent. All this puzzled the ardent scouts from Surrey, until a Lytham inspector threw light on the subject. As one of the Association's patrols was leaning disconsolately on his bicycle, and voting the whole business "too slow," the inspector addressed him kindly. "What are you doing here, my lad?" The patrol explained briefly how he was looking after the interests of motorists. The inspector heard it all quietly and then remarked, "You're doing good work here, my man; it seem's we're not wanted. I'll take my men off the road."

#### The Views of the Councils.

No fewer than twenty-seven local authorities were represented at a conference of Cheshire urban and rural district councils, held at Chester recently, the gathering being specially summoned to consider the question of automobile traffic and its regulation according to the proposals of the Royal Commission on Motor Cars. A variety of proposals were made; many of them peculiar and absurd, some fairly reasonable, having regard to the source. The idea of taxing motor-cars according to horse-power was promptly scouted by the good people of the conference, while the proposals that were endorsed were nothing more remarkable than approval of the present speed limit of twenty miles an hour, and the idea of reducing this to twelve in dangerous places. In fact, the whole tone and attitude of a conference really representative of rural opinion in a county familiar with the subject was in pleasant contrast to the strict line of fierce opposition that had been anticipated.

#### In Hospital Service.

DESPITE the undoubted inconvenience of the motor-bus to hospitals in towns and the irritation it causes to those in hospital in rural districts, the motor-car is doing a beneficent work in many places. At Belfast, Glasgow, and London the motor-ambulance is of acknowledged value in dealing with urgent surgical cases, and at the military convalescent home at Osborne stretchers have been especially designed for carriage on motor-cars. The annual report of the institution, published in the form of a White Paper on Monday, makes especial note of the value of the motor-car and its new stretchers in hospital work. Patients can be removed from their rooms in London to their quarters at Osborne without leaving the stretcher. The secretary of the Essex and Colchester Hospital has found

another use for the automobile, several owners of cars in the district having been invited to place their vehicles at the occasional disposal of ladies collecting funds for the institution, and a thorough canvass of the locality is to be made in the interest of the hospital. Such would otherwise be impossible.

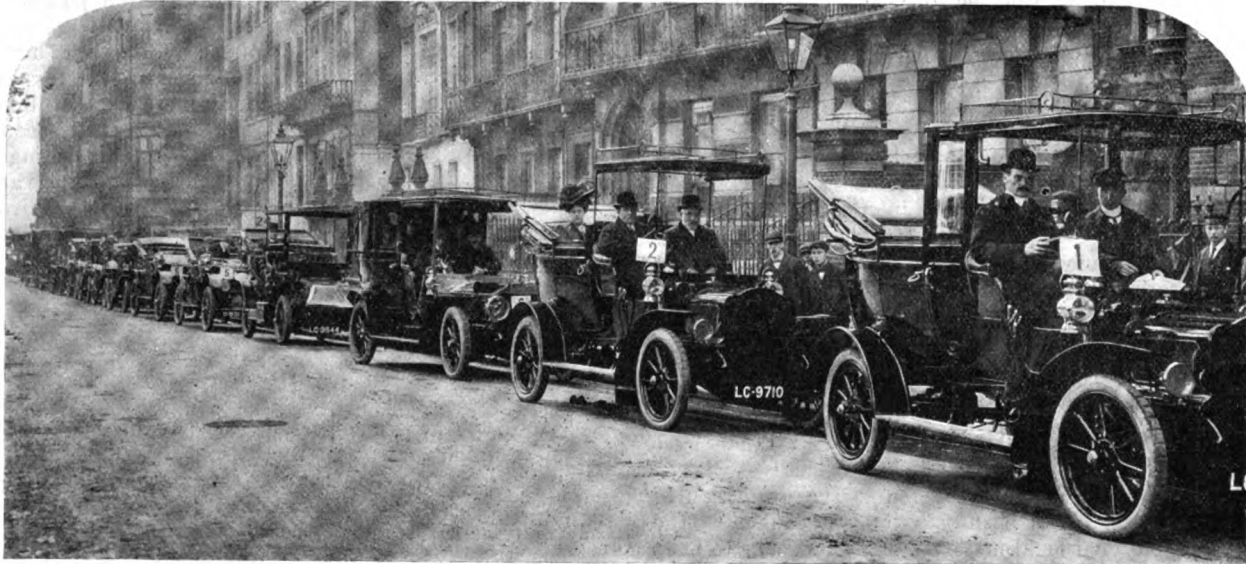
#### "The Biter Bit."

DISTINGUISHED among the critics of motorists in the House of Commons is Mr. Cathcart Wason, whose antipathy to speed has been evidenced on several occasions. When the Secretary for Scotland conducted an inquiry in Ayrshire into the local application for a restriction of the speed of motor-cars on certain roads in the country, Mr. Wason, M.P., was a vigorous supporter of the proposal, which ultimately found official acceptance. We are sorry that this persistent Parliamentarian has lately fallen a victim to his own advocacy, for, as related in our Motor Car Cases this week, a chauffeur driving a car through the village of Ballantrae at a speed greater than ten miles an hour has been summoned, this being one of the localities where the reduced speed limit is enforced. It was alleged that the car was driven at twice the prescribed speed, which, in the view of Mrs. Wason—wife of the M.P.—was nothing terrible at all. We understand that at the time of the contravention the vehicle was on hire to Mr. Cathcart Wason,

cars and motor-cycles were involved, as well as in the number of cases of personal injury. While motor-bus mishaps have naturally increased owing to the multiplication of the number of vehicles in service, we note an increase, too, in the accidents caused by mechanically-propelled tramcars. A decline in both sections of locomotion may be looked for as the experience of the drivers increases.

#### Overhanging Trees.

At the risk of appearing unduly insistent we have always emphasised the necessity for local authorities to see that they do their duty in having trees carefully lopped when their branches overhang the roadway at corners in such a way as to obstruct the view of drivers, whether of horses or motor-cars. At length we regret that a case has occurred which serves to give added strength to the warnings so frequently uttered. A young fellow travelling to the City from Fulham by motor-bus was on the top of the vehicle. When outside the new South Kensington Museum one of the branches of a tree struck him in the face and sadly injured him. The driver of the vehicle declares that the trees in that neighbourhood overhang the roadway about ten feet in many places, and it has also been stated that the outside passengers push the branches away with their hands. The case has been before the Brompton County



The Town Carriage Competition. The Vehicles Starting on the Trial Run.

and that Mrs. Wason was an occupant. Possibly his wife may be able to prove to her spouse that his attitude towards automobilism has been unreasonable in the past, and that he should mend his ways in the Parliamentary Session upon which we have entered.

#### Accidents.

How those Scotch M.P.'s enjoy heckling the authorities with regard to automobile matters! Mr. Cathcart Wason's zeal is well known and Mr. Galloway Weir's curiosity equally persistent. We have just seen a report from the Home Office of accidents in the Metropolitan Police district during July and August last as follows:—

	July.	August.
Caused by motor-cars (including motor-cycles) ...	539	328
Involved personal injury ...	178	134
Proved fatal ...	6	6
Caused by motor-omnibuses... ..	361	436
Involved personal injury ...	74	75
Proved fatal ...	1	5
Caused by mechanically-propelled tramcars ...	286	317
Involved personal injury ...	105	121
Proved fatal ...	1	2

There is a gratifying decrease in the accidents in which motor-

Court, when the jury added a rider to their verdict to the effect: "We regret that any authority should permit trees to grow or project or overhang highways wherein decked vehicles are carrying passengers."

#### Motoring in Ireland.

THE reception, so genial and sportsmanlike, which the Irish people gave to motorists in the famous days of 1903, when the great International event caused money to circulate in the Emerald Isle with a freedom rarely witnessed therein, has by no means evaporated. Wherever circumstances have permitted the Irish people have become motorists themselves, and Dublin, Belfast, Cork, and Waterford are all centres of the industry and pastime. Now we learn that Limerick has advanced so well as regards the automobile that a club has been established there. Nearly thirty motorists have become members, and affiliation to the Irish Automobile Club and the Motor Union will take place in due time. Mr. J. E. Goodbody is the hon. secretary, and the committee consists of Sir Thomas H. Cleeve, D.L., Messrs. A. W. Shaw, J.P., J. Horan, A. Blood Smyth, T. D. Atkinson, D.L., and J. P. Goodbody. We wish the Limerick A.C. a long and pleasurable career of usefulness.



## CONTINENTAL NOTES.

### A Swiss Hill-Climbing and Consumption Test.

Under the auspices of the Swiss Automobile Club a hill-climbing competition was held on the 14th inst. on the Marchairuz Hill, near Geneva. The contest was over a distance of 6.1 kilometres, and of the twenty-nine starters the best time was made by M. O. Pfister on a 12-16-h.p. Peugeot car. A fuel consumption trial was run off by the same club on the 16th inst. over a 130 kilometre course. Twelve vehicles started, of which six finished within the time allowed, the winner being M. Ernst, with a car of his own construction, and fitted with an Aster engine.

### A Touring Car Race in Germany.

Arrangements are in hand in Germany to organise an international touring car race over a distance of from 350 to 400 kilometres for June next. It is proposed that the event shall be run off on the Taunus circuit, on which the Gordon Bennett race was held in 1904, and that the competing vehicles shall be fitted with engines of a maximum cylinder capacity of eight litres.

(maximum 20 kilometres per hour), (5) freedom from breakdown (6) accessibility of mechanism, (7) ease of control, and (8) protection of the chassis from dust and mud.

### The Dourdan Speed Trials.

The autumn speed trials on the level at Dourdan, France, on Sunday last, aroused considerable interest, and mark a further conquest against Father Time. In the flying kilometre a new record was established by Mr. A. L. Guinness, whose 200-h.p. eight-cylinder Darracq had been quickly brought from Blackpool, and which covered the distance in 20 sec., equal to 112½ miles per hour, Villemain on a Clement Bayard being second in 26 3.5 sec. in the general classification and first in the 650 kilog. car class, in which Mr. Huntley Walker competed on his 80-h.p. Darracq, but was disqualified owing to his vehicle exceeding the weight limit. There was a large number of competitors in the touring car classes.

### France and Motor Racing.

The A.C.F. having invited the members of the motor trade to give their views as to the question of organising a race next year, the members of the Chambre Syndicale de l'Automobile last



Mr. A. Huntley Walker starting on his Darracq at Dourdan.

### International Automobile Exhibition.

It is announced that exhibitors, members of automobile clubs, and others who intend to visit the forthcoming Paris Salon will have the advantage of special rates on the principal French railways.

### A French Military Motor-Vehicle Competition.

At the instance of the French Minister of War, the A.C.F. is organising a competition of military motor-vehicles, which is to be held towards the end of next month in conjunction with the Paris-Nice-Paris reliability trial of 1907 models. There will be three classes, viz.—(1) wagons for loads up to 1½ tons, (2) ditto over 1½ tons, and (3) vehicles capable of carrying over fifteen passengers. The competing machines will start from Paris on November 19th for a run to Marseilles, which is to be made in eight daily stages, and after a day's exhibition will start on the return journey to the capital, which is scheduled to be reached by December 5th, the total distance being 1,558 kilometres. The awards will be made by a system of marks for (1) regularity of running, (2) proportion of total weight to useful load carried, (3) fuel consumption per ton-kilometre, (4) average speed

week held an important meeting, at which a decision in favour of the continuation of an annual race was arrived at. The Marquis de Dion suggested the establishment of a private and enclosed permanent track on which the contest could be held without danger to the public, and although some manufacturers do not view the suggestion with favour, considering that the maintenance of a permanent circuit will necessitate more than one race per year, a resolution in favour of the idea was adopted.

### Miscellaneous Items.

The Morris Company are, it is announced, bringing out a 50-h.p. six-cylinder car for the 1907 season.—France having won the three big races of 1906—the Grand Prix, the Circuit des Ardennes, and the Vanderbilt Cup—the “Auto,” of Paris, is organising a banquet for the 12th November to celebrate the triple victory.—It is proposed to hold a 500 kilometre touring contest on the lines of the Herkomer Trophy competition in Italy next year.—The Touring Committee of the A.C.F. has decided to continue to recommend that Switzerland be boycotted by motor tourists on account of the anti-motoring regulations which are still in force in the country.

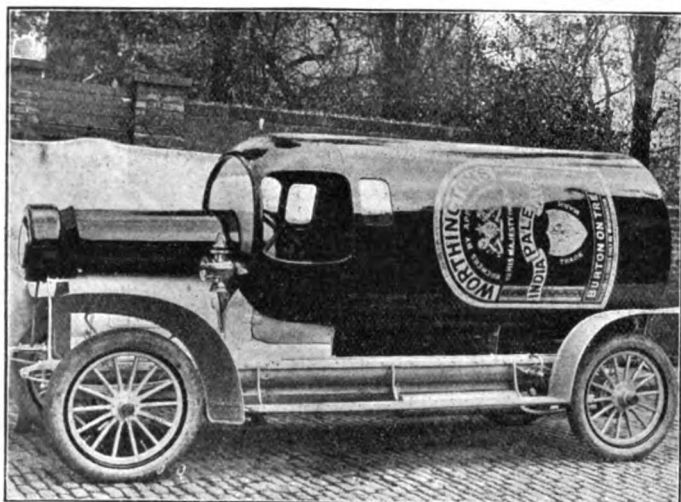
MESSRS. BROWN BROTHERS, LTD., have received an order from the Jaskan Miniater, Kathiawar, India, for two 3½-h.p. "Brown" motor-bicycles, complete with side cars, for their Highnesses the Princes of Kathiawar.

THE Star Engineering Company are bringing out a six-cylinder car for the 1907 season.

MESSRS. MANN AND OVERTON, LTD., inform us that the Richard-Brasier cars will be known in future as the "Brasier," the word Richard being dropped.

THE Daimler Company have had the honour of receiving a further order from H.R.H. the Princess of Wales for a 1907 chassis. The car will be on view at the forthcoming show at Olympia on the stand of Messrs. Mulliners, who are supplying the body.

THE Automobile Association did much useful work for the Blackpool race meeting by means of their scouts on several roads in Lancashire, Col. Bosworth, Mr. Walter Gibbons, and the secretary, Mr. Stenson Cooke, journeying down to superintend operations.



The illustration reproduced above depicts the novel Motor Delivery Van just completed by the British Automobile Commercial Syndicate for Messrs. Worthington. The body, which is of registered design, is mounted on a 20-28-h.p. Spyker chassis, geared very low for transport work.

It must have been a satisfaction to all concerned, that the Blackpool race meeting was carried through without any serious accident. A detachment of the St. John Ambulance Brigade was on duty on both days, but, so far as we could learn, their services were not required. In fact, the only accident we heard of was a collision on the Saturday morning between two cars, which had no more serious results than a broken road-wheel. The usually inevitable dog on the track, too, was conspicuous by its absence, its place being taken by caps and goggles, which the high wind blew off the drivers' heads and carried along the course.

WE are officially informed that the title of the Brotherhood-Crocker Motors, Ltd., has been altered to the Sheffield Simplex Motor Works, Ltd. In announcing the change the makers of the Brotherhood car write us that their manufacturing facilities have proved insufficient to enable them to cope with the demand for their cars, and new and enlarged works, now nearing completion, have been established at Tinsley, Sheffield, where all parts of the car will be made. Messrs. Brotherhood and Crocker are not now interested in the company, but the cars, as heretofore, will be designed and produced under the personal supervision of the general manager, Mr. Percy Richardson. The vehicles produced at the new works will be named the Sheffield-Simplex, whilst those cars that have already been constructed and that are fitted with the engines, gear-boxes, &c., made by Mr. Peter Brotherhood, will still retain the name of Brotherhood. It is hoped to begin deliveries of the new Sheffield-Simplex car early next spring.

## HERE AND THERE.

OF interest to the trade section of our readers is the announcement that the Deasy Motor Car Manufacturing Company, Ltd., is now prepared to appoint agents both at home and abroad for the sale of the new Deasy cars.

MR. W. GRAINGER has a well-fitted garage and motor repair shop at 121, Shooter's Hill Road, Blackheath, S.E.

TURNER'S MOTOR MANUFACTURING COMPANY, LTD., have recently despatched a 10-h.p. Turner-Miesse steam car to Capt. G. E. Smith, R.E., the Director of Surveys, Mombassa, British East Africa, who states that it is the only motor-car in that portion of the globe.

THE Prested Miners' Lamp Company, Ltd., have sent us a complete set of their electric ignition outfits, including coil, accumulator, and plug, all bearing the well-known name "Prested." We hope to give them a trial at an early opportunity.

OWING to the short notice given for the town carriage competition, Messrs. J. E. Hutton, Ltd., were unable to finish the special new car which had been expressly designed by M. Berliet for London requirements as well as they could wish, and the vehicle was withdrawn from the competition.

ONE of the latest six-cylinder cars to be put on the market is the "Brown," which has just been introduced by Messrs. Brown Bros., Ltd. We had a run out on the new vehicle, which is of 40-h.p., the other day, and, as we expected, found it both speedy and quiet as well as excellent hill-climber. We hope to fully describe the car in an early issue.

THE rapid growth of the motor industry in this country is indicated by the number of licences issued by Inland Revenue Commissioners as follows:—1899-1900, 230; 1900-1, 198; 1901-2, 334; 1902-3, 664; 1903-4, 1,178; 1904-5, 2,261; 1905-6, 5,443. In 1898-9, 61 were issued, 75 in the preceding year, and only 16 in the twelve months ended 1897.

THE Continental Tyre Company is issuing a leaflet in which motorists anxious to see their tyre bills show a decrease are urged to ask their drivers how many pounds pressure they have in the tyres. "If they do not have 60 lbs. for 3 in. and 70 lbs. for 3½ in., 80 lbs. for 4 in., 90 lbs. for 4½ in. and 5 in., you should not expect good service. Don't blame the tyre maker. He cannot watch your driver."

A NEW car is being placed on the market by the Riley Cycle Company, Ltd., Coventry, who have for the past few years confined themselves to the manufacture of tri-cars. The new vehicle is a 9-h.p. two-cylinder, and during the past season has been very successful in winning several hill-climbs, including Skegness, Kettleby and the Crystal Palace A.C. It is interesting to note that this company made their first four-wheeled car in 1897, and it is still running in Belfast.

THE efficiency of the small Clement-Talbot engine caused so much interest at Blackpool, that Mr. T. H. Woollen, of the Clement-Talbot Company, has had the cylinders officially measured by the engineer of the A.C.G.B.I., who reports as follows:—"I have to-day examined and measured the bore and stroke of the Clement-Talbot car, licence No. A. 2366, chassis No. 201, type 4 V.B., No. of engine 4206, which won at Blackpool, Event 4, standing mile for cars the chassis price of which is not more than £450; and made the fastest time in Class A at the Crystal Palace Club hill climb. I beg to state, after carefully measuring same, I find the bore to be 85 mm. and the stroke 120 mm."

UNDER the name of the "Shaftometer," the Direct-Reading Instrument Company, of George's Square, Halifax, have lately introduced a very sensitive direct-reading level for lining-up shafting, machinery, &c., which should be of interest to motor-car manufacturers. The instrument has a rigid gun-metal base 15 in. long, and a glass tube 12 in. long. The latter is ground internally to ensure an even bore and correct curvature. Brass scales on each side of the instrument run from end to end of the tube, and are graduated with divisions about 1-8 in. long, each division representing a difference of level of one-thousandth of an inch per foot run. The position of the bubble thus indicates at once any variation in level in the surface being tested.

# Ten Years' Progress

## OF THE

# Motor Car Movement.

INTRODUCTION.—THE PRE-VICTORIAN ERA.—FROM 1837 TO THE EIGHTIES.—THE DAY OF EMANCIPATION.—THE DEVELOPMENT OF THE MODERN MOTOR CAR FROM 1885 TO THE PRESENT DAY.—THE HISTORY OF THE AUTOMOBILE MOVEMENT IN THE UNITED KINGDOM.—TEN YEARS OF MOTOR CAR RACING.—SOME EARLY EXPERIENCES, &c.

### INTRODUCTION.

IT is difficult to realise that ten years have elapsed since automobiles were accorded the common rights of the highway, or, to put it more correctly, re-admitted to those rights, of which they had been deprived during sixty years of obstinate obscurantism. Progress has been steady during that period, even if less rapid than was anticipated by the enthusiasts of ten years back, and may well justify a retrospect of the chief directions it has taken, which in its turn will indicate with reasonable probability the lines it may be expected to follow in the near future. Those who were at Brighton on the occasion of the memorable run in 1896 will remember the dozen or so of travel-stained vehicles that completed the arduous and perilous journey, a representative collection of the best productions of the time, and can hardly help being struck by the applicability of most of the laws of biological evolution to the process which out of these has given us the cars of to-day.

No remarkable inventions or discoveries (daily announcements notwithstanding) have revolutionised motor construction, such as have occasionally occurred in other fields of enterprise; and while some types of cars have, after more or less successful careers, become extinct, it is curious to reflect that the various parts and organs of the typical modern car (if we except ignition, and, to some extent, cooling devices) are represented in much the same general order in the Daimler of 1896, not to say in the Panhard of 1891. The probable reasons for the fate of the extinct types are not always as clear as might be wished, though it is fairly certain that belt-driven cars—at one time a popular and promising class—were killed by the increase of powers above the limit that a belt could economically transmit in the limited space available, added to the tendency of the small car (as of the small human) to ape its superiors. The tricycle died chiefly, doubtless, of discomfort, while the Bollée, strictly to be included therewith, suffered from defects of detail and the evils of a single driving wheel, and

is endeavouring, with uncertain success, to rise metal morphosed from its ashes in the shape of the modern tri-car. The bicycle, now ubiquitous, was (experimental machines excepted) only represented by the weird Wolfmüller and the elusive Pennington, in both of which the question of piston speed had been lost sight of in the supposed advantages of a direct drive, and remained for some years outside the domain of practical politics; while the particular position and sphere of the electric car was still undetermined.

Taking, then, the most successful and popular cars of that date, what, one may ask, are the points in which advance is most manifest? First and foremost, of course, the enormous increase of power in relation to weight, due primarily to improved design, as far as the elimination of unnecessary metal is concerned, next to higher compressions and piston speeds, with the more liberal valve proportions necessary therefor, and finally to improvements in materials, in the adoption of which more than in anything else the way was shown by Continental constructors. The net result of these various factors has been the reduction of weight from about 50 kilos. per h.p. to a figure approaching five in the case of the larger car engines, and even less in the case of certain special designs. More important even has been the increase of reliability, and this is due rather to the attention paid to numerous minor details than to any notable innovations. Broken and stuck valves, leaky water joints in cylinder, overheating and pump troubles, burner defects, and weaknesses in the electrical ignition system, these were the cause of 90 per cent. of the early troubles, and they have been largely banished by care in constructional detail—alterations in proportion rather than in radical design. Moreover, the small margin of power then at the disposal of these, which nowadays would mean only a slight diminution in speed, spelt utter stoppage.

More power, indeed, we do not now require, but possible improvements in detail, more particularly those which conduce

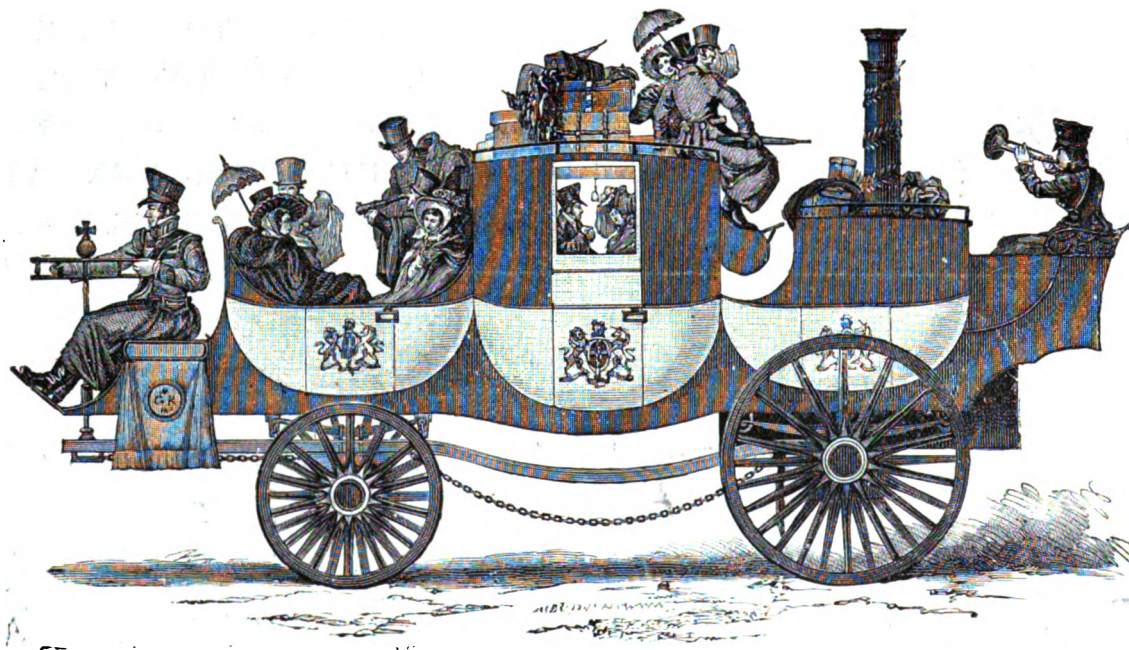


to accessibility, are innumerable. The days when the passengers, luggage, and seats—and often, for convenience, part of the body—had to be carefully removed from a car and placed by the roadside preparatory to making a small adjustment, are past; but it ought no longer to be necessary to detach a radiator, crank chamber base, and half-time gearing, and, moreover, to sling the crankshaft, in order to tighten a loose big-end bolt, or even in some cases to get any first-hand information about its condition; nor should it be needful to dismantle a whole gear-case to re-leather a clutch. Points like these, however, are daily receiving more attention. As regards the important question of prices, it is strange how little advance, from one point of view, has been made. The cheapest practically useful car of to-day does not differ much in price from the similar car of 1896; it is, of course, faster and more reliable, as are all its fellows, but it is doubtful if it will be more durable; while the most expensive car of the present time is naturally, perhaps, considerably higher in price than the best of that time. The period has probably not yet arrived

## THE PRE-VICTORIAN PERIOD.

THE early years of the Twentieth Century have witnessed the revival of interest in locomotion on the roads which promised well in the corresponding youth of the Nineteenth, but which was then diverted by the railroad or suppressed by the prejudiced interests of the turnpike people. Had the progress that had been attained in connection with the conveyance of goods and passengers on the roads in the pre-Victorian days been allowed full development, the history of the past decade would have been very different to that recorded in the pages that follow. The story of the early efforts has been retold so often that it is almost as familiar as the voyage of the Ark; but its main incidents may be recalled in order to complete the cycle of automobile progress.

National pride glories in the fact—interesting historically but of no practical value in the matter—that an English patent for a “horseless carriage” was taken out in 1619 by Ramsay



The James-Anderson Steam 'Bus built about 1829.

when standardisation can be taken full advantage of in the production of the very low-priced car.

The gradual increase in the popularity of live axles is a conspicuous feature of the last year or two, together with that modification in which it is relieved of the duty of carrying the weight; but it may be recalled that one of the earliest cars had a live axle, while the latter modification was a feature of the De Dion heavy vehicles of ten or more years back. Much still remains to be done in the question of transmission efficiency. Six years ago this was put at from 50 to 60 per cent. in the most favourable instances, and there is not much to show that it has been very materially increased; its progress, indeed, has probably been absolutely retarded by engine improvement, and it still seems rather an unexplored field as far as manufacturers are concerned. The same cause, no doubt, has left makers somewhat blind, except where considerations like the Tourist Trophy intervene, to the inherent ugliness of superfluous metal, and there are few cars indeed off which some of this could not be advantageously chipped. It is, as far as we can see, in details of these kinds that the next few years' progress will consist, as it is chiefly by the gradual accretion of such that the fast and reliable car of to-day has developed from its progenitor of 1896.

and Wildgoose. The first valuable step, however, took place in France, when in 1770 Cugnot actually carried two people in a three-wheeled carriage propelled by steam at the rate of two miles an hour. In 1784 Murdock's model of a tractor was run upon some of the Cornish roads, the power being obtained for a high pressure non-condensing steam engine. This model was in the possession of Sir Richard Tangye, whose death took place a few days ago. Several inventors were at work during the last years of the eighteenth century—Symington and Sadler being most conspicuous—but to Richard Trevithick must be assigned the place of honour for having constructed the first mechanically-propelled road carriage in England and attaining a speed of ten miles an hour. Various ideas for securing the mechanical carriage were tried during the next few years, including the provision of iron pivoted legs resembling the act of walking. Burstall and Hill brought out a steam carriage which weighed eight tons; but the next great advance was in 1823, when W. H. James employed a tubular boiler for the first time. The same inventor worked later with Sir Goldsworthy Gurney, and they succeeded in bringing out a vehicle which attained a speed of fifteen miles an hour when carrying fifteen passengers. In 1828 Nasmyth



constructed a steam carriage, but his efforts were eclipsed by Gurney, who journeyed from London to Bath on his vehicle, and established a public service of steam coaches between Gloucester and Cheltenham. Until Gurney's time, efforts had been mainly directed towards the provision of passenger vehicles; he, however, experimented on lines that were somewhat anticipatory of modern developments, attempting to bring out a vehicle to weigh about five cwt., and to only carry two or three people.

Dr. Church's improvements in steam carriages were the next most conspicuous success, and in 1832 a company was formed at Birmingham to place his carriages upon the road. He designed a double-decked steam omnibus to carry fifty passengers, and had considerable ideas with regard to the mechanical vehicle on common roads. But Hancock was the most distinguished inventor of the period, and Sir Frederick Bramwell eulogised his vehicles, which were in public service about London in 1833-34, as being the quietest and most reliable that had been put upon the road up to that period. About the same time Maceroni and Squire built a steam carriage of a very compact type. It had a multitubular boiler with a fan draught. The boiler was located behind the carriage, a horizontal two-cylinder engine being below the body of the vehicle.

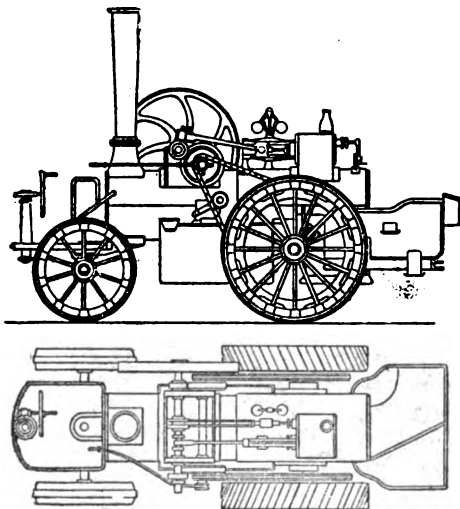
Right throughout the development of the steam carriage, from the experimental trips of Trevithick to the days when steam omnibuses ran in London and Scotland in 1834, strong, interested and prejudiced opposition had to be encountered. Ignorance and interest combined to thwart the extension of the new power by circulating rumours of accidents, by exaggerating the violence of explosions and by piling stones along the carriage way. Those methods having failed, recourse was had to legislative interference, and about this period commenced a series of harassing conflicts that ultimately resulted in the impossibility of continued experiments with any chance of commercial success. Early in 1836 "A Bill to repeal such portions of all Acts as impose prohibitory tolls on steam carriages, and to substitute other tolls on an equitable footing with horse carriages," was before the House of Commons. Ostensibly this was a measure calculated

£20." Having passed through the Commons, the Bill was, on reaching the House of Lords, referred to a Select Committee. Several notable men gave evidence, including Mr. Gurney, who had not built an engine since 1831, and who gave it as his opinion that the extreme size of the boiler should, for public safety, not exceed eight or nine inches diameter. He had retired from the construction of steam carriages because excessive tolls prevented him showing capitalists the prospect of a good return. But since the Bill had passed the Commons he had granted several licences for the construction of his carriage.



A steam 'bus built by Hancock in 1834, and which ran between Paddington and the City.

Mr. Walter Hancock, who mentioned that he had lost from £10,000 to £12,000 in experiments, was asked a question as to the size of the largest boiler which could with safety be used on the public highway. Provided that the materials were well selected and of proper thickness, he said he should have confidence in employing a cylinder of 20 in. diameter. George Stephenson was very emphatic in his declaration that steam carriages would never do on ordinary roads, and also in the opinion that there was more danger in Gurney's boilers than in those of rivals. In the end the Lords' Committee declined to sanction the measure at all. They could not come to an unanimous conclusion on the size of the boiler, and gravely called attention to the fact that it might be difficult to find experienced conductors of the carriages. Attention was also called to the sparks that were emitted, and although it did not appear "that the danger is very imminent," it was deemed worthy of mention in a report which concluded that "any encouragement on the part of the Legislature would only give rise to wild speculations, ruinous to those engaging in them," and, of course, dangerous to the public. Following that was an Act of Parliament passed in 1836, the effect of which was to discourage further experiments.



Burrell's Steam Road Engine 1868-69.

to improve the prospects of the industry, and it got to an advanced stage in the Lower House before its real purport was discovered. But that it was not intended to encourage experiment was clear from a clause which read as follows:—"That it shall not be lawful to use any vessel or vessels for raising or generating steam, to propel any carriage along a public street or road, any part of the transverse section of which shall exceed ten inches in diameter in any direction, if circular or cylindrical, and if such vessel or vessels shall be made of any other figure than cylindrical, then no part of the transverse section or sides shall exceed eight inches in any direction under a penalty for every breach of such regulation not exceeding £100, or less than

## FROM 1837 TO THE EIGHTIES.

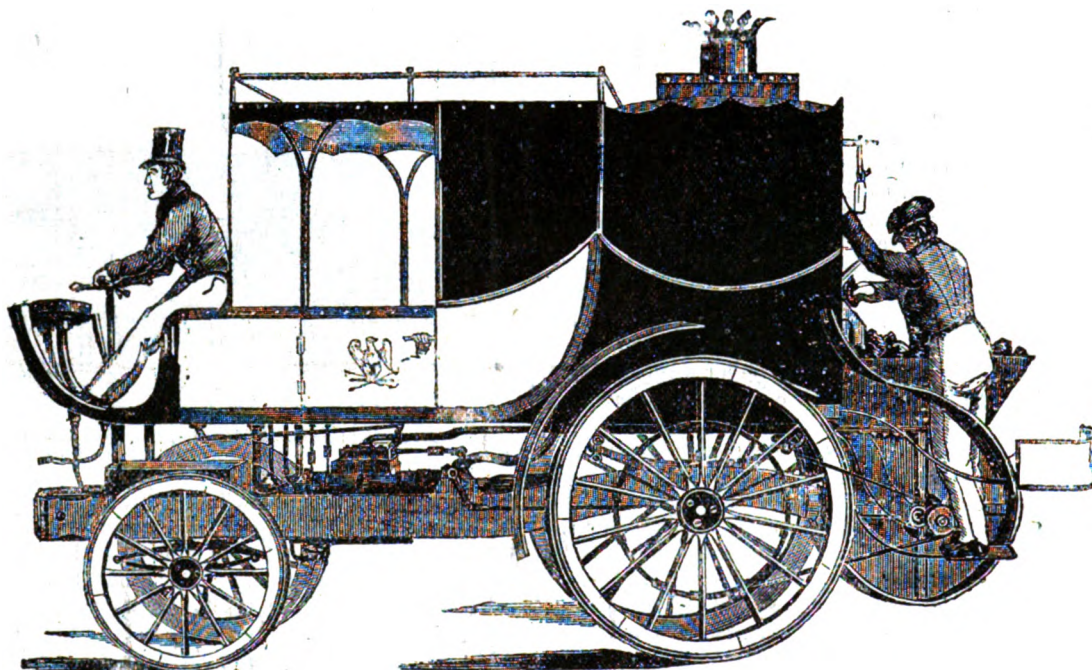
IN the long interval following the disappearance of Hancock and Gurney's coaches from the road and the very recent revivals in this country, a few inventors retained an interest in the subject, and Mr. T. Rickett, of the Castle Foundry, Stafford, in 1858 made a road steamer for the Marquis of Stafford, which weighed 1½ tons and had accommodation for three passengers. The steam was supplied to a horizontal engine, the crank shaft of which had a pitch chain pinion giving motion to the driving wheel. In a heavier vehicle made for the Earl of Caithness, who took a great interest in road locomotion by steam, gearing was successfully employed. A large road vehicle weighing six tons was made by Messrs. Carrett and Marshall, of Leeds, in 1861. Designated the "Fly-by-night," it obtained much notice. It had a capacity for seven or eight passengers in addition to the stoker, and was built for Sir Titus Salt, afterwards becoming the property of Mr. Frederick Hodges, who, with Mr. Des Vignes, ran it through Kent, being several times summoned for the offence. The machine weighed nearly seven tons, and had two cylinders, 6 in. by 8 in.

In 1862 Mr. Richard Tangye, of Birmingham, designed a carriage of a very simple type, which attained a speed of twenty

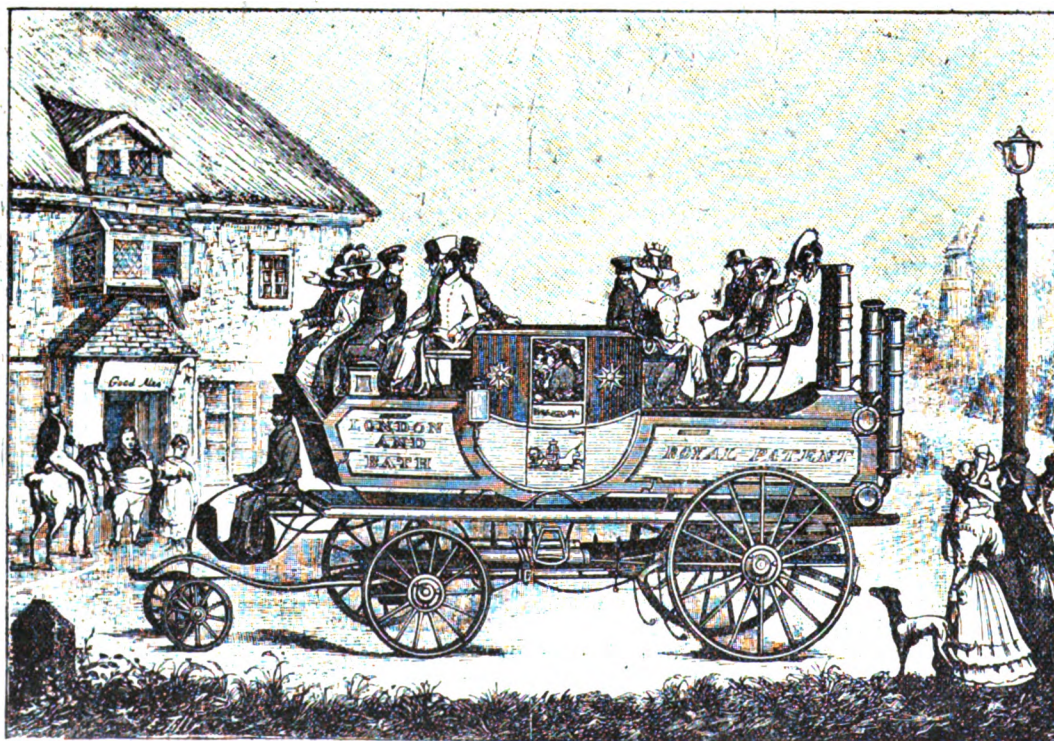
miles an hour without difficulty, and at the Great Exhibition in London that year Messrs. Aveling and Porter exhibited a self-moving steam carriage. In the following year Mr. A. F. Yarrow was successful in constructing a self-propelled carriage with seats for from ten to twelve people.

In 1866-7 Mr. H. P. Holt brought out a road steamer at

Among later inventors Mr. W. R. Thomson is prominent, for it was he who invented pneumatic tyres, taking out his patent in 1845. These indiarubber tyres he fitted to his steam omnibus—designated by the inventor as a "road steamer"—which had a capacity for sixty passengers, but the experiment was not a success. More successful was this inventor with his road



The Squire-Maceroni Steam Carriage built in 1833. The vehicle plied for some time between London and Edgware.



Gurney's Steam Carriage on the way to Bath in 1829.

Leeds of particular interest as not only embracing some good points of earlier practice but incorporating some very ingenious ideas of his own. A fire-engine boiler with Field tubes giving 50 ft. of heating surface was employed. Two small double-cylinder engines drove the two driving wheels, a pitch chain connecting the crank shafts and driving wheels, as was done in the road steamers of Rickett.

steamers supplied to the Indian Government in 1871. They were of 14-h.p., and were constructed at the Ipswich works of Messrs. Ransome, Sims, and Jefferies. Mr. Thomson was careful to protect the rubber tyres with linked steel shoes. In our great Dependency the engines maintained a speed of about ten miles an hour when hauling four-wheeled omnibuses with 65 passengers.



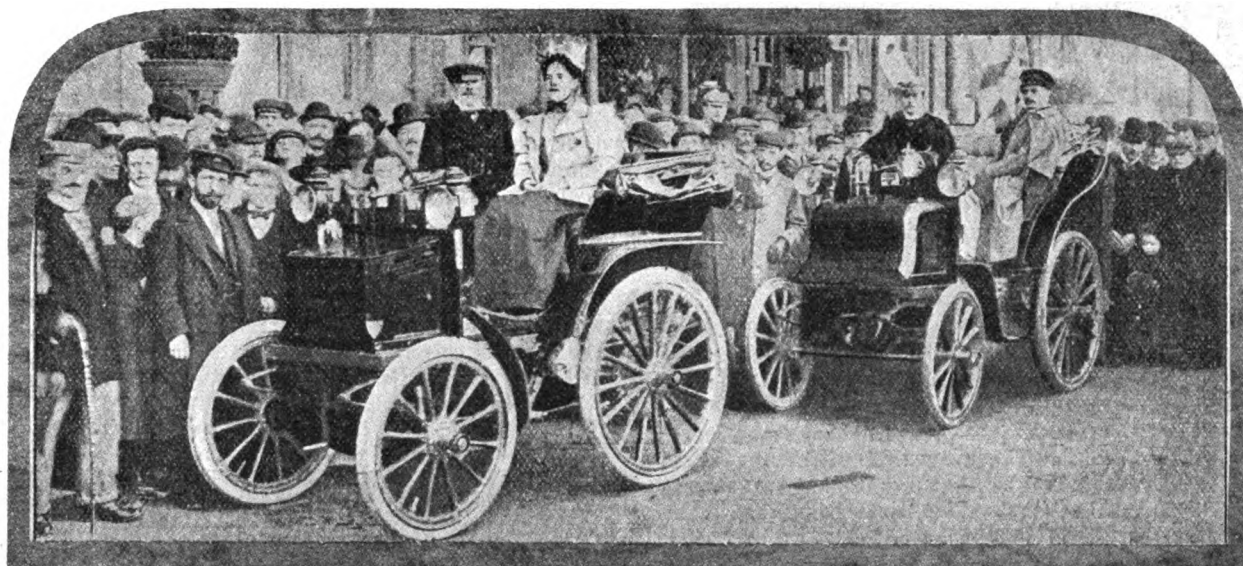
## THE DAY OF EMANCIPATION.

THE true and actually complete history of the celebration of Emancipation Day will probably never be written; all contemporary records are incomplete, many are incorrect, whilst others are so misleading that no dependence can be placed on them. The "official" control was by no means as thorough as that governing automobile functions at the present time, and it is to be feared that other interests of the "controlling powers" contributed in some degree to the confusion and diversity existing in all published records. That the fact should be so is undoubtedly regrettable; but, after all, the actual events of November 14th, 1896, are but of very minor importance compared with those which culminated in the celebration itself.

Although but ten short years have passed, yet those connected with the automobile industry in Great Britain at the present day are in most cases, we fear, too prone to forget, and in many instances to belittle, the strenuous endeavours and unremitting labours of that band of pioneers who secured the repeal of the "Red Flag Act," and the passing of that measure under which only has it been possible for the industry to have its being, and the utility and pleasure of automobilism to grow with the industry to its present immensity.

means whereby automobilists might pay homage to those who deserve so much at their hands.

Of the actual celebrations that marked "Emancipation Day," it may be said that the historic run to Brighton was but the public culmination of weeks of preparation. For these were the days when a week's tuning up was the necessary forerunner to a day's run, even if such became possible at the end of that period. Even then, when one left home, when or by what means the return would be made was extremely problematical. The days of tiller steering, tube ignition, solid tyres, exposed water circulation, and no radiators; the days when the vagaries of carburettors were perhaps more varied than they are to-day; when tube-ignition was complicated by distance pieces and refractory wicks; when pressure feed was complicated by leaking control cocks, and when a delightful ignorance as to causes and their effects enabled the participants to indulge in frequent and entirely unnecessary examination of the internal economy of their motor and its gear. Who, nowadays, other than those participating in the early work, will appreciate the anxious care with which the owners of the few vehicles in England overhauled and again overhauled their charges, and with what anxiety midnight of November 13th, 1896, was awaited. For, of course, no one would wait until daylight to celebrate the freedom from the trammels of the red flag and the attentions of



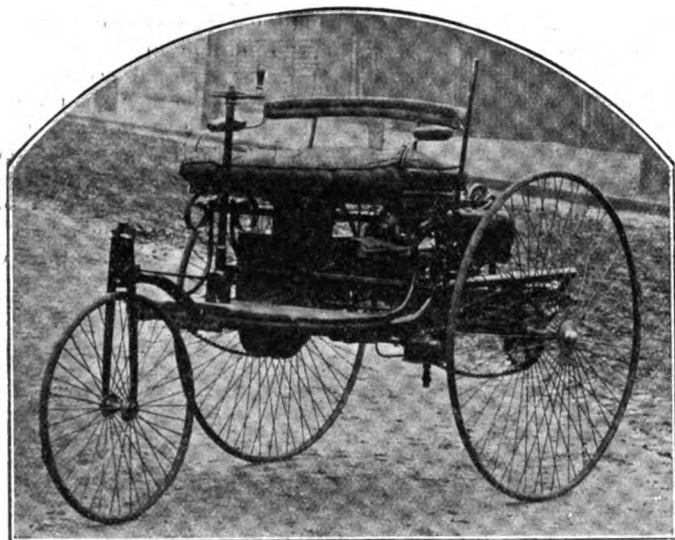
The "Emancipation Day" Run to Brighton.—The Cars arriving at the Metropole.

It has been said of some of these pioneers that the welfare of a new industry was to them of less importance than the financial schemes in which they had embarked, but similar things may be said in respect of some of the participants in all pioneering. It has been alleged, too, that self-advertisement had a greater influence with many than the creation of a new industry and the bringing into being of a new pastime as well as a new means of locomotion. It cannot be maintained, however, that the age of self-advertisement is yet passed, nor that automobilism is free from its influence, and just as there are now workers for the amelioration of the lot of the automobilist and the freedom from the trammels of police-traps and speed-limits whose labours are entirely disinterested, so ten years ago the embryo of the trade found friends equally hard-working and equally disinterested. But whilst to-day these workers are fighting against the prejudices of the public with the aid of powerful organizations, a backing of tens of thousands of users of automobiles, and the support of the millions of capital embarked in the trade, and that of the hundreds of thousands of those employed in the industry, those pioneers of ten years ago fought single-handed against equally powerful prejudices, and, moreover, conquered. Surely the labours of such as these should be more publicly appreciated, and it should not be a difficult task for the Automobile Club to find

the busy police. But of the police themselves much can be said in respect of "the blind eye"; for did they not for some days before the 14th obligingly turn their eyes away—and close their ears—when a motor vehicle approached them? Whilst the Act awaited the Royal Assent did not a few automobilist pioneers owe them a debt of gratitude in permitting them to "tune up" their cars for the all-important day? Nevertheless, the knowledge of the independence from the "blind eye" made every owner, and not a few of his friends, impatiently await the striking of the midnight hour, and, notwithstanding rain, grease, and general unsuitability of the elements, determine a general exodus into the darkness. It is said, and probably with truth, that more than one unlucky owner afterwards regretted his precipitancy, and had perforce to spend the remaining hours of the early morning in putting his vehicle in order for the parade or run later in the day. For, in addition to the run from London to Brighton by the more adventurous spirits, many owners determined to parade at the meeting place, and to take part in a short stage of the journey to Brighton.

It was usual in the early days of automobilism that functions connected therewith should commence with a breakfast or luncheon and terminate with a dinner. The celebration of Emancipation Day was no exception, the Earl of Winchelsea

presiding. In his speech his lordship begged for the indulgence of the public in forming opinions as to the motor vehicles and their drivers; pointing out, in regard to the latter, that the law had allowed but very restricted opportunities for them becoming intimately acquainted with their vehicles, and the management thereof, especially in the enormous crowds that had assembled to witness this celebration of the freeing of road locomotives from the attentions of the gentleman with the red flag. He claimed further indulgences in view of the bad weather and the consequent terrible condition of the roads. According to the "Official List" there were fifty-four vehicles whose drivers pro-



The First Benz Car, 1885.

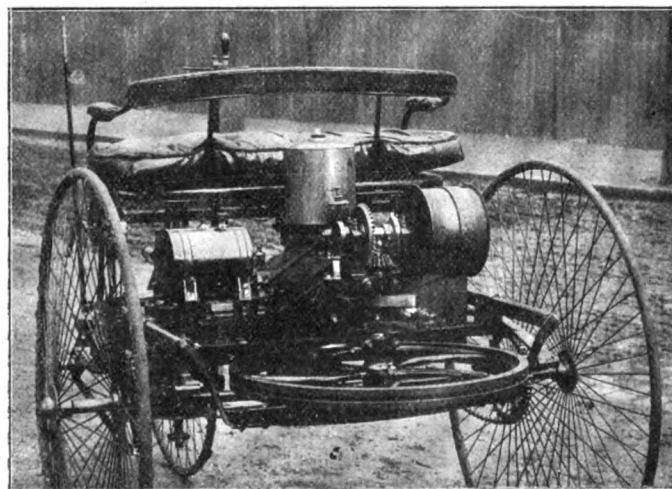
posed to take part in the actual run to Brighton, whilst those promising to attend the parade numbered perhaps another twenty. "Various causes," however, tended to this number being reduced to thirty-eight, and perhaps the most reliable list of actual starters is as follows:—Two Panhard cars, including the winner of the Paris-Bordeaux race in 1895, and which led the procession with Messrs. Lawson and Meyer as passengers; eleven Daimlers, among the drivers and passengers on the same being the Hon. Evelyn Ellis, Messrs. F. R. Simms, Van Toll, Critchley, and Crowden; five Bollée voiturettes, two of which were driven by the Brothers Bollée; a couple of De Dion bikes, a French steam bicycle, a Beeston motor-bicycle, two Duryea cars, four Roger belt-driven cars sent by the Anglo-French Motor Carriage Co., three Benz cars, an Arnold dog-cart—a vehicle on Benz lines—a Pennington four-seated tricycle, two Bersey and three Britannia electrical vehicles. There were in addition, however, others who actually did start although they did not proceed very far. For instance, we have a vivid recollection of a Wolfmüller motor-bicycle on the Embankment whose rider was evidently more anxious to participate than his acquaintance with the peculiarities of his steed on a greasy road would warrant. There were several others, too, whose knowledge and skill were unequal to the task of controlling and guiding their vehicles.

The organisation, both at the start and at the run-in, was such, however, that too great a dependence must not be placed on the correctness of the list. Altogether twenty-two cars are said to have made the journey, but the "Official List" gives the following as the arrivals at Brighton by 6 o'clock on the evening of the 14th November:—1 and 2, two Bollée voiturettes; 3, a Panhard; 4, Mr. H. J. Lawson's Panhard; 5, another Panhard; 6, Britannia Bath Chair (?); 7, Daimler Phaeton; 8, Pennington tricycle; 9, Bersey electric landau (?); 10, Panhard; 11, one of the Anglo-French Roger cars; 12, a Daimler; 13, Bersey electric hansom (?). This is, however, most certainly incorrect, for amongst the earlier arrivals was the Duryea from the United States. It certainly did arrive in Brighton, although there were not lacking rumours to the effect that it was not the same

vehicle that started from London. The success of the Bollée voiturettes was unassailable, notwithstanding that their drivers had both departed from the arrangements laid down and had run straight through to Brighton without partaking of lunch at Reigate, as was provided in the programme. These two vehicles, however, were driven by the Frenchmen Leon and Amedée Bollée; several others of the earlier arrivals also had the services of expert French drivers, whose knowledge and experience certainly enabled them to make a better show than their less skilled English confrères.

After the run in, the Mayor of Brighton having met some of the participants at Preston Park, the then customary formal dinner took place. Amongst the most distinguished of the guests was the late Herr Gottlieb Daimler. The events of the day undoubtedly caused a vast amount of public interest. At the starting-place the crowds, notwithstanding the inclemency of the weather, were so dense that the movement of the vehicles was rendered extremely difficult, and although the police undoubtedly did their best, yet the numbers present were quite inadequate to properly control the spectators and ensure a clear passage for the vehicles.

Although much can be written regarding the non-reliability of the records concerning this historic run, a great amount of attention was devoted to the details governing the demonstration by those responsible for its organisation. Indeed, the "Route and Itinerary" issued by the Motor Car Club is in many respects a model even at the present day. The following more particularly deserve commendation, viz.:—"Owners and drivers of motor vehicles taking part in the tour should remember that motor-cars are on their trial in England, and that any rashness or carelessness might injure the industry in this country. Should see that their motor-cars appear in thoroughly good clean order, and are never left unattended on the route. Should be fully provided with sufficient lubricating and motor oil. Should see that passengers are provided with proper precautions against bad weather, such as mackintoshes, &c., and with light provisions. Should use the greatest care as to speed and driving, so as not to endanger ordinary traffic. Should treat the police and other authorities with polite consideration."



Rear View of First Benz Car.

The suggestion that "light provisions" be carried was certainly a commendable piece of foresight. Equally so were the arrangements made for the procuring of water, for in those days motor-cars, being without radiators, were endowed with almost unquenchable thirst, and already in an experimental run in the preceding month some difficulty was experienced in procuring water, as was indeed the case for some years subsequently. As a result, no less than thirteen water depots were established on the route to Brighton.



## THE DEVELOPMENT OF THE MODERN MOTOR-CAR.

### THE INITIAL STAGES.



Daimler Motor Bicycle (1885)

ALTHOUGH various odd machines were built up and down the Continent in the seventies and early eighties, it appears to be now generally accepted that the modern revival of the motor-car movement dates from 1885, in which year three horseless vehicles made their appearance. Strangely enough, two of these were the outcome of the labours of a couple of German engineers—the late Herr Gottlieb Daimler, of Deutz, near Cologne, and Herr Carl Benz, of Mannheim. From the illustration we give of the latter's machine,

it will be seen that it was a three-wheel vehicle; it was fitted with a small horizontal motor, firmly secured to the frame in the rear of the seat, a notable feature being the fly-wheel, which rotated in a horizontal plane. The drive was through a flat belt to the



The first Car built (in 1886) by the late Herr Gottlieb Daimler.

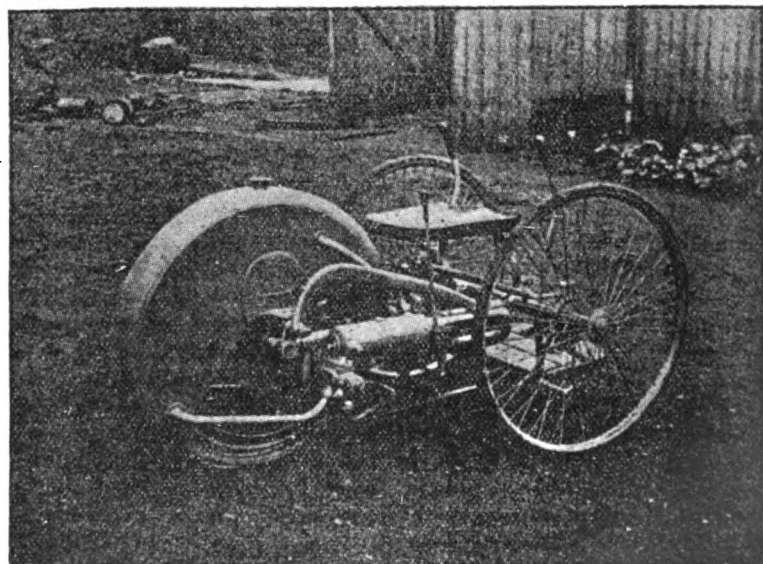
countershaft, on which was located the differential gear, thence by side chains. The engine in this early model was water-cooled on the thermo-syphon system, and electric ignition was employed, Herr Benz being a pioneer in this particular. A supply of petrol and water sufficient for a twenty-mile trip was carried in respective tanks. Steering was effected by a lever mounted on a vertical column which communicated with the forked crown of the front wheel. The seat, with accommodation for two, had an excellent supply of upholstery for those days, and the solid rubber tyre was considered most satisfactory. The maximum speed of the vehicle was only nine miles per hour, while it could ascend gradients of 1 in 12. From this machine the development to the once-familiar Benz dogcart which Mr. H. Hewetson introduced into England, and of which over 4,000 were sold, was the work of but a few years.

The late Herr Daimler's first automobile production, which is shown in the initial illustration on this page, was a so-called motor-bicycle; it was, however, a four-wheeler affair, there being, in addition to the two large wheels, two small wheels, one at each side, these being provided in order to keep the machine upright. The frame of the cycle was constructed of wood, the rider sitting on the petrol tank. The engine was of the air-cooled single vertical cylinder type of  $\frac{1}{2}$ -h.p.; it was fitted with tube ignition, and was located in the centre of the frame, practically between the driver's legs. Two speeds were provided, the power of the engine being transmitted by a belt to a countershaft, the latter being geared by pinions to a spur gear attached to the rear wheel. The motor could be cut out from the transmission by means of a jockey pulley, which, acting on the belt, caused it to grip or run slack as desired. Early in 1886 Herr Daimler fitted one of his motors to a wagonette (as shown above). In this, which was really the first Daimler car, the motor was of a larger size, but the same

method of transmission as in the cycle was adopted. Still continuing his experiments, Herr Daimler, at the Paris Exhibition of 1889, exhibited a petrol motor-boat and a quadricycle, in which the famous V-type two-cylinder engine, a friction clutch, and sliding pinion change-speed gear were introduced. The car was entirely gear driven, the engine being under the driver's seat; the front wheels were carried in forks of the cycle type, while the steering was controlled by a long lever. In 1886 Messrs. Perrin, Panhard and Co., a firm of wood-working machinery manufacturers, which has developed into the present Panhard-Levassor concern, acquired the French rights in Daimler's invention, and under the guidance of M. Levassor effected a number of new departures. To this gentleman, who died in 1897, is usually attributed the introduction of the use of a friction clutch and the sliding pinion type of change-speed gear, but this is open to doubt, as the drawings we have in our possession show that both were used on Daimler's motor quadricycle of 1889, whereas the first Panhard-Levassor was not on the road until 1892. At the same time, M. Levassor's car may be said to be the forerunner of the vehicle of to-day, as it was the first with the engine set transversely under a bonnet in the fore part of a spring-supported wooden frame.

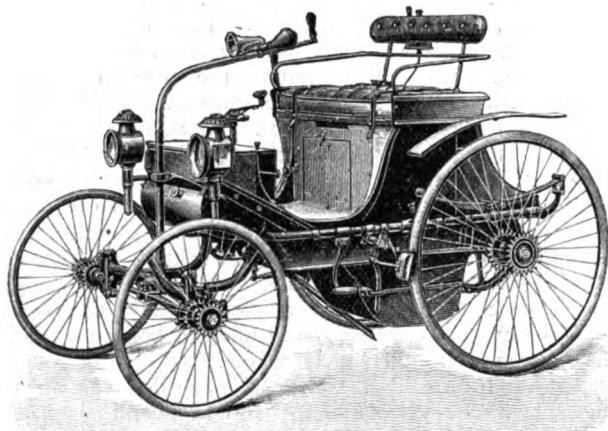
Returning to 1885, the third self-propelled vehicle which made its appearance was one of British design and construction, it being the outcome of the ingenuity of Mr. E. Butler, who exhibited it at the Inventions Exhibition held in Kensington in that year. As will be seen from the illustration, it took the form of a tricycle, which was fitted with two small engines driving cranks on the rear driving wheel by means of curiously-shaped connecting rods. Owing, however, to Mr. Butler not being permitted to use his machine on the road, he was discouraged from carrying his invention further.

From the time the Daimler engine was introduced into France considerable attention was centred on the automobile in that country, among the early workers being M. Peugeot, who at first used the Daimler engine; M. Serpollet, whose fancy turned to steam; M. Roger, who copied the Benz design; and the Count De Dion and M. Bouton, who, working together, developed a motor-tricycle and a steam tractor. So rapid was the progress in France that at the end of 1893 the "Petit Journal" of Paris announced its now famous Paris-Rouen race, which took place in July, 1894, and in which forty-seven vehicles started. The first to reach Rouen was the De Dion-Bouton steam tractor (see illustration), which covered the ninety-seven and a half miles at an average speed of twelve miles per hour. Five minutes after the steamer came a Peugeot carriage fitted with a  $3\frac{1}{2}$ -h.p. Daimler-Panhard engine and solid rubber tyres, then a second Peugeot, and later a Panhard car which had wooden wheels and iron tyres.



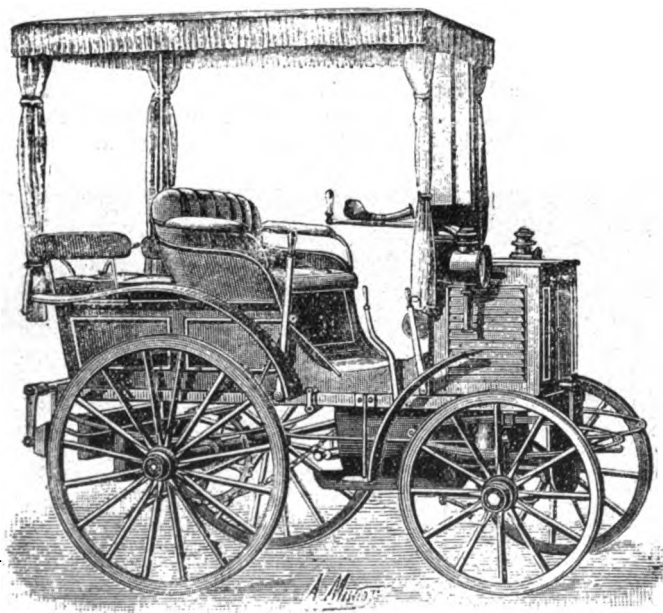
The Motor-Tricycle shown by Mr. E. Butler at the Inventions Exhibition in 1885.

The first prize was divided between the Panhard and Peugeot; the De Dion steamer secured the second, and a Serpollet steam car the third prize. The great event of the following year, 1895, was the race from Paris to Bordeaux and back, a distance of 750 miles. Sixteen petrol and seven steam vehicles started in the race, and eight petrol and one steam car arrived back in Paris,



One of the first Peugeot Cars.

the first being M. Levassor on a 4-h.p. Panhard, his time being 48 hours 12 min. However, the first prize was given to a Peugeot car, which arrived shortly afterwards, as the Peugeot was carrying four passengers, whereas M. Levassor's car carried only two. This event was notable as being the first occasion of the appearance of pneumatic tyres in connection with long-distance motor travelling. The Paris-Marseilles-Paris race was the feature of the year 1896 in France. The contest was run off in September in five stages, the distance being 1,076 miles. Of the thirty-two vehicles which started twenty-four were propelled by petrol, three by steam, and five were motor-tricycles. M. Bollée, on his voiturette, astounded the world by completing the first stage at an average speed of twenty miles an hour, which was by far the best performance which had been done up



The 1894 Panhard.

to that time. The race was another victory for the Panhard, M. Mayade being the winner on the first four-cylinder vehicle ever built, his average speed working out at 15.6 miles per hour.

Although it was not until November, 1896, that the motor-car became a legal form of conveyance in Great Britain, reports

of the great progress which had been made in self-propelled vehicles on the Continent had, of course, reached this country, and, in fact, specimens of the cars had also been brought over, the first one being a Benz, which Mr. H. Hewetson received from Germany in November, 1894. The first public display was at the Agricultural Show at Tunbridge Wells in October, 1895. It was organised by Sir David Salomons, Bart., who had long been interested in the subject, he having built an electrically-propelled tricycle in 1874-75. The machines exhibited included this gentleman's Peugeot 3½-h.p. *vis-à-vis*, which weighed 13 cwt., and could attain a maximum speed of about fifteen miles per hour on the level; the Hon. Evelyn Ellis's Panhard-Levassor car of the Paris-Bordeaux type, a De Dion-Bouton motor-tricycle, and a De Dion-Bouton steam tractor. The year 1896 was extremely fruitful as regards automobile exhibitions, all of which played a prominent part in "releasing the motor-car from the tyranny of the red flag." In May of that year an exhibition of motor-cars was held at the Imperial Institute, London, and at a special reception to members of the House of Lords and the House of Commons Mr. Evelyn Ellis had the honour of driving the Prince of Wales (now his Majesty the King) on his Panhard car in the galleries and gardens of the Institute. The show was organised by the Motor-Car Club, of which Mr. Harry J. Lawson was the chairman, and among the exhibits was a Bollée voitu-



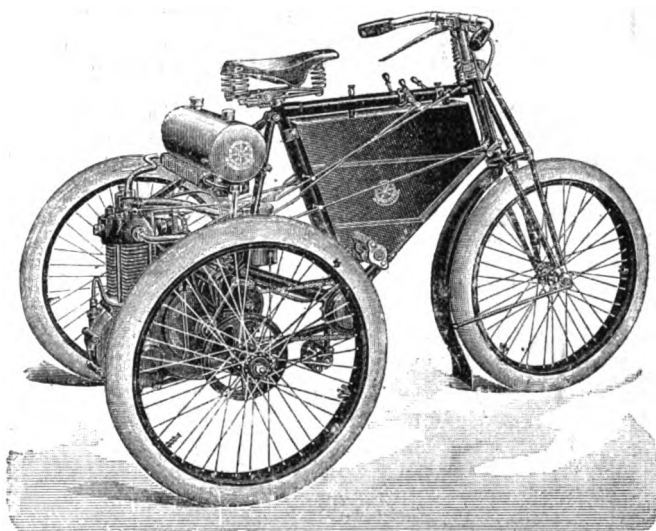
The Roots and Venable Heavy Oil Car built in 1895. The vehicle was fitted with a 34-h.p. engine.

rette, two Benz cars, the Lutzmann car belonging to Mr. H. Koozens, of Southsea, a Roger car (a French copy of the Benz), several Hildebrandt-Wolfmüller motor-bicycles—which, according to one who rode them, had practically only two speeds, "one was *nil* and the other twenty miles an hour"—two 4-h.p. German Daimlers, and two Peugeot cars with Daimler motors, a motor tandem bicycle built on the Kane-Pennington system, two De Dion motor-tricycles, an electrical vehicle built in accordance with the Bersey patents by the Universal Electrical Carriage Company, and an electrical dogcart by Messrs. Offord and Son. During the same month an exhibition of motor vehicles was opened at the Crystal Palace, at which Sir David Salomons, Mr. T. R. B. Elliott, Mr. John H. Knight, and others demonstrated their cars by running them in the Palace grounds. The first display of automobiles organised by Mr. C. Cordingley was held in conjunction with the Engineering and Laundry Exhibition at the Agricultural Hall, Islington, in August, 1896. Naturally, it was but a small one, but it attracted considerable attention. It was located in the gallery, in which a miniature lake had been constructed in order to permit demonstrations of a motor-boat to be made by the now defunct firm of Messrs. New and Mayne. The automobile exhibits comprised the Hildebrandt-Wolfmüller motor-bicycle, the Bersey electric carriage already referred to, and an electrical vehicle constructed in accordance with the

designs of Messrs. Garrard (now of the Clement Talbot Company), and Blumfield. The latter machine, which was built by Messrs. Taylor, Cooper, and Bednell, of Coventry, was notable if only for the 4-in. pneumatic tyres with which it was fitted, an unusually large size in those days. It was fitted with a  $1\frac{1}{2}$ -h.p. motor and chain drive, the necessary energy being furnished by a battery of twenty-four cells. The Bersey vehicle, which was the forerunner of the electric cabs which made their appearance in the London streets a year or so later, was designed to seat four persons; it had a  $2\frac{1}{2}$ -h.p. motor, and carried thirty-two I.E.S. accumulators. About this time Colonel H. C. L. Holden brought out a motor-propelled bicycle (see illustration) which contained many interesting features, among which were a four-cylinder engine, synchronised ignition, and mechanical lubrication.

### 1897.

The two leading types of cars at this time, as distinct from the motor-cycle, were those built on the Daimler-Panhard system and those on the lines initiated by Benz. The former comprised all the features of modern cars—engine in front, clutch, gear-box, differential shaft and side chains—while the Benz and Benz-type machines had horizontal engines and belt transmission. As regards the engine, one of the great troubles was the efficient cooling of the same, which necessitated the carrying of a large

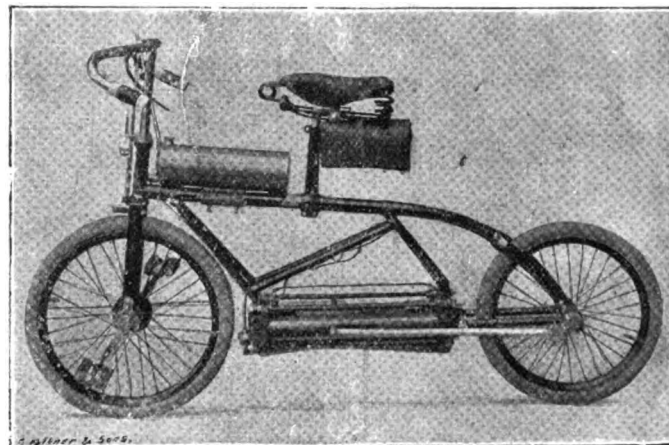


The De Dion Motor-Tricycle, 1895-1900.

quantity of water and frequent replenishment of the tanks. Inlet valves were of the automatic or suction type, and the ignition on the bulk of the cars was by a method now no longer seen, and of which those who have joined the ranks of motorists within the past few years have little or no conception. We refer to tube ignition, which comprised a small platinum tube, its inner end extending a short distance into the combustion chamber horizontally at a position close to the top of the cylinder. Around and above the outer, closed, end of the tube was a hood extending for a few inches, while directly beneath it was a lamp having a small cup similar to those used on pressure-fed torches, and a wick. Starting the lamp was effected in the same manner as in the case of the modern torch; as soon as it was sufficiently hot to vapourise the petrol spirit used in the burner, the further feed was left to the working of the motor to maintain the platinum at the right temperature. A small amount of methylated spirits poured into the cup referred to supplied the initial source of heat, and under favourable circumstances an ounce or two of fuel was sufficient to get the engine under way.

The disadvantage of such a system will be readily apparent, but that it served the ends of its designer by accomplishing what was intended of it until something better could be devised goes without saying, for all the original Daimlers, as well as the Panhard cars, were equipped with it. Nor is tube ignition such a matter of ancient history as it may appear to the casual

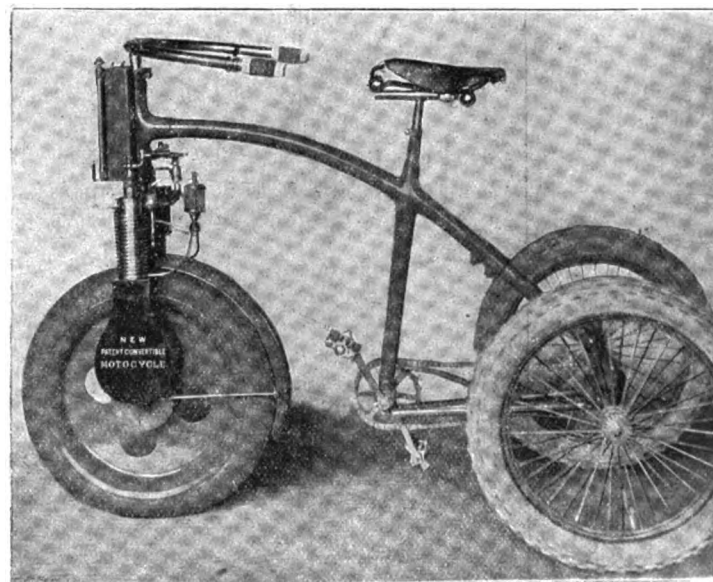
observer, for it was a feature of the Panhard cars as late as 1902, and when the latter firm first took up electrical ignition it was merely as an auxiliary. Faith in the original remained firm to the extent of continuing its installation until electricity proved itself beyond all doubt the superior method. Naturally the greatest inherent defect of this early form of ignition was its



The Holden-Crypto Motor-Bicycle, 1896.

liability for the lamp to blow out, so that the tube failed to fire the charge, rendering a repetition of the starting process necessary. This and the impossibility of altering the time of ignition eventually resulted in it being discarded for electric ignition. The steering was controlled either by a tiller or by a small hand-wheel set horizontally on the top of a vertical pillar, while the wheel base of the cars was but a fraction of that of the modern vehicle.

In France the industry was developing at a rapid rate. In addition to their motor-cycles, Messrs. De Dion-Bouton were devoting much attention to heavy steam vehicles, and at the Poids Lourds, or heavy vehicle competition held in 1897, entered a 40-h.p. steam tractor and a 30-h.p. 18-seated 'bus, which latter



The Pennington Convertible Motor-cycle, 1896.

attained the best average speed—nine miles per hour—in the contest. The other competitors included a Panhard 10-seated 'bus, a  $1\frac{1}{2}$ -ton petrol van built by Messrs. De Dietrich and Co., whose first car was turned out in 1896, a Le Blant steam brake, a Scotte road train, and a Wiedknecht steam 'bus. The latter was afterwards brought to London for demonstration purposes. At



home the early days of the movement were unfortunately marked by a company-promoting boom, mainly engineered by the British Motor Syndicate, who attempted to control the whole British industry by buying up the patent rights in all the principal

ing to commence the manufacture of a car on improved Benz lines, while in London the Britannia Motor Carriage Co. also built a number of electrical vehicles. Other firms interested in the trade were Stirling's Motor Carriages, of Hamilton, who



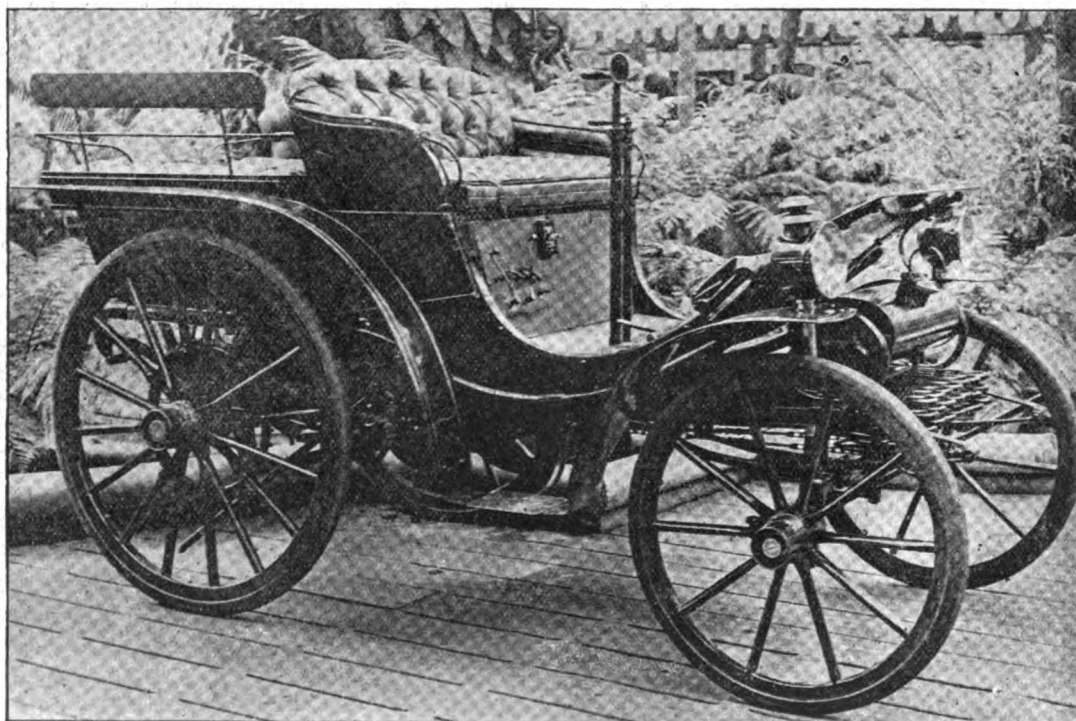
The Bollee Voiturette introduced into England in 1896.



One of the Duryea Cars which participated in the run to Brighton in 1896. It had a Horizontal Engine and Bevel Gear Drive.

systems. It is recorded that, although a number of concerns were experimenting with automobiles, there were only six firms actually building motor-vehicles in this country at midsummer, 1897, these including the Daimler Co., the Great Horseless Carriage Co., which afterwards became the Motor Manufacturing Co., the Anglo-French Motor Carriage Co., which had established works in Birmingham for the construction of cars on the lines

did much to popularise the motor-car in Scotland, Mr. H. Hewetson (Benz cars), the Arnold Motor Carriage Co., Messrs. Petter, Hill and Boll, of Yeovil, who built a car with a paraffin engine, and Messrs. Roots and Venables. The last-named firm confined their attentions to the utilisation of petroleum as opposed to the spirit. Their first car, of which we give an illustration, was built in 1895, and ran on the road early in 1896.



The Delahaye Car of 1896.

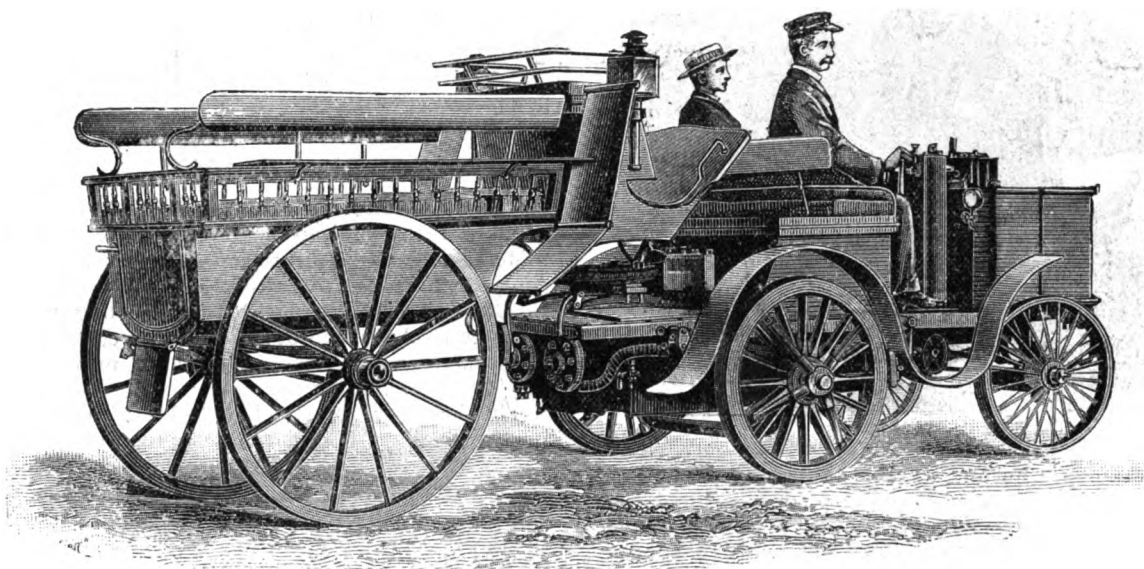
of the Roger—the French Benz—the New Beeston Cycle Co., the Coventry Motor Co., and Messrs. J. I. Thornycroft and Co., whose speciality at that time was steam wagons. At Manchester, Messrs. Marshall and Co., now Belsize Motors, Ltd., were arrang-

The machine was fitted with a vertical oil motor on the Roots principle of vaporisation and feeding of oil, and was of 2½ b.h.p. The method of steering was the cycle head and fork, with the addition of a heavy coil spring fitted inside the head, which per-

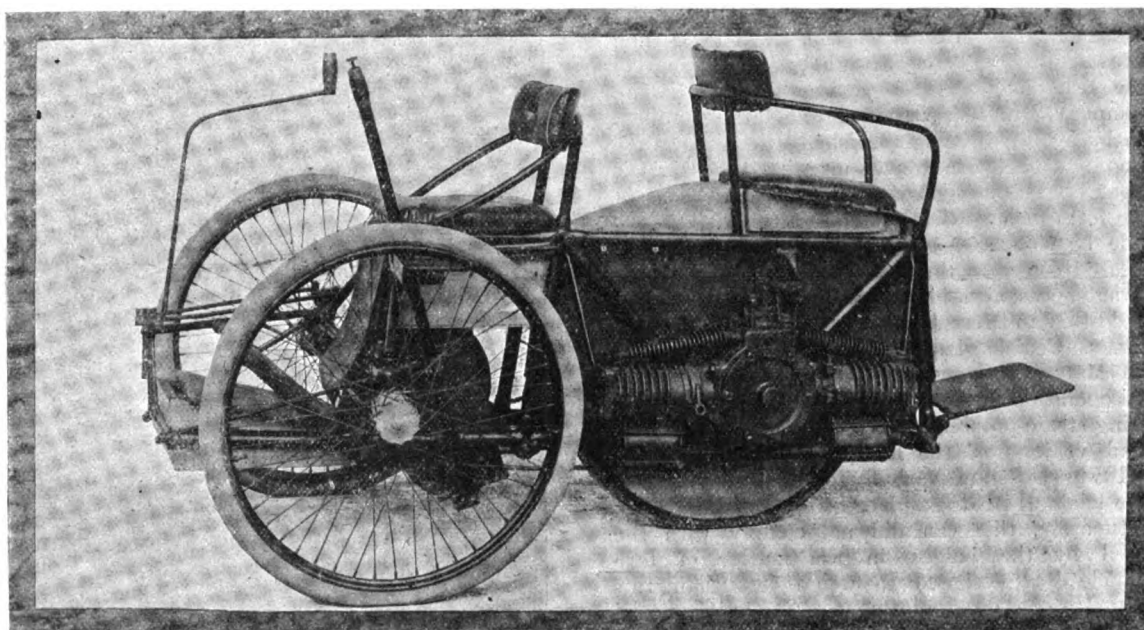


mitted the fork spindle to slide vertically within the head. The motor had a friction clutch attached to its crank shaft, so adjusted that if more resistance than the equivalent of  $2\frac{3}{4}$  h.p. were placed upon the clutch, it would automatically slip. In practice, this slip only took place when starting, when changing speed, and when on steep hills. A chain from the friction clutch drove the outer casing of a box of gears providing two speeds. It was first tried with a speed of thirteen miles an hour, but the side slip or skidding of the single front steering wheel made the steering, when going at this speed on a greasy road, very erratic and even

of engine, which had two vertical cylinders; a 10-h.p. delivery van, in which the transmission from the engine to the counter-shaft was by belt; a couple of motor-tricycles, and a  $1\frac{3}{4}$  h.p. Bollée voiturette. The Daimler Motor Company, Limited, which was formed in February, 1896, had on view two 4-h.p. cars, geared up to a top speed of 16 miles per hour, while the London Motor Van and Wagon Company, Limited, which has long disappeared, showed a trio of useful vans built on the Daimler 4-h.p. chassis. It may be of interest to here note that the price of the Daimler 4-h.p. chassis was £294 net, complete cars being



The De Dion Steam Tractor built in 1894.



The first Wolseley Car. Built in 1895-96, it was fitted with a 2-h.p. double-cylinder engine, the cylinders being on one side of the single rear wheel, and the flywheel on the other. The drive was by a combination of belts and chains.

dangerous. The reduction to eleven miles an hour, together with the addition of weight over the steering wheel, however, surmounted this difficulty.

The second of the Agricultural Hall Exhibitions took place from August 23 to Sept. 24, 1897, and was marked by a noteworthy increase in the number of exhibitors. The Great Horseless Carriage Company, Limited, had one of the largest stands, their exhibit comprising a couple of 4-h.p. pleasure cars, built on Panhard lines, and fitted with the latest Daimler-Phoenix type

listed from £316 upwards. The London Electric Cab Company displayed several of their Bersey-Brougham electric cabs, and the Hon. C. S. Rolls a four-seated Peugeot car, with the engine at the back. In connection with this vehicle it may be mentioned that the Peugeot Company is one of the oldest automobile builders in France; as long ago as 1888 it built two steam vehicles—tricycles—fitted with the Serpollet generator. In the winter of 1889-1890 a couple of experimental two-seated cars, with Daimler  $1\frac{1}{2}$  h.p. motors, were turned out, while a few months

later the first four-seated Peugeot—a *vis-à-vis*, with a Daimler 2½-h.p. engine—was produced. This was remodelled in 1891, and in September of that year a vehicle was successfully driven from Valentigney to Brest and back, the marvellous performance bringing forward an immediate purchaser for the machine from Alsace. In fact, quite a demand sprang up for the little machine, of which twenty-one were built in 1891, since which time the Peugeot Company have turned out many thousands of cars.



The Benz Car of 1896.

Returning to 1897, it was in this year that the Humber Company, of Beeston and Coventry, began to devote attention to automobiles, and brought out a three-seated machine somewhat on the lines of the Bollée voiturette. It was fitted with a 2½-h.p. single-cylinder horizontal engine, having tube ignition. The Humber firm also introduced a motor tandem bicycle, fitted with a couple of 1 1-6th-h.p. De Dion type engines, to which electric ignition was applied. So little was the latter in favour, however, that the announcement was made that "future machines will have tube ignition." What was probably the first lady's motor-bicycle was built by the Humber Company about this time. The Beeston Cycle Company, Limited, were building large numbers of 1½-h.p. motor-tricycles, these being furnished with either tube or electric ignition. A somewhat novel machine was towards the end of the year brought over from Brussels by a M. De la Croix; it took the form of a "sociable quad," in which the two passengers sat side by side, and was driven by two 1-h.p. air-cooled engines, geared direct to the back axle.

The steam wagon was also in course of development, its construction, in addition to Messrs. Thornycroft and Co., being taken up by Messrs. Coulthard and Co., of Preston, and the Lancashire Steam Motor Company, Leyland. The last-named concern had begun operations as a private company in 1896, with the object of making steam-propelled lawn mowers and of experimenting with road vehicles of the heavy pattern. The first machine produced was a steam van, built with the idea of competing in some trials which took place at the Crystal Palace in 1896. Unfortunately, this van did not comply with the conditions imposed by the judges in the matter of tare weight. The vehicle was designed to weigh less than this when complete, but, to the disappointment of its builders, the stipulated margin was exceeded by 6 cwt., and it was consequently not entered for the trials. The disappointment was, however, compensated for in 1897, in which year the Royal Agricultural Society of England held some trials at Crewe, and although several entries were received, only one vehicle put in an appearance, and that was the van alluded to above, which was awarded the Society's silver medal, and which was the forerunner of the Leyland steam wagon now so largely used for municipal purposes, by brewers, and other concerns for the transport of heavy loads. Messrs. Toward and Co., of Newcastle-on-Tyne, also turned out, in 1897, a steam van fitted with a water-tube boiler and horizontal engine, this being followed by a tractor.

Considerable money was also spent in unfruitful experimental work in connection with electrical motor-buses. The Electric Motive Power Company built a 26-seated double-decker, as did Mr. Radcliffe Ward, for the London Electric Omnibus Company, while the Wolverhampton Electric Street Car Syndicate, under the direction of Messrs. T. H. and T. Parker, had established works for the construction of electrical vehicles designed for public service. A notable event of 1897 was the inauguration of the service of electrical cabs, about thirty of which were put on the streets by the London Electrical Cab Company. Elaborate arrangements were made at the headquarters of the concern in Lambeth for the rapid substitution of the discharged batteries by fully-charged cells, and although the venture attracted considerable attention abroad—one of the cabs being sent in October, 1897, to Paris, where a similar service was started—the company met with many difficulties, and eventually the service was suspended.

### 1898.

Although those whom we may term the old-established makers of petrol motor-vehicles made very little change in their different systems of motors and transmission gear, a noticeable feature of the year 1898 was the introduction of several improved details in the way of carburettors, water-cooling arrangements, tube and electrical ignition devices, friction clutches, &c., the prompt adoption of which, where they have proved themselves more efficient than the old arrangements, materially assisted in the production of more reliable vehicles. The various public trials of automobile vehicles that took place during the year, including the "Concours" held in Paris for testing hackney carriages, the Paris-Versailles trials of heavy motor-vehicles, the trials of vehicles carrying from two to five tons at Liverpool, conducted by the Self-Propelled Traffic Association, the trials of vehicles carrying loads of one to three tons held by the Royal Agricultural Society at Birmingham, besides the innumerable public tours



Mr. F. F. Wellington on the Britannia Electric Carriage in 1896-97.

organised by different clubs and associations, all served to convince even the most sceptical that automobile locomotion had passed through its first stage of experimentation, and was emerging into a strictly practical stage of definite manufacture. The cars with the engine located in front continued to be the prime favourites, but there were many who held that the practice was wrong, considering not only that the arrangement was unsightly, but that the necessarily high and somewhat heavy frame imposed severe limitations on the designers of carriage bodies.

The Motor Manufacturing Company endeavoured to break away from the standard practice and brought out a new design, in which the engine and gear were located within the carriage body, which, however, proved unsuccessful in securing the public fancy.

At the Paris Show, which was held in June, and at which there were no less than 300 exhibitors—an indication of the strides the industry was making—among the familiar names were Panhard, who introduced a 12-h.p. car; Peugeot, who exhibited a brougham, a forerunner of the modern petrol town carriage; Mors, who showed an 8-h.p. car with the engine in front in place of at the rear, as in his former vehicles; Delahaye, De Dion-Bouton, Bollée, and De Dietrich, the latter concern building cars

brake, which, when the clutch was released, quickly brought the male portion to rest, and so facilitated speed changing. Other petrol cars on view included the Mors dogcart, with its four-cylinder V-type engine, the Georges Richard, Cambier, Le Blon, and Bergmann, all more or less copies of the Benz, the De Dion and Barrière motor-tricycles, the Bollée voiturette, and a somewhat similar machine built by the Compagnie Française d'Automobiles. At Keighley, Mr. F. Lister built a somewhat novel car in which the drive was by frictional contact between small rollers on the end of a cross shaft and the tyres of the rear road wheels. The engine was of the double-cylinder horizontal type, and was so arranged that it could be started from the driver's seat.



M. Serpollet on one of the early Serpollet Steam Cars. Reproduced from a photo taken in 1896.

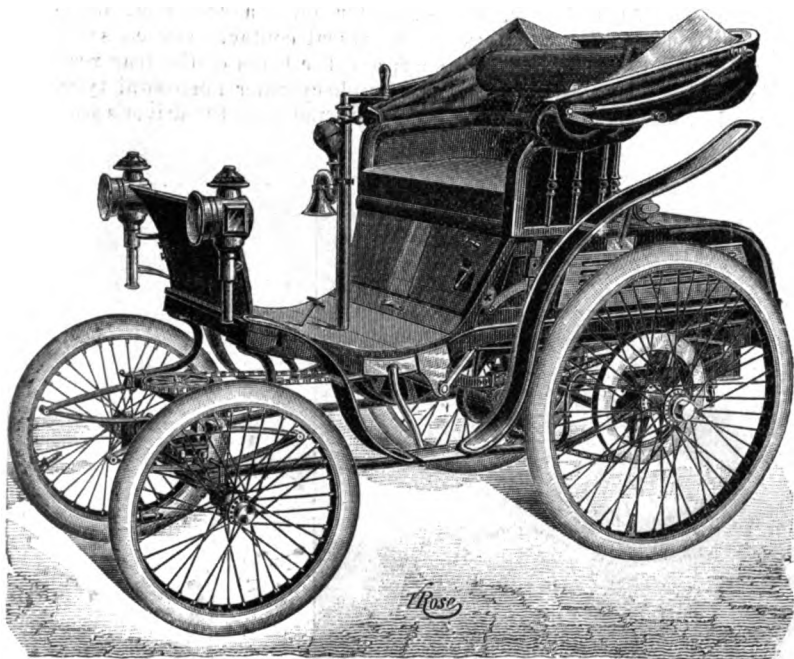
to the design of Amedée Bollée, in which a novel combination system of transmission by belt and gears was employed. M. Georges Richard, the Hurtu Co., and Messrs. Rochet-Schneider were also present with improved forms of the Benz, while M. Koch, who was one of the early workers in connection with the utilisation of paraffin as fuel in place of petrol, brought out a novel form of motor, in which one explosion chamber was common to the two horizontal cylinders. The Daimler, Motor Manufacturing, and the London Motor Van and Wagon Companies were again prominent exhibitors at the third Cordingley Show, which was held from August 29 to Sept. 3, 1898. A new departure of the Daimler Company was the fitting of a stop, or

Electrical vehicles, notwithstanding the difficulty experienced in connection with the batteries, were popular, especially for town work, among the firms engaged in their production in France being Krieger, Mildé, and Jeantaud. The latter brought over to the London show a motor-hansom, the body of which was almost identical with the motor-cabs in use to-day, except that the driver was perched up at the rear just as he is in a horse-drawn hansom. The Headland Electrical Company brought out a new car, in which the Headland accumulator was employed, while from America came the Riker electrical carriage, which, by reason of its light construction, attracted considerable notice. The weight of the battery, the uncertainty of its life and dura-



bility, and the limited range of travel on one charge, however, prevented any great advance being made.

While it was admitted that Great Britain was behind France as regards the petrol car, this country quickly took the lead in the production of heavy steam vehicles. Already in 1898 British builders were supplying steam road vehicles for use in



The 1897 Georges Richard Car.

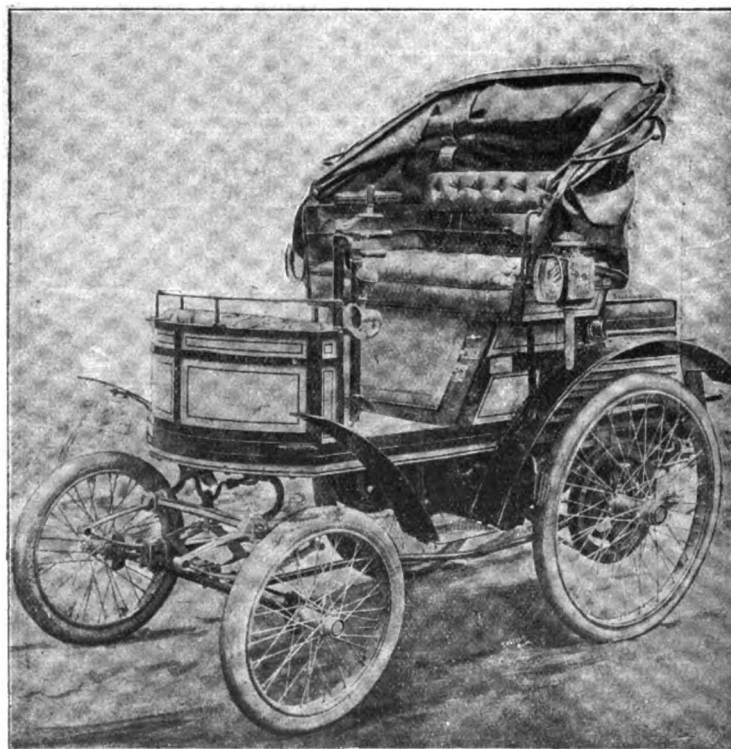
Belgium, in France, in the Soudan, in South Africa, and in a great many provincial centres of Great Britain, as well as in the metropolis. Those of Continental origin were much too heavy, besides too wide and too large to render their use possible under the stringent conditions laid down in the Light Locomotives Act and the Local Government Board's regulations, which caused British ingenuity to be exercised most profitably, with the result that firms in this country were producing, and are still producing, steam vehicles for heavy loads which owe no part of their design, equipment, or method of construction to foreign inventors. Among the new-comers were Messrs. David Martyn and Sons, Limited, of Hebburn-on-Tyne, who built an exceedingly novel design of heavy steam 'bus arranged for thirty outside passengers only, the seats being arranged lengthwise of the vehicle. The engine, boiler, and fuel supply were carried at the rear of the machine, the conductor attending to the stoking and lubricating. The boiler was of the fire-tube type, and the engines of the high-pressure, vertical, inverted pattern. Messrs. Gillett and Company, of Hounslow, also constructed a double-deck steam 'bus to carry twenty-five passengers, for the Motor Omnibus Syndicate, Limited. The boiler, which was located in the fore part of the vehicle, was of the water-tube form, the engines were of the compound, vertical, reversing type, the power of the same being transmitted to an intermediary shaft by chain gear, and thence to each rear road wheel by Renold silent chains. The Clarkson Co., who were then located in South London, constructed two new steam vehicles, one a victoria and the other a landau. The engine was of the multiple-cylinder simple-acting type, with six cylinders all operating on the same crank. The principal reason advanced for employing this novel design of engine was that all dead centres were avoided. There were many other special features in the cars. For instance, the exhaust steam was conveyed through the tubular frame of the vehicle to a tube at the top of the "swan-neck" of the frame, from thence being distributed to the various pipes of the condenser. To further assist condensation, the mud-guards were made hollow, and through these also exhaust steam passed to the tank. At Carlisle, Mr. Theo. Carr, who in 1897 had built an experimental three-

wheel steam car, brought out an improved machine fitted with four wheels.

In the motor-cycle world indications of a coming boom were not wanting, as at least thirty firms connected with the cycle industry were known to be experimenting with them. The principal novelty of the year was the Werner motor-cycle from France, with the early history of which Mr. J. J. Leonard was connected in this country. The motor, which was of  $\frac{3}{4}$ -h.p., was attached forward of the head of the machine, and drove by a belt on to a pulley connected with the front wheel. The machine quickly ran into favour, notwithstanding its nasty tendency to skid on the slightest provocation, the resulting dangers of which were increased by the hot tube ignition at first employed.

As regards public service and motor-bus vehicles, the principal item of interest was the appearance of a German Daimler 14-h.p. single-decker, a forerunner of the many vehicles of the Milnes-Daimler type, of which over 200 are in use in London to-day. In July the London Steam Omnibus Company, Limited, was formed, with the object of running motor-buses in London. Although the word "steam" was included in its title, and the object was to run steam 'buses of the De Dion type, yet the company was "entitled to use the most successful type of motor-bus, namely, the Panhard and Levassor and Daimler." The company had a brief and inglorious career; strangely enough, the net visible result was the intermittent operation of a couple of Daimler motor-buses between Kennington and Oxford Circus for a period of about twelve months.

The year closed with the formation of a combination which, since the victory of the car of its descendant concern in the 1905 Tourist Trophy Race, has sprung into the front rank of British motor-car builders. We refer to the Mo-Car Syndicate, Limited, the forerunner of the new Arrol-Johnston Car Company, Limited, in the initiation of which Sir Wm. Arrol and Messrs. A. and P. Coats, of the big Paisley concern, were connected. Another new Scotch concern was the Madelvic Motor



The Marshall Car of 1897-1900.

Carriage Company, which established works at Granton to build electrical vehicles, but which, unlike its Paisley rival, had but a short career.

No chronicle of 1898 would be complete without a reference



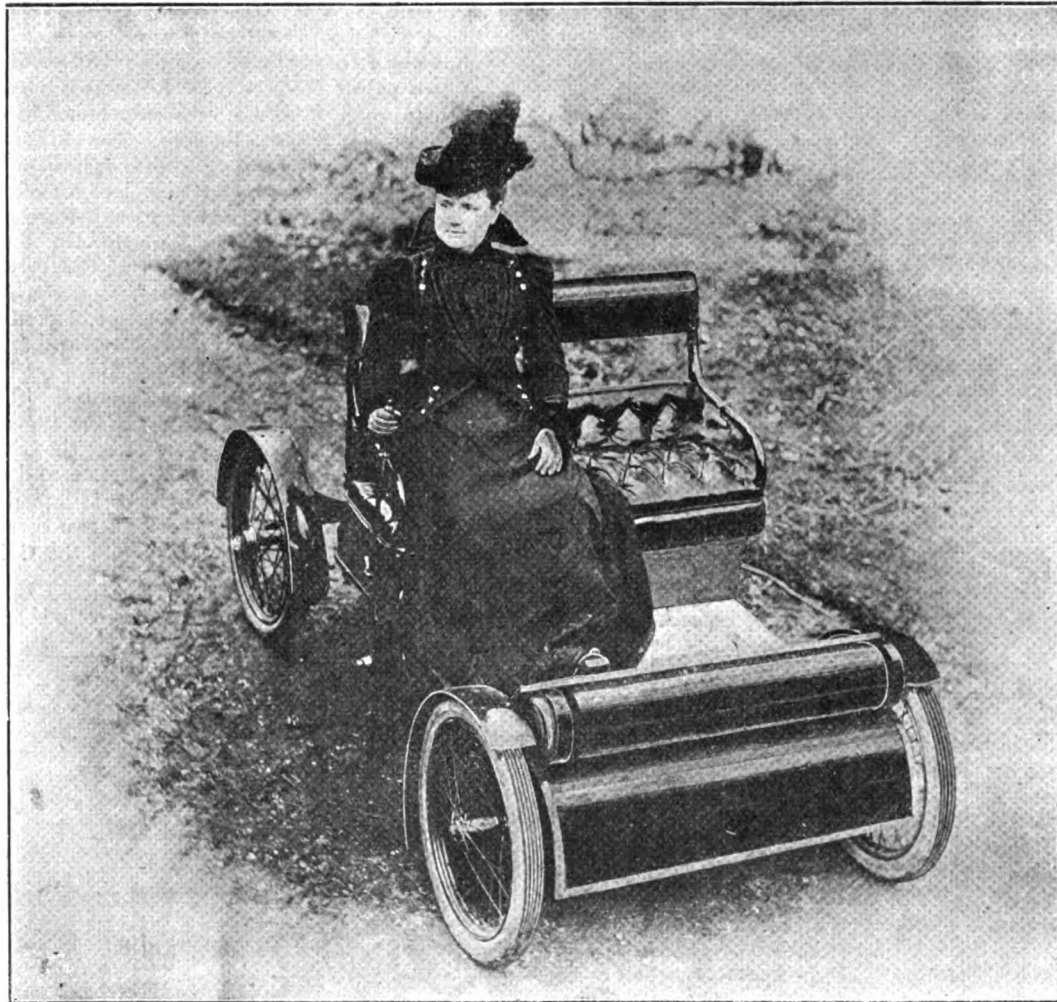
to Mr. E. J. Pennington, whose projected cars were much heard of in the early days of the movement, and from whom challenge after challenge emanated. In 1897 he kept himself in the background, but returning into prominence in 1898, motoring circles were soon all set agog with the promise of startling new vehicles. A very entertaining book could be written of Mr. Pennington's brief but lively career in the British automobile industry. His personality was such that not only was he able to inspire confidence in the public, from whom orders for his marvellous cars flowed in at an astonishing rate, but he induced quite a number of old-established firms to lay down plant to manufacture the same. In fact, in July, 1899, he announced that no less than eleven firms were engaged in their construction. Whether all or even the majority of these turned out any cars, it is difficult to say, but there is no doubt

existence, so far as this country was concerned, almost as suddenly but with less noise than they sprang into prominence.

1899.

#### THE VOITURETTE CAR.

Eighteen hundred and ninety-nine proved a year of many developments, one of the most important of which was the production of the Renault and De Dion voiturettes, which have had such an important bearing on modern motor-car construction. Of the former, quite an interesting volume could be written. Designed by M. Louis Renault, the son of a cloth manufacturer at Roubaix, it not only set a fashion to the world, but has given rise to the huge establishment of Messrs. Renault Frères at Billancourt, near Paris, from whence are turned out large numbers of vehicles which have long enjoyed an unrivalled reputation

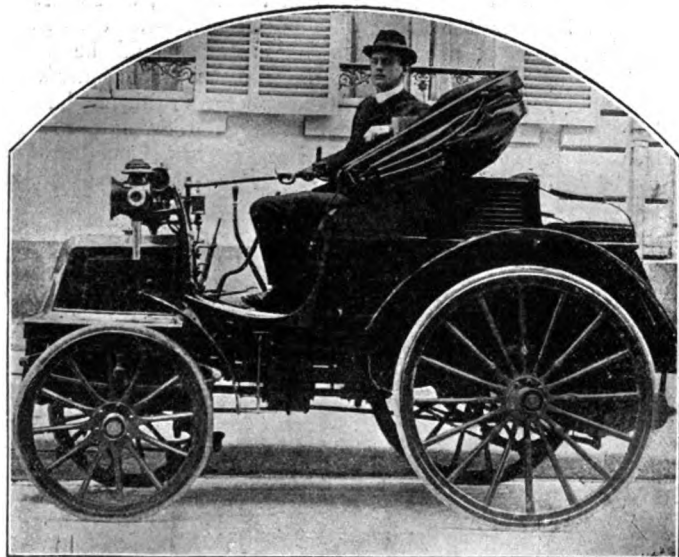


Mrs. Pennington on the Pennington Car of 1898.

that at the 1899 Show great interest was centred on the Universal four-seated single-cylinder car, exhibited by Messrs. Pennington and Baines, and on the Pennington-Stirling double-cylinder cars displayed by Messrs. Stirling; the latter were on exceedingly novel lines, the engine being so located under the floor-board that the fly-wheel rotated in a horizontal plane, the power being transmitted by a light chain and belt to the front axle. Two speeds were provided, while the steering was effected by the rear wheels. A feature of the Pennington engine was that no carburettor was employed, the oil being fed directly into the explosion chamber, having previously been heated by passing through the exhaust silencer. Although reports were issued from time to time of the great progress the vehicles were making, the cars and their designer dropped out of

from the point of view of quiet running. We give an illustration of the 1900 model, but the original machine was even a smaller vehicle, being fitted with a 2½-h.p. De Dion air-cooled engine, located in the fore part of a tubular frame. The gear-box, which was adapted to give three speeds and a reverse, is claimed to have been the first in which a direct drive from the engine to the back axle was obtained—a highly-prized feature in modern cars, and being the subject of a patent, has already given rise to litigation. Another noteworthy point in the Renault voiturette was the transmission of the power by a universally-jointed shaft and bevel gear to a rear live axle, a forerunner of the shaft-driven car which is competing so keenly with the chain-driven type. The first De Dion vehicle (see illustration), which was made to accommodate two or three passengers, was provided with a 3-h.p.

motor, two new departures in connection with the latter being water cooling, and the substitution of a spray type of carburettor in place of the surface type hitherto employed by this firm. The engine was located at the rear, and drove the back wheels through a special form of change-speed gear, in which the pinions were always in mesh, and which gave two speeds,  $7\frac{1}{2}$  and 19 miles per hour. The frame of the car was of steel tubing,



The early Panhard Car, formerly owned and driven by the Hon. C. S. Rolls, who is seen at the helm. This car is of special interest as having been the winner of the Paris-Marseilles Race in 1896, and was the first motor vehicle to be fitted with a vertical four-cylinder engine. . . .

while the road wheels were of the cycle type and of equal size. For the rear axle Messrs. De Dion-Bouton followed the system they had adopted in their heavy steam vehicles, the axle being built up of two parts, connected together by four cardan or universal joints. To meet the demand for a light two-seated car, the Panhard-Levassor Company also brought out a 3-h.p. vehicle, the engine of which was neither horizontal nor vertical, but was set at a slight angle. The construction of the vehicle was taken up by M. A. Clement, of the Clement-Bayard and Clement-Talbot concerns, and under various names a very large number were sold in England. The Peugeot Company, who were then building cars up to 18-h.p., also entered into competition for the trade in voiturettes by bringing out a 3-h.p. vehicle, fitted with a double-cylinder horizontal engine. Early in 1899, Messrs. Darracq, in addition to their motor-cycles, constructed a machine in accordance with the designs of M. Léon Bollée; it was a more powerful edition of the Bollée voiturette, and partook more of the appearance of a car, four road wheels being employed. The horizontal engine was retained, and the flywheel was outside the frame. The machine was belt-driven, and the ignition was by incandescent tube. Messrs. Delahaye were turning out an 8-h.p. machine, fitted with double-cylinder horizontal engine and belt drive, and a novel feature of which was that the speed of the engine was controlled by a pedal, which varied the quality of the explosive mixture. Belgium was also early in the field with light cars, from that country coming the Deschamps, the F.N. and Pieper two-seated cars. The first named was of  $4\frac{1}{2}$ -h.p., while the two latter were fitted with 3-h.p. air-cooled engines and belt drive; another Belgian belt-driven machine, with  $3\frac{1}{2}$ -h.p. air-cooled motor, was the Vivinus, and which, under the name New Orleans, enjoyed a large measure of popularity.

So rapidly had the industry and movement grown, that the annual Cordingley Show at the Agricultural Hall, Islington, which opened on July 3rd, 1899, and which immediately followed that held by the A.C.G.B.I. in the Old Deer Park, Richmond, was entirely confined to motor-cars and automobile accessories. The exhibits themselves were ranged under the galleries on the

ground floor, the central portion of the latter being converted into a large covered arena, 320 feet long by 100 feet wide, in which trial runs were given all day long. This arena proved a great success, and within its confines thousands of present-day motorists made their initial trip on an automobile. The struggle between petrol, steam, and electricity was very keen, each section being represented by a large number of exhibitors. Prominent among those who displayed the petrol cars were the Daimler Motor Company, Limited, who had on view a number of their standard  $5\frac{1}{2}$ -h.p. two-cylinder cars; which for the first time were fitted with radiators, by means of which the amount of water which had to be carried was reduced to four gallons, "sufficient for a day's run"! Considerable attention was also centred on the new Critchley two-seated car, in which the 4-h.p. engine was fitted with its crank shaft parallel with the axles. In this vehicle two speeds were obtained by a belt-drive from the engine to an intermediary shaft, which in turn was connected with the rear axle—of the live type—by a single chain. The vehicle was fitted with horizontal hand-wheel steering. Another exhibit of note was a four-cylinder engine rated at  $11\frac{1}{2}$ -h.p.; this consisted of two pairs of the standard Daimler motor, and was provided with tube ignition, and was only being fitted into pleasure cars in fulfilment of special orders. Towards the end of the year the Daimler Company brought out a new 6-h.p. model known as the Parisian Daimler, the chief departure in which was the adoption of inclined wheel steering, a feature which was already to be found on a number of French cars, and the location of the change-speed lever at the side of the driver instead of on the dashboard. The exhibit of the Motor Manufacturing Company was notable for its extensive range, including, as it did,  $1\frac{1}{2}$ -h.p. English-built De Dion-type motors, arranged for either tube or electric ignition, motor-bicycles and quadricycles fitted with the same, a Bollée voiturette, a number of the standard  $5\frac{1}{2}$ -h.p. M.M.C. cars, and fitted with various types of bodies, including dog-carts, char-à-bancs, and vans, the Sandringham phaeton, which had a 6-h.p. horizontal engine, and a Princess two-seated car; the latter was fitted with a  $4\frac{1}{2}$ -h.p. double-cylinder motor, and had three forward speeds and two reverse motions, the final drive being by a single chain; and the Balmoral 11-h.p. char-à-

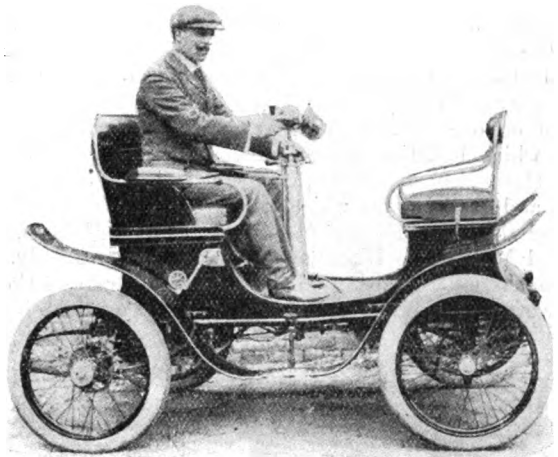


One of the Electric Cabs in service in Paris in 1898.

banc, in which a horizontal engine was also employed. Messrs. Friswell displayed a number of the Mors dog-carts, De Dion tri-cycles and Benz cars, and a neat little machine known as the Elan. This was a two-seated car of French construction; it was fitted with a 3-h.p. two-cylinder air-cooled engine, a fan, as

in modern cars, being provided to increase the draught. The change-speed gear was of the sliding type, giving four speeds forward and a reverse.

The products of the Cannstatt Daimler firm—as the makers of the Mercedes vehicles were known in those days—were shown by the Motor Carriage Supply Company, and included a 7½-h.p.



The De Dion Voiturette of 1899.

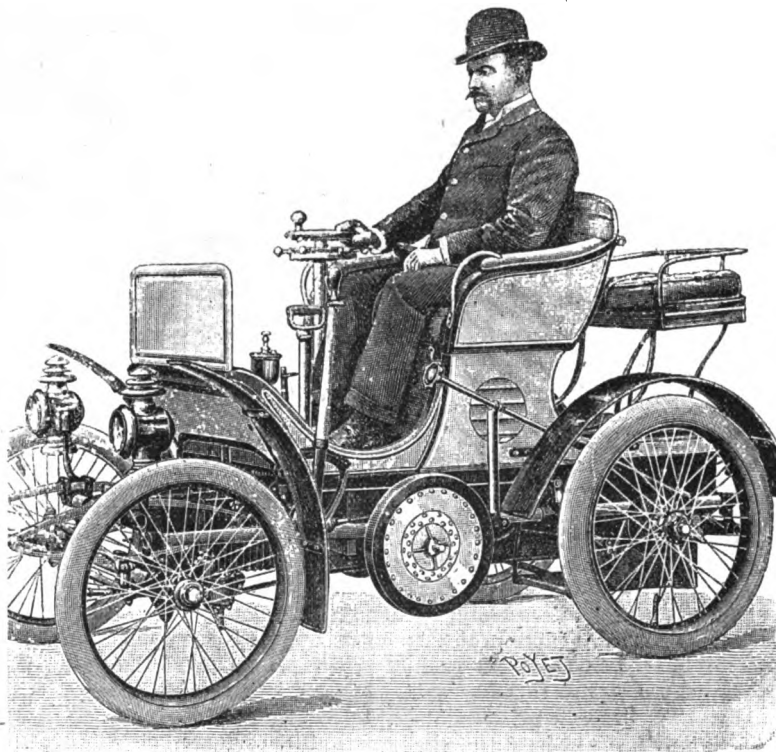
lorry, to carry one and a-half to two tons, a 5½-h.p. wagonette, and a 5½-h.p. sporting car. The latter was a notable machine in several respects; in the first place, it marks not only the introduction of the honeycomb radiator, but also of the air-inducing fan, while as regards the change-speed gear, the four sliding pinions were arranged in two pairs, each being controlled by a single lever. Another novelty at this stand was the Simms Motor Wheel, a weird-looking 1½-h.p. three-wheeler, arranged for two riders, one behind the other. A new-comer into the British motor world at this show was the Star Engineering Company. Taking up the construction of motor-cars towards the end of 1898, their first production was an improved form of Benz. The machine, of which an illustration will be found in the present issue, was arranged to carry three persons; it was fitted with a 3½-h.p. horizontal engine, single cylinder, with electric ignition. Two speeds were provided, the transmission being by belts working on fast and loose pulleys. Much interest was centred in the vehicle, especially when in June of the following year one of them succeeded in climbing the famous Birdlip Hill in Gloucestershire. Mr. F. C. Blake, who was early in the field as a specialist in coils and other electric ignition fittings, turned his attention to motor-car construction and built a three-seated vehicle, somewhat on Benz lines, the engine being a double-cylinder horizontal one of 3-h.p. The Automobile Association could always be expected to bring forward a number of novelties, and this year was no exception to the rule. Their exhibit comprised a Barrière motor-tricycle, which proved a no mean rival to the De Dion, several Mors four-seated dog-carts, and a 4-h.p. Petit Duc by the same maker. The car which drew most notice was probably the Orient Express. This was of German origin, brought out to compete with the Benz, from which it differed by its more robust construction, the employment of jockey pulleys to tighten or slacken the belts instead of employing fast and loose pulleys, and the fitting of magneto ignition. The first cars were of 4-h.p., the engine being of the single-cylinder horizontal type. The Gobron-Brillié or "Silent," as it was then known, attracted considerable attention on account of the novel design of the engine, the type being retained even in the modern cars of this make. The vehicle was fitted with a 6-h.p. vertical engine, the two cylinders of which were provided with four pistons, the explosion taking place between them.

For some time considerable attention had been given by Continental designers in the production of *avant trains*, or motor fore carriages, in which the whole of the engine and driving gear was attached to a pair of road wheels in such a way that the

latter could be substituted for the front pair of wheels of ordinary horse-drawn vehicles. Of this type of vehicle the Kuhlstein-Vollmer, shown by the Automobile Association, was a notable example. It was constructed in Berlin, and, attached to a cab, attracted considerable notice at the Show, as also did the Pretot *avant train*. The latter machine, which was fitted with a 5-h.p. two-cylinder horizontal engine, was provided with an exceedingly novel gear, which gave three forward speeds and a reverse. Although the idea was an attractive one, it did not give satisfactory results in practice, and eventually both cars disappeared from the horizon of motordom.

Mr. C. T. Crowden, a name which is intimately connected with the early history of the cycle and motor industry, had established works at Leamington, from which both a steam and a petrol car were turned out. The steamer took the form of a brake, the power being generated in a multitubular boiler located in the fore part of the car, which was notable for its long chimney. The petrol machine was fitted with a dog-cart body to seat six persons. The engine was on unusually novel lines; it was of the horizontal double-cylinder type, rated at 10-h.p. Dispensing with the usual water-jacket for cooling purposes, Mr. Crowden so arranged his motor that the two cylinders were entirely enclosed in a large water tank. The transmission was by a combination of belts and chains.

Messrs. Hewetsons were well to the fore with the Benz cars, which were now being fitted with three speeds, the additional one being known as the crypto, or hill-climbing gear. The standard 3½-h.p. machine was supplemented by a 5-h.p. dog-cart and an 8-h.p. ten-seated brake, and a car with wooden wheels in place of the wire type also made its appearance. The Southern Motor Car Company, with which Mr. Riches, of the present-day-firm of Messrs. G. T. Riches and Co., was connected, had on view a Georges Richard two-seated belt-driven car. This was largely a copy of the Benz, the 3½-h.p. horizontal engine having a water-jacket, with

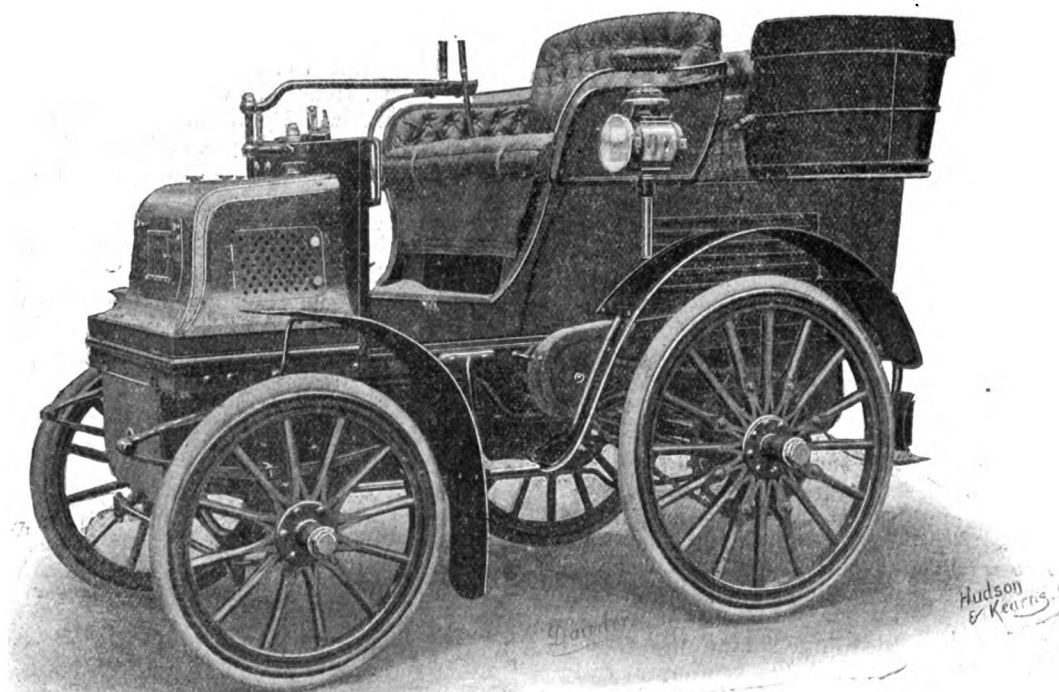


Leon Bollee-Darracq 5-h.p. air-cooled Car (end 1899).

a radiator at the rear of the vehicle. From Manchester Messrs. Marshall and Co. brought the Marshall car, which was of 4-h.p.; it was practically a copy of the French Hurlu, having a 4-h.p. single-cylinder horizontal engine at the rear, and a combination belt and chain drive, as in the Benz. Another novel vehicle was that made by the Higgs Champion Car Syndicate. It was built to carry four

persons, and was fitted with a  $1\frac{1}{2}$ -h.p. De Dion engine! The latter was so arranged that it could be started from the driver's seat. Belt transmission was adopted, this giving a couple of forward speeds. Other firms which turned out belt-driven cars somewhat on the Benz lines about this time were the Endurance Motor Company, Coventry, Messrs. Brown and Buckton, of Halifax, and the Yorkshire Motor-Car Company. Messrs. F. Jackson and Co. introduced a novel three-wheeler for two persons; it was fitted with a  $2\frac{1}{2}$ -h.p. single-cylinder engine with electric ignition, the power from which was transmitted through belts and gear-wheels to the rear axle. One of the novelties of the show was, however, the Victoria Combination, also known as the Eureka, brought over from Paris by Mr. D. Farman. It really consisted of a two-seated two-wheeled trailing car, to the front of which was attached a pair of wheels, on which was mounted a  $1\frac{1}{2}$ -h.p. De Dion air-cooled engine and a two-speed gear. The steering was controlled by a long tiller, on which the engine control levers were mounted. The little machine became exceedingly popular for a time, but lost its attractions as the desire for more power and speed grew. A feature of the Richmond Show was the Decauville 3-h.p. double-

enjoy his ride with others, trailers and fore-carriage attachments rapidly came into vogue. Several new motor-bicycles made their appearance, including the Lamaudiere, but, despite the growing demand, Messrs. De Dion-Bouton looked upon them as dangerous machines, and would only build motor-bicycles to order. Even as now, air-cooling was looked upon merely as a makeshift, and when the Buchet *culasse* was introduced towards the end of the year there was quite a rush in motor-cyclist circles to have the *culasse*, or water-cooled head, fitted to the De Dion and Aster motors. Among the novel exhibits in the motor-cycle section at the Agricultural Hall Show were those of Lawson's Motor Safety Company, whose display included a motor-bicycle in which the  $1\frac{1}{2}$ -h.p. engine was fixed on one side of the rear wheel, and a 2-cwt. carrier tricycle, which had the motor attached to the side of the front wheel. The Phœbus, Darraq-Perfecta and De Dion motor-tricycles and quadricycles, which were greatly in vogue about this time, were shown by Messrs. Noe Boyer and Co., Messrs. Brown Bros., and Messrs. De Dion-Bouton and Co. respectively. The Phœbus machines, as those built by Messrs. Boyer and Co. were known, were fitted with Aster engines, a type which has since



The British Daimler Car of 1898.

cylinder cars (see illustration), with which the expert drivers—one of whom was Thery, the winner of the 1904 and 1905 Gordon-Bennett races—did many astonishing things in the way of steering between pillars and posts. The motors were located at the back, and the transmission was through bevel gear, which was entirely unenclosed. A later model brought out by the Decauville Company in France in the same year had a 4-h.p. water-cooled motor located in the front part of the frame. One of the first petrol motor-buses to be seen in this country was also on view at the 1899 Show, it being exhibited by Messrs. Bayley's, Limited. As can be observed from the photograph of the Arena reproduced on another page, the bus did not outwardly differ very much from the vehicle of the present day. The chassis was of the German Daimler Company's construction, the engine being of 12-h.p.

The expected boom in motor-cycles duly set in by the end of the year, and it was reported that over 5,000 machines were in use in France alone, and that Messrs. De Dion-Bouton had orders in hand for no less than 14,000 of their small high-speed engines. The horse-power of the motor-tricycles had increased to  $2\frac{1}{2}$ -h.p., and with the view of enabling the motor-cyclist to

become one of the most largely used. The first engines were, of course, of the air-cooled type, their main difference between the De Dion, which had up to that time held practically a monopoly in the field of high-speed vertical engines, being in the air-cooling fins, which, instead of being cast with the cylinder, consisted of corrugated rings of copper. The Aster carburettor, then universal on motor-cycles, while of the surface type, was of a novel design; it was of large dimensions—resembling a grocer's coffee canister more than anything else. Among those catering for the demand for motor-cycles were Messrs. Dennis Bros., of Guildford, who also in this year built a small "Speed King" two-seated 3-h.p. car, the forerunner of the 1,200 odd pleasure and commercial vehicles they have since been turned out; and Messrs. Allard and Co., of Coventry, now the Rex Motor Manufacturing Company, were also among the early British firms to manufacture motor-cycles, and towards the end of the year brought out a strange-looking  $2\frac{1}{2}$ -h.p. car. The Rover Cycle Company built a motor bath chair fitted with a  $1\frac{1}{2}$ -h.p. De Dion engine, which they exhibited at the Richmond Show; while towards the end of the year the Century Engineering and Motor Company, whose works were then at



Altrincham, Cheshire, brought out a tandem motor-tricycle, which may be regarded as one of the earliest tri-cars, as such machines are now known, and which, unfortunately, was before its time.

A good deal of attention was being devoted to the question of cars fitted with engines adapted to use paraffin in place of fuel. In addition to Messrs. Roots and Venables, at this time



■ The Riker Electric Carriage, 1898.

Mr. Edward McLaohlan built a little two-seated three-wheel machine, fitted with a 2½-h.p. single-cylinder horizontal engine using paraffin as fuel. Two speeds were obtained by means of belts, either of which could be tightened so as to transmit the power by means of jockey pulleys. From France, the Automobile Association brought over the Koch heavy oil car, which has already been referred to.

The display of electrical vehicles included an electrical victoria by Mr. Carl Opperman. This was fitted with a 7-h.p. motor driving through gearing on to a differential shaft, and thence by side chains to the rear wheels. The steering wheels were mounted, not on the usual pivots, but on an ordinary

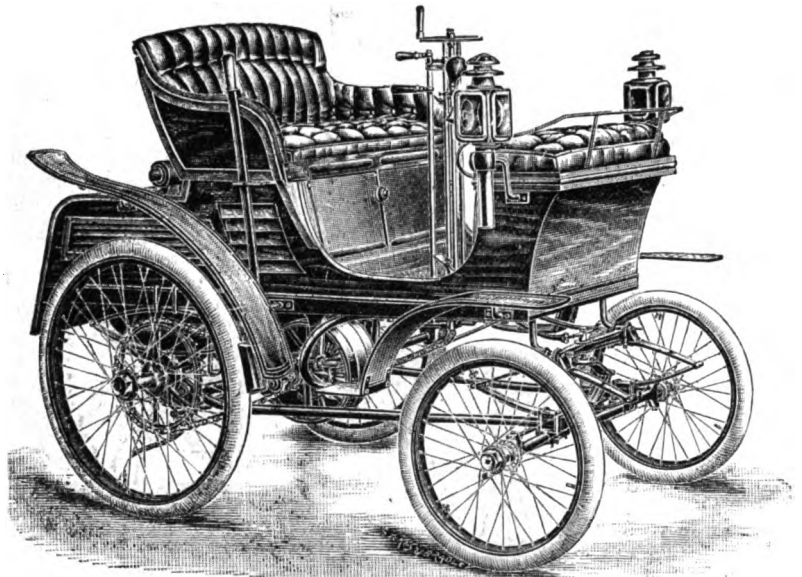


Sir David Salomons on his Ferpollet Steam Car, 1898.

axle, the steering being effected through a special turntable and double reduction gear, which enabled the car to be turned in a small space. Mr. E. H. Clift also built a four-seated electric victoria, in which the transmission was on similar lines. The Joel Electric Carriage, Motor, and Battery Syndicate exhibited a neat brougham in which a couple of 2-h.p. electric motors were

employed, a battery of Rosenthal accumulators, stated to have a capacity of fifty miles on one charge, furnishing the necessary energy. A concern which had a short but merry life was the Electrical Undertakings, Limited, of Camden Town, which built a number of electric cars on the Leitner system. The vehicles were of an attractive appearance, and were each fitted with two motors of the Lundell type; they came into considerable temporary prominence owing to one of them successfully making the journey from London to Brighton on one charge at an average speed of just over eleven miles per hour. A Riker electric dog-cart, an American-built vehicle, was shown by the Mackenzie Carriage Works, whose factory in Lambeth is now occupied by the Darraq Company, and the Crowdus Accumulator Syndicate had an electric parcels delivery van on view, the electrical energy in this case being provided by a battery of Crowdus accumulators. Mr. J. H. H. Berkeley attracted much attention with a single-seated electric bath chair, which can be seen in the picture showing the Arena at the 1899 Exhibition; while the Elieson Lamina Accumulator Syndicate, Limited, had on view an Elieson-Swan two-seated electric dog-car, mainly notable for the peculiar design of the driving chain.

A keen struggle for supremacy was still taking place between



The Star Car of 1898-99.

the petrol and the electric car. The former was noisy, while the latter was extremely quiet in operation; on the other hand, the petrol machine could travel the length and breadth of the land, whilst its rival was confined to short runs of from twenty-five to thirty miles. The outcome of the struggle was the production of the combination petrol-electric vehicle, in which the internal combustion engine is retained to furnish the necessary power. By means of a dynamo this is converted into electrical energy, which is utilised to operate one or two electrical motors connected with the rear wheels. The engine could thus be run at a constant speed, and the power transmitted to the vehicle without the employment of a clutch or change-speed gear-box. The idea has long been an attractive one to engineers, and it is safe to say that the last has not been heard of the "combination" vehicle. In fact, the Auto-Mixte—the forerunner of which, the Pieper, made its appearance early in 1899, is at present being built in Belgium. In Austria some developments are in hand in connection with the Lohner-Porsche system, and at home Messrs. Hart and Durnall are about to bring out a car which will comprise a number of special features.

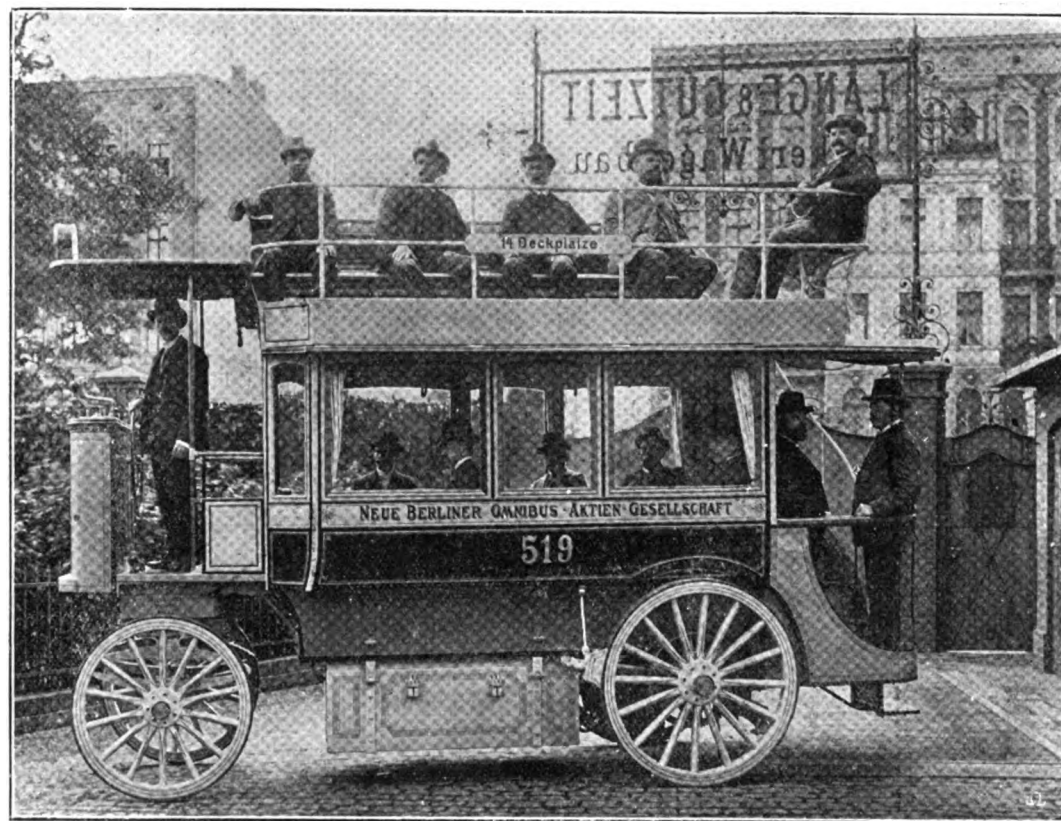
Heavy steam vehicles formed a prominent feature of the Agricultural Hall Show. At that time wagons were restricted to a tare weight of 3 tons, and machines of this type were exhibited by Messrs. Thornycroft and Messrs. Bayleys, Limited, these forming the nucleus of the big display that is now annually made in the Minor Hall at the Agricultural Hall Exhibition.

Of public service vehicles propelled by steam the exhibits comprised a fourteen-seated wagonette, a twenty-eight-seated double-deck 'bus built by the now defunct Liquid Fuel and Engineering Company, and a twenty-seated steam 'bus, the chassis of which was made by the Lancashire Steam Motor Company, and the body by Stirlings Motor Carriage Company, of Hamilton, N.B. New-comers in the heavy steam vehicle world were the Simpson and Bodman, built in Manchester by a firm of that name, and the Sheffield Motor Dray and Engineering Company, Sheffield.

The pleasure steam cars included the Serpollet and the Whitney. The latter was an American-built vehicle; it was driven down from Liverpool by Mr. Whitney, its designer and builder, and its appearance in the arena at the show caused quite a sensation. Everyone was anxious to try the new vehicle, which, by reason of its light lines and low build, was of exceedingly attractive design. Messrs. Brown Bros. took up the car and pushed it for some time, but we believe that the concern which built it in America was eventually bought up by and merged in the

this country which proved capable of competing with any measure of success with Continental makes. It is interesting to note that its frame was built up of channel section steel, a practice which became general a few years later. The builders, the Wolseley Sheep Shearing Machine Company, had, under the guidance of Mr. H. Austin, long been devoting attention to motor-vehicles, the first machine being constructed in 1895-6. It was a light three-wheel vehicle built on cycle lines, and provided seating accommodation for the driver and one passenger. The motor, which gave about 2-h.p., was located at the rear of the driver's seat, and was provided with electrical ignition. In 1897 another three-wheeled vehicle was constructed having a single wheel in front, the car being steered by a tiller working in a ball head similar to that employed in bicycles of the present day. The horizontal motor had two cylinders arranged side by side, and developed about 3-h.p.

The increasing output of motor-cars had begun to give rise to many subsidiary industries, Messrs. Rubery and Co., of Darlaston, for instance, having taken up the manufacture of channel



28-seated Double-deck Electrical 'Bus, Spitzlin' service in Berlin in 1899.

Locomobile Company. This was quickly followed by the Locomobile originally known as the Stanley, an American light steam vehicle which for two or three years occupied a very prominent place in British motoring circles.

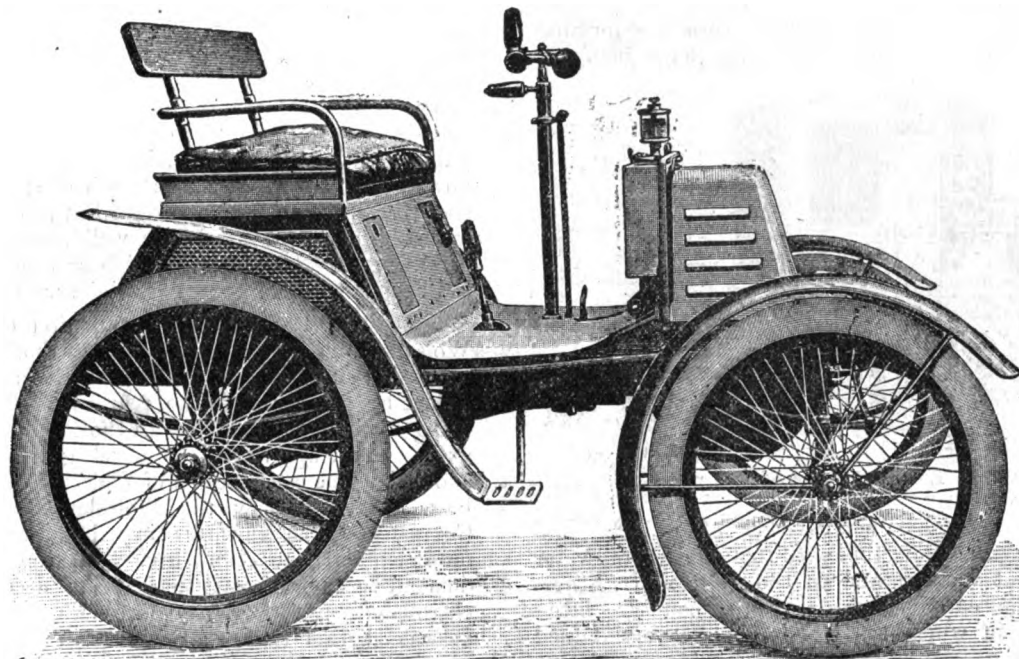
The addition to the list of British motor-car firms in 1899 included the Lanchester Motor Co., whose vehicle comprised then, as it does to-day, a number of novel features, chief among which were its horizontal air-cooled engine, its change-speed gear and worm gear drive, this being the first car to be fitted with this form of transmission. The completion of the first Napier engine, built by Messrs. D. Napier and Sons at their works in Lambeth, took place early in the summer of 1899. It was of the vertical two-cylinder type, the dimensions being 4 in. bore by 6 in. stroke. It was fitted to Mr. S. F. Edge's Panhard—a vehicle which was driven by M. René de Knyff in the Paris-Marseilles race of 1896, in which it finished second. The year 1899 also saw the production of the first Wolseley four-wheel car, which is claimed to be the first motor-vehicle designed and built throughout in

steel frames. Mr. R. Lucas brought out an ingenious system of infinitely variable gear obtained by means of a belt working on two special pulleys, which was so arranged that the diameters of the same could be altered as desired, the one increasing as the other was reduced. Various modifications and improvements have since been introduced, but the system never came into really extensive use, although it is still fitted to the French-built car, the Foullaron.

French motor-car builders have always looked upon races as a means not only of attracting public notice, but also of tending to bring about constructional improvements, and in this connection 1899 proved a busy year. In the Paris-Bordeaux race sixty-five competitors started, the horse-power of the machines ranging from 3 to 18½ h.p. Charron, on a 12-h.p. Panhard, was the winner, his speed working out at just under 30 miles per hour, as against the 23½ miles achieved by De Knyff in the preceding year. The Paris-Ostend race, which was run off in September, attracted great attention in this country by reason

of the fact that the competitors in the touring section included two British motorists, the Hon. C. S. Rolls, who secured second place on an 8-h.p. Panhard, and the Hon. J. Scott Montagu, now Lord Montagu, on a 12-h.p. four-cylinder English Daimler, who was third. In the racing section, Levegh, on a Mors, and

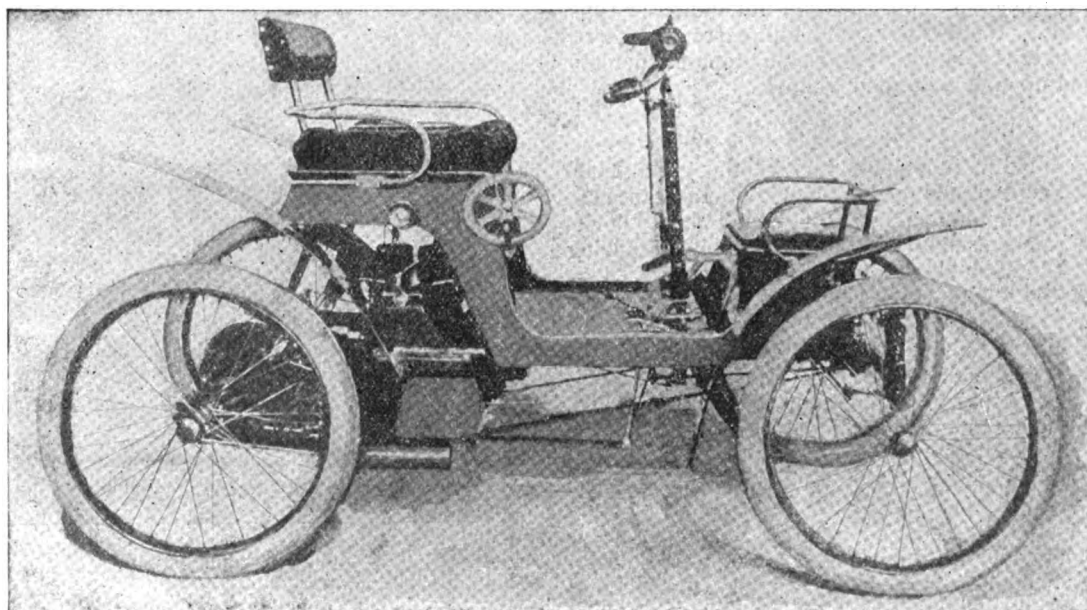
of no less (these were the words used in the *M.C.J.* at the time) than 23-h.p. The machine must have been looked upon as dangerous even by its builders, for it was fitted with six brakes — "two on the rear axle, two on the extension of the motor shaft, and two on the intermediary shaft." M. Vallée, of Le



The Vivinus 3½-h.p. Car (1899.)

Girardot, on a Panhard, tied for the first place, their time for the 201 miles being 6 h. 11 min. Short-distance speed trials also became popular, and the record was broken week after week, Beconnais, who rode a Phebus motor-tricycle, finishing up the year with the flying kilometre in 48 sec., equal to nearly 47 miles per hour, to his credit. Races

Mans, who had been turning out small belt-driven cars for some years, in 1899 produced a novel racing machine, the body of which was of the shape of a large shoe. The car was fitted with a 16-h.p. four-cylinder horizontal engine, but was totally devoid of driving chains and change-speed gear, the power being transmitted directly to the rear axle by a single wide belt. The



The Decauville 3-h.p. Voiturette, 1899.

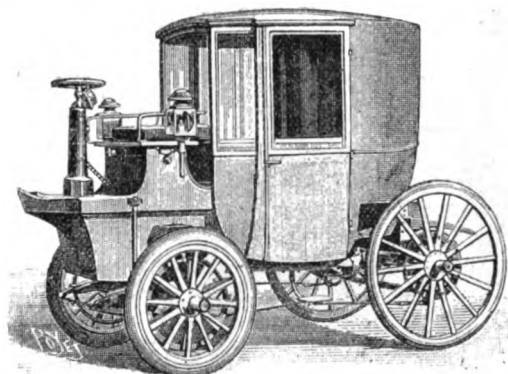
and speed trials had begun to assume such importance that in 1899 the German Daimler Company decided to take up the construction of racing cars. The first vehicle, which bears little or no resemblance to the succeeding Mercedes racers built in the same factory, was fitted with a four-cylinder motor

vehicle was driven by Dr. Lehweß in the Paris-St. Malo and Paris-Ostend races, in which it attained an average speed of about twenty-five miles per hour.

The great increase in the number of motor-vehicles in France had already begun to cause some anxiety as to a con-



tinuance of the supply of petrol, and attention was directed to the question of other fuels. Liquid air, carbonic acid, acetylene and alcohol each received notice; the three former were quickly put out of court, but the latter, although not yet fully established, gives promise of developments in the not distant future. As regards the general improvement in petrol cars, radiators, consisting of a serpentine coil of pipe, to the exterior of which heat-radiating flanges were secured, were now forming a standard fitting, their large size and clumsy shape being in



A Krieger Electrical Coupe 1899.

strange contrast to the neat combination of radiator and tank in use to-day. In connection with this subject of water cooling much interest was aroused in the system Mr. Ernest Estcourt, one of the early motorists of the country, fitted to his Daimler car, in which the circulation was maintained by gravity, and the employment of a water-circulating pump—very troublesome devices in those days—obviated. The ignition question was in a state of development, interest in the subject being increased by the fitting of a Simms-Bosch low-tension magneto to a Beeston motor-tricycle. Both at home and in France the electrical system by means of a coil and either a dry battery or an accumulator was rapidly coming into use, although one expert expressed the opinion that "taking our climate and roads into consideration, and for ordinary travelling purposes, tube ignition is the most simple, practicable and economical method." An improvement in steering gears which dates from 1899 was the adoption of the twin nut and screw type by Panhard-Levassor. Wheel-bases were still extremely short, 5 ft. 6 in. in the case of the 5½-h.p. Daimlers, a proposed increase to 7 ft. being looked upon as a decided venture.

### 1900.

Activity again ruled in 1900—the year of the great 1,000 miles trial, to which reference is made elsewhere. In France the old makers were turning out cars of larger and larger horsepower, one of the most successful of the year being the racing car brought out by the Mors Company, which was fitted with an engine of about 32-h.p. The example set by the Renault and De Dion voiturettes also brought forward an extensive new range of cars, among which were the 6-h.p. single-cylinder Darracq voiturette with cardan shaft drive on to a live axle, the Creanche, the Gladiator 3½-h.p. voiturette with cardan shaft transmission, this being followed towards the end of the year by an 8-h.p. vehicle.

In Germany the Daimler Motoren Gesellschaft devoted much attention to the construction of what, in those days, were considered high-powered racing cars. For the 1900 Nice races a 28-h.p. car was built, but the forerunner of the present Mercedes first saw the light towards the end of 1900. It was fitted with a 35-h.p. four-cylinder engine, which had low tension magneto ignition, a governor acting on the inlet, an improved carburettor, and honeycomb radiator—all features that have been retained, although improved in the details.

Coming to the United Kingdom, a considerable addition was made to the list of motor-car firms, while the older concerns brought out improved vehicles. At the Cordingley Show at the

Agricultural Hall, Islington, which was held from the 14th to the 21st April, 1900, and which was under the auspices of the A.C.G.B.I., one of the features was the display by the Daimler Motor Company, Ltd., of the first English-built Daimler to have inclined wheel steering and electric ignition. The vehicle was also fitted with pneumatic tyres. Later in the year the Daimler Company introduced a 20-h.p. four-cylinder, with both tube and electric ignition, and provision for easing the compression to facilitate starting. A 16-h.p. car was also turned out, in which roller bearings were employed as well as water-cooled brake-drums. The Motor Manufacturing Company, Ltd., had a large and varied exhibit, ranging from motor-bicycles to large public service vehicles. Their standard pleasure cars were now being turned out with wheel steering and the change-speed lever at the side. Towards the end of the year they introduced the first of the well-known 5-h.p. single-cylinder M.M.C. cars. The general design was on Panhard lines—in fact, the vehicles became known as miniature Panhards.

The year 1900 saw the production of a greatly improved Wolseley car. It was of 4½-h.p., its horizontal engine driving through a clutch and Renold silent chain to the gear-box, and thence by side chains to the rear road wheels, a great feature being made of the fact that all the shafts were parallel with the axles, the employment of bevel gearing being in this way avoided. The construction of Wolseley cars had up to this time been carried out by the Wolseley Sheep Shearing Machine Company at their works in Alma Street, Birmingham, but following on the car's success in the 1,000 miles trial the demand became so great that it was necessary to immediately establish separate works to deal with the orders for motor-cars. It was at this time that Messrs. Vickers, Sons, and Maxim acquired the automobile branch of the business from the Sheep Shearing Company, a new company being formed under the title of the Wolseley Tool and Motor Car Company, Ltd., and located at Adderley Park, Birmingham. From this time upwards the company has been steadily extending its works, the various

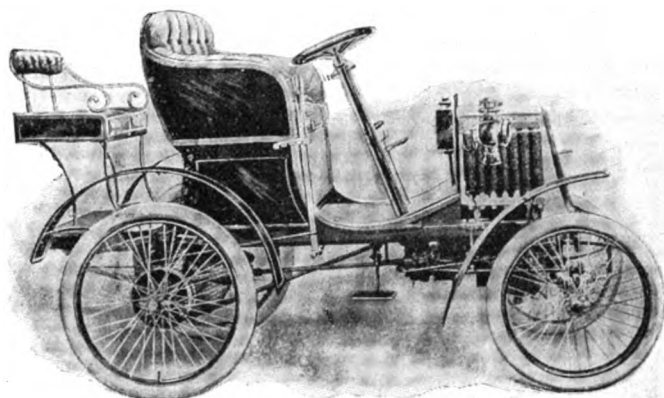


The 1899 6-h.p. M.M.C. Car.

shops and the chief works at Adderley Park now covering a total area of 11 acres, while in addition another large factory covering 22 acres situated at Crayford, Kent, was acquired in 1903, the total number of employees being close on 3,000. In 1903 the Wolseley Company undertook the design and manufacture of cars to the specifications of Mr. J. D. Siddeley, whose business they acquired early in 1905.



Although Messrs. Napier built their first engine in 1899, it was not till the following year that a complete Napier car was produced. This was an 8-h.p. two-cylinder vehicle, the arrangement of which was on Panhard lines. This was quickly followed by a 16-h.p. four-cylinder car, which, in the hands of Mr. S. F. Edge, who commenced his automobile career on a De Dion motor tricycle, quickly became a well-known vehicle. The 8-h.p. car-



The Renault Voiturette, 1900 Model.

had a wheel base of 8 ft. 6 in., that of the 16-h.p. being 9 ft. 4 in. The year 1900 also forms the starting point of what has become one of the largest concerns in the country. We refer to Argyll Motors, then known as the Hozier Engineering Co. We give an illustration of the first car turned out, with Mr. Alec Govan, whose association with the concern dates from its initiation. The vehicle, which was largely a copy of the Renault, was fitted with a 2½-h.p. De Dion engine, the head of which only was water cooled. Later in the year an improved machine, with a 5-h.p. water-cooled engine, was turned out, the water circulation being on the thermo-siphon system. Another addition to the list of British motor-car manufacturers in 1900 was the Albion Motor Car Company, Ltd., of Glasgow. Like many other makers at this time, choice fell upon the horizontal type of engine. The vehicle was of 8-h.p., and, as will be seen from the illustration we give, it bears but little resemblance to the modern car now turned out by the same concern.

The Automobile Association had again a large exhibit at the Agricultural Hall, prominent among which was a 3-h.p. De Dion voiturette fitted with a four-seated body, a 10-h.p. six-seated Mors phaeton fitted with a two-cylinder vertical engine and a segmental friction clutch, and a 10-h.p. Ducroiset car in which the horizontal motor was fitted in front. Messrs. Friswell, Ltd., in addition to motor-cycles, exhibited Renaults, the Mors Petit Duc, Delahayes, and an 8-h.p. Peugeot. Mr. E. W. Hart brought from France a new light car known as the Sirene; this was of 4-h.p., and had a two-cylinder V-type engine which drove a live axle through a gear-box and cardan shaft. The Star Cycle Company, in addition to their Benz-type machines, produced a 6-h.p., gear-driven vehicle, fitted with a double-cylinder vertical engine at the rear.

Messrs. Stirling, of Hamilton, introduced a new series of 5-h.p. and 7-h.p. light cars. Small cars were also brought out by the Progress Cycle Company, who were making motor-cycles, and whose small car had the engine under the seat at the rear; the Pollock Engineering Company, who built the 7-h.p. Turrell car, the engine of which was started from the seat; Messrs. Alldays and Onions (2½-h.p. Alldays Traveller), Messrs. E. Hutton and Co., Northallerton (5-h.p. Simplex), Mr. F. W. Hudlass, Southport (7-h.p. Hudlass, with belt and chain drive and with a separate lever for each of the three speeds), the Humber Company, Ltd. (a 3½-h.p. two-seated doctor's car), Messrs. J. H. Pick and Co., Stamford (a 2½-h.p. air-cooled two-seater), Messrs. James and Browne (a small 3½-h.p. car with horizontal engine); the Centaur Cycle Company (a 4½-h.p. dog-cart with belt transmission); the Victrix Motor Car Works, Kendal; Mr. Dan Albone, Biggleswade; the Eadie Manufacturing Company, who

built a car on the lines of the Renault; and the Yorkshire Motor Car Company (4-h.p. Jackson car).

The event of the year in the motor-cycle world was the appearance of the first Minerva 1½-h.p. motor-bicycle, with the engine attached in a sloping position to the lower cross tubes of the frame. The Singer Cycle Company brought out the Singer motor-bicycle, in which the engine was ingeniously built up in the rear wheel; while Messrs. Marshall and Co., in addition to their 5-h.p. dog-carts and phaetons, took up the construction of a new motor-tricycle known as the Renault, the feature of which was the fitting of a horizontal engine. To the list of electrical vehicles on the English market was added the Lobner-Porsche (Austrian) cars, which were brought to this country by Mr. E. W. Hart. Messrs. Shippey Brothers also attracted attention to a new series of Canadian-built electrical cars built on the Still system. In the heavy steam vehicle section the Lancashire Steam Motor Company, Ltd., brought out a new and improved wagon, in which coke was used in place of liquid fuel.

The death of Herr Gottlieb Daimler, who was looked upon as the father of the motor-car, took place at Cannstatt on March 6th, 1900, at the age of sixty-one.

## 1901.

One feature of the year 1901 was the increase in the horsepower of the cars built by the old-established firms; another was the large number of voiturettes brought out, especially in France, to compete with the De Dion and Renault, while a third was the appearance of a new type of light car, intended as a kind of half-way between the voiturettes and the heavier touring vehicles. Prominent in the new category were the 5-h.p. and 7-h.p. Panhard, in which the Centaure change-speed gear controlled by a single lever was employed. Wheel steering was now practically universal, and the majority of engines were fitted with both tube and electric ignition. Inlet valves were of the automatic type, but the coming of the mechanically-operated valve was foreshadowed by the appearance



The Locomobile Steam Car (1900) with Mr. Staplee Firth at the wheel and Mr. C. Cordingley as passenger.

of the David-Bourgeois 16-h.p. four-cylinder car at the Paris Salon in February, in which this type was adopted. At this show, too, the metal-to-metal clutch made its appearance on a 32-h.p. racer built by Messrs. Audibert and Lavirotte, of Lyons. The tonneau type of body was now the leading pattern, and it was in 1901 that the term "Roi des Belges" came into vogue,

the first car with a body of this type being delivered to the King of the Belgians in March, 1901, by Messrs. Rothschilds, of Paris. Covered cars were, however, becoming more common, coupés driven from the inside and limousines being put on the market by, to name only a few firms, Renault, Panhard, and Georges Richard. The Mors Company's principal departure consisted in the production of a 10-h.p. four-cylinder car, in which only the heads of the cylinders were water-cooled. Other features of interest were the adoption of low-tension magneto ignition and the control of the speed of the engine by a throttle on the inlet and the provision of what has come to be known as a foot accelerator, by means of which the governor can be put more or less out of action.

An indication of the coming triumph of the gear and chain-

towards the end of the year its 1902 model, in which it fell into line with other prominent builders by placing the engine in front instead of at the rear, a similar step being taken by the Peugeot Company, who built a 7-9-h.p. double-cylinder machine on these lines. New additions to the list of voiturettes were found in the Rochet, Corre, and Vinet, while in the light car section fresh names were found in the Vinot-Deguingand, Renaux, Tourand, Hautier and Ador, to mention only a few.

The great success of the Mercedes 35-h.p. cars at the Nice race meeting brought these vehicles into the front rank, and resulted in the production of even higher powered cars for the Paris-Bordeaux and Paris-Berlin races, which took place in that year, they ranging from a 40-h.p. Panhard to an 80-h.p. chain-driven Darracq, and including a 50-h.p. Napier, the largest car



Mr. S. H. Pearse on the first complete 8-h.p. Napier car, reproduced from a photo taken in the summer of 1900.

driven car over that driven by belts was afforded by Messrs. Rochet-Schneider abandoning belt-driven vehicles and bringing out a 12-h.p. four-cylinder car on Panhard lines. A similar tendency was also making itself felt in this country. Cars with live axles more especially quickly grew in number, the popularity of this system of drive being one of the features of the exhibition. No doubt the facility it offered for entirely closing all the driving gear was the chief cause that led to the result, but manufacturers had still much to learn as regards the building of live axles of suitable design and strength to withstand the work to which they were subjected. The De Dion, Renault, Gladiator, Decauville, and Darracq cars, in which minor improvements were effected and slightly larger engines adopted, continued great favourites. The first-named concern brought out

so far built in England, and which competed in the first-named event. The honours of the year fell, however, to the Mors concerns in the heavy racing car class, and in the lighter category to the Renault.

The annual exhibition at the Agricultural Hall, held from April 14th to 21st, proved the largest of the series up to that period, the Minor Hall and galleries being used for the purpose of exhibits for the first time, and the arena still a feature of the show. All the principal British firms, including the Daimler, M.M.C., Napier and Wolseley cars were on view, as were also the leading French, German, and Belgian vehicles. Newcomers from France included the Bardou car, which was brought over by M. Ramois, and the feature of which was the special form of single-cylinder double piston horizontal engine and the some-

what complex system of transmission. The De Dietrich cars, with horizontal engines, and belt and gear transmission, were also seen for the first time at an English show. The Daimler Company turned out from its works at Coventry several types of cars ranging from the Kimberley 4½-h.p. dog-cart, in which the transmission was by a combination of belt and spur gearing, up to a 20 to 25-h.p. four-cylinder machine, the most noteworthy departure being a 7-h.p. light car with a double-cylinder engine and



Mr. E. J. Coles on the Benz Car he drove in the 1,000-miles Trial, 1900.

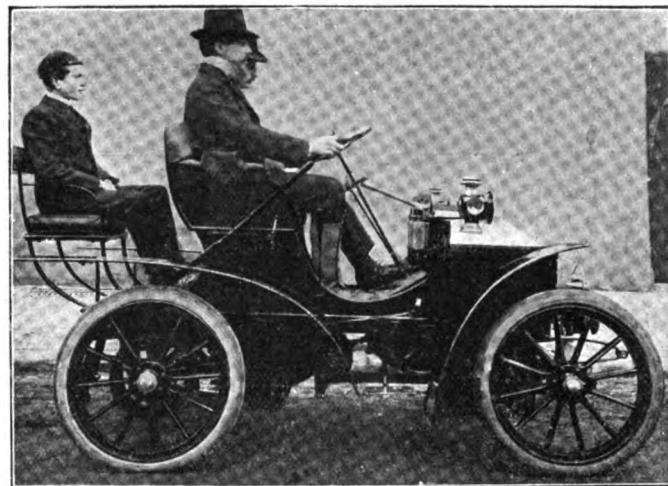
cardan shaft drive. The Motor Manufacturing Company, Ltd., also took up the construction of light cars, building a 7-h.p. tonneau, and at the end of the year turned out a 16-h.p. car, which participated in the anniversary run to Southsea. Messrs. Friswell, Limited, who were still handling Mors and De Dion cars, gave prominence to the Peugeot vehicles, one of which was a 20-h.p. racer. The Hozier Company introduced a tonneau car, fitted with a 5-h.p. M.M.C. engine. The Wolseley Company made a feature of a 10-h.p. double-cylinder car—an enlarged model of the vehicle of the previous year, and later in the year brought out a 20-h.p. car. The Star Company, while still making its belt-driven car, introduced a 6-h.p. double-cylinder cardan shaft car, somewhat on the lines of the Darracq, a departure which was also made by Messrs. Marshall and Co., who exhibited an 8½-h.p. gear-driven car at the Agricultural Hall. Messrs. Dennis Brothers' advance consisted in the production of a 6-h.p. single-cylinder and an 8-h.p. double-cylinder gear-driven car, the latter having a direct drive on top speed. On the last day of the Show much interest was aroused by the arrival of a new petrol car, the Wilson and Pilcher, which from the point of view of quiet running was a great advance. The vehicle, which was gear-driven, was fitted with an 8-h.p. motor, which comprised four horizontal cylinders, set in pairs on opposite sides of the crank shaft.

New additions to the list of makers of small British cars at this time included Parr, of Leicester, who built a 5-h.p.; the Enfield Cycle Company, who utilised the Ader V type engine; Messrs. Durham, Churchill and Co., whose "Hallamshire" car was fitted with a 7-h.p. Simms engine; the Swift Cycle Company, a 5½-h.p. single-cylinder three-seated machine, in which chains were employed to convey the power from the engine to the gear-box, and also from the latter to the live axle; Messrs. R. M. Wright and Co., Lincoln, a 5-h.p. belt-driven machine, the Metropolitan Motor Manufacturing Company, a two-cylinder car with belt and chain drive; the Rex Company, a 6-h.p. gear-driven vehicle; the Imperial Autocar Manufacturing Company, a 3½-h.p. vehicle with bevel gear transmission, the Wellington Motor Car Company, of Battersea, a small car, a noticeable feature of which was the employment of ball bearings on the crank shaft; Messrs. Eastmead and Biggs a 3½-4-h.p. voiturette; the Eclipse Machine Company, a 6-h.p. Rothwell car; and Messrs. J. Marston, who had previously made an improved form of Benz car, brought out a strange-looking two-seated vehicle, known as the Mabley, which

was fitted with a 2½-h.p. De Dion engine. A novel experimental car, in which the drive was by means of a special belt working on expanding pulleys, was also made by Mr. Holroyd Smith. As regards motor-cycles, the introduction of the Minerva at the end of the previous year gave a great impetus to motor-bicycles, the construction of which was taken up by a large number of the principal cycle manufacturing concerns, the old tricycle and quads losing favour proportionate to the advance of the new two-wheel rival.

In the electrical section the advent of the City and Suburban Electric Carriage Company was the chief item of interest. Their cars were of American construction, and included a variety of types, ranging from a small victoria for Queen Alexandra to a large station omnibus. The company introduced a system by which the carriages were garaged and maintained by the company for the owners, which resulted in a large number being brought into use. Other new arrivals in this section included the Scheele carriages, and with the view of popularising this type of vehicle a good deal of attention was devoted to the establishment of long-distance runs.

In the steam car department the principal event of the year was the appearance of an American steam car known as the White, the first one of which was built in 1900. It was a 6-h.p. two-seated runabout, equipped with a simple two-cylinder engine. The boiler consisted of eleven coils of 3-8 in. seamless drawn steel tubing, so arranged that water was pumped into the top and superheated steam taken out of the bottom. The control was automatic, the fire being regulated by temperature and the water by steam pressure. It was the first boiler made which could be run dry of water at any time without the slightest danger of damage. Although outwardly the modern White steamer bears little resemblance to the original vehicle, the system of steam generation has remained the same, and it may be added that the White is the only one of the many steam cars which came from America about this period that has survived the onward march of the petrol vehicle. A full range of Serpollet vehicles were displayed at the Show, M. Serpollet coming over from Paris to assist in making their advantages known in this country. M. Chaboche, who had for some years built heavy steam vehicles, also brought out two light touring cars. The Loco-



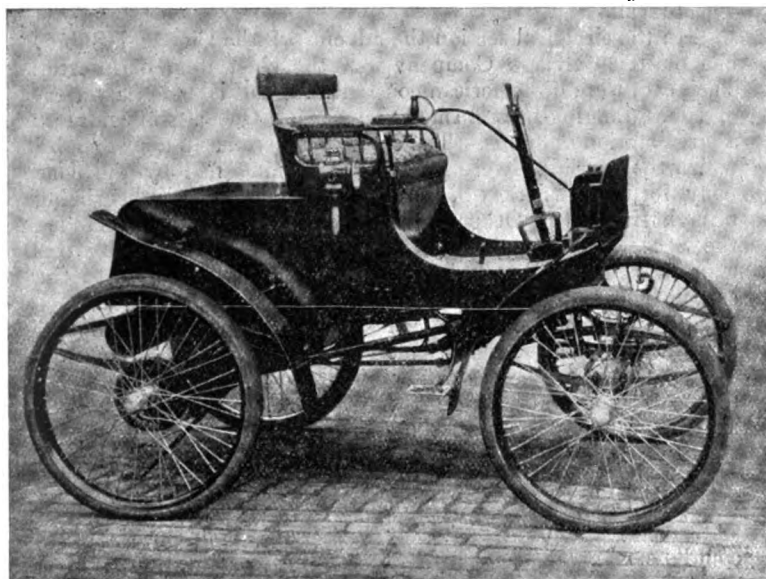
The Wolseley Car of 1900.

mobiles were at the height of their popularity, their quiet running still continuing to attract considerable attention. The question of vehicles for commercial purposes was also receiving more attention. Messrs. Hewetson introduced a number of Benz lorries of 6-h.p., 10-h.p., and 14-h.p., with that firm's combined belt and chain transmission. A five-ton Milnes-Daimler wagon took part in the War Office trials towards the end of the year, and light vans were built by the Wolseley, Napier, M.M.C., and other concerns. Further progress was made in the heavy steam vehicle world, new wagons being brought out by Mann's Steam Cart and Wagon



Company, Leeds; Messrs. C. and A. Musker, Liverpool; Messrs. Foden and Sons, and of Sandbach; the Yorkshire Steam Wagon Company, Leeds; the Straker Steam Vehicle Company, who also built a 'bus.

The record of the year 1901 would be incomplete without a reference to the litigation which took place in respect of the Maybach patents, the owners of which—the British Motor



The first car built by the Albion Motor Car Company, Ltd. The car, which was put on the road in June, 1900, was fitted with an 8-h.p. double-cylinder horizontal engine.

Syndicate—claiming that the majority of the carburettors in use at the time were infringements of their rights. Writs were issued freely, the result being the formation of the Automobile Mutual Protection Association, which successfully defended the action brought against one of its members.

## 1902.

The year 1902 was one of considerable importance from the point of view of the development in the design of the cars, as well as in the trade that was done. Some idea of the latter may be gathered from the fact that within the twelve months the value of the foreign motor-cars imported into this country attained a value of £1,045,689. As regards the vehicles themselves, features which are now found in the majority of modern cars began to make their appearance, such as, for instance, the pressed steel frame, which commenced to supersede the armoured wood type, metal to metal clutches and brakes, mechanically operated inlet valves, push pedals, gate control of the change-speed lever, governing on the inlet, &c., while honeycomb radiators were becoming more generally adopted. The Eisemann high-tension magneto made its debut, and began to compete with the low-tension make-and-break system.

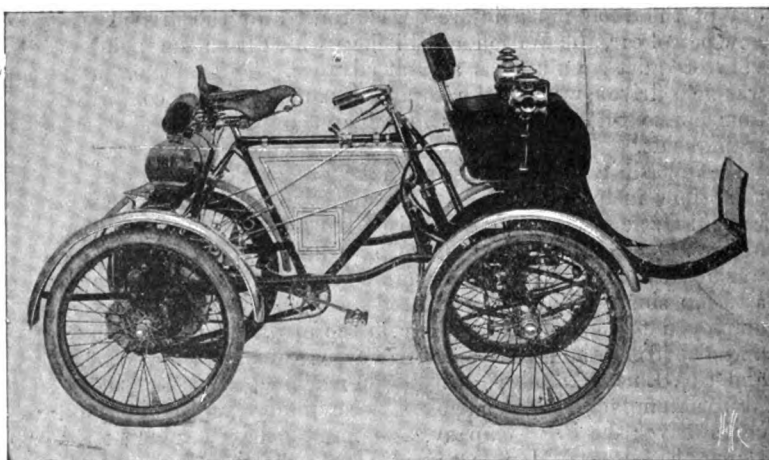
The principal car of the year was the new 40-h.p. Mercedes Simplex, brought out by the German Daimler Company, and which proved invincible in the contests in the South of France in the spring. It had all the features set out above as being new departures, the clutch also being of a special expanding metal type. Two of the earlier cars of this type in this country were those owned by Sir Alfred Harmsworth (now Lord Northcliffe), and Mr. C. Cordingley. In long-distance racing circles the event of the year was the Paris-Vienna, for which 205 entries were received, and which was won by a Renault. In conjunction with the event was run the Gordon Bennett contest, which, as is now well known, proved a victory for Mr. S. F. Edge on a Napier car. In France the horse-power of the touring cars steadily advanced, one year's racing car usually becoming the touring car of the succeeding season. Messrs. Panhard and Levassor's prin-

cipal departure was the construction of engines with steel cylinders and separate brass water jackets. The De Dietrich Company abandoned the belt and brought out 6-h.p. and 12-h.p. cars, in which, although the horizontal engine was retained, the transmission was either by cardan shaft or side chains, both models being made. Later in the year a 30-h.p. touring car was produced. M. Léon Bollée created some excitement at the 1901 Paris Salon with a "frameless" car. The De Dion and Renault Companies were building 8-h.p. cars, the Decauville Company produced a 20-h.p., the Georges Richard Company a 20-h.p., and the Peugeot Company a 12-h.p., with honeycomb radiator and the contact-maker on the dashboard. The last-named concern also introduced the 5-h.p. Baby Peugeot, which became, through the energies of Messrs. Friewell, extremely popular in England.

Coming to the English motor industry, at the annual show held in the Agricultural Hall in April, 1902, and at which the Prince of Wales was an interested visitor, the rapid growth of the industry necessitated the abandonment of the arena, which had proved so great an attraction in the three preceding years. The Daimler Company entirely remodelled their vehicles, the new 12-h.p. being a distinct improvement on their former productions, and forming the forerunner of the present successful vehicles. A 22-h.p. car for His Majesty the King was also turned out by the Daimler Company this year. The success of the Napier in the Gordon Bennett race naturally gave this make of car a great impetus; the Wolseley Company were building cars with horizontal engines up to 20-h.p.; Messrs. Marshall and Company built a 12-h.p. car with live axle; the Century Engineering Company, who had hitherto devoted attention to their tri-car, or tandem, as it was known, turned out a 9-h.p. car; the Humber Company introduced new 8-h.p. two-cylinder and 12-h.p. four-cylinder, gear-driven cars; the Star Company were constructing vehicles up to 20-h.p. on Panhard lines, and the Argyll Company gear-driven vehicles up to 11-h.p.; Messrs. Dennis Brothers were producing cars up to 10-h.p. with double-cylinder engines; while the Sunbeam Company introduced a 12-h.p. four-cylinder Sunbeam with ash and steel frame.

The Stirling Motor Carriage Company acquired large works at Granton, and took up the construction of 12-h.p. lorries and single-deck 'buses, a number of the latter being put in service in London. Messrs. J. W. Brooke and Company, an old engineering firm, which had started in the motor trade at the end of 1901, introduced their first vehicle, a 10-h.p. three-cylinder car, in which the transmission was entirely by chains.

New-comers in the petrol car branch included the Protector Lamp Co., who built a small two-seater, the Vulcan Motor Com-



"A Speed King" Motor Quad built by Messrs. Dennis Bros. in 1900.

pany, Southport, Messrs. Horsfall and Bickham, who commenced their career with a 6-h.p. Horbick car, the Speedwell Engineering Company, the Maudslay Motor Company, who built a 20-h.p. car, in which an overhead cam shaft was employed, Messrs.



Hurst and Lloyd, and many others, while from America came the Oldsmobile 4-h.p. two-seated runabout.

In the pleasure steam car section a new-comer was the Miesse. This was of Belgian origin, its construction in this country being eventually taken up by Turner's Motor Manufacturing Company, Wolverhampton. The White steam car—a 6-h.p. vehicle—made its appearance at the show for the first time, and proved a serious competitor to the Locomobile. Excellent progress was made with the adoption of heavy steam wagons, new builders of the same being Messrs. Jesse Ellis, Limited, and the Creek Street Engineering Company.

### 1903.

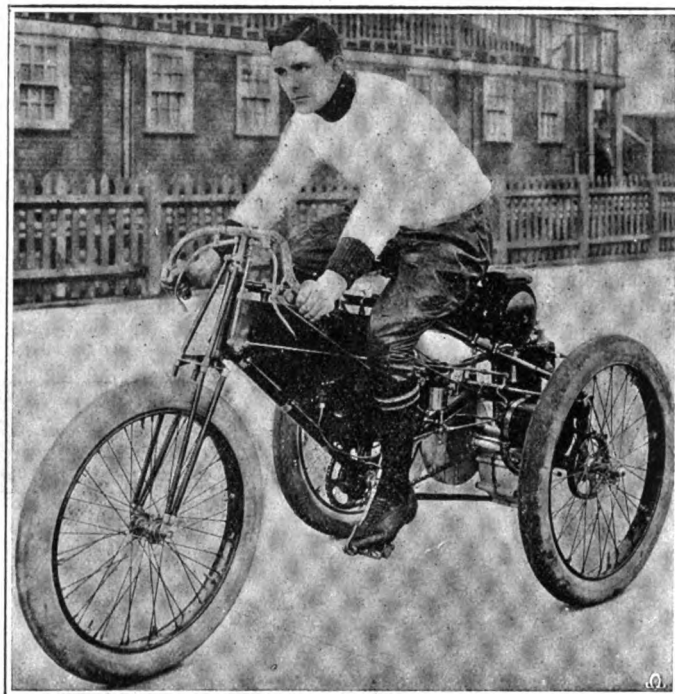
The most striking feature of the year 1903 was the birth of the automatic carburettor. This became one of the most discussed topics of the hour, being started by the introduction by the Panhard Company of the famous Krebs apparatus. In this the quality of the mixture was controlled automatically by means of an extra valve, combined with which was a rubber diaphragm and spring, on which the suction of the engine acted, and in accordance with the speed of the latter caused the valve to open more or less to admit the requisite amount of additional air to the mixing chamber. So successful was this that all the leading manufacturers centred their attention on the production of automatic carburettors, and some very ingenious contrivances resulted. It is from this departure and the general adoption of multi-cylinder engines, the speed of which was controlled by throttling the admission of the explosive mixture, that the modern silent petrol car really dates. Great attention was being paid to the question of suitable steels for the construction of motor-cars, with the result that the weight was cut down con-



The Lawson Motor Wheel, 1900.

siderably, vehicles even up to 50-h.p. weighing little over a ton, and yet much stronger than the old 12-h.p. models, which turned the scale at over 30 cwt. The four-cylinder engine was now the most popular type, and the mechanically-operated inlet valve had so rapidly advanced into favour that at the 1903 Paris Salon

nearly 70 per cent. of the engines were so fitted. Governing on the inlet had almost entirely superseded the system of control by throttling exhaust. Rumours of threatened litigation in connection with honeycomb radiators, and the great improvement in the older form of ribbed tube cooler, brought a slight reaction



Mr. C. Jarrott on his 8-h.p. De Dion Motor-Bicycle, on which he rode forty-two miles in the hour on the Canning Town Track, in October, 1900, beating all records.

in favour of the latter. Pressed steel frames, although still in the minority, were rapidly displacing the armoured wood and tubular type, and another matter of note was the rapid increase in the number of cars with live axles and driven through cardan shafts and bevel gear, the proportions being 45 per cent. as against 55 per cent. chain-driven machines, which latter had, however, dropped from 62 per cent. in 1902. Magneto ignition was also being more largely used, but was still by no means general, and in connection with the high-tension method by coil and accumulators it may here be mentioned that "spark-gaps," accidentally discovered in the testing department of Messrs. Panhard and Levassor, enjoyed a short but merry life. The disc clutch as introduced by Professor Hele Shaw attracted notice. Wheel bases became longer, and side-entrance vehicles began to displace the previously dominant tonneau type. Shields below the engine and gear-box to protect these parts from being bespattered with mud were freely adopted, the Darracq and Decauville combining the same with their pressed steel frames. The mania for racing—for such it had become—received a great set-back by the disastrous result in the way of fatalities of the memorable Paris-Madrid race, which took place in the summer of this year, and which was peremptorily stopped at Bordeaux by the French Government at the end of the first day.

The Mercedes car, which was being built in a number of sizes, ranging from 18-h.p. to 90-h.p., was further improved—one departure being the employment of H-section axles—and easily held the premier position in the motoring world. The works of the German Daimler Company at Cannstatt, in which the vehicles were built, were burnt down in June, and operations immediately commenced on the erection of new ones at Unterturkheim. Although still building belt-driven machines with horizontal engines, the Benz Company at last introduced a gear-driven car—a 10-h.p. two-cylinder vehicle with vertical motor—followed in subsequent years by powerful four-cylinder cars up to 60-h.p. From Germany also came the Maurer Union car

with its friction drive, an arrangement which had been tried by many designers even as far back as 1895.

All the leading French builders brought out larger and improved cars, the Panhard Company also introducing the now well-known 8-h.p. (normal) three-cylinder vehicle. Interest was evinced at the end of the year in the appearance of the first Hotchkiss car, which was, however, not seen in England until the following spring. Two types were made—20-h.p. and 35-h.p.—both having live axles, their most striking departure being the fitting of ball bearings to the engine crank shaft as well as in the gear-box and on the axles. The modern Léon Bollée car also made its *début* at the 1903 Paris *Salon*. Following closely on Mercedes lines, its notable feature was the adoption of three-point suspension, both for the engine and the gear-box. The De Dietrich Company introduced a new type of car, built in accordance with the designs of Messrs. Turcat-Mery, the transmission being through a clutch, gear-box, and side chains. The Mors Company's main departure lay in the gear-box, in which two pairs of bevel gears were employed to convey the power to

trasting strangely with the more popular type of car. The 1903 models of the Daimler Company included 14-h.p. and 22-h.p.; armoured wood frames were still employed, although the wheel base had been lengthened, while tube ignition was finally discarded in favour of electric. The Napier models included 12-h.p. light, 16-h.p., and 20-h.p. cars; the Wolseley Company had vehicles up to 50-h.p.; and the Motor Manufacturing Company had cars up to 20-h.p., in which latter the pinions of the change-speed gear were always in mesh. Messrs. Brooke and Company, in addition to their entirely chain-driven cars, produced a 15-h.p. light three-cylinder machine with the Panhard system of transmission; the Argyll cars were marked by the provision of the Govan change-speed gear, a feature still adhered to in these cars; Messrs. Thornycroft and Company took up the manufacture of petrol cars, their first production being of 10-h.p. and 20-h.p., both having live axles; the Albion Company gave up its horizontal engine car in favour of a new chain-driven design with a 12-h.p. double-cylinder vertical engine located in front. All the valves were mechanically operated, and magneto ignition was fitted;



The Orient Express Car of 1900.

the differential shaft, one being used for the direct speed and the other for the intermediary gears. Messrs. Vinot-Deguingand were among the earliest to build a small four-cylinder car, producing a 10-h.p. vehicle; the Delahaye Company introduced cars up to 24-h.p., with vertical engines; and the Clement-Talbot vehicles came into prominence. Messrs. De Dion, in addition to their pleasure cars, took up the construction of petrol lorries and vans, in place of the steam vehicles they had hitherto built. Messrs. Chenard and Walcker's 10-h.p. and 14-h.p. cars had an ingenious variable lift to the inlet valves and a novel system of transmission through pinions on the end of the differential shaft, which engaged with spur-rings attached to the rear road wheels. A great "draw" at the Paris *Salon* was the C.G.V. 40-h.p. eight-cylinder direct-driven car, in which the gear-box was abolished, the drive being direct. The idea, however, was not persisted in.

One of the novelties at the Agricultural Hall Show held in April, 1903, was the display of the Arrol-Johnston vehicles by the Mo-Car Syndicate, the novel appearance of their high-built dogcarts with two-cylinder four-piston horizontal engines con-

Messrs. Dennis Bros. introduced a spring drive in their 12-14-h.p. and 16-20-h.p. cars, a feature which is still retained; and the Milnes-Daimler Company began to devote great attention to petrol lorries and motor-buses. The Belsize Company (formerly Messrs. Marshall and Company) produced a three-cylinder 20-h.p. car in which the valves, both inlet and exhaust, were located in the cylinder head, all being mechanically operated; the Humber Company introduced, in addition to their larger cars, the 5-h.p. Humberette, a little single-cylinder car, which by reason of its relatively low price became very popular; the Swift Motor Company built an improved form of two-seated car in which the change-speed gear was all contained on the rear live axle. Additions to the list of British motor-car builders included the Ryknield Engine Company, who had established works at Burton-on-Trent; the Ariel Motor Company (10-h.p. and 16-h.p. cars with live axles); the Velox Motor Company, Coventry (a 12-h.p. live-axle car); the Phoenix Motor Company, Southport, who made a 12-h.p. car; the Vauxhall Ironworks Company, a 5-h.p. vehicle with horizontal single-cylinder engine; the Clyde Cycle and Engineering Company, Leicester; and the Ridley Auto-car

Company, a small two-seater with the change-speed gear combined with the bevel drive. In the motor-cycling world the bicycle continued to crush out the former three-wheel favourite. The old surface form of carburettor was also being displaced by the spray type, the Longuemare enjoying considerable favour. The side-car and tri-car also made their appearance.

Holland entered the lists with the Spyker cars, which were first seen in England in April, 1903, the models then being 12-h.p. two-cylinder and 20-24-h.p. four-cylinder, both with live axles. From Switzerland came the Martini cars, built under licence from the Rochet-Schneider, of which they were practically a duplicate. Belgium sent the Germain, Pipe, Deschamps, F.N., and Mathieu; and the United States the Ford, Winton, and Cadillac. Italy, too, had now entered the field of automobile construction, the Fiat Company bringing out a 16-h.p. car very largely on the lines of the Mercedes.

As regards steam cars, the White Company introduced a 10-h.p. vehicle more on the lines, as regards general appearance, of the petrol car, and in which the bevel gear-drive and wheel-steering were adopted; and the Speedwell Motor Company brought over Serpollet steamers up to 40-h.p. In the heavy steam vehicle section there were a large number of new wagons, including the Brightmore, English, Hindley, Hercules, Howard, Londonderry, Naylor, Rectory, Robertson, Savage and Wantage, &c. Messrs. Wallis and Stevens and Messrs. Tasker and Son introduced light steam tractors, and Diplock's Patent Traction Engine Haulage Syndicate, Ltd., the "Pedrail" tractor, in which the ordinary front wheels were replaced by wheels fitted with a number of "feet."

In the electrical section reports of a new wonderfully light accumulator devised by Edison gave rise to hopes of a further development in electrical motor-cars. New vehicles were introduced by the Electromobile Company, Messrs. Pritchetts and Gold, Mr. E. W. Hart, and the London Electromobile Syndicate, of which only the cars of the first-named concern are now on the market. Combination petrol-electric cars were still attracting notice, Mr. E. W. Hart introducing one, as did also the Mildé and Krieger concerns in France.

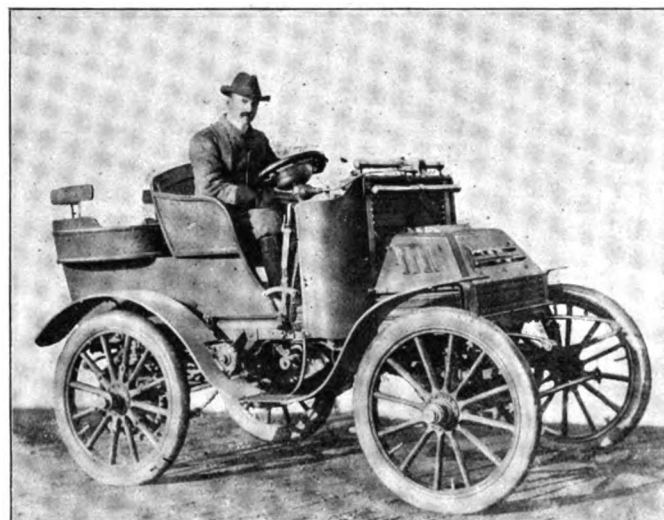
## 1904.

### THE ADVENT OF THE SIX CYLINDER.

Although four-cylinder engines were in the majority, quite a number of six-cylinder cars put in their appearance in 1904, among them being the Napier, the Sunbeam, a 16-18-h.p. vehicle with only two forward speeds and a reverse, which was not proceeded with; the Maudslay, the Ariel, the Wilson and Pilcher, and the Spyker, the latter having also the additional feature of a four-wheel drive. As if by way of contrast, a Rochdale firm built a car with a single-cylinder horizontal engine of no less than 24-h.p. Mechanically-operated inlet valves were employed on 97 per cent. of the larger cars, and the favourite design was that in which the inlets were located on the opposite side of the cylinder to the exhaust. Magnetic ignition made wonderful progress this year, increasing from only 28 per cent. in 1903 to 81 per cent., cars with accumulators declining from 72 per cent. to 19 per cent., these figures being a result of a census taken at the 1904 Paris Salon. The Simplex ignition, in which a low tension spark was formed in a make-and-break plug combined with a magnet, created much interest, and brought forward several devices on similar lines, none of which, however, have come into general use. New and novel designs of automatic carburettors continued to be produced, among others which might be mentioned being the Chenard-Walcker, the Peugeot, in which the supply of petrol through the spraying nozzle was varied as well as the air, in accordance with the speed of the engine; the Napier, in which the extra air inlet valve was regulated by water pressure, advantage being taken of the fact that the speed of the cylinder cooling water through the circulation system varies with that of the engine. Much interest was centred on the question of hand or foot control of the engine, some makers preferring to fix the throttle lever on the top of the steering wheels, and others to use a pedal or foot accelerator to work in conjunction with the

governor. The pressed steel frames were now being narrowed in front to increase the lock of the steering wheels, rendered necessary by the ever-extending wheel-base of the cars, covered and side-entrance vehicles being again a prominent feature.

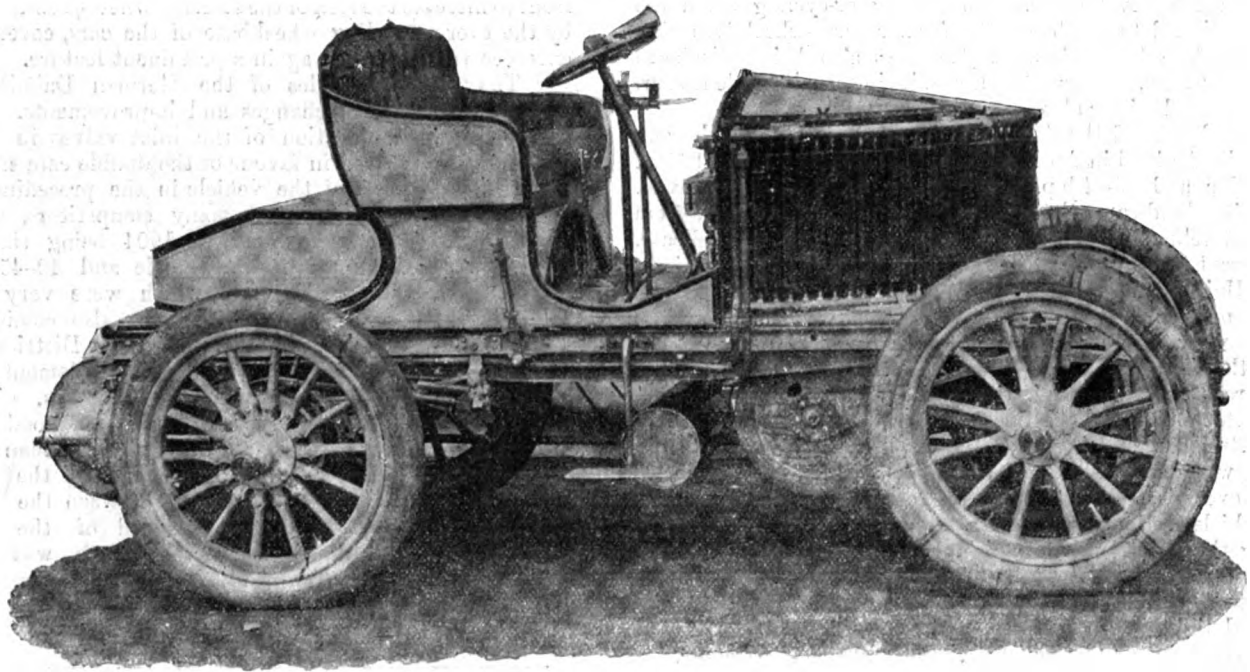
The 1904 Mercedes of the German Daimler Company showed a number of changes and improvements. As regards the engines, the location of the inlet valves in the cylinder heads was abandoned in favour of the double cam shaft arrangement. The success of the vehicle in the preceding two years continued to bring forward many competitors, especially in France, a notable new-comer in 1904 being the Delaunay-Belleville 16-20-h.p. live axle vehicle and 40-45-h.p. chain-driven cars, the Berliet cars, which were very largely on Mercedes lines, and the Westinghouse also coming into prominence. The Panhard, Peugeot, De Dietrich, Darracq, Renault, Brouhot, C. G. V., Decauville, Clement-Talbot, and Gladiator all brought out improved models, although the first-named firm still adhered to the armoured wood frame. The Mors Company, who were building no less than eight sizes, ranging from 8-h.p. to 40-h.p., abandoned the use of the governor, substituting a connection between the clutch pedal and the throttle, so that the speed of the motor was automatically cut down when the clutch was withdrawn. The Richard-Brasier Company, for which Messrs. Mann and Overton's have long been the British agents, built four models of



Mr. Mawdsley Brooke at the wheel of the first Brooke Car. The vehicle was built towards the end of 1901; it was fitted with a 10-h.p. three-cylinder engine, and was driven by chains from the motor to the gear-box and again from the latter to the rear road wheels.

live axle cars, ranging up to 24-h.p., and on which no pump was employed, the water circulation being by gravity. M. Georges Richard, who had left his old concern, introduced the 12-h.p. Unic, of which a large number are now running in England, and Messrs. De Dion added a powerful four-cylinder car to their list of vehicles. The Motobloc Company of Bordeaux superseded its horizontal engine car with a more powerful one, in which the crank case of the 16-20-h.p. vertical motor was combined with the gear-box. Other new French vehicles included the Radia, the Aries, the latter having live axles in conjunction with a fixed one, and the Gregoire, a neat two-seater for the man of moderate means.

In England the year was marked by the introduction of several new cars and the completion of the large works at Notting Hill, where the Clement-Talbot cars are now being turned out. In January Messrs. Jarrott and Letts put on the market the Crossley chain-driven car, in which more than usual interest was shown, largely because of the fact that the motor was the product of Messrs. Crossley Bros., Ltd., Manchester, the big gas engine makers. The vehicle, which was built to the designs of Mr. J. S. Critchley and Mr. C. Jarrott, both of whom



The De Dietrich Racing Car of 1901.



Mr. Alec Govan at the helm of the first Argyll Car. It was built in the early part of 1901 and was fitted with a 3½-h.p. engine.



have been connected with the automobile movement since 1896, was of 22-24-h.p., and while following the general arrangement of the Mercedes comprised a number of special features, notably as regards its Xenia automatic carburettor, in which the extra air inlet was rendered exceedingly sensitive by means of a valve, one end of which floated in a bath of glycerine and mercury, its expanding metal clutch, and the attention



Mr. Percy Richardson on the remodelled 1902 Daimler.

which had been devoted in the selection of materials. The exhibit of Messrs. J. E. Hutton and Co. at the Agricultural Hall Show in the spring attracted notice by reason of the display of the parts for a five-cylinder racer and the chassis of the new 20-h.p. Hutton car, which in many respects differed from the then standard type of car. Especially was this so as regards the radiator and hydraulic change-speed gear, which were built in accordance with Barber's patents; but so far as we can learn none of the cars were put on the road. The Siddeley Autocar Company put on the market 12-h.p. and 18-h.p. chain-driven cars, built for them by the Wolseley Company, into which the concern was afterwards merged. The vertical engines had the inlets arranged in the cylinder heads, and aluminium water jackets.

One of the most novel cars of the year was the Lea and Francis, the three-cylinder engine of which had piston or connecting rods of a length of no less than 28 in. The Daimler Company's new models were of 18-22-h.p. and 28-36-h.p., in which the engine was supported directly on the main frame. The Wolseley Company introduced their sturdy little 6-h.p. two-seater, on which we made a memorable run from London to Edinburgh in February 1904. The same Company's 90-h.p. racer with horizontal engines, built for the Gordon Bennett race in Ireland, was a noteworthy vehicle of the year. The Star Company introduced their popular Star 7-h.p. double-cylinder car, and later in the year a 10-h.p. four-cylinder vehicle on Mercedes lines; Messrs. Rose Brothers produced the 15-17-h.p. three-cylinder live-axle National; the Argyll Company adopted the Hele-Shaw disc clutch; while from Ireland came the 7-h.p. double-cylinder Chambers car.

Messrs. Dennis Bros. made a noteworthy departure by bringing out a 20-h.p. vehicle, in which a worm drive replaced the bevel gear, and which has since been successfully applied by them to motor-buses and commercial vehicles. The Lanchester Company produced their first water-cooled motor, and also a car with artillery wheels. The Standard Motor Company, Ltd., introduced a 12-15-h.p. double-cylinder car, notable for the short stroke of the engine—3 in.—in relation to the bore, which was 5 in. Ryde Motors, Ltd., built a car on the lines of the Wolseley, and later one with a 14-h.p. three-cylinder vertical engine. One of the most curious small vehicles of the year was the Utile Simplex, which had only two speeds, the low gear being obtained by swinging the male portion of the clutch and the cardan shaft into engagement with a disc on the half time shaft of the motor.

Towards the end of the year the Rover 6-h.p. car, built to the designs of Mr. E. W. Lewis, made its appearance. The vehicle was on exceedingly novel lines, no frame in the usual sense of the term being employed, the engine base chamber, gear-box, and cardan shaft being coupled up in one long aluminium case. From Frome came the 6-h.p., 8-h.p., 9-h.p., and 12-h.p. Achilles cars, built by Messrs. R. Thompson and Co.; while Messrs. Brown Bros. introduced several new models of the Brown machines. A demonstration was given by Messrs. J. E. Hutton and Co. of an engine running on solid fuel—naphthalene—by a method devised by two French engineers.

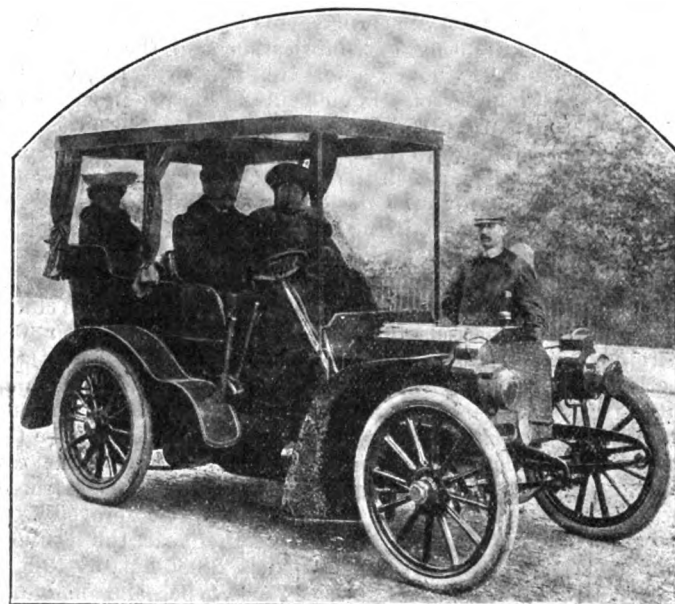
In the heavy petrol vehicle section new-comers were the Orion, the Empire Hagen, with its exceedingly novel system of transmission by variable throw cranks to a ratchet arrangement on the rear axle, the Thornycroft, the Belgian Gobron-Brillié, and the Beaufort. A new pleasure steam car—the Cremorne—was brought out by the Cremorne Motor Manufacturing Company, late the Creek Street Engineering Company, while new names in the heavy steam wagon world included the Bristol Steam Wagon Company and the Glasgow Motor Lorry Company.

From Belgium came the 5-h.p. Minervette and the new Minerva cars, ranging from 8-h.p. single-cylinder to 14-h.p. four-cylinder; a 24-30-h.p. Locomotrice, built under licence from the Rochet-Schneider Company; the "Direct" car, in which the engine was connected direct to the rear axle without the intermediary of any change-speed gear; while finally it may be mentioned that the Germain Company adopted steel cylinders with copper water jackets, their cars being also provided with two forms of high tension ignition—magneto and coil and accumulators.

## 1905.

### ITALY A NEW COMPETITOR.

The year 1905 saw very little change in the general design of cars as compared with 1904. Wheel-bases became if anything longer, and the side-entrance covered bodies more luxurious and largely used than ever. The pressed steel frame was the standard, at least on large cars. The mechanically-operated inlet valve was universal, except, perhaps, on single-



Mr. C. Cordingley on his 40-h.p. Mercedes, 1902.

cylinder engines. Radiators were divided between the framed rubber tube type and the honeycomb, the latter being slightly in the lead. Magneto ignition, especially the high-tension type, was rapidly superseding accumulators and coils, although there was now a tendency to fit this as a reserve. Metal-to-metal clutches made further progress, albeit the leather-faced cone type was still in the majority. Ball bearings were found on 75 per cent. of cars, and direct drive on top speed on 72

per cent. at the last Paris Salon, where it was shown that the cardan shaft had made a further advance over the chain-driven vehicle. The progress of the former was, however, apparently being arrested, a few concerns, notably the Brasier, returning to the older form. On the other hand, Messrs. Rochet-Schneider, who had only built chain-driven cars for some years, brought out an 18-h.p. with a live axle. Wheel control became the standard



The White Steam Car which took part in the 1903 Reliability Trials.

arrangement, while the provision of ball bearings on the shafts of the gear-box, as well as on the axles, was general, a remark which applies to the "gate" control for the change-speed lever. Anti-shock devices were adopted by a number of concerns in connection with the springs, several new forms being introduced. Considerable attention was devoted to the question of engine lubrication, many practical arrangements being brought out with the object of preventing over-lubrication and the consequent annoying emission of smoke; a feature of interest, too, was the appearance of a number of arrangements by means of which the engine could be started from the seat.

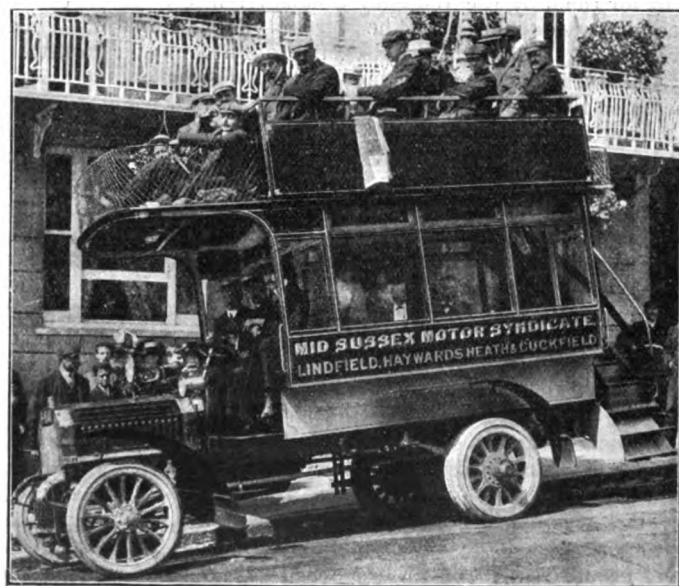
The British motor-car industry continued to receive some notable additions. Early in the year the 20-h.p. Brotherhood chain-driven car, built to the designs of Mr. Percy Richardson, made its first appearance, its main feature being the adoption of automatically-controlled synchronised ignition, and a sideways-moving pedal, by means of which the speed of the engine is controlled through a variable lift to the inlet valves. The clutch pedal was also connected up to the brake, so that the car was entirely controlled, apart from the change-speed lever and the emergency hand-brake, by two pedals, the steering column being quite free of levers. Messrs. Legros and Knowles also introduced a high-class chain-driven car to which they gave the name "Iris," which they later superseded by a live-axle car, made in two sizes, 25-30-h.p. and 35-40-h.p. A special form of universal joint was employed, as also a greatly improved type of rear live axle. Towards the end of the year the Daimler Company brought out three new models, 28-36-h.p., 30-40-h.p., and 35-45-h.p., these being the 1906 type, and in which standardisation had been developed to a high degree. The Napier Company adopted a metal-to-metal clutch, and paid great attention to the 30-h.p. six-cylinder vehicle, in addition to three types of four-cylinder cars. The Albion Company produced their first four-cylinder vehicle, a 24-h.p., in which the mixture, ignition and speed of the engine are automatically controlled; the Wolseley Company supplemented their 18-h.p., 25-h.p., and 32-h.p. chain-driven vehicles by 12-h.p. and 15-h.p. live-axle cars, all having vertical engines; the new Arrol-Johnston Car Company, formerly the Mo-Car Syndicate, entirely remodelled its vehicle, and proved the winner of the first Tourist Trophy race; the Standard Motor Company turned out a six-cylinder car, and

the Lanchester Engine Company, who had for years confined their attention to horizontal engines, brought out a vehicle fitted with a 20-h.p. four-cylinder vertical motor. Prominent new additions to the list of British cars were also found in the Rolls-Royce, Adams-Hewitt, Scout, Climax, Globe, Calthorpe, Lindsay, New Leader, Crawshaw-Williams, and the New Engine Company.

The rapid adoption of petrol motor-buses in London added considerably to the number of firms engaged in their construction, which was taken up at home by Messrs. Dennis Brothers, the Lancashire Steam Motor Company, Messrs. Straker-Squire, Messrs. Durham-Churchill and Co., Messrs. Thornycroft, the Wolseley and Ryknield Companies, the Critchley-Norris Motor Company, the Thames Engineering Works, and others, the majority of these concerns also building petrol vans and lorries. A large number of steam vehicles were produced by Messrs. Clarkson, Ltd., a rival having since appeared with the Darracq-Serpellet. The White steam car was of 15-h.p., a new 18-h.p. model making its appearance at the end of the year. Further improvements were made in the Turner-Miesse, while in France two new steam cars made their appearance, the Autovapeur and the Weyher-Richmond. Several additions were also made to the list of steam wagons, notably the St. Pancras, Thames, Hay, Morton and Garrett.

In France considerable progress was again recorded, new cars of note including the Cornilleau St. Beuve, which is being introduced into this country by Messrs. Straker-Squire, the Pilain, de la Buire, and the Sizaire-Naudin, the latter being a novel two-seated vehicle, of which a full description was given in the *M.C.J.* at the time. The Panhard Company built a six-cylinder car, but little or nothing has been heard of this since, and a new light De Dietrich car, with a 12-h.p. four-cylinder engine, was brought out by the Luneville concern. The year 1905 was also noted for the Italian invasion, the well-known Fiat and Itala vehicles being supplemented by the Florentia, Bianchi, Züst, Rapid, Isotta-Fraschini, &c. Belgium's quota to the list of new cars in 1905 was the Metallurgique, which has earned an excellent reputation as a touring car, and the Germain Chainless, already a popular vehicle.

The most powerful car ever built was produced by the Darracq Company for the 1906 Florida Beach races. It was



A Modern Steam 'Bus—The Dennis.

an eight-cylinder vehicle of 200-h.p., and, driven by Hemery over a level road in France, it established a new world's record of 20.35 sec. for the flying kilometre, equal to 109 miles per hour, on the last day of the year. The vehicle now belongs to Mr. A. Lee Guinness, who at Dourdan on Sunday last drove it over the flying kilometre in 20 sec., the new world's record, being equal to the marvellous speed of 112 miles per hour.

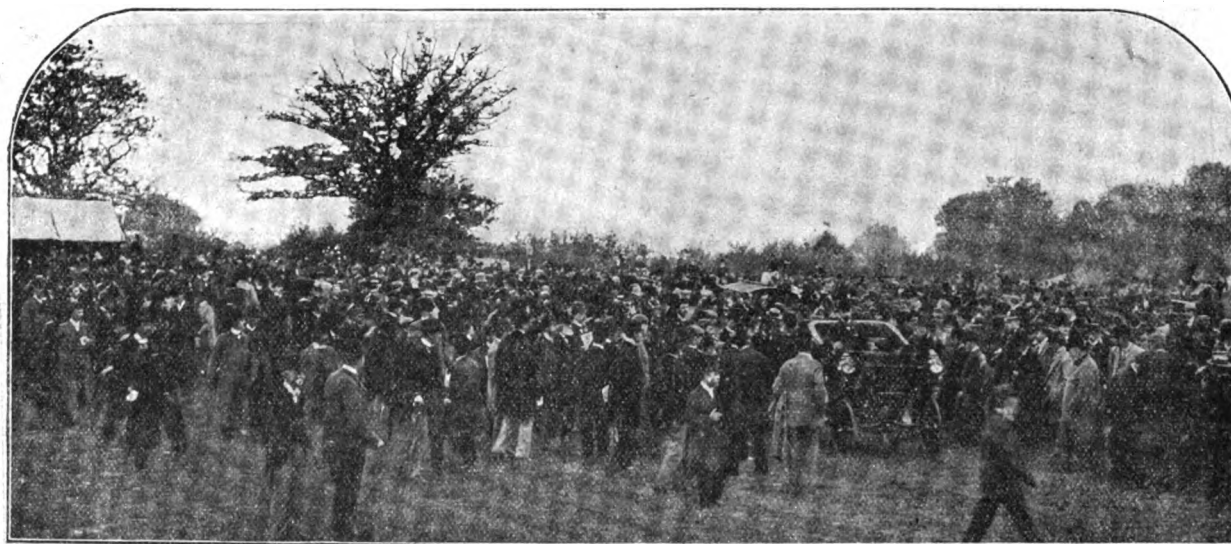
## THE DEVELOPMENT OF THE MOTOR-CAR MOVEMENT, 1896-1906.

**I**LLLEGALITIES on the road were the predecessors of the Motor Car Act of 1896. They really commenced in November, 1894, when Mr. Henry Hewetson drove a Benz car, to the amusement of the drivers of horse vehicles and the delight of journalists searching for copy, followed rapidly by the Hon. Evelyn Ellis, a Panhard car, introducing in the summer of 1895, and Mr. J. A. Koosens, of Southsea, a Lutzmann car in the autumn. Between these importations Mr. J. H. Knight, of Farnham, whose interesting reminiscences of the steam car appear on another page, had made a petrol vehicle with which he toured the roads in his vicinity. In Northern Britain Mr. T. R. B. Elliot, of Kelso, was a pioneer, receiving the first motor-car, a Daimler, used in Scotland in the last month of the year, while the Exhibitions organised by Messrs. Cordingley and Co. in these early years at the Agricultural Hall were also factors in the introduction of the automobile.

Early in 1895 Mr. Shaw Lefevre, since elevated to the peerage, who was President of the Local Government Board, introduced a Bill into Parliament to wipe out "the man with the red flag," and so make possible the progress of the motor-car on ordinary

time of his death in January, 1901. The Association secured the help of public men like Sir Frederick Bramwell and Sir Albert Rollit, carriage builders including Mr. John Philipson and Mr. C. J. Jacobs, the President of the British Carriage Manufacturers, as well as several engineers and experts, of whom the names of Professor Vernon Boys and Mr. H. D. Marshall, Gainsborough, now occur to us. For some weeks the society vigorously urged the new Government to take up the proposals of Mr. Shaw Lefevre, with such success that the Bill developed into an Act and came into operation on November 14th, 1896, Mr. Henry Chaplin, who had succeeded to the presidency of the Local Government Board, having piloted it through opposition. The passage of this measure of emancipation may be said to have been proclaimed to the people of London by the appearance of Mr. H. J. Lawson in the Lord Mayor's Show at the wheel of a motor vehicle "The Present Times." There was also a run to Brighton, organised by the Motor Car Club, which forms the subject of a separate article.

The next few months were mainly concerned with financial proposals for the establishment of various motor-car works, most of the companies emanating from the Holborn Viaduct, around which the industry centred in those early days ere the migration westward to Long Acre and beyond. Then came an effort to establish an organisation of an independent character to



The First Exhibition of Motor-Cars. It was held at Tunbridge Wells in October, 1895, in connection with the Tunbridge Wells Agricultural Show. The exhibits included a Peugeot vis-a-vis, a Panhard, a De Dion steam tractor, and a motor-tricycle. The illustration depicts Sir David Salomons driving the Peugeot through the crowd.

roads. But a General Election intervened between the introduction of the measure and its realisation, with the result that no amendment of the law was possible. The work of propaganda was, however, continued, Mr. Worby Beaumont's Cantor Lectures on Motor Cars at the Society of Arts greatly preparing the way for legislation, while the efforts of Messrs. J. H. Lawson and F. R. Simms in connection with the Motor Car Club which they had founded were directed towards catching the public eye. This organisation was also responsible for the exhibition of Self-propelled Vehicles at the Imperial Institute in 1896, where the present king, then Prince of Wales, enjoyed the novelty of a ride by motor-car—for the first time.

Sir David Salomons took the next important step in the educational movement by organising a display of motor vehicles in connection with a show in October, 1895, at Tunbridge, an illustrated reminiscence of which we are able to give on this page. Following this was a Press campaign, and then the convening of a meeting at the Cannon Street Hotel, London, when Sir David suggested the formation of the Self-propelled Traffic Association. This idea was heartily taken up, Mr. Andrew Barr being elected hon. secretary. That gentleman rendered good service for the movement in that capacity, and later as auditor of the A.C.G.B.I., which position he held at the

adequately represent the automobile movement before the country, and to play a suggestive part in guiding legislation—for the law of 1896 was naturally limited, as were the speeds and virtues of some of those pioneer vehicles.

And so, voicing the feeling that was growing, Mr. F. R. Simms convened a meeting of motorists in August, 1897, at which he proposed that "the Automobile Club of Great Britain" should be founded—a title following the designations of the similar associations which had been established in France and Belgium two years before. Supporting his views with the promise of financial aid, Mr. Simms was able to convince others of the feasibility of the idea, and matters progressed so well that in November premises had been taken at Whitehall Court, S.W., for this "Society for the Protection, Encouragement and Development of Automobilmism," and the organising committee was emboldened to call a meeting of supporters, for whom was arranged a light luncheon, to be "followed by a demonstration of the most recent types of motor-cars." The gathering took place, when resolutions and speeches were as numerous as the vehicles, the most interesting of the latter being the 12-h.p. four-cylinder Panhard which had won the Paris-Marseilles-Paris race in the previous year.

The names of the original committee deserve chronicle



in this epitome of the history of the official side of the movement during the decade. They were as follows:—

The Earl of Carnarvon.	Sir Arthur Ellis.
Hon. E. H. Ellis.	Major-General England.
Colonel Lee.	Mr. Paris Singer.
Mr. H. S. Holt.	Mr. F. R. Simms.

Mr. C. Harrington Moore, Secretary, *pro tem*.

At the inaugural meeting on December 8th, 1897, Mr. Roger Wallace, Q.C., was elected chairman, Messrs. Ellis and Simms vice-chairmen, Mr. F. H. Butler treasurer, Mr. Harrington Moore hon. sec., and Mr. Claude Johnson secretary. The following motorists and vehicles assembled in Whitehall Court, and then indulged in runs along the Embankment, to the infinite enjoyment of the public:—

STEAM.			
H. A. House ...	...	...	Liquid Fuel Engineering Company's van.
L. Vickers ...	...	...	Serpuliet.
ELECTRIC.			
J. W. Parr ...	...	...	Headland's Electric Storage Company's phaeton.
Walter C. Bersey ...	...	...	Electric cabs (4).
E. Elieson ...	...	...	Electric.
Carl Oppermann ...	...	...	Oppermann.

been tactfully brought about by Mr. Roger Wallace. On December 15th, 1897, the first committee meeting was held, when an Administrative Committee was appointed. In the early days the House Dinners, followed by discussions, were an effective means of arousing interest in the motor-car, both from the constructional and popular side. At the first meeting, in February, 1898, Lord Suffield, K.G., presided, and a general discussion on the utility of the Club was initiated by the Earl of Galloway. Then followed the first paper contributed to the Club, the author being Mr. J. D. R. oots.

Ambition soon fired these pioneers, and after a course of dinners and discussions it was decided to have an Easter Tour on motor-cars. Mr. F. R. Simms urged that the itinerary should provide for not more than a 40 miles' journey each day, and ultimately the following programme was arranged:—

April 7th.—From London to Guildford	...	...	29½ miles.
" 8th.—Guildford to Winchester	...	...	38 "
" 9th.—Winchester to Chichester	...	...	36½ "
" 10th.—Easter Sunday. Chichester to Worthing	...	...	23½ "
" 11th.—Worthing to Tunbridge Wells	...	...	43½ "
" 12th.—Tunbridge Wells to London	...	...	35½ "

The start was from Whitehall at 3 p.m., and crowds assembled to show sympathy with the voyagers. Mr. Roger Wallace and Mr. F. H. Butler led the procession on the latter's 3-h.p. Benz, followed by nine cars and a wagonette, on which



The Automobile Club's Easter Tour, 1898.—The Party at Stonehenge.

Electric Motive Power Company, Ltd.	Electric (2).
E. E. Lehwess ...	...
The Hon. Evelyn Ellis ...	...
The Hon. C. S. Rolls ...	...
Reginald Livesey ...	...
Arthur Mulliner ...	...
Frederick R. Simms ...	...
S. F. Edge ...	...
Walter Arnold ...	...
H. Hewatson ...	...
Ernest W. Petter ...	...
A. Leslie Bucknall ...	...
A. H. D. Altree ...	...
Ernest Estcourt ...	...
Messrs. New and Mayne, Ltd.	...
Henry Sturmev ...	...
E. Radcliffe Ward ...	...
Hugh Campbell ...	...
F. Frentzell ...	...

In steady procession the vehicles sallied forth to Battersea Park, and no accident occurred, a fact that elicited grave comment from many Pressmen who thought they were risking their lives on such a venturesome expedition.

Further strength was subsequently given to the organisation by the incorporation of the Self-propelled Traffic Association with the Club, a rapprochement between the two bodies having

rode some faithful chroniclers and Mr. Linley Samborne, of "Punch." Colonel Crompton, Mr. Worby Beaumont, and Mr. A. Ledger accompanied the party on bicycles. Starting at 3 p.m. all the cars reached Guildford by 7.30 p.m.; each succeeding day had its minor incidents, but the tour did much to assure the public that the motor-car was really a practical and tractable machine. In the summer this was further emphasized by the trials of the Royal Agricultural Society at Birmingham. In these a 4-h.p. Daimler took the first prize, while in the heavy section the Lancashire Steam Motor Company was awarded premier distinction for its 3-ton wagon, a Thornycroft vehicle being second. Trials of heavy vehicles also took place at Liverpool under the auspices of the Self-Propelled Traffic Association in that city.

Later in the year the second anniversary of the passing of the Motor Car Act was celebrated by a run to Sheen House, organised by the Motor Car Club, in which eighty-nine vehicles took part. Included in the commemoration were two public dinners, the Motor Car Club meeting at the Metropole and the A.C.G.B.I. foregathering at the Savoy Hotel, London.

From that time onward the progress of Motorism—a term originally used in the *M.C.J.* in 1899, and revived, amidst the eulogies of the newer generation of motorists, by Lord Justice Moulton at the Motor Union's dinner last year—was hastened



by the systematic work of the Club, together with the series of Exhibitions that had been held by Messrs. Cordingley and Co. at the Agricultural Hall—a series that commenced ere the motor-car was legalised—has contributed much to the education of the public and the consequent fostering of the industry in this country. Following the Agricultural Hall Exhibition of 1898 there was a run to Whitton Park, Hounslow, which attracted more attention from the public than any previous gathering. All London seemed to have crowded into the streets about Islington, and, although the cars did not number more than about a dozen, there were some distinctive types, among them being the four-wheeled hansom cab, driven by M. Jeantaud, a Klauss voiturette, a Le Blon car, the Vallee racer, two M.M.C. vehicles, a dogcart, and a four-seated wagonette, a Mors dog car, the London Motor Van and Wagon Company's vehicle, a De Dion quad, and a Werner motor-bicycle. Amid the plaudits of the crowd the strange conglomeration of vehicles pursued its way, and about sixty intrepid motorists dined together after safely encountering the perils of the way.

### 1899.

In 1899 tours were organised at Easter and at Whitsun to the New Forest and to the Leamington district respectively. In the former twenty vehicles took part throughout the whole journey, eleven others joining in for parts of the tour. The Rt. Hon. J. H. A. Macdonald and the Hon. J. Scott Montagu were participants in the event; Mr. S. F. Edge and Mr. C. Jarrott drove Panhards, Mr. E. M. C. Instone was on a Daimler, Mr. C. Cordingley on a M.M.C. Iveagh phaeton, and Mr. R. W. Buttemer had a Benz Ideal. Many were the adventures on the way. Mr. A. W. Armstrong occupied from 6.30 to 11.40 p.m. to go from Brentford to Reading, a distance of about thirty miles, and Mr. C. Jarrott had a collision with a sheep, resulting in his car being overturned. In six days the party travelled 300 miles, and the luggage van was not the least appreciated vehicle in the cavalcade. The Whitsun tour attracted twenty-five cars, but the weather was tearful and did its worst to dampen the spirits of even the hardest voyagers. Throughout the run of 323 miles in five days—longer runs were already being tried—the sun disappeared and the rain was as persistent as possible. Earl Russell was on a Benz Ideal, Mr. J. A. Holder drove an 8-h.p. Daimler, as did also Mr. J. R. Hargreaves, J.P., who has since figured in the Isle of Man races, Mr. Mark Mayhew had a Mors, Mr. Staplee Firth was on the Lifu steam wagonette, Mr. C. Cordingley was faithful to his Iveagh phaeton, Mr. F. R. Simms had a Cannstatt Daimler, and Mr. F. H. Butler made the pace on a Benz dogcart of double the power of his original vehicle. Thus was the movement advancing. Grief and woe were upon the party; the motor-cyclists abandoned their machines, and from the published reports it was evident that the weather's vagaries threatened to leave depressing memories of the trip. But the hotel life in the evening, with the "petrol talk" after dinner, seems to have worked wondrously well in restoring the jaded spirits of the travellers.

Another event of importance in the official story was a meet of the Motor Car Club in May of 1899, when Mr. C. G. Wridgway, who has long been associated with the American motor business, took part in a famous motor-tricycle race with Mr. S. F. Edge on the Crystal Palace track. There were also contests for automobiles over a two-mile course, gold medals being won by the following:—

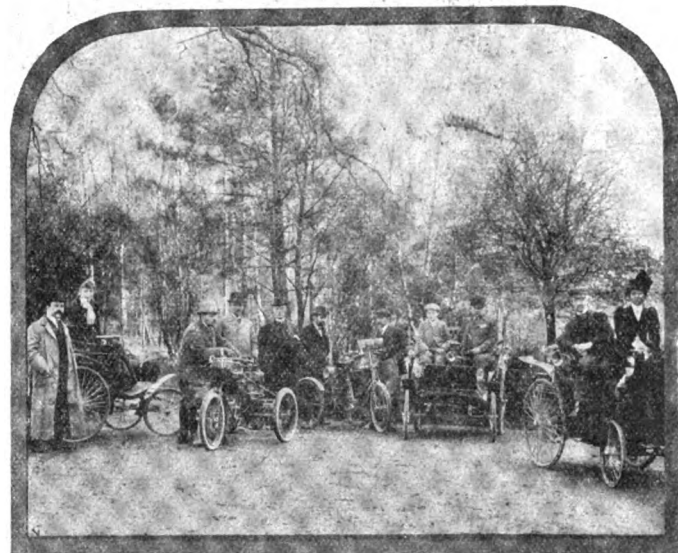
		Net Time.	
		Min.	sec.
C. Jarrott	Motor-tricycles	5	15 4-5
Southern Motor Car Company	Motor-tricycles	11	58 3-5
G. D. Barnes	Light cars between 4cwt. and 10 cwt.	8	22 3-5
C. Friswell	Cars weighing over 10 cwt.	6	32
Ormiston and Glass	Motor delivery vans	10	5

In June the first trial organised by the Club took place from Richmond, 22 cars competing in a series of hill climbs on Petersham Hill and a 50-mile spin from Southall, 25 miles along the

Oxford road and back again. Trials for electric and for heavy vehicles were also held. The Daimler ascended the hill at a speed of 5.35 miles per hour, and the 50-mile run was remarkable for the consumption of water on the journey. One car had a stoppage of nine minutes to allow the bearings to cool. In the speed trial the only entrant was a Delahaye phaeton, which covered the mile in 2 min. 13 4-5 sec.

This test was followed by the Richmond Show of the A.C.G.B.I., when gold medals were awarded to the Daimler Company, the Steam Wagon and Carriage Company, and the Motor Carriage Supply Company. But the events of the year were the Commercial Efficiency Trials, conducted in conjunction with the Motor Car Exhibition at the Agricultural Hall, and the heavy motor vehicle trials of the Liverpool Self-Propelled Traffic Association. The former, which were organised by the M.C.J., were really the predecessors of the series of reliability trials that subsequently did so much to further the interests of the automobile in this country.

Apart from its show, which was a failure—from the financial as well as the popular point of view—1899 was an important year in the history of the Automobile Club, for, in the autumn, it held the first of its educational demonstrations before the authorities, whom it sought to convert to a reasonable view of the motor-car and the regulations by which its progress



The Automobile Club's Run to Guildford, May, 1899.

on the roads should be governed. At the request of the officials of the Local Government Board it invited several firms interested in heavy vehicles to submit to a series of tests on Petersham Hill. This was well supported, and the experience gained of value to the Local Government Board in the framing of its later Orders with regard to such traffic. Then came another tour, Folkestone being the objective, and a trip being made to Boulogne to witness the finish of the Paris-Boulogne race of that year, in which the Hon. C. S. Rolls was a competitor. The tour was followed by an exhibition at Dover, which was apparently the first of its kind. Trials were held in connection with the show, Major Holden, Professor Vernon Boys, and Mr. Worby Beaumont being among the judges. Mrs. Kennard took part in the event on her Benz car, Mr. Lyons Sampson had a Benz victoria, Mr. Edge and Mr. Napier were on a Panhard body and frame with Napier motor, and Mr. C. Friswell was present with a Peugeot.

There were two great celebrations of the anniversary of the Motor Car Emancipation Act that year, the Motor Car Club having a run to Brighton, and the Automobile Club one to Sheen House, concluding with a dinner at which several public men identified themselves with the movement. The Motor Car Club's run was a great success, and of the 104 vehicles that

passed over Westminster Bridge in the morning, ninety-five arrived at the southern resort during the afternoon. At the evening meeting it was announced that ninety-six motor-car races had been held under the racing rules of the Motor Car Club.

Towards the close of the year the question of altering the Light Locomotives Acts, so far as the tare limit was concerned, agitated the automobile world, several conferences on the subject being held. Further evidence of the increasing favour of the motor-car was seen during the London County Council elections of the year, when Mr. Mark Mayhew, as a candidate for Wandsworth, used a motor-car for the first time. Nowadays no election is complete without its motor-cars for the conveyance of voters.

### 1900.

Thus far the chronicle of the development of the automobile movement has been mainly concerned with the doings of the official organisations in London, the Motor Car Club doing much work of a popular character, the Automobile Club tending towards the education of those in authority in motor-car matters. The year 1900 was notable for the expansion of interest and the formation of many provincial clubs to further the

movement into the English Motor Club, which had notable runs to Cobham and Bedford in August and September respectively. The autumn was enlivened by the tour of the Whitehall Court Club to Monmouth, which gave an impetus to the movement in South Wales.

Although but an incidental in the forward march of the motor-car, the agitation which arose in connection with the freeing of Maidenhead Bridge from tolls was of service in drawing attention to the motor-car as a vehicle for touring, while the successful issue of Mr. Taylor's agitation was a matter of general congratulation. The immediate result was a lowering of the tolls.

Not only was regard paid to the organisation of the social side of the movement, but those engaged in business also began to assert themselves in societies and associations. The Motor Traders' Association was formed in January and the Motor Vehicle Users' Defence Association was started in February. The latter had Mr. R. W. Wallace, Q.C., as chairman, and was intended for the protection of motor-vehicle users against proceedings or actions at law. Then in November the Motor Trades Protection Association was formed.



The Arena at Cordingley's 1899 Show at the Agricultural Hall London.

movement in distant places. In Scotland a club had been formed late in 1899, which was sub-divided into the Eastern and Western Sections in 1901, and has recently again united into one powerful body. That club did splendid service in organising the Glasgow to London Non-Stop Trials of 1902, 1903, and 1904, as well as the Scottish Reliability Trials of last year and this. Organisations of motorists from north to south did much to further the movement throughout the country. The Manchester and Leicestershire clubs became active; the Yorkshire organisation was established in January, and held its first great meeting in the autumn of the year; that at Manchester in February. The Nottingham Club, founded in October, attracted attention unto itself by a famous run in the following month. In May, the Manchester Club made its first run to Knutsford.

In the south the Automobile Club held many social functions which did much to introduce the motor-car into society, the most notable being the garden party at Strawberry Hill by invitation of Baron de Stern, the occasion including a gymkhana, which proved quite an innovation in those days. The Club's Whitsun tour was to the Eastern Counties, and a Christmas run to the West of England was also held. The Motor Car Club was trans-

formed into the English Motor Club, which had notable runs to Cobham and Bedford in August and September respectively. The autumn was enlivened by the tour of the Whitehall Court Club to Monmouth, which gave an impetus to the movement in South Wales.

It was in 1900 that the present King (then Prince of Wales) became a motorist, his first cars being English built, from the Daimler Company, a fact which gave a decided impetus to the national industry. But standing out among the events of 1900 and historic in the annals of automobilism was the 1,000 mile tour of the A.C.G.B.I. in April and May. It demonstrated throughout the country that the motor-car was a practical piece of work that could be regulated and controlled, although it gave many of the country dwellers an impression that it was as thirsty as any horse. For the trial, eighty-three vehicles were entered; sixty-five started, and twenty-three were officially recorded as finishing. There were monarchs of motors in those days. Lt.-Col. Mark Mayhew, then a member of the L.C.C., rode forward on an 8-h.p. Panhard; the Hon. J. Scott Montagu was 4-h.p. better, he driving a 12-h.p. Daimler; while the Napier was the highest-powered car in the whole entry list. Mr. Frank Butler was not then so much in the clouds as he now is, and struggled gamely with his 6-h.p. Panhard. Powers have increased since then, and reliability too. But motoring is now monotonous and tame compared with the joyous uncertainty that was experienced

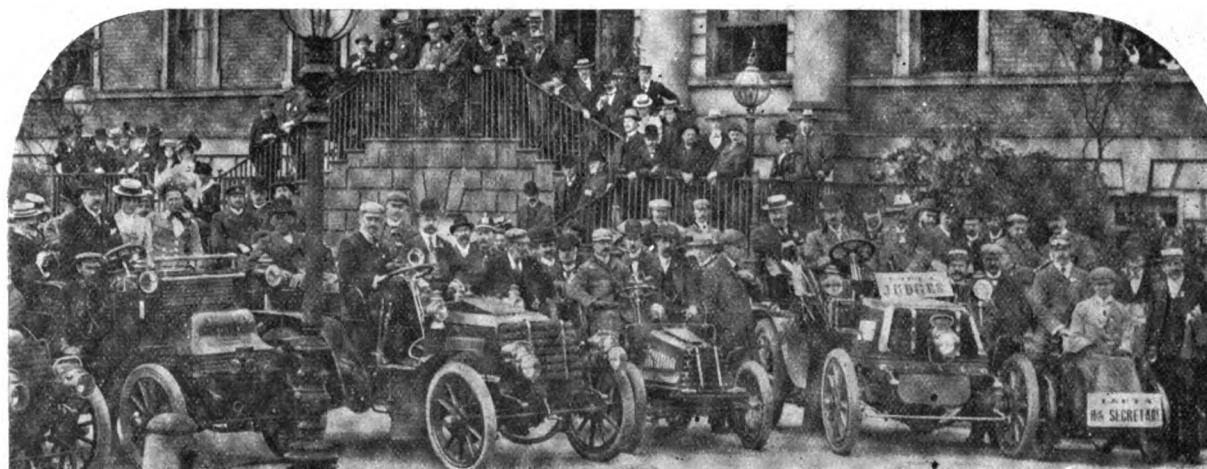
on the 1,000-mile trial, or, to be exact, the 1,020 miles that were run.

The start was made from London on April 23rd, after the cars had been exhibited in the arena of the Agricultural Hall Show, and the route lay through Bristol, Birmingham, Manchester, Kendal, Carlisle, Edinburgh, Newcastle, Leeds, Sheffield, and Nottingham, at all of which places exhibitions were held. Most of the failures were officially declared by the judges to be due not to the failure of motor or transmission gear, but to structural weaknesses in other parts of the carriage, pneumatic tyres being especially responsible for delays. For the purpose of the awards the vehicles were divided into two sections, one for makers and two for private owners. In the first category the Benz Ideal, Wolseley, Daimler cars, and Ariel quadricycles took first prizes; second honours going to the Locomobile, New Orleans, Motor Car Company, De Dion, Motor Manufacturing Company, Ariel Tricycle, and Century Tandem.

In the private owners' section the gold medal for the most meritorious car was awarded to the 12-h.p. Panhard driven by the Hon. C. S. Rolls; and silver medals were granted to the following:—Mrs. Bazalgette's Benz Ideal, Messrs. R. E. Phillips (Mors), F. H. Butler (6-h.p. Panhard), T. B. Browne (6-h.p. Panhard), E. Pitman (6-h.p. Daimler), C. K. Gregson (6-h.p. Daimler), J. D. Siddeley (6-h.p. Daimler), the club secretary (6-h.p. Daimler), J. A. Holder (12-h.p.

the municipal domain. The Liverpool Corporation had seven of the Lancashire Motor Company's vans; six of these were in constant use for the removal of house refuse, each van being provided with a trailer. The Bromley Corporation had one of Messrs. Coulthard's vans. It was originally purchased to carry ashes to the Corporation's bacteria beds, but owing to its having to cross a bridge about whose stability some doubts were entertained, it had to be taken off this work, and its operations were confined to the borough for general cartage. The Blackburn Corporation had one of the Lancashire Motor Company's vans, used to carry clinkers to the sewage farm. Worthy to be mentioned in the same connection was a Milnes lorry, owned by the Bradford Corporation. It was used in the tramway department as a tower van, to attend to the overhead electric wires, and it was regarded as successful in working. Being a petrol-driven van, it did not consume fuel when standing in the street to allow the wires to be repaired. The Newcastle Corporation were also using a similar tower van for a similar purpose.

Among the remaining features of the year must be recorded the paper which the Right Hon. Sir J. H. Macdonald, K.C.B., read at a meeting of the Automobile Club, held at the Agricultural Hall, on "War and Power Traction," when he recounted what had been done in connection with Army motor transport, and presaged a fuller development in the future, thus anticipating the Army Motor Reserve of to-day—a force which we owe to



Cars containing the Judges and Officials of the Liverpool Association's Trials of Heavy Vehicles, at Warrington, 1900.

Daimler), and E. M. Iliffe (Enfield quadricycle). International interest was evidenced by the award of three medals given by the Automobile Club de France to the following:—Mr. E. Kennard's 8-h.p. Napier, the Wolseley voiturette, and the New Orleans voiturette.

With regard to the use of motor vehicles in municipal work, the first really comprehensive investigation was made by Mr. T. W. E. Higgins, the Borough Surveyor of Chelsea, who, in 1900, presented a report to his Council on the outlook, in which he suggested that they should regard the matter from all sides, or, rather, as he put it, "look at the horse at both ends," for the horses of the sanitary authority were responsible for depositing three-quarters of a ton of manure per day in the borough. This was a consideration almost new to the public, who had become so accustomed to the equine in the streets that they regard its inconvenience with indifference. Mr. Higgins was one of the first to emphasize this important sanitary consideration in favour of the motor-car.

So early as 1900 municipal authorities were hoping great things from the adoption of mechanical traction. The City of London and the City of Westminster were pioneers in this matter, the former utilising a steam vehicle to carry street refuse to the wharves, and the latter having a motor watering cart in addition. Outside London the heavy motor was also making headway in

the energy and persistency of Lieut.-Col. Mark Mayhew, whose services to automobilism, both on its heavy and its pleasure side, have been great indeed.

Emancipation Day in 1900 was celebrated by a run to Southsea, organised by the Automobile Club, which brought forward 149 entries, 103 of which actually started. All but seventeen arrived safely at their destination, and thirty drivers claimed non-stop diplomas.

Despite such demonstration of advancing reliability, the public in many quarters was being aroused against motorists, and County Councils began to discuss the speed of cars and the behaviour of motorists, with the result that the Automobile Club decided to hold a great meet of motorists in the following spring to convince those responsible for the control of the roads of the safety of the motor-car and the undesirability of the restrictive legislation that was being proposed. Doubtless some of the growing hostility arose from the development of public motor-services, which threatened to reduce the profits of those running horse-driven vehicles. In fact, the Lincoln Tramway Company soon found their revenue decline after the formation of the Lincoln Motor Bus and Parcels Delivery Company, Ltd. Licences were granted in February for public motor-cars to ply for hire in Hastings; those at Eastbourne were renewed despite local opposition.

## 1901.

The indication of restiveness on the part of the public with regard to motorists, to which reference was made in closing the review of 1900, increased in the following year, and the Brighton road became the scene of the police traps with which we have since become sadly familiar. To combat these operations a system of motor patrols was established by some enthusiastic motorists using the road, and the subsequent service of the well-organised Automobile Association thus anticipated. Despite the public protestations of the official motor-car organisation, judicial animosity continued, and at Reigate on one day no fewer than sixty convictions for furious driving were recorded. Then followed a general agitation for the abolition of the speed limit, which did not lessen in volume until in November the County Councils Association adopted a resolution to the effect that the general law of the land as regards vehicles was sufficient for motor-cars provided number-plates were carried and drivers were licensed. It was noted with satisfaction by the more reasonable opponents of the new movement that the Automobile Club did all it could to discountenance furious driving on the part of its members, and issued a circular calling on them to abstain from exceeding the speed limit.

So marked, however, was the hostility to motor-cars that the Motor Union was formed to protect the interests of motorists,



The 1,000-Miles Trial, 1900.—Some of the cars leaving Lincoln. At the wheels of the first three cars are respectively Mr. Frank H. Butler, Mr. J. D. Siddely, and Mr. E. Estcourt.

and it has developed its organisation until now it has affiliated to it all the leading clubs, representative of thousands of motorists. Really it has proved a successor to the Motor Vehicles Users' Defence Association. Its work has been most useful in securing something like a modicum of justice to motorists, who, but for its good services, might have fared badly at the hands of "justice." Meanwhile the Automobile Club was conspicuous in its efforts to educate the public and its demonstrations to county councillors were a useful feature of the year's work, comprising gatherings at Warwick in January, in Suffolk in February, at Worcester in March, at London and Leicester in June, and a run to Southsea on the Emancipation Day anniversary. In addition, there was a great day for chief constables, when they were introduced to the motor-car as a reliable machine, and not the murderous weapon it was represented to be in many quarters. Various runs were also indulged in; those of the English Motor Club served to familiarise the public with the vehicles under control, while the improvement in the speed of cars was amply shown at the Dashwood Hill contests. That all this educational activity was not without effect was seen when in the middle of the year the London County Council refused to endorse a resolution of the Berkshire County Council in favour of the numbering of motor-cars.

Fortunately the motorists in the counties were fully alive to the exigencies of the situation. The Irish Club was formed, and the central authority became the A.C.G.B.I., while the scheme of affiliation to the latter body began in force, the Manchester Club being among the early adherents.

Municipal encouragement continued; the Southampton Borough Council adopted a resolution in favour of a municipal motor-car service; many councils, including that of Beckenham (Kent) and Kensington, adopted motor dust vans; the L.C.C. purchased a steam car for the fire brigade; the Eccles Town Council ordered a motor fire-engine; several motor-bus services were established, and advance was reported on every hand.

Even the British Association became friendly and appointed a committee to investigate the resistance of roads to motor traction, while the Local Government Board was approached by the motor manufacturers, who deplored the public hostility, and hoped it would not warp official judgment, and also by the Liverpool Self-Propelled Traffic Association on the subject of an increased tare limit for heavy motor-vehicles.

Reference has already been made to the interest that was being aroused with regard to motor-vehicles and military matters. This was well developed in 1901 by the reading of several papers on the subject before the Army authorities as well as before the leading automobile organisations. Notable among these was one by Major (now Colonel) Holden on the automobile and its possible uses in war, at the Royal Artillery Institution. Then came the offer of prizes by the War Office for self-propelled lorries for use in military operations, and of tractors for transport services, and the practical assistance of members of the Automobile Club with their cars at cavalry manoeuvres on Salisbury Plain and at cyclist manoeuvres at Aldershot.

The big event of the year was the Glasgow Reliability Trials, which were run over a 530 miles course. The cars took radial journeys daily from the Scottish city, thus following the plan of the M.C.J.'s Commercial Efficiency Trials of an earlier year. The entries included forty-one cars in the manufacturers' section and eleven in that for private owners, and gold medals were awarded as follows:—5-h.p. Wolseley, the Locomobile, 10-h.p. Wolseley, 16-h.p. Milnes, the M.M. Co.'s 6-h.p. one-ton van.

In this year the Motor Cycling Club was formed; also the Aero Club, some members of which distinguished themselves in December by making their first ascent from the Crystal Palace without professional assistance.

## 1902.

The Automobile Club was prominently to the front in the early part of 1902, and wisely took advantage of the important reply that Mr. Walter Long, then President of the Local Government Board, gave to the representatives of the County Councils Association with regard to the regulation of motor-cars. From his speech it was clear that the President was impressed with the Liverpool trials, and the series of demonstrations which had been held in various parts of the country. The Club followed this up by a letter to the Press, which was signed by the Duke of Sutherland and other responsible men, urging that no restrictive legislation should be placed on motor-cars, and they also urged the withdrawal of the tare of weight on vehicles which was limited to three tons.

Several club meets of great importance were held during the year. A summer gathering was arranged at Bexhill, this being the first seaside motor meet held in this country. Trials also took place at Welbeck, which were of some interest, more especially the brake trials held in January, when some results were published, which were regarded with considerable interest at the time. They showed that the average distances in which cars could be stopped when going at different speeds were as follows, the length of a car being taken as 11 ft. 8 in.:—

- 11 to 14 m.p.h. in 1.4-5 times its own length.
- 15 to 17 m.p.h. in twice its own length.
- 18 to 20 m.p.h. in 2½ times its own length.
- 20 to 24 m.p.h. in 3½ times its own length.

In April a non-stop run from Glasgow to London, with a



compulsory halt at Leeds, was organised by the Scottish Automobile Club, and attracted eight starters, only three of whom came successfully through the ordeal, viz., Mr. J. W. Stocks' 8-h.p. De Dion, Mr. G. Iden's 8-h.p. M.M.C. wagonette, and Mr. S. F. Edge's 16-h.p. Napier.

Later in the year the A.C.G.B.I. Reliability Trials took place, daily runs being made from the Crystal Palace to Eastbourne, Folkestone, Worthing and Brighton, and other towns, which did much to reveal to motorists the importance of dealing with the dust problem if their movement was to become really universal; and later in the year a series of dust-laying experiments were made at Farnham with oil as the ameliorative agent. The Reliability Trials did much to popularise motoring, and proved that motor-cars had obtained a position of security and certainty. Gold medals were obtained by a 3-h.p. Humber motor-cycle, a 5½-h.p. Locomobile, an 8-h.p. M.M.C. car, a 10-h.p. Wolseley, a 10-h.p. Peugeot, 15-h.p. Panhard, 20-h.p. Wolseley, and the 20-h.p. Pascal car, driven by Baron Henri de Rothschild. The judges also awarded a silver medal to the 6-h.p. White steam car for its novel features and general excellence. The other great event in the club annals of 1902 was the anniversary run to Oxford in November, when 193 cars made the journey, an innovation in the arrangements being made by the naming, instead of numbering, of each vehicle taking part in the run. The Easter tour of the year was held at Cromer.

The Motor Union, which had absorbed the Motor Van and Wagon Users' Defence Association, was already doing good work, and gave hopes of development into the influential organisation that it has since become.

As usual, the Exhibition at the Agricultural Hall was an event of great importance to the industry, the more so as it was in 1902 that the Exhibition was visited by the Prince of Wales, whose long stay at Islington afforded evidence of the interest which the Royal Family was taking in automobile development. It was this year that the King, when visiting the late Lord Montagu of Beaulieu, made his famous long motor-car expeditions in the New Forest. Earl Roberts, too, on behalf of the War Office, paid the motor-car a singular compliment by inviting owners of such vehicles to join him at Folkestone to take part in some manoeuvres then in progress, and the readiness with which the vehicles met the requirements of the situation convinced him of the value of the automobile as a branch of the military service, and also to his subsequent encouragement of the Motor Volunteer Corps. Equally noteworthy in their way were the Royal Institution lectures on motor-cars by Professor Hele-Shaw. The visit of the Colonial Premiers to this country was also taken advantage of to introduce them to the motor-car, and at the invitation of Sir Wilfrid Blunt they motored to Crabtree Park, in Sussex, an initial trip to many who have since become ardent motorists themselves.

The Premier, Mr. A. J. Balfour, whose yearly visits to the Agricultural Hall Exhibitions had been a factor in his automobile education, had in the previous year written an important letter, pointing out the place that the motor-car might occupy in relieving the congestion in our large towns, and in the summer of 1902 he further showed his interest in the movement by attending the hill climb of the Club on Dashwood Hill, which played its part in the trials of those days.

Already there were premonitions of the change in methods of locomotion that was coming about in our great cities. Motor-buses were again approved by the authorities at Eastbourne in time for the summer season, and an experimental service was projected at Birmingham. Then the London Road Car Company decided to invite assistance in making experiments with motor-buses, and the London General Omnibus Company testified to its watchfulness in the matter by announcing its intention to place an electric bus on the roads.

From many points of view one of the most important events of the year occurred on the Continent, where Mr. S. F. Edge was successful in obtaining the Gordon Bennett Cup for England—an event that not only attracted renewed attention to the progress that was being made by the British industry, but which, for a while, puzzled those responsible for the invitation for the

following year's race as to where, within the British Isles, they would be able to elude the speed limit of twelve miles an hour without incurring police anger and magisterial frowns. The solution of the problem appears in our record of 1903.

## 1903.

Royalty, which, as will be seen from the preceding sections of this record, had early shown an interest in automobile matters, set the sign-manual of approval on the movement in 1903, when the King gave his patronage to the A.C.G.B.I., and the Prince of Wales became patron of the Norfolk Automobile and Launch Club. Further evidence of the fashionable position occupied by the motor-car was seen in the efforts of the parent club to found a Ladies' Automobile Club, in which work Lady Montagu took an active part. More than that, the Motor Car Exhibition at the Agricultural Hall provided further testimony on this point, the visitors on one day including the Princess Henry of Pless, the Countess of Dudley, the Lord Chief Justice, the Duke of Sutherland, the Marquis of Londonderry, the Duke of Buccleuch, Lord Chesterfield, and other well-known noblemen. Then, too, there arose quite a keen controversy with regard to the propriety of going by automobile to the hunting field; that, however, settled itself, the convenience of the auto-



His Majesty the King's First Car, a 6-h.p. Daimler supplied in June, 1900.

mobile being fully recognised, and its presence welcomed rather than tabooed. The formation of the Ladies' Automobile Club at the Hans Crescent Hotel, and their later migration to Claridge's Hotel, Brook Street, W., was clear proof of the advance of the car in Society circles. Throughout the year much was heard of the impending legislation with regard to motor-cars. The Hon. J. Scott Montagu promised to introduce a Bill to abolish the speed limit, secure the identification of cars, and the licensing of drivers. This formed the subject of much debate. Then the Legislative Committee of the A.C.G.B.I. took up the matter, making certain proposals which were hotly contested by Earl Russell. In the end a vote of the members of the various affiliated clubs was taken, which showed 1,015 votes to 463 in favour of the identification of cars by numbers or names if the tare weight was raised and the speed limit was abolished. There was also a majority of 687 in favour of the Club promoting legislation. Later, the Government's own measure was introduced in the House of Lords. It eventually emerged from the Commons as the Motor Car Act of 1903. Its leading exactions have become so well known that recapitulation is unnecessary—many motorists have had practical lessons in the police courts. But it introduced the numbering of cars, brought about the licensing of drivers, and raised the speed limit to twenty miles per hour. A Departmental Committee on Highways was appointed by the Local Government Board, before which Mr. Rees Jeffreys gave evidence, advocating the creation of a central

authority to deal with the roads of the country. The fact that Mr. S. F. Edge secured the Gordon Bennett Cup for this country entailed upon the A.C.G.B.I. the responsibility of selecting a course in 1903. Fortunately such a track was discovered in Ireland, and the Hon. J. Scott Montagu was able to pilot the necessary Bill through Parliament without much difficulty. Ireland was also fortunate in the new regulations issued by its own Local Government Board, which fixed the maximum speed at fourteen miles an hour as compared with twelve miles on this side, and showed a more tolerant attitude than was generally evinced in Great Britain.

The contest for the Gordon Bennett Cup in Ireland quickly resolved itself into a great touring expedition, and became known in the automobile calendar as the Irish Fortnight. The preliminary trials in connection with the main event took place at Clipstone, by permission of the Duke of Portland, who has always shown an interest in motor-cars, lending his private grounds for the purpose of speed trials, &c. There were four contestants for the honour of being in the British team, which was ultimately composed of Messrs. S. F. Edge, C. Jarrott, and J. W. Stocks, all of whom drove Napiers. Unfortunately Mr. Edge was only able to obtain fifth place in the great race, which was won by M. Jenatzy, on a Mercedes, at a speed which averaged 49½ miles per hour. Following the Gordon Bennett



Mr. Chas. Hardy, President of the Nottinghamshire Automobile Club, on his 6-h.p. Delahaye car.

[From a Photo taken in 1901.]

race were a series of speed trials in Phoenix Park, Dublin, a hill-climbing contest at Castlewellan, co. Down, speed runs at Cork, and a general tour to Killarney, the size of the party gradually tapering until only a very few devoted spirits were found at the Irish Lakes. During the tour the Archbishop of Dublin had his first motor ride—on Mr. C. Cordingley's 40-h.p. Mercedes car—a minor incident of the Fortnight, which, however, seemed to set the seal of Irish approval upon the whole proceedings. Club life was again active. The Irish Automobile Club, with Sir Horace Plunkett at its head, early made ready for the great influx of visitors from England; a club was formed in the spring for South Wales, and Oxford University obtained its motor-car organisation. The Wolverhampton Club had its first run in April, and in the same month the Lincolnshire Club invited all the county road surveyors to a discussion—giving them rides by motor-car to and from their homes. Equally enterprising in its way was the Reading Automobile Club, which held five monthly runs for a challenge cup. The Midland Club had an Easter tour to Hereford and the district of the Wye. The Burnley and West Surrey Automobile Clubs were among the organisations formed in 1903. The joint meet of northern clubs

at Buxton brought together an important gathering of motorists, while the speed trials at Southport were another feature of the year's work. Although not under the auspices of any organisation, a motor demonstration at Hertford, by invitation of the mayor, made the automobile known in that county.

In 1903 the reliability trials of the A.C.G.B.I., a series of out-and-home journeys from the Crystal Palace, served the purpose of educating the public and testing the cars. There were 104 starters on the first day, and the number steadily shrunk to 75 on the last day, when 74 returned to the Palace in the scheduled time. On the first day 37 cars made non-stop runs, and 54 on the last trip. The successes of the British cars were really notable, for the following were the only vehicles that made non-stop journeys on all the eight days, viz., the 8-h.p. M.M.C., the 10-h.p. Argyll, the 12-h.p. Wolseley, and the 22-h.p. Daimler. Seven other cars made seven non-stop runs, and lost less than five marks on one unfortunate occasion, viz., the 10-h.p. Lanchester, 10-h.p. Renault, 10-h.p. White steam car—of which vehicle, thus early successful on its introduction to this country, we are able to give an illustration by the courtesy of Mr. Frederic Coleman—and the 10-h.p. Gardner-Serpollet.

Included in the tests was a hill climb up Westerham, when the speed of the twenty fastest cars was as follows, an interesting record, showing what were regarded as good times uphill only three years ago:—

H.P.	Make.	Speed.
		M.P.H.
22 ...	Daimler ...	14.95
24 ...	Wolseley ...	14.85
20 ...	Motor Manufacturing ...	13.91
14 ...	Martini ...	13.50
12 ...	New Orleans ...	12.43
12 ...	De Dion Bouton ...	12.41
16 ...	Rochet-Schneider ...	11.66
14 ...	Renault ...	11.62
16 ...	Dennis ...	11.46
10 ...	Gardner-Serpollet ...	11.07
15 ...	New Orleans ...	10.96
16 ...	Fiat ...	10.70
24 ...	De Dietrich ...	10.47
20 ...	Germain ...	10.44
10 ...	Georges Richard ...	10.02
16 ...	De Dietrich ...	9.99
15 ...	Pipe ...	9.79
10 ...	Wolseley ...	9.73
12 ...	Star ...	9.66
12 ...	Gladiator ...	9.49

At the conclusion, gold medals were awarded to the 5-h.p. Century tandem, the 5-h.p. Oldsmobile, 8-h.p. M.M.C., 10-h.p. Gladiator, 12-h.p. New Orleans, 10-h.p. Gardner-Serpollet, 10-h.p. Rochet-Schneider, 22-h.p. Daimler, while an extra medal was given to the 10-h.p. White steam car for small water consumption. The Glasgow to London reliability run of this year brought out 29 entries, and the following made the journey without stopping, save at the recognised halt at Leeds, viz., 10-h.p. Lanchester, 24-h.p. Darracq, 10-12-h.p. four-cylinder Sunbeam, 12-h.p. Arrol-Johnston dogcart, 12-h.p. six-seated Arrol-Johnston dogcart, 10-h.p. Wolseley, and the 12-h.p. Argyll.

## 1904.

The Motor Car Act of 1903 came into operation on January 1st, 1904, and the new conditions under which motorists then drove upon the roads were naturally the subject of much discussion. As was mentioned in our columns in those troubled days, "for the first time in our history private gentlemen have had their vehicles numbered like auction lots, and they have been at the mercy of local prejudice, police watchfulness, and magisterial bigotry. Those who hoped," we wrote, at the end of the year, "that the new Act would prove a satisfactory solution of the difficulties that had arisen in connection with the advance of the automobile movement have been grievously disappointed, and the many anomalies that have been discovered during the course of the year have shown that the contention of those motorists who were loth to welcome fresh legislation have been amply justified." Police traps became a feature of the roadside, and magisterial antipathy seemed to grow as the

number of their victims increased. The obvious keenness of the police in attempting to obtain convictions led to many grave errors of judgment, and there was a feeling of relief when the Motor Union began to carry appeals to the higher courts. They obtained their first High Court decision in favour of motorists since the passing of the Act in May. The case was that in which Mr. Clifford, jun., of Loughborough, had been granted a *nil nisi*, which he obtained against the Loughborough justices for a *certiorari* to quash a conviction of the applicant by them under Section 1 of the Motor Car Act. The conviction was worded as follows:—"That on a public highway there situate he drove a motor-car at a speed and in a manner which was dangerous to the public, having regard to all the circumstances of the case, including the nature, condition for use of the highway, and to the amount of traffic which actually was at the time or which could reasonably be expected to be on the highway." The summons to appear before the magistrates was worded in the same way, and the rule was obtained on the ground that the conviction was bad for duplicity as charging more than one distinct offence on a single summons. This association of "dangerous speed" and "dangerous manner" really referred to two distinct offences, and the action of the Motor Union was of service to the movement in preventing the Loughborough injustice becoming a precedent for other courts to follow.

When the Act was enforced many things had to be done, including the registration of cars and the licensing of drivers, while local authorities began to consider the provision of road signals and warning notices, in which matter they had been woefully neglectful in the past. In Somersetshire, to mention but one instance, it was discovered that no fewer than 1,200 road signs would be necessary, in the opinion of the local authorities, if the provisions of the new legislation were to be fully complied with. However, many of the local bodies regarded such a state of things with equanimity, for they hoped much in fines from motorists, it being reported that the convictions of Sergeant Jarrett alone had been worth £230 in the previous year—even before the setting of police traps had been raised to a subject of study, though it never reached the realms of "exact sciences." Early in the year a Departmental Committee was appointed, under the chairmanship of Mr. H. Hobhouse, M.P., to advise the Local Government Board with regard to the issue of regulations under the Act. These were issued in March, and did not seriously disturb the order of things. They permitted the width of cars up to 7 ft. 2 in., provided for the fitting of brakes on trailers, on which was to be a person competent to apply the same. Precautions against the starting of cars were insisted upon, and the regulations promulgated with regard to the notices and sign-posts under Section 10 of the Act. Later in the year the heavy motor-car regulations were issued increasing the maximum weight of unladen motor-cars to 5 tons and 6½ tons, in place of the 3 tons and 4 tons mentioned in the Locomotives on Highways Act, 1896, and making other provisions. While all these legislative and administrative Orders were couched in fairly liberal terms, complaints continued through the year as to the spirit in which they were interpreted by those responsible for their operation.

Apart from the new Act, 1904 was a memorable year in regard to trials and races, the Isle of Man first attaining distinction in this respect. It was selected as the scene of the eliminating contest to select the British team for the Gordon Bennett race, and the Manx people readily recognised the commercial value of such a favour. There were eleven entries—five Napiers, three Darracqs, and three Wolseleys—the ultimate selection being Messrs. S. F. Edge (Napier), S. Girling (Wolseley), and C. Jarrott (Wolseley), with Messrs. J. W. Stocks (Napier) and J. R. Hargreaves (Napier), as reserves. Mr. C. Earp (Napier) would have had second place but for an unfortunate accident which occurred at the conclusion of the speed tests which formed a factor in the decision. In these the fastest time was made by Mr. Edge, who did the kilometre in 39 sec. Later in the year, at Blackpool, where a successful meeting, with 120 competitors, was held, Mr. Earp, on an 80-h.p. Napier, travelled over the kilometre course in 26 2-5 sec., tying with the time of

the Hon. C. S. Rolls on his racing Mors at Welbeck. There were several other sporting events during the year, including trials at Bexhill and Portsmouth, and a gymkhana at Hastings, while the Ladies' Club were emboldened to hold a run to the Ranelagh Club at Barnes, the procession of cars starting from Waterloo Place, London, headed by the Duchess of Sutherland on her 18-h.p. Mercedes.

Among the personal incidents of the year mention may be made of Mr. J. T. Overton's ascent of Porlock Hill on his 16-h.p. Georges Richard car—thus emulating a feat first performed by Mr. S. F. Edge on his Napier in 1900. Mr. D. M. Weigel also made a good run on his 20-h.p. Talbot, securing the Dewar Cup for a non-stop run, after travelling more than 2,000 miles. Several end-to-end runs were made by other drivers, and the A.C.G.B.I. was constrained to discourage some of the sporting events which added to the gaiety of the motoring world in those days. It issued a notice discountenancing such, and making regulations for their proper observation and control. Captain Deasy was the first to comply with the new conditions, and ran a 4,000 miles trial on his 16-20-h.p. Martini car, with the Club's sanction, and under the direction of its official observers. Although scarcely coming under the same category, General Booth's motor-car tour may be chronicled as a feat of reliability and a tribute to the value of the motor-car in a department of activity in which it had not previously been recognised.

In addition to these interesting incidents of the year, there were the more serious trials, of which the small car runs held in the neighbourhood of Hereford, with the Frome's and Dinsmore Hill climbs, were the chief. Owing to the initiative of Mr. Wilfrid Groom, the hon. secretary of the Herefordshire Club, this event of the A.C.G.B.I. was removed from the London area, and very remarkable was the tolerant—in fact, helpful—attitude of the county police and other officials. With regard to the trials themselves, they revealed that the reliability of the light car was as pronounced as that of those of higher power. There were thirty-eight entries, and gold medals were awarded to the Wolseley, Siddeley, and Swift cars. Mr. Basil Joy's organisation of the event recalled his successes in the earlier Trials of the Club from the Crystal Palace. The Glasgow to London non-stop run of the Scottish Club was another feature of the year. There were thirty starters; twenty-seven completed the run, and eight secured non-stop diplomas, gold medals being awarded to the 6-h.p. Wolseley, the 10-h.p. Argyll, and the 20-h.p. Thornycroft. The Scottish Club had also been prominent early in the year with an appeal to its members to drive with care and consideration—an appeal which was noted at the time as evidence of the desire of the more responsible motorists not to arouse public opinion against the movement that was spreading so satisfactorily. A motor-cycle trial from London to Edinburgh also attracted notice. There were forty-six starters, twenty-two of whom got to their destination within the twenty-four hours of schedule time.

For the first time a trial was held of the non-skids then on the market, eleven being submitted to a series of runs aggregating 850 miles, and then some interesting manoeuvring over a grease-prepared track in the Locomobile garage at Kensington. The gold medal ultimately went to the L'Empereur device, the second award to the Parsons non-skid, and the third to the Billet non-skid, that of the Wilkinson Company being commended. Later, further dust experiments were made by the A.C.G.B.I. on some of the roads of Surrey.

The heavier types of vehicles were making progress, and towards the end of the year several motor-bus routes were experimentally opened up in London. In the North of England the North-Eastern Railway Company carried out a series of experiments with motor vehicles for the distribution of produce, &c., in the agricultural districts, and at the Royal Agricultural Society's Show at Park Royal there was a larger display of heavy vehicles than had been previously seen at such displays. The War Office, too, conducted a series of experiments with Stirling motor lorries at Edinburgh, and on all hands the progress of this section of the industry was noticeably great.

Although the old-time May Day revels are gone beyond revival, the Motor May Day of the Motor Van and Users' Association—held on April 30th—attracted general notice, and served to emphasize the fact that motor vehicles were in use in all trades. Shortly after a series of delivery van trials was announced, and many corporations and companies appointed their delegates to attend the same. But they were postponed from time to time, and disappointment has, thus far, been the lot of those who hoped such trials would do for the light business vehicle what the earlier tests had done for the pleasure and touring car.

Late in the year England was visited by a party of French motorists, who toured the South of England under the organisation of the Marquis De Dion, while a number of Scotch surveyors paid a visit to France to inspect the main roads there.

### 1905.

Reviewing the course of the automobile movement we may summarise it as a period of rapid progress, and, as was stated in the MOTOR CAR JOURNAL, referring to the motor-bus boom of that year, "the penny-a-time motorist has arrived."

1905 occupied a mid-position with regard to the Motor Car Act, which came into operation at the beginning of 1904, and will pass away by effluxion of time at the end of 1906. The



Dr. Lehwess starting on his tour round the world in 1902.

tendencies it encouraged in the first period of its career were mitigated in a few places, but increased in others. Within the last few months the formation of the Automobile Association, as the outcome of a system of warning cyclists originated by Messrs. Jarrott and Letts, did much to encourage considerate driving, and prove the unprofitableness of official nets for motorists. Since then the Association has well justified its foundation. Local authorities did not wholly cease from troubling, but their antipathy was less apparent, for the refusal of several County Councils to endorse applications for reduced speed limits, and the negative replies of the Local Government Board to nearly all such requests, sobered the most sanguine anti-motoring orators.

So dependent is the advance of automobilism upon questions connected with the road that reference may be made to that important subject as the foundation of success. Many efforts were made during the year to persuade local authorities to provide clear roadways for traffic on surfaces properly constructed to avoid dust. Towards this end the Roads Improvement Association did good work, commencing the year with making representations to the Board of Trade against the erection of tramway poles in the centre of some of the main roads leading north of London. These were officially conveyed to the local authorities interested, and, although not successful in securing the removal of such dangerous obstructions, the Association

continued its educational work so well that the conversion of many members of public bodies to their view seems but a matter of time. Considerable attention was attracted to materials calculated to provide a dustless surface, and notably during the Brighton race meeting it was amply demonstrated that progress had been made in that direction. Several county officials assisted the Automobile Mutual Protection Association in its suggestive experiments with a view of mitigating, if not entirely obliterating, the dust nuisance. The problem of the dust, however, is not to be regarded as wholly associated with the making of the road, Mr. F. F. Wellington's comparative tests with a Spyker car and various horse-drawn vehicles, as well as automobiles, showed that the construction of the car itself is a factor of importance—a fact emphasised at the discussions held at the A.C.G.B.I. during the year.

Early in the spring of the year the Heavy Motor Car Order of the Local Government Board was issued, and the development of the commercial side of the industry has been the dominant note of the twelvemonth. The popularity of the motor-bus was a feature of the streets of the Metropolis, six companies for placing motor-buses on the streets being formed in one month alone. Tradesmen and commercial firms, too, gave more heed to the merits of the automobile than previously displayed.

The event of the year was, of course, the appointment of the Royal Commission on Motor Car Traffic, with Viscount Selby as chairman and Captain Clive Bingham as secretary.

Trials and contests of various kinds maintained the curiosity of the public, and incited makers to the perfection of cars. One or two sporting events like the Siddeley and Meyan match provided mild excitement, and the Eliminating Trial in connection with the selection of the Gordon Bennett team gave zest to the racing season. The eliminating trial for the British team resulted in the selection of Messrs. Clifford Earp (Napier), C. S. Rolls, and C. Bianchi (Wolseley). The presence of an English Daimler team in the Herkomer Trophy race was a tribute to our national advance. Nor must the performance of Mr. A. Macdonald on the Florida beach be overlooked. He covered a mile in 34.45 sec., 5 miles in 3 min. 17 sec., 10 miles in 6 min. 15 sec., and 20 miles in 15 min. 23 sec. Automobile trials were not limited to Europe and America. Several native drivers, as well as gentlemen of English birth, participated in the Delhi-Bombay trials.

Disappointment was general at the postponement of the Light Van Trials, which were to have been a means of furthering the commercial vehicle branch of the industry. Fortunately, the Tourist Trophy race in the Isle of Man attracted a capital entry, victory eventually falling to Mr. J. S. Napier's Arrol Johnston. In the spring the Scottish Reliability Trials afforded an example of organisation well-nigh perfect, as well as presenting difficulties of road and course such as had never been included in the performance of a motor-car test. In the end eight foreign and seven British cars were recorded as having made absolutely non-stop runs on each of the four long and trying days of the trial. Continental entrants gave distinction to the Brighton and Blackpool meets. The gathering at the southern resort was greatly favoured by the leading citizens, whose payment of a considerable sum in the provision of a motor track was later made the subject of an action in the law courts. Bexhill, Filey, and Skegness also had their automobile meets, demonstrating the ability of the drivers as well as the speed of the cars.

In connection with important club matters we may recall the change in the internal organisation of the A.C.G.B.I., which was made early in the year, the triple secretariat being discarded. To the regret of many, Mr. Basil Joy resigned from the Technical Department, and the responsibility for the Trials, where his careful premeditation had always ensured success. As secretary of the Club Mr. J. W. Orde was made responsible for the Trials, Competitions, and social side of the work, in the former being now assisted by an assistant secretary. Mr. W. Rees Jeffreys combined the head of the legal department with the secretaryship of the Motor Union, and rendered splendid service to the whole movement in the latter capacity.



AN UNIQUE PHOTOGRAPH



The Motor-Car in the Lord Mayor of London's Procession in 1896 passing the portion of the Old Bailey now demolished.

[Motor News.]

## EARLY MOTOR-CAR EXPERIENCES.

BY JOHN HENRY KNIGHT.

**E**VEN in my boyhood, fired with the stories of the doings of Hancock, Gurney, and others, I was hoping to see steam used on the road, and in 1868 I made a small steam carriage, which weighed about 30 cwt. and carried three passengers and stoker. I ran it at various times for four or five years, but, although I escaped the clutches of the law, I at last gave it up and sold it to a man who had invented a wheel for traction engines and required a small machine with which to try his invention.

Meanwhile the French and Germans were experimenting. In 1892, armed with an introduction from the late Mr. Bryan Donkin, I went to Paris and had a ride with M. Serpollet on one of his steam cars. On leaving I expressed to him my regret that the English laws did not allow such carriages to be used; his reply was, "You English are a clever people but your laws are bad, very bad."

In those days the idea of using any mechanical power on the road for carrying passengers was in England looked upon as absurd. The man in the street could not dissociate a steam car from a traction engine or a small railway locomotive. Very little was known in England of what was being done abroad, and the contest of self-propelled vehicles in 1894 from Paris to Rouen was hardly noticed by the Press of this country. Anyone in England who expressed his opinion that mechanical traction might compete with or supersede horse traction was looked upon as a man whose sanity was in question.

In the following year, 1895, I was again in Paris and had a ride with the late M. Levassor in one of his cars—it was a dog-cart with a  $3\frac{1}{2}$ -h.p. engine. Having been experimenting successfully for some seven or eight years previously with oil engines, I commenced, in January, 1895, the engine for what I then termed a motor-tricycle, but it was very different from the motor-tricycles that were in use a few years ago. The engine was  $3\frac{1}{2}$  in. bore and 6 in. stroke. When the motor was completed,

but before it was placed in the vehicle I subjected it to some months' trial with paraffin oil and with benzoline (petrol not being then on the market) to find a suitable form of vapouriser. By the middle of July it had its first trial on the road. Unfortunately I was detained in Switzerland by a severe accident caused by a horse shying, and it was not till some weeks later that I saw it on the road. The engine drove by two belts on pulleys of different sizes on to an intermediate shaft, which drove the main axle by a chain—one wheel only, that on the left side, being the driver. The belts were slack, and tightened by two jockey pulleys. I tried several methods of firing, and found that a tube heated by a blast lamp gave the best result. The weight originally was a little under 5 cwt., and when running well the machine would do about eight miles per hour on a level road, and three and a half miles up a hill of about 1 in 16. In these days such a pace would be considered miserably slow, but at that time the high speeds of the present day were not dreamed of, the idea being that the vehicles would run about the pace of a horse, but that they would be able to cover greater distances in the day than a horse could. But the contest in the summer of 1895, when the late M. Levassor ran from Paris to Bordeaux and back, a distance of over 700 miles, at nearly fifteen miles an hour, showed the possibility of a far higher speed than can be attained by a horse.

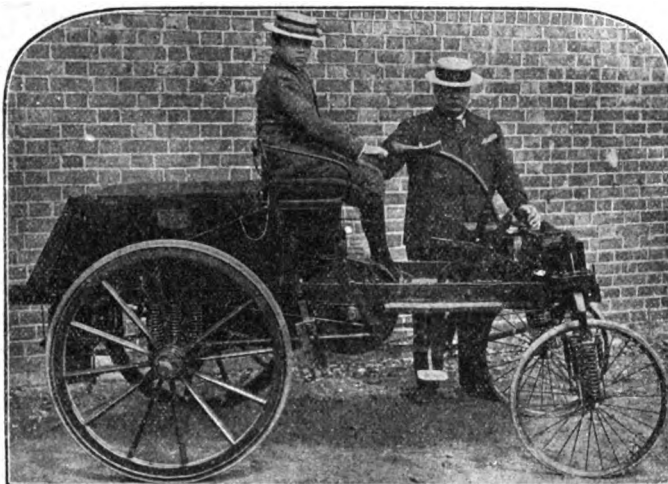
Mr. Shaw Lefevre had introduced into Parliament in the summer of that year a Bill to permit motor carriages to run on our roads, but, the Liberal Government going out in July, the matter was dropped. It is curious that the first ladies to ride on my little car, other than members of my own family, were two sisters of Mr. Shaw Lefevre. I ran the machine for some months in the neighbourhood of Farnham, and a great many people came to see it, but in October I was summoned by the police for using a locomotive without a licence, and for not having a man in front with a red flag. The case was heard at the Farnham Bench on November 1st, when the Surrey County Council sent down a barrister to prosecute, who dwelt on the dangerous character of the machine, as it was driven not by steam but by explosions! The result was that I was fined 2s. 6d. on each summons and expenses, but the prosecution did good, as most of the papers had something to say on the subject of the absurdity of not permitting such machines to be used on the roads. The *Daily Graphic* had a sketch—"The Law and the Locomotive," showing how motor tricycles must be worked, a man sitting in a tricycle with boiler in front, his coachman driving and a page boy walking in front with a red flag. Although I was stopped from running about on the roads, I often had a run in the early mornings to show friends and for experimental purposes. Fortunately I have a private farm road, but with poor surface, about 200 yards from

my house, and by watching to see if police were about a minute's run brought the car to the private road. Here a good deal of experimenting was done, using paraffin, with which the little car seemed to run as well as with benzoline, but it was impossible to prevent a puff of smoke when the governor acted. I feared that, being a three-wheel vehicle, there was a danger of upsetting, as the centre of gravity was high, so in the following spring I put two wheels in front.

Your readers may remember that the old Self-propelled Traffic Association, started by Sir David Salomons, promoted an exhibition of motor vehicles at the Crystal Palace in May, 1896. On the opening day there were four cars running—a Peugeot, a

Panhard, a Benz and my little car. As the latter was the only one of British make, it carried a red ensign in front. Later I put in a  $4\frac{1}{2}$  in. by 6 in. cylinder; this necessitated a heavier flywheel and the strengthening of the carriage. The original wheels, which were of the wire type with rubber tyres, showed signs of giving way and were replaced by wooden ones, so that the weight of the car was increased. With the  $4\frac{1}{2}$  in. cylinder it would run ten miles an hour on fairly level roads, but at this speed it was not very comfortable to ride in, for the springs, spiral ones, had not sufficient elasticity. If I had had ordinary carriage springs it would have been much better.

Those members of the Automobile Club who lunched at my house on Good Friday, 1898, will remember the little car, for I ran a short distance with them on the road to Winchester. In the summer of that year I bought a Benz and my old car was laid aside. The vehicle is still in existence, and as I believe it is the first two-seated internal combustion car made in England, I am anxious that a permanent home may be found for it in some museum. As the South Kensington Museum is the resting-place of four old locomotives, besides a vast number of experimental machines, it is to be hoped that the authorities will find space for some of the motor-cars of early date. If the matter be put off for ten or more years some of these ancient machines may be broken up.



The Author and the Petrol Car he built in 1895.

## TEN YEARS OF MOTOR RACING.\*

BY GEORGES PRADE.

THE sport of automobile racing began in France and the entire world ten years ago, and these ten years are those that created not only the racing car which we saw whizzing by on the Circuit de la Sarthe at ninety miles an hour, but also the touring carriage which brought the visitor to the tribunals of Mars, and which, however humble and modest it be, is nevertheless a monster of speed as compared with the racing car of days gone by.

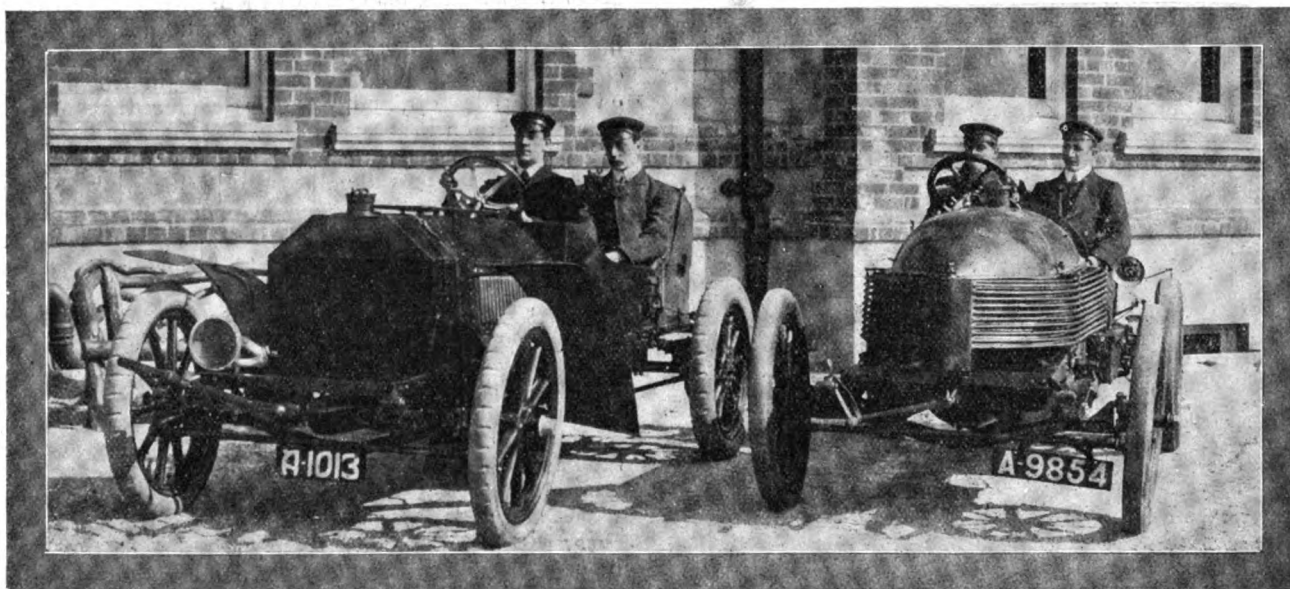
Let us, then, date the foundation of automobile racing in France from the Paris-Bordeaux race of 1895 (although a few races of no great importance had taken place previously), and allow us to present the first winner, the famous No. 5, which was driven by Levassor himself, the founder of the great French establishment which was found in line again this year. It is a far cry from that crude carriage with its 4-h.p. motor to the monster of to-day. High and short, and so heavy that with so moderate a power it would not even have been able to take part in races in which the weight is limited to 2,200 lb., it took 48 h. 12 min. to make the round trip, a total of 720 miles.

It was also a Panhard that triumphed in 1896 in the Paris-

in line upon a motor-cycle in the first Marseilles-Nice race. The year 1897 was more confused. The Automobile Club of France did not itself organise any great races; but the Automobile Club of Nice got up that of Marseilles-Nice, which was won by Count Chasseloup Loubat on a De Dion-Bouton steam brake, followed by M. Michelin, the well-known manufacturer of pneumatic tyres, who tested his own products, with the result that he became the first to engage in an industry which was then unthought of, and the success of which was to be phenomenal.

Beaten at the beginning of the season, the explosion motor had its revenge in the Paris-Dieppe and Paris-Trouville races with the Leon Bollée voiturettes that were led to victory by Jamin, one of the organisers of the 1906 Circuit of Sarthe, and with the famous 6-h.p. Panhard carriages, which have become classic under the name of Paris-Dieppe, and were led to victory by M. Huillier, at present one of the managers of the Mors establishment and who raced under the pseudonym of Giles Hourgieres.

It was with this same type of carriage, the last to be steered with a lever, that René de Knyff in 1898 was to gain his first victory in the Paris-Bordeaux race, in which he covered the distance in 15 hours, a performance which, at the time,



Messrs. Cecil Edge and A. Macdonald on the Napier Racers they drove in the Eliminating Contest for the British Team in the 1905 Gordon Bennett Race.

Marseilles and return race, organised by the Automobile Club of France, which had then been formed. The test was a 1,054-mile one, and the winner was Mayade, who covered the distance in 67 h. 42 min. 58 sec. This time the run was by stages, and the race lasted ten days. The carriage would appear to-day as ridiculous as that of the Paris-Bordeaux race, with its cow-tail steering lever, which was to cost the life of Levassor in this same race, and, three years later, that of Mayade himself.

Nevertheless, we note an improvement in the first motor with four non-balanced cylinders, in which the explosion passed successively from the first to the second, from the second to the third, and from the third to the fourth, thus making of the motor and carriage a genuine instrument of torment by reason of its vibrations. In the test for motor-cycles, now abandoned, the winner was Viet, upon a De Dion machine. Among the participants in the Paris-Marseilles race with Viet, now engineer at the Renault Brothers' works, was to be found in a carriage with seats for four, and which was to make the first trials of pneumatic tyres, Chevalier René de Knyff, now president of the Racing Committee of the Automobile Club of France. The Marquis De Dion had already taken part in the Paris-Bordeaux race, and in 1897 we saw Baron Zuylen

astonished the whole world. But the year 1898 was to witness the advent of the first car of which the outlines and details slightly recall the motor vehicles of the present day—that famous 8-h.p. Panhard which won the Paris-Amsterdam race and glory for Charron, who covered the 1,011 miles divided into six stages in 33 h. 4 min. 34 sec. The second was M. Girardot, the third Gaudry, the pseudonym of M. Etienne Giraud; the fourth M. René de Knyff, and the fifth M. Loysel. The 8-h.p. Panhard of the Paris-Amsterdam race had four balanced cylinders, a steering column with inclined wheel, and a radiator in front. The form of the car was elongated and low, and the average of the winner, which was 30 miles an hour, marked the definite conquest of what we to-day call speed, for even at the present time an average of 30 miles on an unprepared road constitutes an unquestionable speed.

But something better yet was going to be done. The year 1899 was to mark the creation, by the Panhard establishment, of the famous 12-h.p. cars, the type of which long remained classic, and which, driven by Charron, won the Paris-Bordeaux race in 11 h. 43 min., and then the celebrated 16-h.p. Panhard with which René de Knyff was to win the Tour de France (the longest test known to automobile sport—1,398 miles) in 44 h. 43 min. Toward the end of 1899 the 16-h.p. Mors had

\* Translated from "Les Sports."



already triumphed in the Paris-Ostende, Paris-Trouville and Bordeaux-Biarritz races. However, the decisive contest between the two great French houses did not take place till July, 1900, upon the 822-mile stretch of the Paris-Toulon race, where the 24 h.p. Mors driven by Levegh attained an average speed of 43 miles an hour, and covered the distance in 26 h. 43 min. 55 sec. The winner of the voituresses was the glorious Marcel Renault, who was later on to lose his life in the Paris-Madrid race, after winning the Paris-Vienna event.

The great year of success for the Mors establishment, however, was 1901, in which Henry Fournier, its champion, won in succession the Paris-Bordeaux race at an average of 55 miles in 6 hours, and the Paris-Berlin—which will perhaps remain the most colossal success of automobile tests—in which he covered 732 miles in 16 h. 6 min. Here again the voiturette winner was Renault, represented by the second brother, Louis, who was both an engineer and racer.

The year 1902 marked the first important regulation of automobile racing. It was the weight limit. It was decided that racing cars should not weigh over 2,200 pounds. The general type had been scarcely modified. At the most, a new form of the old Daimler had made its appearance in the Mors



The Paris-Madrid Race.—The cars arriving at Bordeaux, where the Contest was stopped.

and Mercedes, with ignition by magneto, and, later, a steel frame. The year 1902 was that of the great battle. This was waged upon the 873-mile stretch of the Paris-Vienna circuit, the winner in which was Marcel Renault, in a light 1,430-pound carriage, while after a furious contest between Panhard and Mercedes in the big 2,200 pound class, victory settled upon the banners of the French house with its 70-h.p., the champion of which was Henri Farman, who came in ahead of Zborowski, who drove a 40-h.p. Mercedes. The general victory was accorded to Marcel Renault. It was in this race that was seen the advent of the majority of the marks that we find in the lists of to-day: the Darracq, which disputed the victory with the Renault up to the last moment; the Brasier, which was then making its debut; the Gobron-Brillié, run by alcohol; and the Clement.

It was in this race that Edge, in a Napier car, captured the Bennett Cup from France, an event comparatively unnoticed at the time, but which is perhaps the main point of this history of the sport, since for many years, and even up to the present one, it displaced the pole of automobile sport, relegated all the other races to the second rank, and founded the automobile industry in other countries than France by obliging them to make use of their own resources solely.

It was at the end of the season of 1899 that Mr. James Gordon Bennett founded the celebrated race, the principle of which was that it should be disputed between the great national clubs, each represented by three cars manufactured in all their parts in the country represented by the club. It was therefore a national competition *par excellence*, which required a national production in each country.

The first year the cup was contested for upon the Paris-Lyons Circuit, and there was but one rider to each of the three 20-h.p. Panhard cars that contributed the French contingent. The winner was Charron, who came in ahead of Girardot. In 1901 the cup was obscured in the Paris-Bordeaux race won by Fournier; and the winning of the cup by Girardot in a 24-h.p. Panhard car passed unnoticed. Up to then no foreign club existed, or, at least, as in 1901, had come to the front. Again in 1902 the race was run in conjunction with another (Paris-Vienna), when, some racing accidents having arrested the three French champions, Edge, the sole foreign contestant, in a Napier car, captured the cup and carried it to England.

From that time it was the Gordon Bennett Cup that became the great race. The prohibition of races in France after the Paris-Madrid, of which the first stage only was run, and won by Gabriel on a Mors, soon emphasized this evolution. The creation by Baron Pierre de Crawhez of the Circuit of Ardennes, the great Belgian race, inaugurated the principle of the circuit, and of the race without neutralization, but did not suffice to diminish interest in the Gordon Bennett cup. Such interest became colossal when, in 1903, the cup was won in Ireland by Jenatzy on a Mercedes car, and was thus captured for a second time by another than France and carried to Germany.

The type of the victorious racing car was to have a profound effect upon the prevailing style of vehicles. The chassis of pressed steel, ball bearings, the regulation of the gases, the ignition by magneto and the radiator cooled by fan were introduced into fashion by the successes due to the races of 1902 and 1903.

The cup therefore became the object of the test of 1904. The French industry prepared itself thoroughly for it, and the Automobile Club of France organized elimination trials in order that it might designate its three champions. It was the Brasier establishment, new in name, but whose engineer, M. Richard Brasier, had assisted in the construction of the victorious cars of 1900 and 1901, which attached its name to the recapture of the cup in 1904 at the Taunus race, and to the apparently definite possession of it at Auvergne in 1905. It was a Brasier car driven by Thery that won the four races in succession, beating the German industry in the Taunus and the Italian in the Auvergne race after a hot contest. For it must here be remarked that in 1904, at the Taunus race, a new rival, Italy, had sprung up with the Fiat cars, which, in 1905, came very nearly taking the cup from France. At the end of the year 1905 the Italian industry gained its first international victory at home at Brescia with the Italas, while the Darracq cars won in succession in the Circuit of Ardennes and in the Vanderbilt cup race in the United States.

## TECHNICAL EDUCATION.

ONE of the most gratifying developments of the later years of the first decade of the modern motor-car is the encouragement which local educational authorities have given to instruction in automobilism—both theoretical and practical. The first efforts were difficult, owing to the absence of suitable teachers as well as to the prejudice of public representatives loth to accord support to a movement at once novel and revolutionary. But the growth of the industry has forced their hands in many places. The Battersea Polytechnic was the pioneer in this movement and the first to have a motor-car for actual instruction in driving, Mr. H. J. Taylor being the instructor. Since then the Regent Street Polytechnic, the Northampton Institute, and other London institutions have accepted the automobile in their curriculum, while railway companies interested in the provision of education for their workpeople have also arranged for instruction therein, notably the Great Eastern Railway at its institute at Stratford.



## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
27-33, Charing Cross Road, W.C.]

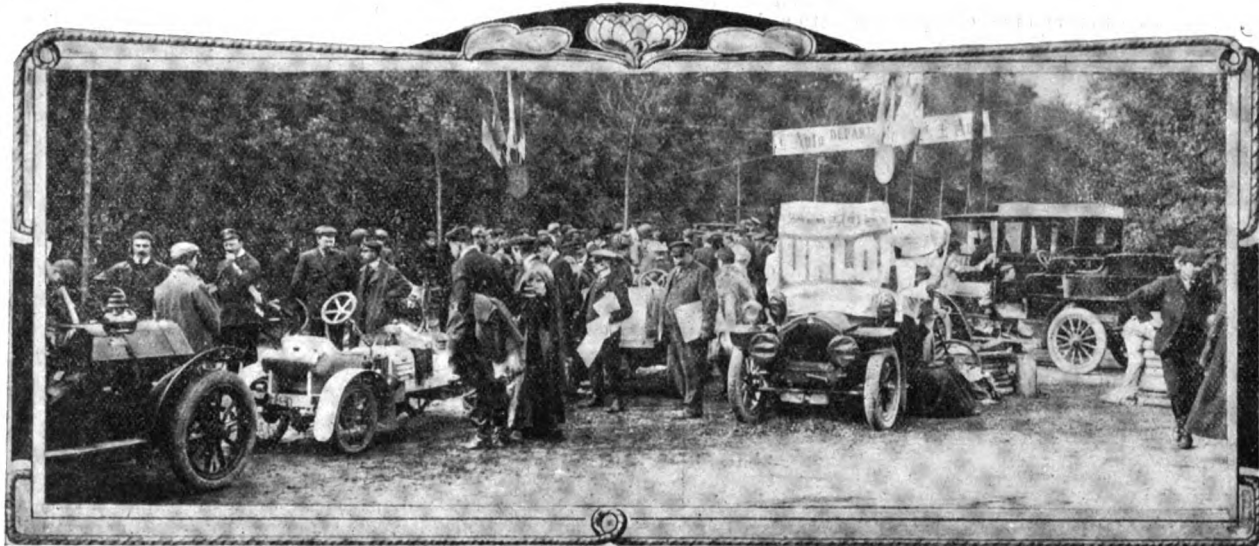
### THE TOURIST TROPHY RACE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As my suggested modifications to the Rules for next year's Tourist Trophy Race have attracted so much criticism, I should like to state that my sole reason for making the suggestion was to prevent, as far as possible, freak cars taking part in the race. The Tourist Trophy Race is supposed to be for "ordinary touring cars," vide Rule 12, therefore it appears to me that one of the first points to be settled, in connection with the rules for next year's race, is the definition of "an ordinary touring car." To my mind "an ordinary touring car" is one in which there is comfortable accommodation for the number of passengers it is supposed to carry, and adequate space for a moderate amount of luggage. If we assume that this or some very similar definition is agreed to, then the following details should be carefully studied and settled, viz.:—1. The number and weight of passengers to be carried. 2. The dimensions and minimum weight of body. 3. The distance from dash to front edge of back tyre. 4. Clearance. 5. Breadth of frame and track. 6. Minimum weight of chassis. 7. Maximum average speed desired. 8. Allowance of petrol.

experience. I will take "Medicus's," questions in rotation. *First*, hilly country. A Turner-Miesse steam car is what he requires; this vehicle will take him up the steepest hills without any rushing at the bottom. In fact, the longer the hill the better the car pulls. It has another great advantage for hilly country: should the brakes by any mischance fail to act in descending a hill, you can always reverse the engine and pull up the car. *Second*, is a steam car (once steam is up) as easy to start as a petrol car? Yes, more so; you simply let back the pedal and the car glides along without noise, vibration or smell. *Third*, Is it more economical? Yes; because the car burns paraffin costing from 5d. to 6d. per gallon, and will run as far as a petrol car carrying the same quantity of petrol, which costs at present 1s. 3d. the gallon. The car runs from eighty to one hundred miles on one fill of water, according to whether country is hilly or flat. *Fourth*, does engine last longer? A steam engine will last many years. I have never spent a penny on mine, nor had cause to take off the covering. Give the engine lubrication, and its life is practically endless. *Fifth*, attention needed. You will gather from above that the engine needs no attention. The only part to look after other than lubrication and filling up water and paraffin tank, is the nozzle that feeds the burner. This requires cleaning, but I am delighted to say that this, the only drawback, in my opinion, to the older-type Miesse car, has now been overcome. The company now fit a new burner regulator, which allows of cleaning the nozzle, by simply turning and pushing a small handle. It also permits one to turn down the fire as well. The car will stand for hours without attention, and can be instantly started, this being one amongst the many improvements of the latest cars. As I do a certain amount of touring in hilly country, it may be I often pass through the town in which "Medicus" lives. If so, I should have pleasure in giving him a run.—Yours truly,

STEAMER.



The Dourdan Speed Trials.—The Cars at the Starting Point.

As regards the latter, I sincerely hope that this principle of limiting speed will not be changed. It may not be perfect, but do let us stick to it, and not chop and change, which is a fatal mistake. With a view to making next year's Tourist Trophy Race a far greater success than it was this year, I hope the Automobile Club will think fit to ascertain, without delay, the views of:—(a) All the entrants for this year's race. (b) All the principal British manufacturers who did not take part in this year's race. (c) The principal foreign clubs, as the race is an international one. (d) The editors of the principal technical papers in this country. If these suggestions are acted upon, I feel sure that next year's Tourist Trophy Race will prove to be a huge success of great public interest, and not without considerable value to motorists as well as to manufacturers. The popularity of the race will be, I feel sure, greatly enhanced if the order of start is determined by ballot, thus ensuring for each entrant fair play and an equal chance for a good place at the start.

I wish to again urge the great importance of encouraging the use of some other fuel than petrol, one of British manufacture for preference. This is a matter of great national importance, and what better means is there of creating competition in fuel suitable for internal combustion engines on motor-cars than by offering large money prizes such as I suggested in my previous letter?—Yours truly,

H. H. P. DEASY.

### STEAM CAR EXPERIENCES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to "Medicus," re steam cars, being a private owner and having driven a steam car for the past four years, I speak from

### AUTOMATICALLY-CONTROLLED IGNITION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In answer to "J. R. C.'s" enquiry re automatically advanced and retarded ignition, I may state that my experience of such, as fitted to a Brotherhood car, is quite satisfactory. For driving in traffic and for picking up on all speeds, it is, I think, superior to any other system, and by reducing the number of controlling attachments, the management of the car is, even for the inexperienced, easy, simple and even luxurious.—Yours truly,

CHARLES WELCH FORESTER.

### MASCOTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to Mr. C. M. Holloway's letter in your last issue about his black cat as a "Mascot," I would like to inform your readers of my little black Aberdeen terrier, "Toshie," who has travelled many thousands of miles with me—ever since 1898, in fact—on many makes of cars, notably the old type three-wheeled Bollée, an old 6-h.p. M.M.C., a 14-20-h.p. Vinot, &c. He has been run over several times by the old Bollée, caused by his overbalancing on the front seat, and once he was run over by a 6-h.p. De Dion, through being accidentally pitched out, but he has never been injured. Whenever I light up a tube ignition car he is up on the driving seat as soon as the burners begin to roar, just as he mounts immediately he hears the hum of an electrically fired car's coil. If I am by myself, when driving, he always sits on the front seat with me and rests his head on my right arm, when he is not occupied with keeping a look-out ahead, quite oblivious to the fact the tears run

copiously from his eyes in cold weather, which is his favourite occupation. I hope to send you his photograph on my 14-20 h.p. Vinot car shortly.—Yours truly,

ALAN A. L. HICKMAN.

[Doubtless some of our readers will be interested in the picture.]

### SOCIETY OF AUTOMOBILE MECHANIC DRIVERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to "A. M.'s" letter of your last issue, I am instructed by the committee of the above to say that our chairman of committee wrote, saying he would be pleased to receive him in London on his next visit, and asking his forbearance during the re-formation of the society, but did not hear from him again. I should be pleased to hear from "A. M." as controversy in public is not policy, although the Society is prepared to give any explanation.—Yours truly,

P. LORING, Secretary.

### A NOVEL CHANGE-SPEED GEAR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Those who believe finality has been reached in change-speed gears will be interested in hearing of a simple invention just patented, which obtains from the simple single (two-speed) epicyclic gear train three or more speeds and reverse, and free-wheeling function on all speeds automatically, if required. No clutches are employed and all the wheels are positively and constantly in mesh. A minimum waste of energy due to friction is obtained, there being no friction bands to apply to the various members, as is now the case on motor speed gears. How this simple adaptation has escaped the scrutiny of the originator of the epicyclic gear, and the thousands who have studied and developed his invention in the direction of unnecessary complication, is beyond



The 12-16-h.p. Clement-Talbot which won the Standing Mile race for Chassis under £450 at Blackpool.

comprehension. I myself, experimenting with gears for textile machinery, cycles, power transmitters, and motor-cars for a quarter of a century, have blindly walked afield over much new ground in search of what, after all, remained in the old ground waiting to be unearthed. True it is that the vision which wanders afar overlooks the things at home. This revolutionary form is now being made for cycles and motor-cars, and I hope to send you full particulars of it shortly.—Yours truly,

GEO. STURGESS.

### NON-SKID EXPERIENCES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Your request that those who have had experience of non-skid tyres should send in their views regarding them has prompted me to write on the subject. I have a pair of Samson's on Continental tyres which were put on in Paris five months ago, and they have given no trouble whatsoever; except that the rivets are getting thin they are as good as new. On my other car—a 12-16-h.p. Swift—I have had experience of other non-skids. Two made last year were good and wore well. This year the type has been improved upon, and the result is somewhat disappointing. The long rivets on one tore quickly out and the tyre beneath the other burst. The tyres, moreover, are spoiled by the process of scraping to which they are subjected before the non-skids are stuck on. One of my tyres not only has places from which the rubber has been completely scraped, but the canvas beneath has been cut and weakened, and the burst referred to resulted from that cause. At the present moment both the non-skids on my car have been put on by myself in order to avoid the damage done to the tyres beneath by scraping, vulcanising, &c., when sent to the works. Using

Sens' Vulcanisator according to the instructions, the home applied non-skids are eminently satisfactory, even though for economy sake I substitute ordinary rubber solution and only use Sens' reviver. By this means I know that my tyres are sound and drive with confidence. Moreover, I can use up home-strengthened old tyres which the works refuse to restud. I have not yet found a house which will supply me with new unapplied non-skids. The makers always allege, incorrectly, that they cannot be put on by an amateur. My advice is re-stud, or have re-studded your old non skids, but, for the sake of the tyre beneath, put them on yourself, as well as new ones, if you can get them.—Yours truly

D. W. SAMWAYS, M.D., D.Sc

### SKEGNESS SPEED TRIALS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Did not the most important feature, to the motoring public, of the Skegness meet of the Nottingham Automobile Club escape notice? The Nottingham public patronise the East Coast pleasure and health resorts in large numbers, and naturally it follows that the Notts Automobile Club favour that part for beach meetings.

Is the shifting and shingly beach of Skegness the most suitable one they can find for the purpose? According to reports as to beach conditions, results of the first and last two annual meetings at Skegness have been unsatisfactory. Now a word of that favourite resort of Nottingham people—Mablethorpe—within twenty miles of Skegness. It has been said by Mr. S. F. Edge and many other notable motorists who have motored over its beautiful sands, to possess the "finest stretch of sand suitable for motoring around the English coast." And, while its reach of firm and shingleless beach extends for miles beyond the ancient haven of Saltfleet, eight miles away, the peculiar geographical conditions obtaining are such that the chances of a successful meet are not dependent upon the tides as at Skegness.

The Lincolnshire Automobile Club have held their annual mid-summer races on Mablethorpe beach. Why do not other clubs meet there, since, in these times of police traps and public objections, to the free use of the motor-car on the King's highway, a resort where the motorist can have free rein and make his own speed in safety and without public interference has become absolutely necessary for the testing of cars and drivers and also for the general progress of the colossal industry built up thereon.

The weather conditions are such that Mablethorpe is not only a summer but a winter health resort. The reason, so much less rainfall is registered at Mablethorpe than at neighbouring coast resorts or inland, and consequently is visited more frequently by Old King Sol—the sun cannot be dealt with here. Besides, the beach is free for trial spins all the year round, and of easy access to most motorists, being in close proximity to the Great North Road.—Yours truly,

MABLETHORPE.

### INEFFICIENT LUBRICATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was very interested to see the letter from "A Country Garage Owner" with reference to inefficient lubrication. I have often been struck myself with the total absence of any possible means of knowing the amount of oil there was in the base chamber in the majority of Continental cars. The average owner usually receives instructions that he has to allow so many drips per minute through his sight feeds on the dash, and that that will keep the engine efficiently lubricated. From this point the owner goes on blindly. If the number he has been told gives excessive oil to his engine he is a continual nuisance to his fellow creatures. If, however, the quantity of oil dripping through is even one drip too little per minute, ultimately there comes a time when the leakage and waste deplete the base chamber of oil, and bearings wear out or pistons seize up, or something serious happens.

The ideal system of lubrication at the moment seems to lie with the Napier people, whose engines are supplied with a funnel that contains a gauze, which is attached to the base chamber. On the under surface of the base there is a gauge cock; if this cock be opened and the base filled up through the funnel attached to the crank case, when the oil is sufficient in amount it begins to run over and out of the gauge cock. A user may thus have ocular demonstration that his engine is fit for a run of from 150 or 200 miles. The oil is kept in circulation by means of a pump, and is filtered. This is another little British innovation that might well be introduced on to foreign cars if they wish to keep up with their British competitors, and it seems strange that anyone could design and run a high-speed engine without making the oiling mechanism not a thing of chance and dependent upon the doubtful intelligence of a driver, but a matter of scientific certainty.—Yours truly,

SIDNEY LEWIS.

WE shall be glad if the writer of a postcard signed "A Victim" will forward his name and address, in confidence.

THE SOCIETY OF AUTOMOBILE DRIVERS.—With reference to the letter on this society last week, "J. M. F." writes to say that his membership card announces a meeting to be held on the evening of the 29th at Rawlings' Garage, Halkin Street, Belgrave Square, W.

[Correspondents are reminded that letters to the Editor cannot be inserted unless the writer gives his full name and address—not necessarily for publication. Several letters, including one from Mr. W. Gough, have lately been received, in which the address is omitted.]

## CLUBS AND ASSOCIATIONS.

### THE ESSEX COUNTY.

THE Essex County Automobile Club held their final event of the season on Saturday last at Colchester. Luncheon was served at the Red Lion Hotel to a party numbering nearly forty, the chair being taken by Colonel R. P. Davis, J.P. The opportunity was taken of presenting to the Rev. E. T. Maw a handsome silver cup, which formed the first prize for the handicap event at the hill-climbing competition held at Bottledown Hill on October 6th. The following members attended with their cars:—Colonel R. P. Davis, J.P., 40-h.p. De Dietrich; Mr. R. Page, 20-h.p. Mercedes; Mr. Arthur K. Knight, 12-h.p. Humber; Mr. E. J. Hoake, 10-h.p. Panhard; Mr. H. M. Fletcher, 40-h.p. Panhard; Rev. E. T. Maw, 8 11-h.p. Panhard; Mr. A. J. Mills, Renault; Mr. J. S. Whetton, 9 10-h.p. Adams-Hewitt; Mr. Courtney Honyman, 9-10-h.p. Adams-Hewitt; Mr. W. S. Argent, 18-h.p. Mercedes; Mr. F. Lindus Forge, 14-h.p. Star.

THE Crystal Palace Automobile Club held a hill climb on Captain Kidd's Hill at Hartfield, near East Grinstead, on Saturday. At the moment of going to press a revised list of placings reached us from the officials, which will be published in our next issue.

A SUB-COMMITTEE of the Sheffield A.C. has been appointed to report upon the provision of a club garage in the centre of the city.

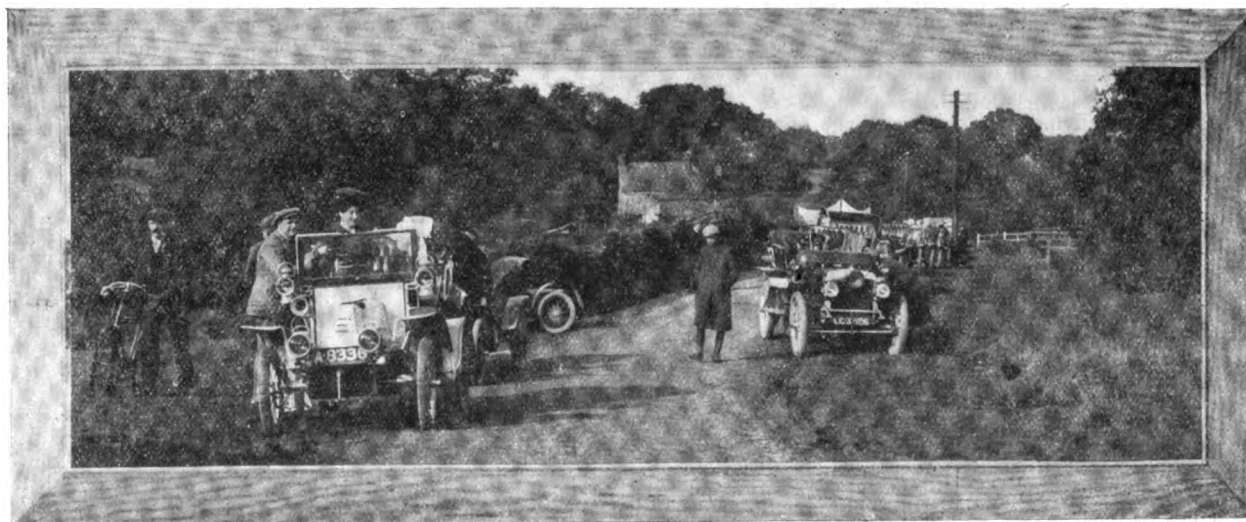
### THE LAW OF HIRE.

AT the Liverpool High Court of Justice, before Judge Shand, William Lea, of Liverpool, sued Lieut.-Col. Sladen for damages for the

prosecutions, deposed that on the morning of 28th September, with his colleague, both in plain clothes, a journey along Sloane Street was made inside the defendant's 'bus. The vehicle was timed in a lifting fog over a measured furlong in 30 seconds—equal to fifteen miles an hour. He told the defendant that he would be reported "for exceeding the limit." Mr. Dutton.—For exceeding the twelve mile limit. The defendant is not summoned for that offence. The Witness.—I meant to say that I told him that he would be reported for a speed dangerous to the public. Replying to questions in cross-examination, the witness said that both he and the constable got inside as the 'bus was standing still. The constable never got on top—so he could not have come down. Police-constable 67 B, who had not heard the sergeant's evidence, corroborated as to speed, and in reply to the first question in cross-examination said that both he and the sergeant got outside the 'bus in the first instance. They found there was not room outside for two. Mr. Dutton.—So it is not true, as the sergeant has sworn, that you got inside the 'bus at first, and were never outside? Mr. Curtis-Bennett at this stage, without comment, dismissed the summons.

### ROAD REPORTS.

BLAIRGOWRIE.—The Blairgowrie District Committee of the County Council have been discussing motor traffic in that district, and have unanimously agreed to adhere to the original schedule of proposed restrictions, viz.:—In burghs and populous places, at cross roads and corners, and within a hundred yards of these, and in proximity to schools, the speed be limited to ten miles per hour; and that, on the undermentioned roads, speed be restricted to ten miles an hour:—Drumkilbo and Kirkinch road, Coltward and Bruntly road, Cally road



Some of the Competitors in the Crystal Palace Automobile Club's Inaugural Hill Climb at Captain Kidd's Hill, near East Grinstead, on Saturday last.

breaking of a contract with respect to the hire of a car. It transpired that the colonel ordered a new car with canopy to be got ready in time for a month's hire on May 7th last; on that day the car was ready, but the colonel required it in London, as he was there himself at the time. The vehicle was accordingly sent to London, but the colonel, after having subjected it to a test by an expert, rejected it, and accordingly wired William Lea to that effect. Evidence for the defence brought to light the fact that the only trouble with the car was that the clutch was slipping on the test journey, although it had gone perfectly from Liverpool to London, and the two rear wheels were out of truth by about  $\frac{3}{4}$  in. Evidence was called to testify to the fact that new wheels could have been put on if desired within a quarter of an hour, and, as a matter of fact, all the adjustments to the car, including the wheels, could have been effected easily in six hours. Judge Shand, on hearing evidence on both sides, decided that the car was in accordance with the contract, and accordingly gave a verdict for the plaintiff for £50 damages and costs on the higher scale.

### UNSATISFACTORY POLICE EVIDENCE.

AT Westminster Police Court, Charles H. Macpherson, a motor-car driver, was summoned, before Mr. Curtis-Bennett, by the police for "driving in a manner dangerous to the public. Mr. Duerdin Dutton, defending, said the facts were disputed, and there were some peculiar features about the case, therefore while the sergeant gave evidence the constable to corroborate him had better stay out of court. Sergeant Strickland, 2 B, whose special duty is associated with motor-car speed

from Rattray to second milestone beyond Craighall Bridge, Cray, Drumfork, and Blacklunans road, and Kinnochry road.

NORFOLK.—It has been reported to the Highways Committee at King's Lynn that, owing to the number of motorists visiting the King's residence at Sandringham this season, the upkeep of the roads in the district had required double the attention bestowed upon the highways in other parts of the county. The expense of watering and repairing the roads has been considerable.

### MOTOR-CAR ACCIDENTS.

AT Stockport an inquest has been held on the body of Samuel Gill, manager of a Manchester shipping firm, who was killed in a motor-car collision, and a verdict of "Death from misadventure" was returned. The owner of the car, Mr. Harper, a Manchester solicitor, was stunned, and while he was seeking help subsequently someone stole a tin of petrol and robbed Mr. Gill, as he lay unconscious in the road, of the contents of his purse.

MR. LEWIS WALLER has been involved in a serious motor smash near Coventry. He had just taken delivery of a motor-car and was returning to London, when a car, driven by Councillor Bromley, of Coventry, entered the main road from a lane. In endeavouring to avoid a collision Mr. Waller applied the brakes suddenly, and his car was overturned. Mr. Waller, who was driving, a lady occupant, and the chauffeur were thrown out, and the car was badly damaged. The lady was injured, but Mr. Waller and the chauffeur escaped with a shaking. All three returned to London. Councillor Bromley's car was damaged, but the occupants were unhurt.

## CASES UNDER THE MOTOR-CAR ACT.

### SECTIONS 2 AND 9.—REGISTRATION AND SPEED.

At the Lambeth Police Court, Henry Christopher Tryon, 25, an engineer, of St. James's Place, S.W., has been charged, before Mr. Curtis-Bennett, on a warrant granted in consequence of his non-appearance to a summons, with having driven a motor-car at a speed exceeding the limit of twenty miles an hour. The magistrate imposed a penalty of 40s. with 4s. costs.

An interesting point has been raised at Greenwich by Henry Booth, of 13, Peckham Road, Camberwell, summoned before Mr. Baggallay for driving a motor-car in Loampit Vale, Lewisham, beyond the legal speed limit. Over a measured furlong one constable timed defendant's car as doing 15.5 sec., and by another the time was made 15.3.5 sec. The latter worked out at 28 miles 1,489 yards per hour. The defendant alleged there must have been a mistake in the timing, and said he had not exceeded eighteen miles an hour. Mr. Baggallay said there must have been a mistake of 10 sec., and the defendant said he had known differences of 3 sec. in 100 yards. Fined 40s.

Ephraim Fredk. Croesland, motor-car driver, of Archery Place, Blackman Lane, Leeds, was summoned at the Leeds Police court for exceeding the speed limit. He was timed, at Woodhouse Moor, to be travelling at a rate equal to a speed of over thirty-four miles an hour. Defendant admitted that he was exceeding the speed limit, but did so only for a few yards, to give the car a start, as it had been "sticking." The Magistrate remarked: You are the first person I have heard admit that, and then fined him £3 and costs to encourage him in candour.

A motor-car that was being driven by Francis Leid, chauffeur to Mr. Otto Beit, was stopped for fast driving at Finchley, and it was then discovered that it was registered in the name of the late Mr. Alfred Beit. Summoned at Highgate, Leid said that this was an oversight. The car, formerly the property of Mr. Alfred Beit, was now registered in Mr. Otto Beit's name. He was fined £5 for travelling at excessive speed, and ordered to pay costs for not registering the car.

### SECTION 8.—L.G.B. RESTRICTIONS.

At Ayr Sheriff Court, Roderick M. Lawson, motor-car driver, Girvan, was fined £3 3s. for driving through the village of Ballantrae at a speed exceeding ten miles an hour. The police evidence was to the effect that their timings showed the car to have travelled at the rate of twenty-two miles an hour. In defence it was brought out that half a mile outside the village a cyclist had warned Lawson to beware of the police trap, and two ladies who were in the car—one of them Mrs. Wason, wife of Mr. Cathcart Wason, M.P.—spoke to the speed of the car having been reduced after the driver received that warning.

### APPEAL ALLOWED.

At the East Sussex Sessions last week, the case of Fletcher v. Brooman was an appeal by William Fletcher against a conviction at Haywards Heath for driving a motor-car at a speed dangerous to the public. Appearing for the respondents, the police, Mr. E. E. Humphrys said the magistrates suspended the appellant's licence, and sentenced him to a month's hard labour. Having carefully considered the case, on behalf of the police, counsel had come to the conclusion that the sentence could hardly be sustained, and after consulting his friend, Mr. Mellor, who appeared for the appellants, it was proposed that the conviction should be confirmed, but that the sentence of imprisonment should be altered to a fine of £10, and the order suspending the appellant's licence should be discharged, the appellant to pay the costs of the appeal. Mr. Mellor agreed to these terms, and the court made an order accordingly.

### APPEALS TO QUARTER SESSIONS.

At the Michaelmas Quarter Sessions for the Borough of Reading, George J. Fawdrey, a motor-car driver, of Abingdon, appealed against a conviction by the Borough Justices for unlawfully driving a motor-car in Broad Street, on July 21st, in a manner dangerous to the public. The Hon. R. Coventry, for the respondent justices, stated that the fine imposed was one of £2, with £1 2s. 6d. costs. On the day in question the appellant was driving a motor-car from Abingdon to Ascot, and, the races being on, there was a lot of extra traffic in the Reading streets. At the spot where an accident occurred in which the appellant was concerned, there was a somewhat dangerous crossing from West Street to St. Mary's Butts. It was alleged that no horn was sounded, and that the driver drove off. The appellant and his employer having given evidence, the Recorder intimated that he would consider judgment and forward it to the Clerk of the Peace.

At the Surrey Quarter Sessions, at Kingston-on-Thames, Captain William Bennett, of the 3rd Cheshire Regiment, appealed against a conviction by the justices of the Chertsey division for driving a motor-car on the highway to the danger of the public. Mr. Jeff said the facts as stated to the Chertsey Bench were that on December 21st last Captain Bennett was driving a motor-car on the Guildford road, between Chertsey and Ottershaw, when, passing a brougham in which Lady Stern was seated, the car collided with the carriage, with most injurious effects. One of the springs and pole of the carriage were broken, the coachman was thrown into the well of the carriage, and a footman sitting beside him was flung into the roadway, alighting on his head and being rendered temporarily unconscious. The horses bolted, but the coachman managed to retain his hold of the reins until they were pulled up. After hearing the evidence for all parties, the magistrates dismissed the appeal with costs.

### SECTION 1.—RECKLESS DRIVING.

At the Knarborough Petty Sessions Rowland D. Kitson, of Gledhow Hall, Leeds, was charged with driving a motor-car to the danger of the public, at Walshford, on October 6th. Superintendent Keel explained that through the village of Walshford a measured quarter of a mile was worked with an electric wire, and the defendant was timed by the police, and covered the distance at the rate of twenty-two and a-half miles an hour, which, having regard to the place, the nature and condition of the road, and the traffic that might be expected on it, constituted a danger to the public. There was not actually any traffic on the road when the defendant passed with his motor-car, but just before, cyclists and other traffic were on it. Evidence having been given by three police constables, Mr. Greene said the summons was taken out under Section 1 of the Act, which included reckless driving, which he absolutely denied on the part of the defendant. There was no traffic on the road nor anyone about; if there had been the defendant would have gone still slower. He (Mr. Greene) said that the section was never intended for cases of this description, which carried an endorsement of the licence if there was a conviction, and he asked the Bench to say that there was no case. The Chairman (Mr. Sheepshanks) said that if they did that it would be saying that they did not think the speed a dangerous one to go through a village, and they had decided in other cases that it was. Walshford was a dangerous place to go through at that speed, and there must be a conviction. It was not a serious case, but the defendant would be fined £1 and costs.

### SECTION 2.—RECKLESS DRIVING.

At Wolverhampton County Police Court, Charles Ernest Spurrier, of Darlington Street, Wolverhampton, was summoned for riding a motor-bicycle recklessly. Mr. S. R. Rhodes defended. Mr. Rhodes said that it would be foolish for a motor-cyclist to ride down Compton Holloway at the rate at which it was said that the defendant was riding. He submitted that the prosecution had entirely failed to prove that the defendant had ridden recklessly, and if this case had been in another court the defendant would have been entitled to damages on account of a girl on a cycle attempting to cross in front of him when she knew a motor-cycle was approaching. Mr. Mander said that the magistrates were of opinion that the defendant rode at a reckless pace, and Spurrier would be fined £2 and costs.

### LIGHTING.

In the case of a motor-cyclist summoned for not having the front identification plate of his machine properly illuminated, Mr. Chapman, the magistrate at the Greenwich Court, hearing from the defendant that he considered a lamp on the front forks with an aperture at the top casting a beam of light on the plate a sufficient illumination, put the apparatus to a practical test in one of the rooms of the court. It must have been at least partially satisfactory, for his worship dismissed the case on payment of costs.

### POLICE TRAPS.

THERE is a well-watched police "control" between Malton and Scarborough, another at Killington, and a third at Scugglethorpe—all of which lead to the Buckrose (East Riding) Petty Sessions.

THE Coventry road is again infested with police traps, these having recently been notified as occurring at Elmdon and Ashford Brook Bridge.

THERE is a measured quarter of a mile at Walshford, near Knarborough.

## TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case; otherwise no liability will be accepted.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.



# THE Motor-Car Journal.

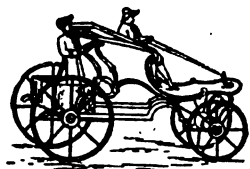
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## COMMENTS.



MOTORIZED CARRIAGE 1700

**C**ONGRATULATIONS have come thickly upon us in connection with the Commemoration Number published last week. Very pleasing have been the letters and messages from the pioneers of the early days, while other communications have testified to the interest of later entrants to the automobile movement. To all those readers who have thus shown their appreciation of our efforts we tender thanks. In many places the supplies were quickly exhausted and difficulty was experienced in obtaining copies; while many readers seem to have ordered special quantities with a view to preservation as a record of a busy decade. We have, however, a few copies left, and these can be still ordered through any Newsagent or Bookstall; or will be sent by post from the office for three halfpence.

### By-Laws or the Act.

THE record has been closed by Lord Salvesen in an action at the instance of the Glasgow and South-Western Railway Company against the Provost, Magistrates, and Councillors of the Burgh of Saltcoats. The company maintain a service of motor-cars for the conveyance for hire of passengers in connection with the train service on their Glasgow and Ardrossan line. These cars ply between the railway stations at Kilwinning and Ardrossan and intermediate places, including the burgh of Saltcoats. They are all registered under the Motor Car Act, 1903, and the drivers are licensed in terms of that Act. The question in the case is whether the pursuers are bound to obtain licences from the defenders under by-laws enacted by them for the regulation of omnibuses or other carriages plying within the burgh. It is said that these by-laws have no application to the company's motor-cars in respect that they are duly registered, and the drivers, guards, and conductors licensed under the Motor Car Act, and that the by-laws are also inapplicable in respect that the service of the pursuers' cars is not confined within the limits of the defenders' jurisdiction. The defenders maintain that the motor-cars and drivers are subject to the by-laws. They, however, deny that they have intimated their intention to enforce the by-laws against the pursuers, and plead that in the circumstances the action should be dismissed.

### The Town Carriage Competition.

**ELSEWHERE** we give the awards in the Town Carriage Competition of the A.C.G.B.I., and would congratulate the judges who dealt with technical details, and the special jury for general appearance, on the promptitude with which these have been made known to the Press and the competitors. Our columns have previously set forth the idea underlying the competition, which was a great success, revealing, however, in the opinion of the judges, some points which require the attention of makers. Thus, insufficient clearance between the ground and the lowest part of the car was observable in some instances, while in several vehicles inferior systems of lubrication

were employed. It is also pointed out that the amount of smoke emitted with the exhaust is the only indication of the quantity of oil in the crank chamber in some cases. This matter of lubrication is therefore one upon which these official experts would like to see an improvement.

### Points of Criticism.

**EASE** of cleaning the machinery and facility in starting were two points that struck the judges as being generally well studied by designers, and, as a rule, the exhaust vent was well placed. But some cars were wanting with regard to accessibility for the purpose of effecting adjustments and repairs, while vibration and noise have yet to be minimised in a few cars. On the thirty-mile run which formed a part of the competition the official observers testified that the vehicles ran smoothly and well, and that great advance had been made towards the production of satisfactory vehicles for town service. They noted, too, that adequate tyres and effective brakes were uniformly fitted, although attention may yet be given to the design of vehicles with reference to turning radius. In some of the cars entered this was too great to enable the vehicle to be turned in most of the streets of London without manoeuvring. It is very satisfactory that neither judges nor jury have found faults with fundamental matters; their only criticisms are of a minor order, and while we may congratulate the medallists, we may also add our tribute to the many excellent vehicles that narrowly escaped distinction.

### The Awards.

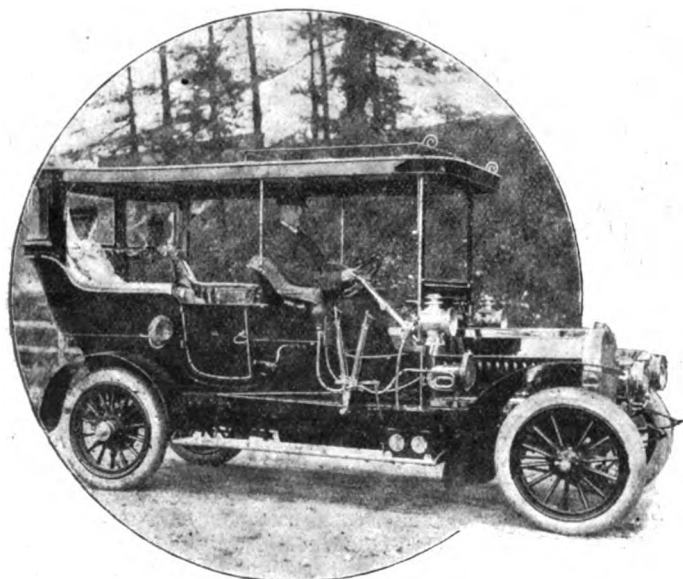
**THERE** were thirty-two cars in the competition, and four gold medals have been awarded—electricity, petrol, and steam each receiving recognition. Mr. Carl Oppermann, whose electrical vehicle won distinction in Class "A," has long been identified with that class of automobile, while the Wolseley Co.'s limousine is a well-known type. In Class B the Electromobile and the White steam cars won gold medals, Mr. Frederic Coleman attaining his award with the two vehicles which appeared at the head of the procession illustrated on page 710 of our last issue. Ease of manoeuvring was specially noticeable in the Adams-Hewitt car; the comfort of passengers was a feature of the Dennis vehicle. These, and other special points of distinction, are, however, set forth in the judges' recommendations, given on another page. The report of the jury on carriage work is also presented in full elsewhere.

### A Colonial Dilemma.

**STRANGER** even than "Octroi" complications in France are the difficulties that arise between some of the colonies in Australia. Vehicles drawn by oxen or horses between New South Wales and Queensland have to be fumigated. That is a regulation that has long been enforced, and the motor-car has not yet succeeded in over-riding the general rule. A ridiculous situation recently overtook a party of motorists, who tried to cross the border line, so as to reach New South Wales

from Queensland. The party included Mr. John Lawler, a well-known Sydney citizen, with large commercial interests, who left Sydney with the intention of testing his car over the long journey through the New England plateau to Brisbane, and home by the northern rivers. The run to Brisbane was made in five days, and the return was begun. When Macpherson's Gap, some six miles from Murwillumbah, was reached, a Government officer forbade further progress. The motorist's wife and two daughters were without food or shelter or sufficient clothing for a night in the open, and he had to go on to Murwillumbah, leaving them behind, in order to communicate with the authorities. The supervising officer pointed out that the gatekeeper had acted under the regulation directing the fumigation of vehicles to which animals are attached. As to whether motor-cars are to be so treated was a new question, but evidently the gatekeeper was not going to take any risks.

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**The Wolseley Co.'s** 1907 Models. On Tuesday last the Wolseley Tool and Motor Car Co., Ltd., invited their agents in various parts of the country, as well as a number of members of the Press, to inspect their extensive works at Adderley Park, near Birmingham, and also to examine the new models the company are introducing for the 1907 season. Writing as we go to press, it is impossible to fully clearly in-



Colonel Hornsby Drake, of Thedden Grange, Alton, at the wheel of his 1907-type 30-h.p. Deane Car. The car has comfortable seating accommodation at the rear for three on the back seat and for two more on chair seats which fold up against the side.

dicating the enormous extent of the concern, but some idea may be gathered from the fact that at the Birmingham works over 1,400 workmen are employed, while at the factory at Crayford, Kent, a further 700 are engaged. Mr. J. D. Siddeley presided at the luncheon which followed the inspection of the different shops, and in the course of his remarks regarding the future of the Wolseley Co., announced that henceforth attention would entirely be confined to cars with vertical engines. For 1907 seven models of cars for touring and town use are being made; they are all known as "Siddeleys," and comprise a new 10-h.p. double-cylinder with live axle; four sizes of four-cylinder vehicles, 15-h.p., 18-h.p., 30-h.p., and 40-h.p., and finally a 45-h.p. six-cylinder. The 15-h.p. and 30-h.p. cars have live axles, the 18-h.p. is made with both a live axle and a side chain drive, while the two most powerful machines are chain driven. As for the details of the new models, we must reserve a description of these until our next issue. In the meantime suffice it to say that they are such as should fully maintain the reputation of the Wolseley Co.

#### A New Offence.

It has taken nearly three years' operation of the Motor Car Act for the legal luminaries to discover that it creates a new offence of "aiding and abetting"—an offence which is certainly not specified in the present Act, although not wholly absent from the minds of the Royal Commissioners in considering the circumstances of the future. In July last Mr. Harvey Du Cros, jun., was travelling on his motor-car through Warwickshire, Miss Victoria Godwin driving, and Mr. Charles Sangster being a passenger. The police alleged that the car was being driven at a dangerous pace, and Mr. Du Cros was convicted at the police court, the conviction being affirmed at the Quarter Sessions, of driving at an excessive speed, the justices holding that it was unnecessary to show that the defendant was at the time in actual control of the car. The defendant appealed against the conviction on the ground that he could not be convicted of excessive driving, since he was not the "driver," while at the same time he could not be held guilty of "aiding and abetting," as the principal offender, Miss Godwin, had not been proceeded against. Mr. Du Cros then appealed to the King's Bench Division, where the case has been further argued before the Lord Chief Justice, Mr. Justice Ridley and Mr. Justice Darling.

#### The Legal View.

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 EVENTUALLY the Lord Chief Justice gave judgment dismissing the appeal with costs. He said that the case raised two points of considerable interest, one of law and the other as to the proper conclusion to be drawn from the way the case was stated. On the technical legal point he thought the appellant, although not originally charged with aiding and abetting, could be convicted, because under the authorities persons aiding and abetting were principal offenders. As to the question of evidence, although he did not quite pass by the fact that the car was the appellant's, it had very little weight in the matter. The justices had found as a fact that this experienced man must have known that the speed was dangerous, and that he was practically controlling the car. Without laying down any general principle, therefore, it was impossible to say that there was no evidence upon which he could be properly convicted. The other judges concurred.

#### Appeal Wanted.

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 THIS judgment is of the greatest importance to all owners of cars—whether they employ professional chauffeurs or not. For the police have power, if the ruling of the Lord Chief Justice is correct, to proceed against the owner when riding on the car, whether he is driving or not. There are many cases which may be readily imagined where such a law would work real injustice. The owner might be asleep in the tonneau and the chauffeur enjoying a bright little spin on his own account. According to the newly-found law the somnolent passenger may, in such a case, be regarded as aiding and abetting the offence. The case is so important that we trust one of the many societies associated with motoring will carry it to the House of Lords, in order to ascertain whether this latest judicial pronouncement is a really sound interpretation of the law.

#### The Silent Motor-Bus.

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 THE hint given by Mr. Burns in the House of Commons, the other evening, that the nuisance of the excessive noise of the motor-bus was being dealt with to some extent by administrative action on the part of the police, really means more than appears on the surface. It is authoritatively reported that in place of the score of vehicles a day that were being licensed a few months ago, less than a dozen motor-buses have satisfied Scotland Yard during the past four or five weeks. The Commissioner, spurred to activity by the correspondence in the public Press, and the attitude of certain public men, has decreed that a

rigorous noise test will have to be passed by all motor-buses before they are licensed for the road. The result has been to slacken enterprise for awhile and lengthen the life of the 'bus horse. From all we can learn, the police have been unnecessarily severe in their requirements as to silence. This is a pity, as there is no doubt that designers were steadily approaching to quietness, and although the motor-buses of to-day might not gain medals in a Town Carriage Competition, they show a vast improvement on the types in service a year ago.

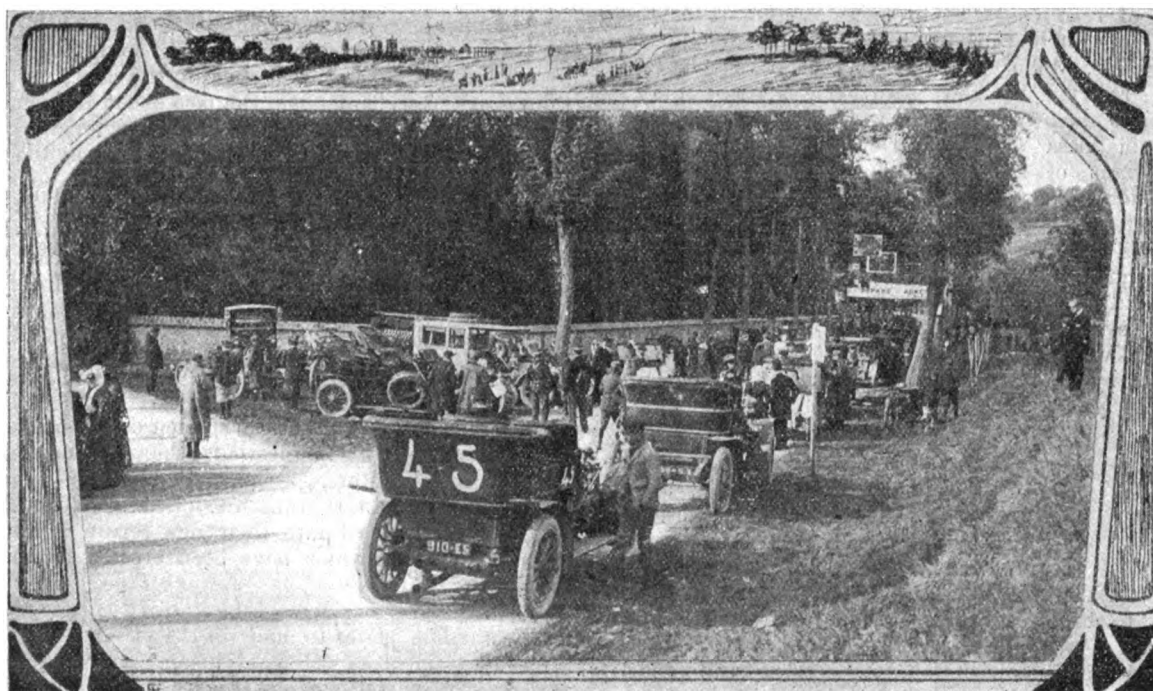
#### The Scottish Club.

THE first meeting of the General Committee of the Scottish Automobile Club, under the revised constitution of the club, has been held at Glasgow, when eight committees were elected to deal with various sections of club activity. Mr. H. M. Napier was elected chairman of the committee, with Messrs. J. Adam and J. Wilson as vice-chairmen. Perhaps the matter of most general interest was the decision to hold the Reliability Trial next year about the same time as in 1906. The arrangements have been remitted to the Trials and Competitions

question as to speed limits. This power is at present exercised by the central authorities, and, on the whole, it has not worked badly. Certainly such would not have been the case had the limitations of speed and the general restriction of the rights of motorists been left entirely in the hands of the local authorities with only a parochial view of the situation.

#### New Company Flotation.

THE recently issued balance-sheets of motor-car companies have revealed such phenomenal progress and success that public interest in the shares of automobile concerns has been greatly kindled during the past week. The success that has thus been obtained may be followed by the flotation of several new companies whose chances of favour with investors may be based upon profits and dividends declared by older establishments. Over-capitalisation on the part of fresh ventures should be carefully watched and prospectuses closely scrutinised on this point, otherwise the disappointment which must inevitably follow such flotations will lead to a general weakening of the present strong position. It would be a misfortune to the industry if



The Gaillon Hill Climb.—Competitors at the Starting Point.

Committee, with power to call into consultation in the framing of rules and conditions the members of any other sub-committee they may deem desirable.

#### County Councils and Motor-cars.

THE Executive Council of the County Council Association has received the report of its Highway and Motor-cars Committee, which had adopted the following resolution:—"That powers should be given to a county council to establish a speed limit of twelve miles per hour for the whole or part of the area of a non-county borough or urban district within the administrative county under similar conditions to those under which it is proposed the Council of a county borough may establish such a limit within their area." They also approved of the recommendation that the revenue derived from the taxation of motor-cars should be devoted to the improvement of roads, and a resolution was passed that the proposed increased scale of charges with respect to motor vehicles was grossly inadequate. In view of this proposal, it is to be hoped that the forthcoming conference of motorists will deal very carefully with the

any such course followed the recent successes, and the present seems the opportune moment to utter a note of warning. It is not enough to estimate small works at extravagant values, and then expect the public to subscribe. New companies should only come before the public based on reasonable expectations of yielding returns to shareholders, and such is impossible when over-capitalisation handicaps the company in its initial stage.

#### Giving the Name of Driver.

THE Scottish Automobile Club have had brought to their notice that it is the practice of the police authorities in one county, where measured distances are in vogue and where the cars are not stopped and offences against the speed limit communicated, to send to the owner of the car, after they have discovered his name and address from the Registrar, to inquire the name and address of the driver as well as those of the other passengers at the time when the speed limit was alleged to be exceeded. They have been advised that under such circumstances the car owner is not obliged to communicate the names of his passengers. With regard

to the communication of the name and address of the driver of the car, it has to be pointed out that these can only be demanded under Section 1 of the Motor Car Act, 1903, and then only if an offence—reckless or negligent driving or the like—has been committed under that section, and it is even doubtful whether the obligation under that section is absolute, except where the driver himself has refused to give the information or has given a false name and address. Consequently it would appear that a car owner is not obliged on such an application to declare the name and address of the driver of his car, where the offence was one of exceeding the speed limit only.

### Roads in Ireland.

THANKS to the well-directed efforts of the Irish Roads Improvement Association, the Emerald Isle should become a passable country before many years have gone. Their latest publication, which has been circulated among the local authorities responsible for the maintenance of the highways, contains a paper which Mr. P. C. Cowan, the Chief Engineering Inspector of the Local Government Board for the country, prepared some time ago, emphasising the necessity of a really adequate scheme of road construction being carried through. To this is added a contribution on the Economics of Road Management, by Mr. John Brown, F.R.S., in which he points to some reforms in the management of county roads which seem eminently desirable. One of the existing defects is the smallness of the various contracts, which leads to waste, want of uniformity and delay. Thus the County Down Council recently dealt with proposals for road maintenance submitted by the District Council of Downpatrick, which numbered 147; 72 of these separate contracts did not exceed £25 each, and 48 were no higher than £12 10s. Against this extravagant and inefficient system is cited the experience of many road surveyors in England who are opposed to such ridiculous piecemeal ways of doing things. We trust the lesson will not be rejected by the responsible people in Ireland.

### Commercial Motor Users.

FINALITY does not yet seem to have been reached with regard to the designation of the Motor Van, Wagon, and Omnibus Users' Association, the officers of which must be sorely tried by its long comprehensive title. Hence we must express sympathy with those members of the Association who have been seeking to secure its shortening to "The Commercial Motor Users' Association." It is, however, satisfactory to know that Professor Hele-Shaw's motion for delay has been adopted, so that suggestions may be invited and a name ultimately discovered that will have the advantage of brevity as well as adequately distinguish the particular work that the Association is doing in the automobile world.

### A New Mark for Motors.

So far both Mr. Burns and Mr. Gladstone have dealt wisely with regard to the automobile situation, and we trust they will continue to turn a deaf ear to the clamour of minor minds. Mr. Markham—who seems to be out-Wasoning Weir and Gallowaying Cathcart—has had a sheaf of questions, but the President of the Local Government Board has administered a cooling douche each time. The other day, in reply to this budding questioner, Mr. Burns said he had received applications from local authorities in Carnarvon, West Suffolk, and Essex to reduce the speed of motor-cars in certain areas to ten miles an hour. In the first case he had not felt able to comply: in the others the matter was still under consideration. Then Mr. Markham turned his attention to the Home Secretary, suggesting that the licences of motor-buses should be withdrawn owing to their skidding tendencies. Mr. Gladstone naively replied that a general prohibition of the use of motor-omnibuses would require the authority of Parliament. Still, Mr. Markham is unflinched, and has given notice to ask the First

Commissioner of Works whether he is aware that the flowers in Parliament-square, facing Canning's statue, by which the motor-cars pass, have this season been killed, while the flowers in the rest of the square, by which automobiles do not pass, have not been affected. Mr. Markham wishes to know whether the First Commissioner has any official reports showing that petrol smoke was the cause of the flowers dying. Possibly the Royal Horticultural Society may give the matter attention. But, whatever be the effect of automobiles on flowers, this much may be told Mr. Markham with regard to apples—viz., that the crop in Somersetshire has been phenomenally good, and the local growers attribute it to the fact that the dust raised by cars has prevented blight. What will Mr. Markham want to know next?

### Throwing Stones.

FOLLOWING the educational campaign of the Motor Union with regard to the stoning of motorists by small and other boys on the roadside comes a magisterial warning which should prove effective in some degree. Before the commencement of business at the Enfield Police Court on Monday, the magistrate, Mr. J. Ford, said he wanted to call the attention of the Press to a most deadly and dangerous trick that had been adopted by boys in the neighbourhood. They had taken to throwing stones at motor-cars passing along the road. In two cases they had succeeded in striking the cars. In another case they struck the chauffeur in the face about an inch from his eye. The only way to reach these boys was for the matter to be brought under the notice of schoolmasters in the district, who would then take such steps as were necessary to stop the boys from indulging in such a dangerous practice. At the October meeting of the General Committee of the Motor Union, the replies of the chief constables and local educational authorities to the circular addressed to them by the Motor Union with regard to the stone-throwing nuisance were presented, and it was recognised that, as the result of the action taken by these authorities, the stone-throwing danger had been abated.

WE regret to learn of the sudden death, on Tuesday last, of Mr. Dan Albone, of Biggleswade, the well-known manufacturer of agricultural motors.

MESSRS. DUCROS-MERCEDES, Ltd., of Long Acre, London, W.C., have removed into their new repair department in the splendid premises which have been erected for the accommodation of their business.

THE Standard Metal Engraving Company are supplying radiator name plates to many of the principal motor-car makers on the Continent as well as at home. These are of neat design as well as good construction.

BARNETT'S MOTORS, LTD., formally opened their new garage and repair shop in Bristol Street, Birmingham, by a run on a fleet of Renault cars to Tewkesbury last Thursday week, in which a number of representatives of the Press participated. Before starting, an inspection of the garage was made, from which it was evident that no expense or trouble had been spared to build an up-to-date establishment. The skylights are lofty and admit an unlimited amount of light by day, and a complete electrical installation permits of the most delicate tasks being performed after dark. The building is heated by means of hot-water pipes, and a uniform temperature is always kept up. In addition to being able to carry out repairs of all kinds, plant is available for the charging of accumulators, and a stock of tyres, Renault spare parts, &c., is kept on hand. Taken all round, we should say the new garage is one of the best-lighted and equipped in the Midland counties; it is under the direct supervision of Mr. W. H. Weekes, who has had many years' experience in the motor industry. We were invited by Messrs. Barnetts to a run on a 20-35-h.p. Renault, for which they are agents, and for hill-climbing, smoothness, and silence of running have never travelled in a finer car. The party who took part in the run included the directors—Messrs. E. Winn, Frank S. Murray, and H. H. Barnett—and Messrs. C. Blewitt (solicitor to the Motor Union), J. C. Gilbert, and W. H. Weekes.



## THE CAMERA AND THE CAR.

**A**UTOMOBILISM has introduced many an Englishman to the beauties of his native land. Hitherto he has had but a circumscribed view, limited to the sidelong glances that are possible in railway carriages and other contrivances of travel. Or else he has gone by coach—slow-coach might be an appropriate phrase in these motor-car days—and his tours have been restricted by the limited powers of endurance possessed by horses.

But the coming of the car has given new impressions and allowed the people of every country to revel in natural beauties until they have been able to know their native land. Armed with a camera motorists have become explorers in a mild sort of way, and the automobile has done much to encourage people to see more of their own country before encountering the Customs officials of other lands. This is all to the national advantage; and not only does it tend to the circulation of money within the area in which it is made, but it trains the head and eye to the appreciation of homely beauties. The man who in a few days can explore the sweet delights of Devonshire lanes, then through charming country reach the wilder scenery of Wales, on the way to the Lakeland culmination of beauteous landscape, will not be disposed to endure the worries of long journeys across Continents cooped up with many restless spirits all anxious to see other lands because they do not know their own.

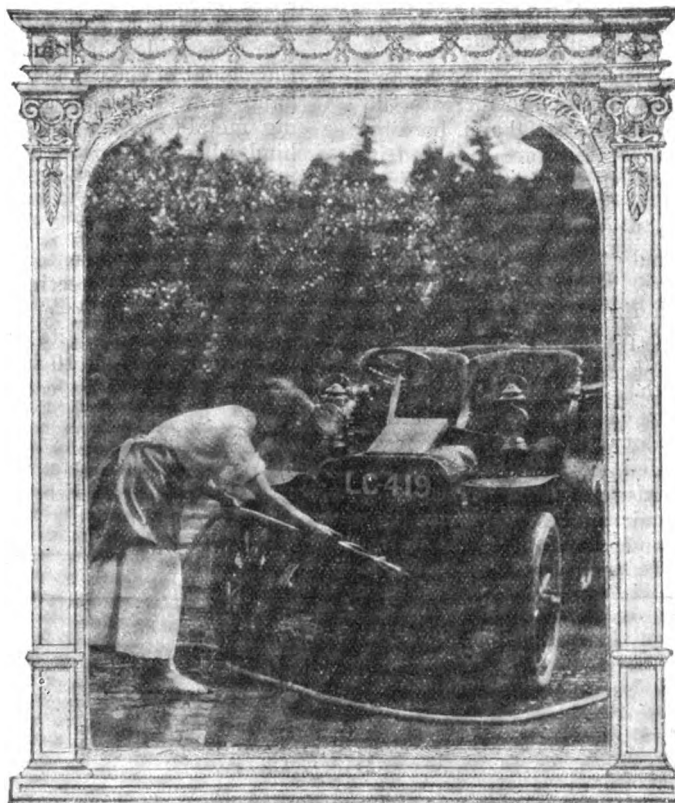
roads, which are now being steadily restored to old-time prosperity. Of course the revival will not prove a repetition of the old ways—they have been left behind by the advance of the age. But the little villages by the main roads that were stranded from comfort when railways diverted traffic therefrom, and the

hostelries that vainly endeavour to present a good appearance to the world, will rejoice again.

We have been led to this reflection while looking through the photographs submitted in the *M.C.J.* Photographic Competition recently decided.

The first prize was awarded to Miss M. M. Davy, of Cuckfield, whose new view of "Washing Day" should encourage the belief in the domesticity of the car. The two other awards were made to readers who submitted views of castles in parts of the country greatly distant from each other. Mr. James Southey, of Southsea, won distinction for his picture of Arundel Castle, while Miss E. N. Fisher, of Warlingham, sent a picture showing a car on the bridge over the Aln, with Alnwick Castle and the Percy Lion in the background.

Such interesting pictures recall reminiscences of pleasant holidays, and add to the joys of motoring, for, with the capacity of a well-equipped touring car to hold apparatus, &c., the photographer with a car has a distinct advantage over even the snapshot finder who goes by train or cycle; while the range of subjects is away from the familiar track and often well-nigh impossible to those who depend on ordinary means of locomotion. It is frequently urged that the man who tours by auto-

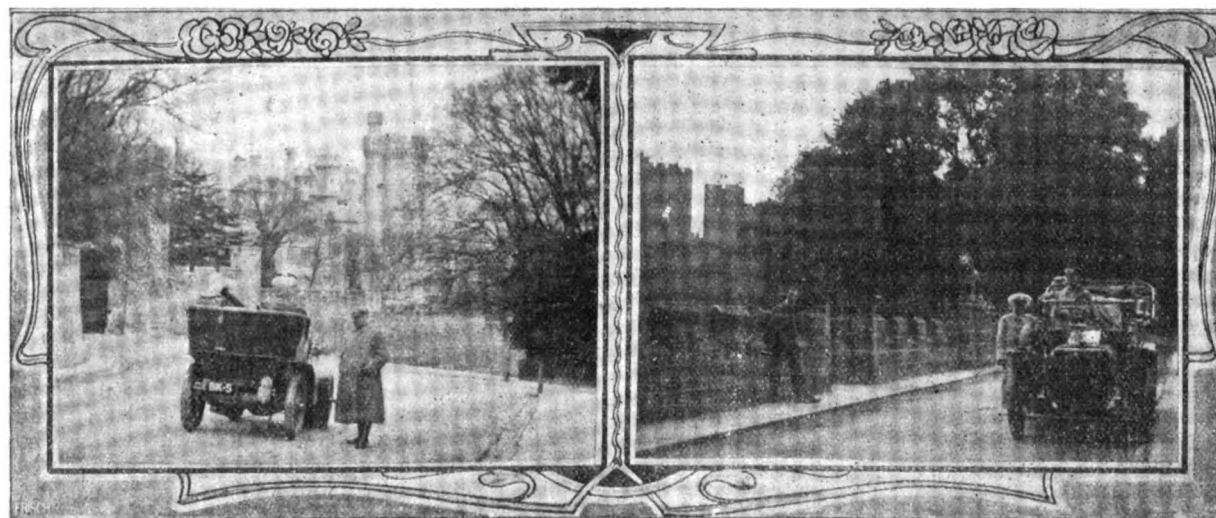


First Prize Photo

Washing Day.

[By Miss M. M. Davy.]

mobile is indifferent to the claims of scenery and quite willing to rush heedlessly by delights that entrance the pedestrian and the ordinary cyclist. The truth is that the motorist's sense of beauty has been quickened. He sees so much that he has become a connoisseur in landscapes.



At Arundel Castle.  
Prize Photo by Mr. J. Southey.]

Alnwick Castle and the Percy Lion.  
[Prize Photo by Miss E. N. Fisher.]

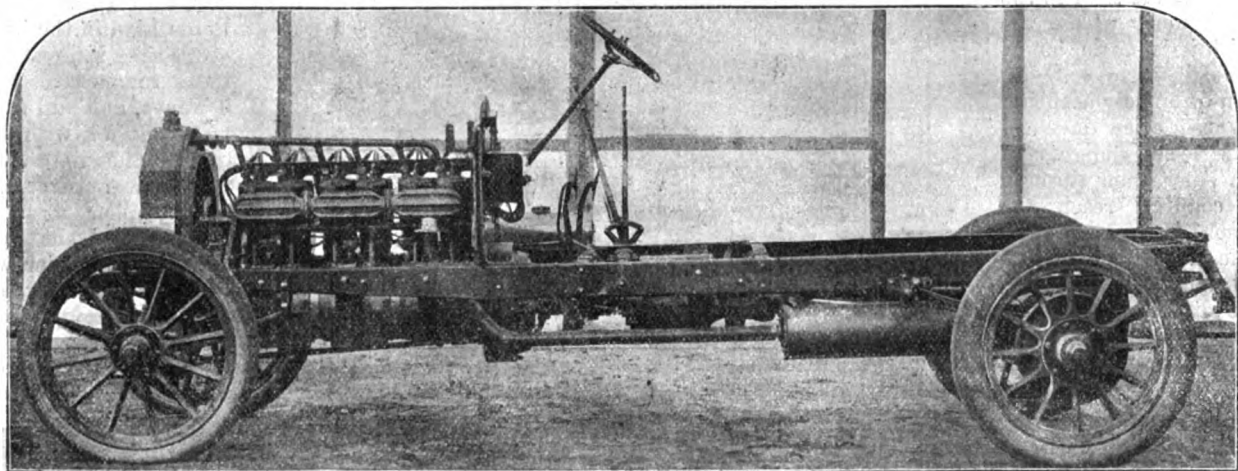
The motor-car may thus become a means to patriotism, to a keener appreciation of one's own country and a fonder desire to see all that it possesses before going beyond its borders. Already this is an apparent fact; we look to the encouragement of the tendency by the enterprise of all concerned with the

mobile is indifferent to the claims of scenery and quite willing to rush heedlessly by delights that entrance the pedestrian and the ordinary cyclist. The truth is that the motorist's sense of beauty has been quickened. He sees so much that he has become a connoisseur in landscapes.

## THE BROWN 40-h.p. SIX-CYLINDER CAR.

**A**S mentioned in our last issue, Messrs. Brown Bros., Ltd., have lately introduced a 40-h.p. six-cylinder car. The new machine follows the general arrangement of live-axle vehicles, the object having been not so much to introduce novel features as to turn out a soundly-built "six" at a price within reach of those at present using four-cylinder cars. The frame is of pressed steel, narrowed in front to increase the lock of the steering wheels. The cylinders are 100 mm. bore by 130 mm. stroke, and, although cast separately, are mounted in pairs on the crank chamber, the latter being of a special design. The valves, which are all mechanically operated, are located on opposite sides of the cylinders. The valve tappets are fitted with a roller movement at the cam ends, and at the other with screw adjustment. The cam shafts are above the crank chamber, and supported in separate casings, split horizontally, the guides for the tappets being fixed to the upper portions so that all can be easily inspected. The crank shaft itself is supported by four bearings, each of substantial length. Large inspection doors are fitted to the base chamber below each pair of connecting rods. The carburettor is of a special type, it comprising two spraying jets and mixing chambers fed from a common float chamber, each jet furnishing the mixture for three cylinders. Both automatic and hand-controlled air valves are provided. Two systems of high-tension ignition—magneto and accumulators

which run on ball bearings, is adapted to give four forward speeds, with direct drive on top and a reverse, they being controlled by a single lever working in a "gate" sector. From the gear-box the power is transmitted to the rear live axle through a shaft having enclosed universal joints at each end and bevel gear. The rear road wheels run on ball bearings on the casing, the power being transmitted through squares on the end of the live axle, which has thus only to withstand the driving strain, the weight of the car being carried by the sleeve. Both foot and hand operated brakes are provided; they are all of the contracting metal-to-metal type, a noticeable feature of those on the hind wheels being that they are entirely enclosed, and consequently protected from mud and dirt. The steering gear is of the worm and segment pattern, and the steering bar is located behind the front H-section axle. The usual four longitudinal springs are supplemented by a transverse one at the rear, and a detachable mud-protecting metal screen is fitted below the engine and gear-box, spring clips affixed to the side members of the frame permitting of its easy removal when necessary. The car has a wheel base of 10 ft. 6 in., so that any type of body can be fitted to it. In the course of a short run we were much impressed with the easy, smooth riding qualities of the new vehicle, an impression which was deepened by its excellent performance up West Hill, Hampstead, noted not so much for its steepness as for the long, steady rise, which tries the hill-climbing capabilities of cars to the utmost.



General View of Chassis of Brown Six-Cylinder Car.

and coil—are provided. The magneto has a fixed firing point, but that of the accumulator ignition can be advanced and retarded by means of a lever on the steering wheel. Independent sparking plugs are fitted, but are screwed in pairs into a special Y-shaped holder, which in turn is screwed into the combustion chamber. The magneto is in an accessible position, and the contacts are so arranged that they can be removed for cleaning purposes without having to dismount the machine. As will be seen from the illustration of the chassis, each pair of cylinders exhaust into an expanding chamber cast with longitudinal fins with the object of radiating the heat as quickly as possible. The water-circulating pump for the honeycomb radiator is gear driven, the flat pulley for the fan belt drive being keyed to the fore end of the pump spindle, the latter being also extended rearwards for the oil-circulating pump. This draws the oil from a cylindrical tank strapped to the off-side of the chassis, and delivers it through sight feeds on the dashboard to the various bearings. The clutch is of the leather-faced cone type; it is withdrawn by a pedal working in conjunction with a cam movement, by means of which, once the clutch is disengaged, it can be kept in that position without the driver having to exert pressure through his foot against the spring. The shaft between the clutch and gear-box is furnished with a universal joint to provide for any want of alignment between the two parts. The gear-box, the shafts of

AFTER an existence of fifteen years the Dundee and District Coachmen's Club is to be wound up, the falling off of subscribers being attributed to the supersession of the horse and carriage by the motor-car.

THE value of the motor-cars and parts exported from the United States during August last is returned at £93,570, as compared with only £52,170 in the corresponding month of 1895. Of the total, £30,000 is to the credit of Canada, England taking second place with £24,500.

MR. F. E. BUNTING, of the Wealdstone Motor Garage, and also of Peterborough Road, Harrow-on-Hill, repairs motor tyres and keeps all sizes in stock. A feature of the business is that tyres are lent to motorists while their own are under repair—an enterprise sufficiently novel to be worthy of note.

THE Borough Council of Stepney, E., have authorised their electrical department to adopt a fixed rate for charging accumulators of motor-cars as follows:—A fixed charge is to be made of 5s. per car per charge, and 1s. per ignition battery or other small portable battery, per charge, to cover labour, garage and other incidental costs, plus a further charge of 8d. per unit for current consumed between sunset and 10 p.m. and 1d. per unit at all other times. For cars and batteries charged regularly the fixed charge per car shall not exceed 10s. in any one month, and per ignition or other portable battery not more than 2s.

## MOTOR BODY WORK.

**S**PECIAL interest attaches to the full report of the jury appointed to deal with the general appearance and finish of the body work of cars entered in the A.C.G.B.I.'s Town Carriage Competition, the results of which are tabulated on page 778. The jury consisted of Messrs. W. Gilchrist, E. C. Large, D. H. T. Peplow, C. D. Rose, M.P., and Captain S. H. Skeffington-Smyth, D.S.O., and their report is as follows:—  
In considering the order of merit under "B," attention was given to the appearance of the car as a whole, the suitability of the design for a town carriage, the proportions of the body and the gracefulness of the lines. As many of the carriages entered for competition had been painted and finished to customers' requirements, the appropriateness or otherwise of the colours used was not regarded, the finish of the work only being taken into consideration.

In many of the cars the effect of placing the body where it was in relation to the wheels was not what could be accepted as appropriate for an ideal town motor carriage. The superstructure did not appear to be properly balanced on the base. In some cases the wheel base was not of sufficient length to give dignity to the body or gracefulness to the appearance of the car—a point of some importance.

In many cases the mudguards came so far beyond the line of opening in the door that the amount of room for access was curtailed. From the position of the steps in some cases it was not possible to enter the carriage except at an awkward

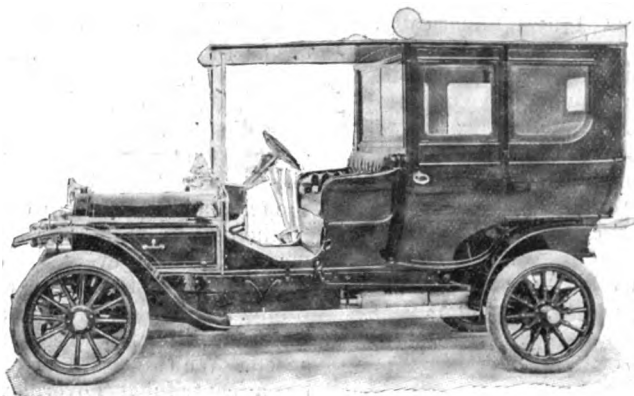
Under "N" the attention of the judges was directed to the appropriateness and suitability of the materials used, and the whole of the interior fittings for the comfort and convenience of the occupants. These included the cushions and rests, the occasional seats, the foot room, in landaulets the ease of opening and closing the hoods, the suitability and character of the little conveniences and pockets, especially for books of reference, &c., usually carried in town carriages. These varied greatly in the cars; some had an advantage in one respect which they lost in others. Attention was particularly given to the arrangements for opening and closing the hoods.

They were not easily moved, and required a skilled assistant. The absence of handles for this purpose in the interior was noticed. It was recognised that the position of the driver's seat in relation to the body, as compared with that in a horse-drawn carriage, made it difficult to dispose of the front pillars where four fixed seats were provided, which gave to some of the open four-seated landaus an unsightly appearance. There is room here for some ingenious device which will make an open and closed carriage possible, while preserving a general graceful outline.

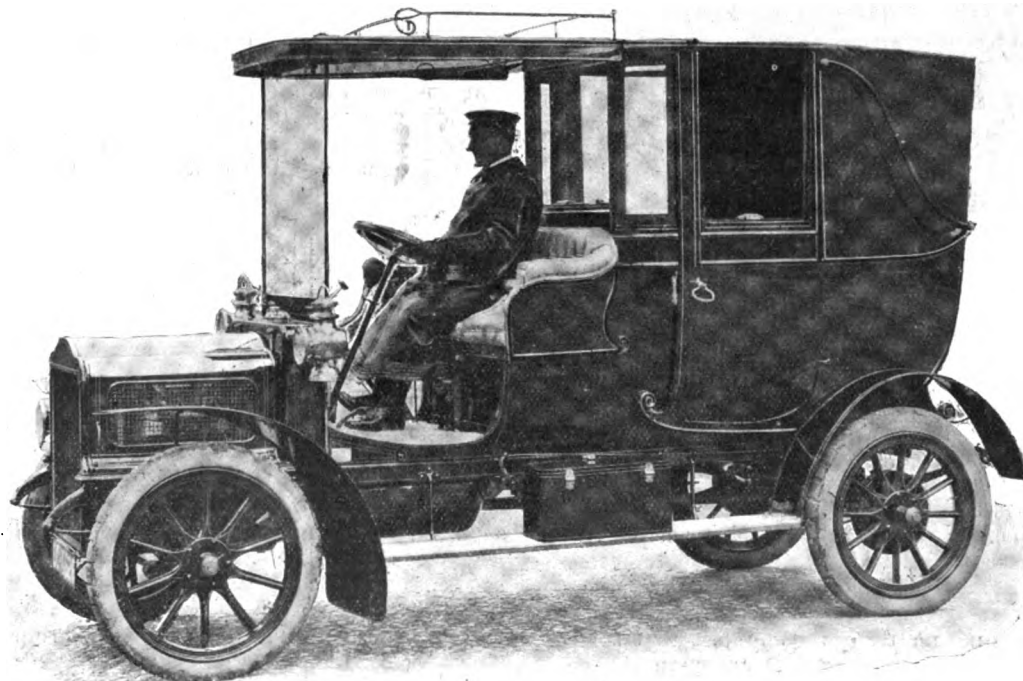
The modern interior fittings used displayed considerable ingenuity. There was, however, very

little accommodation for small parcels. In some instances the doors to the hind boot were too small, and these should be permanently boarded off from the interior of the carriage, in order to prevent the possible abstraction of any parcel from the outside.

Very few of the seats were really comfortable. In several



The Wolseley Co.'s 15-h.p. Siddeley Car which secured a Gold Medal in Class A.



The White 18-h.p. Double Landaulet which secured a Gold Medal in Class B.

angle. The doors in some of the cars did not open sufficiently.

It was recognised that the endeavour to keep a short wheel base interfered with the freedom of the carriage builder in designing the body, but easy and safe access and egress should not be sacrificed.

of the cars there were projections on the floor space which should be avoided.

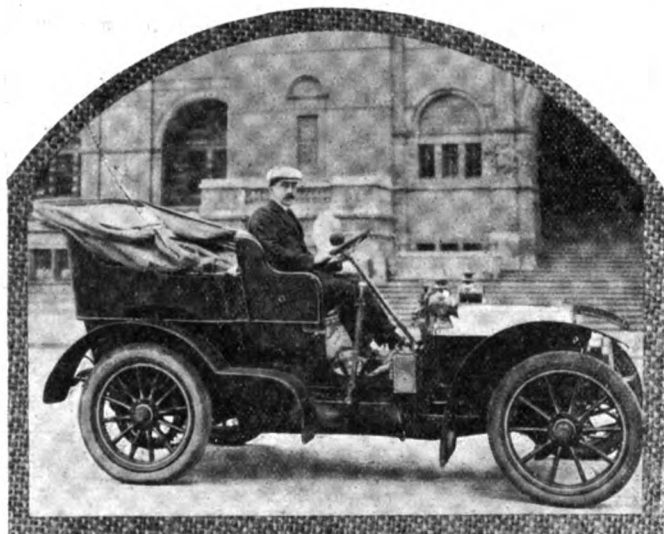
The workmanship displayed was excellent throughout. The proper upholstery and fitting up of a town carriage is the result of years of experience, taste, and knowledge.

## WHAT A GOVERNOR IS AND DOES.

By A. E. S. CRAIG.

IT may be asked, in view of the tendency of modern practice to discard the governor altogether on the motors of automobiles, whether it matters what a governor is or what it does, seeing how well we are getting on without it. But it does not follow that because the governor is being cold-shouldered for the nonce that it is either useless or extinct; on the contrary, it is a most useful appendage, and will in all probability be reinstated in favour in the motors of the future in some form or another, simply because the principle of automatically governing a motor is right, and not to do so is wrong. I say automatically, because, of course, when we allude to a governor we almost invariably refer to the automatic control of the speed of the engine; and I might even go further, and say that we picture to ourselves two little balls flying round for all they are worth somewhere at the front end of the motor.

Governors on internal combustion motors are generally of the type known as centrifugal; which word, I may be permitted to explain—as this article is intended principally for beginners—means to fly from the centre, and relates to the well-known fact that the faster a weight is revolved the more it tends to recede from its axis. We take advantage of this law of nature



Mr. Dermot H. Doyne, of St. Austin's Abbey, Tullow, on his Brotherhood Car.

Mr. Doyne is one of the most popular hunting men in Ireland, and uses his car very extensively for attending meets in all parts of that country. The picture is interesting, as the vehicle illustrated is the original Brotherhood, which has now been continuously on the road for over two years.

to govern a motor, because experience shows it is the most effective and reliable method of doing so. The only other principle which offers itself conveniently to the purpose is made use of in governors of the suction type, in which the varying pressures of the gases in the induction or exhaust pipes control the speed of the engine. No matter by which principle the initial movements are provided, the result is always more or less the same—the engine is governed on the throttle; that is to say, the speed is regulated by throttling the admission of fuel to the cylinders. It does not matter in the slightest that some people say they “govern on the exhaust,” or “govern on the inlet,” or “govern on the throttle,” for they all govern by throttling.

Let us first briefly consider the initial actions. In governors of the centrifugal type two weights are so fixed to a revolving shaft of the engine that they are normally held at the inner limit of their movement by one or more springs, but are capable of a small outward extension when the force compelling them to do so is great enough to overcome more or less the contractile power of the springs. The slight movement alluded to is precisely what is required, for it varies automatically with

any alteration in the revolutions of the motor, and to couple it up to throttle, or hold open, one of the devices explained further on, is merely a matter of one or two rods and levers.

In governors of the suction type there is no revolving part, but in its place a simple sliding action is produced. Usually a piston or diaphragm working in a sleeve is fitted, and a spring is so attached as to give the necessary constant tendency in one direction to the same. On the side remote from the piston or diaphragm the varying tendency to overcome the action of the spring is obtained by the different pressures of gases, caused by the greater or less speed of the engine. Either the partial vacuum of the inrushing explosive vapour may be employed, or the greater than atmospheric pressure of the burnt gases may be used. Here again we obtain our automatic initial movements, and the same, or even more simple means of coupling up, to whatever form of throttling we select, can be employed.

We now come to the various modes of obtaining the throttling effect. That which is generally believed to be the most ancient as regards automobile engines is the system of “governing on the exhaust.” I happen to know that this is not really the oldest method, but this by the way. Governing on the exhaust simply means that we prevent the exhaust valves from opening during as many exhaust strokes as the engine is running too fast to our liking. Hence we prevent any fresh charges from being sucked into the cylinders and so slow down the motor to its normal speed. We throttle the exhaust. This system is always worked by a centrifugal governor, and the mechanism is either so arranged as to work on the “hit and miss” principle, that is to say the valves are either kept entirely closed, or allowed to open quite normally; or the “variable lift” method may be employed, so that intermediate gradations of throttling are obtained. This latter system is, I consider, for several reasons, very economical and efficient.

When we “govern on the inlet” we deal with the induction valves instead of the exhaust; but in this case the “hit and miss” system is seldom if ever employed, the variable lift being almost exclusively adopted. Governing on the inlet also is worked by a centrifugal governor. When we “govern on the throttle” it is usually implied that we leave the valves themselves alone, and confine our attentions to the induction pipe. Throttles of this description are generally known as either “butterfly” or “piston,” the former turning on a pivot, and the latter, of course, merely sliding. In this style of regulator we have the choice of the centrifugal or suction movement, the former being largely the favourite. The simplest governor of all, but which unfortunately is only suitable for slow-speed engines, works merely by the inertia of a weight, so pivoted that it rocks more or less according to the speed of the motor. It can be adjusted by a spring to “cut out” at approximately the required number of revolutions, and is best adapted to work a check valve on the hit and miss system.

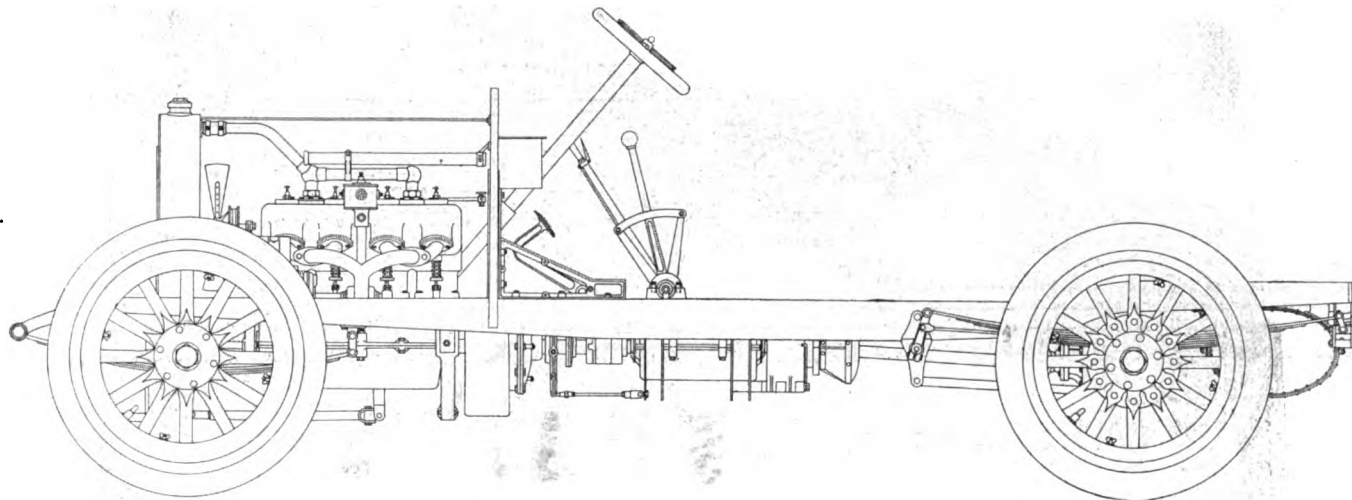
Some governors are more ambitious in their controlling efforts than others; one specially ingenious invention not only regulates the engine speed, but at the same time controls the mixture and the point of ignition. Several devices for automatically retarding the ignition are applied to automobile engines besides the one just mentioned; but although the supposed advantages of doing so, and several methods whereby it may be done, were expounded nearly six years ago, it has not been enthusiastically taken up by designers generally. A somewhat unusual thing to govern automatically is the circulating water; but this is done in some motors running on paraffin, the object being to keep the cylinders as near as possible at a constant temperature irrespective of the load, and in practice the idea works perfectly. Automatic auxiliary air devices for carburettors are almost invariably worked by suction, although one notable exception controls the mixture by utilising the varying pressure of the circulating water, whilst yet another draws into play the fluctuations of the exhaust.

MR. H. E. RUSSELL is the manager of the new motor garage recently opened at 262, Liscard Road, Liscard.



## THE 1907 ENFIELD CARS.

WHILE a number of cars have been turned out during the past season by the Enfield Autocar Company, Ltd., of Redditch, Mr. E. H. Lancaster, the managing director, has been mainly engaged in completing the equipment of the factory and in preparing for an active output for the coming year, and we are now able to announce that the 1907 models of pleasure-cars will consist of two types—25-h.p. and 15-h.p. Dealing first with the larger of these, it will be seen from the drawing we publish herewith that not only is the car on modern lines throughout, but that the design is one which combines strength with lightness. The frame, on which the engine and gear-box are directly supported, is of pressed steel, the side members being quite straight. The motive power is supplied by a 25-h.p. motor; the four cylinders, which are cast in pairs, are 120 mm. bore by 135 mm. stroke. The valves, which are all mechanically operated, are located on opposite sides and actuated off separate cam shafts. A feature of the engine is that the crank-shaft, in addition to the gear-box shafts and axles, runs on ball bearings. Large inspection doors are fitted to the crank chamber, which is also arranged so that the bottom half can be removed without disturbing the crank-shaft bearings in any way. The petrol, which is carried in a tank at the rear, is pressure fed to a special form of automatic carburettor.



Elevation of Chassis of Enfield 25-h.p. Car.

Following modern practice, two systems of high-tension ignition are provided—gear-driven magneto and coil and accumulators. The latter is of the synchronised type, a single-trembler coil being employed in conjunction with a high-tension distributor. The water circulation is maintained by a combined honeycomb radiator and tank, with air-inducing fan and a gear-driven pump. The engine is lubricated by means of a pump, in which the pressure of the exhaust gases is utilised. The normal speed of the motor is 900 revolutions per minute, but by means of the throttle it can be varied from 200 to 1,200 revolutions.

Passing now to the transmission, the power of the engine is conveyed to the gear-box through a multiple disc clutch of the Hele-Shaw type, the shaft between the two parts being provided with a universal joint to permit of either being readily removed without disturbing the other. The gear-box is adapted to give three speeds forward, with direct drive on top, and a reverse, these being controlled by a single lever working in a "gate." The final transmission is by a cardan shaft gear to a well-designed live axle. Universal joints are fitted to both ends of the propeller shaft; they are of a special design, being provided with renewable bushes, with special provision for lubrication. The rear road wheels run on ball bearings on the casing, and receive the power through squares on the ends of the live axle, which has only the driving strain to withstand, the weight of the car being taken by the sleeve.

The foot brake is of the contracting type, and acts on a drum 3 in. wide at the rear of the gear-box; the band-operated brakes are of the internal expanding variety, working inside drums attached to the rear road wheels; all braking surfaces are metal-to-metal. The front axle is of H-section forged steel, and is of the dropped type. The steering wheels are 34 in. diameter, with 100 mm. tyres, those at the rear being 35 in. by 120 mm. The springs are of good length, and the usual four longitudinal ones are supplemented by a transverse spring at the rear. The steering gear is of a special worm and nut design, with provision for readily taking up any wear. The vehicle has a track of 4 ft. 7½ in., and a wheel base of 9 ft. 10 in., enabling any type of modern motor-car body to be fitted.

The new medium-power four-cylinder car—the 15-h.p.—will no doubt attract considerable notice, as well for its up-to-date lines as its relatively low price. While following in general arrangement the design adopted in the larger vehicle, the details show considerable variation, the engine and gear-box, for instance, being supported on a sub-frame of tubular steel construction. The engine is a small replica of the 25-h.p., except that long plain bearings are used in place of those of the ball type; the cylinder dimensions are 95 mm. bore by 115 mm. stroke, and the normal speed 1,000 revolutions per minute. A governor is provided, this acting on the throttle, which is also controlled by a lever on the steering wheel. The ignition is by coil and accumulators, the contact-maker being located on the upper end of

a vertical spindle driven by bevel gear off one of the cam shafts. The carburettor, which is of the automatic type, is gravity fed from an eight-gallon tank located under the front seats. The clutch is of the cone type, the leather face being of extra width than usual, permitting the drive to be taken up gradually and smoothly. The spring is connected with the gear-box by a shaft, provided with a joint to compensate for any want of alignment between the two parts. Three speeds and a reverse are provided, with direct drive on top speed to a well-supported live axle. The shafts in the gear-box run on long plain bearings, to which ring lubricators are fitted, while the road wheels are furnished with ball bearings. The front axle is of tubular construction; in other respects the vehicle, which has a wheel base of 8 ft. 6 in., is similar to the 25-h.p. vehicle.

Altogether the new cars mark a considerable advance, and, in view of the great care that has been taken in the choice of materials, added to the reputation for good workmanship enjoyed by the Redditch concern, the Enfield vehicles, for which Messrs. J. Keele and Co. have been appointed London and district agents, will no doubt be much heard of during the coming season.

MESSRS. A. C. WRIGHT AND CO., of the South London Motor Exchange, of 5 and 6, Lorrimore Buildings, Walworth, are making a special feature of repairs to motor vehicles. Arrangements are also made for repairs by contract.

## CONTINENTAL NOTES.

**Motor Postal Services in Algeria.**

The Algerian post and telegraph authorities, with the view of accelerating the transport of the mails between Boghari and Laghouat, are contemplating establishing a motor-car service between the first-named place and Sidi-Maklout. Unfortunately, the last twenty-five miles of the road to Laghouat are not fitted for automobile traffic, and for the present horses will still have to be used on this section.

**Public Services in Germany.**

A company has just been formed at Burgstadt to run a number of motor-buses between Mittweida, Burgstadt and Limbach. Two twelve-seated motor vehicles are about to be put in service in the town of Lensahn (Schleswig-Holstein). It is also proposed to establish a service between Baerl and Moers.

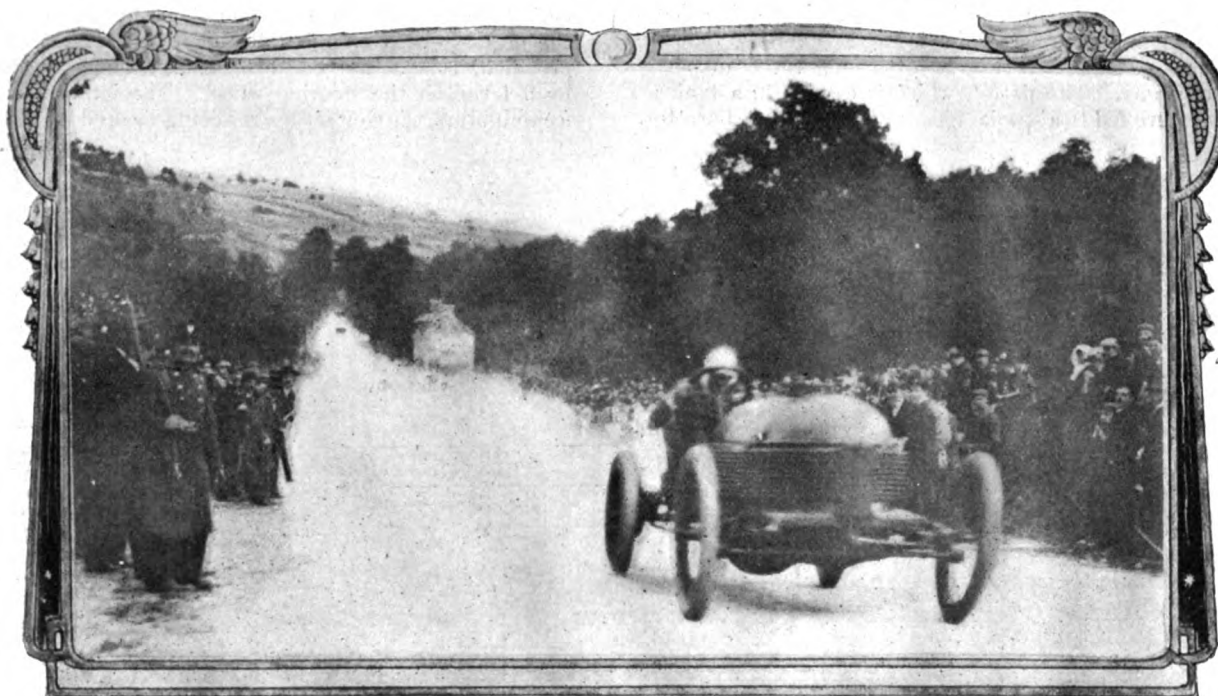
**An Automatic Engine-starting Competition.**

The second contest—the first having been held a year ago—for the prize offered through the Academie des Sports by M. Henry Deutsche de la Meurthe, for the best arrangement for

driving his 200-h.p. eight-cylinder Darracq, covered the distance in 25 sec., equal to ninety miles per hour. Mr. Cecil Edge, on his six-cylinder Napier, was second in the racing class in 29 sec., and Longchamps on a 100-h.p. Itala third, in 34 3-5 sec. In the light racing car section victory again went to the Darracq Co., Demogeot driving his machine, which was fitted with Continental tyres, over the kilometre in 29 sec.; Villemain on a Clement Bayard taking second place in 33 4-5 sec. There were a large number of entries in the touring car sections.

**Miscellaneous Items.**

About twenty entries have so far been received for the reliability trial of voiturettes which is to be held in France from the 5th to the 12th inst.—The German Daimler Company—the makers of the Mercedes cars—have recently patented a self-starting device for use in connection with petrol motors.—A public service of motor vehicles has lately been established between Pruniers and Barcelonnette, France. The vehicles in use are of the Orion type, and are of 22-h.p.—The 1,000 kilometre reliability trial of the Motorcycle Club de France has been postponed until the 18th, 19th, and 20th inst.—It is reported



The Gaillon Hill Climb.—Mr. Cecil Edge on the Napier Six-Cylinder Car.

the automatic starting of petrol engines, is to be held in December next, commencing on the 10th. The competition is international in character and entries will be received by the Technical Committee of the Automobile Club de France until December 5th. The apparatus must permit of the engine being started from the driver's seat, and trials will be made both with the motor cold and after it has been running some time.

**The 1907 Mercedes.**

The first of the 1907 Mercedes cars has just reached Paris. It is a 35-h.p. vehicle, in which a number of detail improvements have been introduced. The carburettor is of a new automatic design with hot water jackets. The throttle is controlled by both hand and foot levers. A fan is now placed behind the radiator; the water circulating pump is driven off one of the cam shafts, whilst the Hamelle lubricator is operated by means of a shaft instead of a chain.

**The Gaillon Hill Climb.**

The hill-climbing competition over the flying kilometre at Gaillon, on Sunday, organised by the "Auto," attracted considerable attention and some new times were put up. The honours of the day again fell to Mr. A. Lee Guinness, who,

that the Brasier Company have decided not to take part in any of the big races in 1907.—A company has just been formed in Brussels to introduce a service of motor-cabs in that city.—An Automobile Volunteer Corps has just been formed in Saxony.—About fifty entries have been received for the kilometre speed trials which are to be held at Origny St. Benoite, near St. Quentin, France, on Sunday next. The competitors in the racing car class include the 200-h.p. Darracq, an 100-h.p. Itala, a 90-h.p. Napier, and a Vulpes.—The Fetes Committee of Palermo, Italy, has tentatively fixed April 18th next for the annual voiturette competition, and April 21st for the Targa Florio race.

A MODEL of a chassis of a petrol motor-car has lately been added to the engineering collection at South Kensington Museum.

MR. WM. S. JESSOP, of Leeds, has recently brought out a simple and ingenious lever to facilitate the insertion of the valve stem and security bolts in rims during the operation of replacing an outer cover in position. We hope to illustrate it in an early issue.

THE King of Portugal has just ordered a 30-h.p. Brouhot car.

THE Grand Duke Eugen of Austria has placed an order for a 40-h.p. Fiat car.

SIR EDWARD TENNANT and Lady Brocklehurst have recently purchased Daimler cars.

MESSRS. BOURKE AND CO. have established themselves in the motor trade at 120, George Street, Limerick.

THE annual race meeting on the Ormond-Daytona Beach, Florida, is to be held from January 22nd to January 29th next.

MR. J. S. BROWN has a commodious garage in Oxford Street, Swansea, with every facility for the repair of motor-cars.

MR. C. HOODYDONK has taken over the agency for the Dependence rear lamps, electric head lights, side lights, and boat lamps, and is holding a large stock of these goods, also spare parts for same, at his depot, 6, Leather Lane, Holborn, London, E.C.

THE capital of West, Ltd., has just been doubled to cope with the demand for West cars, which are now being shipped to all parts of the globe, in particular to Italy, Canada, India, and Australia. The company intend to shortly open a branch establishment in Bombay, where a stock of vehicles designed to meet the requirements of the country will be on view.

WE illustrate herewith the new 24-30-h.p. Clyde car which has been recently put on the market by Mr. G. H. Wait, of Leicester. The engine is a four-cylinder Aster, the dimensions of the cylinders being 105 mm. bore by 140 mm. stroke. Two systems of high tension ignition—magneto and coil and accumulators—are fitted, and the mixture is furnished by one of the latest patterns of Longuemare carburetors. The clutch is of the metal-to-metal disc type. Special attention has been paid to the brakes, which are of the internal expanding metal-to-metal variety. Ball bearings are fitted to all parts with the exception of the engine. Long springs are employed, and the axles are of the Lemoine type.

A NEW motor fire appliance has just been put into service by the London Fire Brigade. The machine, which has been specially constructed to meet the requirements of Captain Hamilton, the chief officer, is of Merryweathers' latest type, and is fitted with a 30-h.p. four-cylinder motor. It comprises a hose tender and reel, carrying about 1,200 ft. of hose for use with street hydrants, a full set of gear, a telescopic ladder and a pair of hook ladders for life saving. The machine will carry eight men, can turn out instantly on an alarm, and maintain an average speed of twenty miles per hour.

REFERRING to the description of the Dorwald automatic petrol-paraffin carburettor in a recent issue of the *M.C.J.*, a feature of the apparatus, which was not shown in the illustrations, is the automatic valve closing the inlet to the disc chamber jacket, while an arrangement has been added for mechanically raising the fulcrumed lever, in order to close the paraffin nozzle and open the petrol one, in case of emergency. This arrangement is operated from the dashboard, and is intended for use when the engine has been standing for some considerable time, and the carburettor has cooled down to a temperature insufficient to vapourise the paraffin, although the automatic change-over chamber is sufficiently hot to keep the petrol jet closed.

## HERE AND THERE.

FROM J. E. Hutton, Ltd., we have received a book containing simple and useful instructions intended for private owners of Berliet cars.

A 40-H.P. DELAUNAY-BELLEVILLE CAR, with special

touring body, has lately been completed for the Grand Duke Alexander of Russia.

THE Automobile Club of America is organising a reliability trial of commercial motor vehicles to be held from the 7th to the 10th inst.

THE *Daily Mail* heads its daily record of motor-bus news "The Skidders"—a somewhat sensational and generally unnecessary way of expressing itself on the subject.

THE Parsons Non-Skid Company, Ltd., have received an order from the Metropolitan Fire Brigade for their non-skids for use on motor fire engines. These are for solid tyres of both the twin and single type.

IN addition to their 6-h.p. Starling car, the Star Cycle Company, Ltd., are bringing out a new 7-h.p. twin-cylinder model for the 1907 season. The vehicle, which will be known as the "Stuart," will be fitted with either a two, three, or four-seated body.

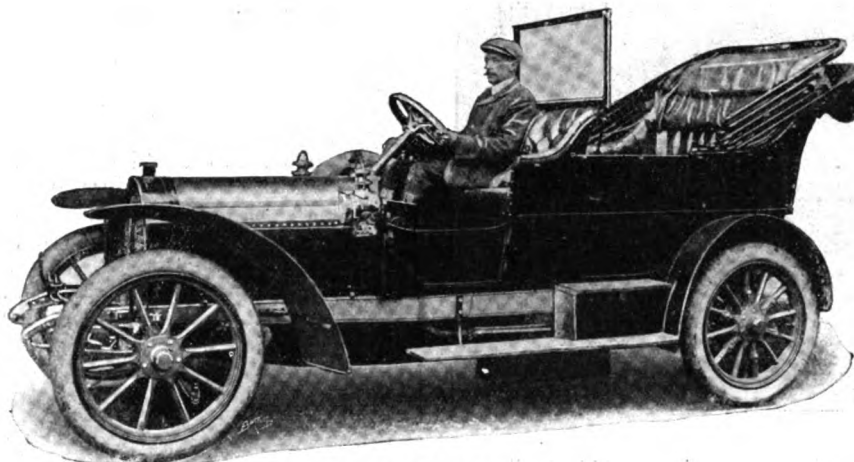
FROM 100, Regent Street, W., comes the new list of Aquascutum, Ltd., whose clothing for motorists is well known. The cloths have a good texture and delightful appearance, while the many valuable features introduced into their motoring designs should be seen by those who indulge in the pleasures of winter motoring.

THE endeavour to prevent the recent motor-car races at Blackpool by process of the Palatine Court of Chancery, which was unsuccessful, was followed by further proceedings at the sitting of the Court at Manchester before Vice-Chancellor Leigh-Clare last week. The publishers of local paper were fined £50, and costs for contempt of court by publishing part of the evidence to be used in

connection with an interlocutory motion before the deputy of the Chancellor, and also for making hostile comments against the persons bringing the action and persons who were giving evidence in connection with it.

THE Church Sisters' Home in King's Road, Chelsea, was the scene of an exciting incident on Wednesday of last week. As a motor fire engine, which was out on its first trial, was proceeding along the King's Road the wheels skidded on the greasy road, and before the brakes could be applied the vehicle crashed into the garden wall of the Home, carrying away seven or eight yards of it, and greatly startling the sisters and lady superintendent. The collision was so severe that all the firemen were flung from the engine, and one was shot over the wall of the garden, but fortunately all escaped without injury except for a few bruises.

AT the conference of the Scottish Chamber of Agriculture in Edinburgh a resolution was passed strongly disapproving of the recommendation of the Motor Car Commission to dispense with the present speed limit and adhering to former resolutions against the compulsory lighting of all slow-going vehicles. Earl Carrington said, as regarded the speed limit, he was not prepared to give an opinion. It was a matter which would have to be thrashed out in Parliament and the country. As to their objections to the lighting of slow-going vehicles, he reminded them of the accident to the Duke of Connaught in Scotland as an argument for lighting.



The Clyde 24-30-h.p. Car.

"FREE garage" is being given on the premises of the Warrington Motor Carriage Company, Ltd., of Sankey Street, Warrington.

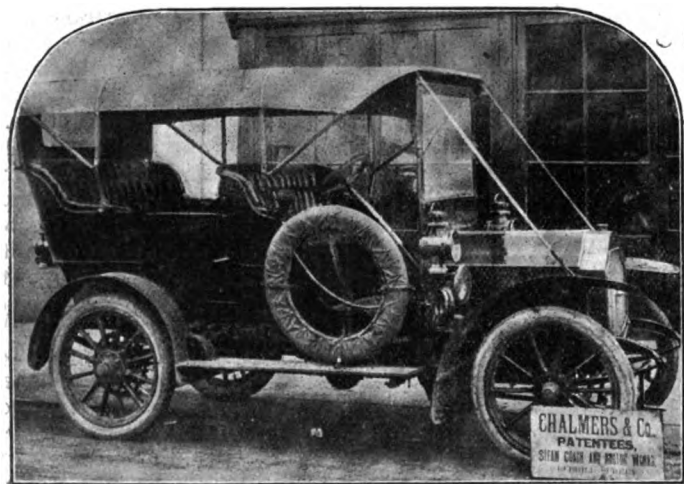
MESSRS. SINGER AND CO., LTD., are, we learn, open to negotiate with a responsible firm for the agency for their new Singer cars in the London district.

A SAMSON non-skid was fitted to Mr. A. Lee Guinness's 200-h.p. Darracq when the new French record of 20 sec. for the flying kilometre was established at Dourdan on the 21st ult.

THE new motor-boat bye-laws on the Thames will shortly come into force. Those who wish to have a copy of these regulations sent to them should send in their names to the secretary of the Thames Conservancy, Victoria Embankment, E.C.

THE Prested Miners' Lamp Company have lately introduced a small accumulator testing lamp. The 4-volt lamp and connection is all self-contained in a plated metal case, which occupies but a very small space, and which can be easily applied to the terminals of the accumulator.

THE annual ploughing match of the Boston Agricultural Society was held on Mr. W. Dennis's farm at Wybérton. As is now usual at ploughing matches, there was a class for motor-ploughs, and the first prize was won by the Ivel agricultural motor, which was shown hauling a three-furrow plough, nine inches deep, as well as cultivating.





# CORRESPONDENCE

[Letters to the Editor should be addressed to the offices, 87-88, Charing Cross Road, W.C.]

## THE TAXATION OF CARS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Will you allow us, on behalf of the committee of medical men who are users of motor-cars, to call attention to a matter of importance? Under the existing Motor Car Act, which has been temporarily prolonged, the owners of motor-cars are called upon to pay (1) for a licence to drive; (2) a registration fee; (3) a carriage tax of £2 2s. for cars under one ton weight, and of £4 4s. for cars over a ton weight.

Now there are good reasons for anticipating that in the Act which is being drafted the last of these three will be materially increased, and that cars will be taxed according to either their weight or horsepower. In either case the new taxation will fall heavily upon medical men, who, owing to the exacting nature of their work, the requirements of reliability, the rough roads and steep hills they have to traverse, must use substantially-built cars with adequate horse-power.

It is not right that motors used by medical men in their daily work should be taxed as though they were the pleasure vehicles of the rich.

cheapness and efficiency of fuel be both secured and maintained, and the Motor Union, with this object in view, has resolved to thoroughly investigate the subject of fuel. The committee, therefore, invite assistance, and will be glad to receive, either verbally or in writing, the experiences and suggestions of all who are willing to aid them. Such evidence will, if so desired, be treated as confidential.—Yours truly,

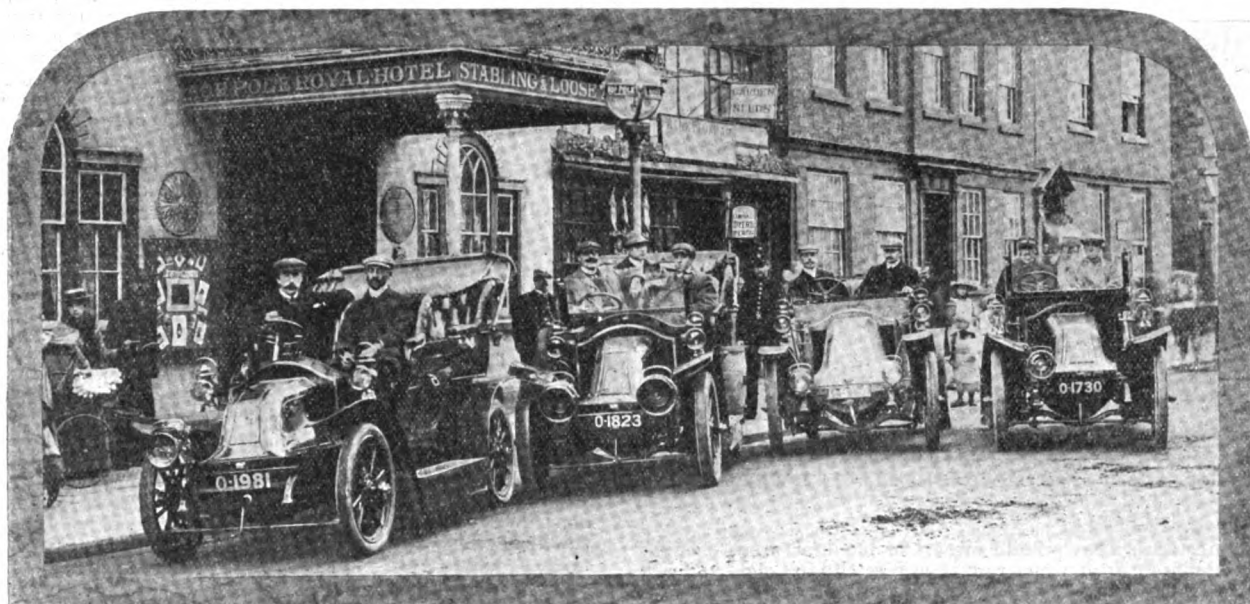
W. REES JEFFREYS.

## SUNDAY MOTORING.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Although "W. T. W., A. 1299" writes very sensibly in his letter on the above subject, I cannot agree with him that motor-cars should be so made that they cannot exceed the speed limit.

There are places, and plenty of them, on our main roads where to crawl along at a speed of twenty miles per hour would be absurd; your correspondent must remember that there is a difference between the high speed and cautious motorist and the man (I will not call him a motorist) who will drive a car "neck or nothing" everywhere. It is possible for one driver to be perfectly safely placed in charge of a car capable of sixty miles per hour, whereas it is not safe to allow another driver to have a car in his hands capable of running up to the legal limit, let alone above it. What is required is that, before a man is allowed to have charge of a car, he shall be obliged to undergo a practical examination on the road, by a capable official, appointed by the Government, as is the case in France. A man confident in his



The Inaugural run of Barnett Motors Ltd.—A Fleet of Renault Cars at Tewkesbury. (See page 766).

The medical man has neither time nor money to allow of such luxuries; his motor-car has to be used strictly for professional purposes, and, in consideration of the enormous amount of gratuitous work that he does, ought to be exempt. Surely it is to the advantage of the public to encourage the use by medical men of a means of progression which enables them to render such speedy help in moments of emergency. It is, however, likely that heavy taxes will be thrown upon medical men, unless they bestir themselves, and try to defend their own interests.

We would, therefore, suggest that each medical man should forthwith write to his own member of Parliament, or to any others he may know, for protection and support. Those members of the public who are favourably disposed are asked to write to members of Parliament and express their sympathy with this movement.—Yours truly,

C. B. LOCKWOOD.

Chairman of Committee of Medical Men who are users of Motor-cars.

H. E. BRUCE PORTER.  
Hon. Secretary.

## FUEL FOR MOTOR-CARS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—The Motor Union has appointed a special committee to consider and report on the subject of fuel for motor-cars.

Petrol of a specific gravity of .715 to .720, the fuel at present in general use, is an expensive necessity to the users of motors, and may possibly become even yet more expensive.

It is of advantage to all who are interested in motor traction that

capabilities would glory in the opportunity of showing his skill, and the person who objected to examination would be kept off the road, to the benefit of all other users.—Yours truly,

ALAN A. L. HICKMAN.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have been much interested by the correspondence in your columns re Sunday motoring, and, although not at all averse to it, I should like to make a complaint about a very serious breach of Sunday discipline. I refer to the blowing of horns in roads and streets in the vicinity of churches on Sunday. Unfortunately, it is such a very common occurrence that I am sure church-goers in nearly every part of the country will have experienced it, and I do not think that anything sounds so dreadful as to suddenly hear the loud blast of a horn in the middle of a service.

A remedy is not very hard to find; a very small amount of consideration on the part of the driver is necessary; he has only to slow down his pace to such an extent that to blow his horn is unnecessary, and he will thereby do a great deal for the cause of Sunday motoring.—Yours truly,

VERITAS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Mr. T. Morison seems to be under the impression that everyone who motors must be rich. This may have been near the mark four or five years ago, but I do not think it applies to the present day, when second-hand cars of all sorts can be picked up at

a very reasonable price. There must be thousands like myself, possessed of small means, who can only do a little motoring on Sunday, whether it be by "bike," tri-car or small car. If these are driven with reasonable care they make no more dust than the poor man's bicycle, pony-cart, wagonette, to say nothing of beanfeasters' outings that one meets on the road.

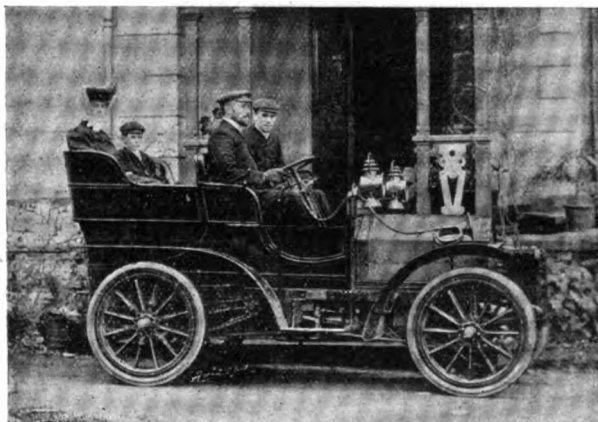
Mr. Morison's remedy would simply bar all the poorer class of motorists, who can only enjoy it on a Sunday, while leaving it open to the very few rich who are at liberty all the week as well. I should like to suggest what I think would be a better plan of meeting the nuisance caused principally by cars of high horse-power, and that is for every car to be subjected to a thorough speed test by the licensing council, and for every mile a car was capable of doing over the legal to be charged at the rate of £1 per mile; a car geared to do 35 miles per hour would then pay £15 over and above the ordinary two guinea licence. If this were in force, I fancy we should soon hear less grumblings from the public.—Yours truly,

J. SIMMONS.

### RACING TRACKS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice the motor races or trials on the 12th inst. at Blackpool were postponed to the following day in consequence of the track being in a dangerous state and "skiddy" owing to the surface being greasy. It has always been a matter of surprise to me that it should be found necessary to go so far north for a good motor track when they have one so near London as Westcliff-on-Sea. This track is about two miles long and thirty yards wide, and, being laid with Taafalt, it is not only dustless but is proof against skidding or side-slip. I would suggest



The Turner-Miesse Steam Car recently completed for Mr. J. Withinshaw, of Cape Town.

that those interested, be they private owners or manufacturers, should inspect this magnificent road, which runs from Westcliff to Leigh-on-Sea. I hear that Dustroy, Limited, have been selected by the Roads Improvement Association to lay Taafalt on the Portsmouth road, so as to do away with the dust. The motor course being made by Mr. Locke King on his beautiful estate at Weybridge will be finished to enable the first race meeting to be held about May next, and the whole of this track, over three miles, will also be surfaced with Taafalt. Under the auspices of the Automobile Club it should prove a great success.—Yours truly,

CHARLES SUGDEN.

### A WARNING TO INCONSIDERATE DRIVERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—On a recent Sunday afternoon I was (merely for amusement) timing cars returning from Brighton as they ascended the rise about a mile beyond Patcham. One car, of racing build, covered 130 yards in five seconds, or at a speed of over 53 m.p.h. Shortly afterwards two cyclists came down the hill, one shouting to the other as he passed, "I would puncture their tyres, then set the villagers on them and give them a good hiding! That is what they want." Comment is needless.—Yours truly,

L. C.

### CARS FOR INDIA.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—India as a market for automobiles is rapidly improving, and there seems to be a greater demand than ever for British-built vehicles affording ample horse-power at moderate prices. As manufacturers of motor-cars since 1898, we are securing a fair share of the trade, but our customers write to the effect that most makers send out standard vehicles, omitting to make provision for the climate affecting the woodwork or efficiency of the engine. The carburettor, whilst

generally eminently suitable for the English climate, hardly ever allows for the proper adjustment to insure getting satisfactory running of the engine. Also the water circulation appears to receive little attention. An Indian client at present in this country, who intends to take back a "West" touring car, insists on wire wheels being fitted, and suggests that all vehicles sent to India should be equipped in this manner. It would be interesting to hear the subject ventilated in the Press.—Yours truly,

WEST, LTD.

### A PECULIAR IGNITION TROUBLE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a car of a well-known foreign make which is subject at times to a most mystifying irregularity in the operation of the engine. When the bonnet is down and the car is running along the road, every once in a while one of the cylinders will miss an explosion, just frequently enough so that it can be detected. In the stable with the bonnet up there is absolutely nothing wrong, and the engine runs perfectly, but the moment the bonnet is put down the missed explosion occurs occasionally. I have tested the carburettor, the ignition circuits, and everything else, but am totally unable to ascertain the trouble, and should be obliged if you or any readers of the *M.C.J.* could render me any assistance.—Yours truly,

W. RAMSBOTTOM.

[The cause of the trouble may be found in faulty contact in the contact breaker, especially if it is for four cylinders. When the engine is running and the car is stationary, there is not the same amount of vibration on certain parts, but when running on the road a contact breaker in which the contacts and the bearing of the rubber roller are worn is very likely to miss occasionally, and will miss more frequently as time goes on. Contact breakers which are much worn may also have a burr of metal which may be causing a short circuit at intervals. We have had a similar trouble which was entirely caused by this, and it was only detected by the heating caused by the faulty contact, which, created smoke, and located the trouble when the engine was running, and the contact breaker examined with the cover off.]

### AN ENGINE QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a Maxwell 8-h.p. two-cylinder car, and find that the two cylinders are not doing an equal amount of work. The sparking is all right, as also are the valves. I may say that I have had a new carburettor fitted, and, when the extra air inlet is closed the two cylinders seem to work equally. This I tested by retarding the spark and pressing down the trembler blades. Now, when I begin to let in the extra air one cylinder goes on working even better, but the other begins to slow up, and when the air inlet is half open it begins to misfire, and eventually stops altogether. I may say that the compression on this side is not so good, and I understand that it never has been since the car was built. Although I can attain a speed of thirty-eight miles per hour, I feel that could the poor cylinder be made as good as the other, I could then use more air and therefore economise fuel. I suggested a plate at the end of the piston, but my garage engineer, who has had a lot of experience, says that it would do harm. I don't know exactly why. If you agree with me, will you tell me what thickness this plate ought to be, and of what material it should be made?—Yours truly,

F. SUGDEN, M.B.

[The trouble referred to by our correspondent is no doubt due to loss of compression in one cylinder. It seems to us that this loss must be either by the piston or valves, as no doubt both cylinders are of the same capacity; therefore, if everything were sound, the compression ought to be obtained in both cylinders. We should not advise the fitting of a plate, as this would alter the balance of the engine, no doubt setting up excessive vibration. The loss may probably be found past the piston.]

### NON-SKID EXPERIENCES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Having used the Goodrich all-rubber non-skid for several months, I thought the following might be of interest to some motorists. They are fitted to both driving wheels of a two-seated 7½-h.p. steam car. The tyres have never been punctured. I have not touched the tyres nor had the slightest trace of slip, although the car was a very bad skidder previously. Now I have a 9-h.p. Serpollet of which only one wheel was fitted, and have only slid slightly on steep gradients in Gloucestershire in the region of Stone-on-the-Wold, where the roads are slimy to a degree. In my opinion, these non-skids wear very well and increase the life of tyres. Apparently they do not overheat, although the car is a fast one.—Yours truly,

PERCIVAL SQAMES.

### WHAT IS WARNING?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Cases of "failing to give warning" are being taken up in some parts of East Anglia by the police. I send a report of a case in which two witnesses for the prosecution swore positively that defendant blew his horn, in addition to an independent witness for

the defence and defendant himself. There was considerable division on the Bench, but, needless to say, defendant was eventually convicted. Your readers, like myself, would doubtless like to know how often one must blow one's horn? I fear that a worse nuisance than the dust fiend will shortly arise if these prosecutions multiply, viz., an automatic buzzer.—Yours truly,

E. B. 173.

[The case referred to was heard by the Borough Bench at Wisbech, where a motorist was summoned for not giving sufficient warning of his approach. As our correspondent remarks, the Bench fined the defendant (10s. and costs) although witnesses declared they had heard him blow the horn.]

### THE BIAS OF JUDGES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The case reported in your columns by General Tucker shows a very gross miscarriage of justice. Were I in his position I would not accept the judge's decision, if there is an appeal and the facts as stated have been proved. I mention this qualification, as it is sometimes possible to make a statement of fact and not to be able to support it with the necessary amount of proof required by law, as in the case of opposition witnesses swearing to the contrary.

The "common law" applicable to the case is that each vehicle must allow the other the half of the road, and for the judge to say to the owner of the vehicle that occupied only 9 ft. of a 30 ft. road that he ought to have cleared the other vehicle which occupied 21 ft. of road is too preposterous to argue. It is difficult to understand why any judge could so stultify himself as in this case, but I fear that General Tucker has suffered on account of the gross culpability of other reckless drivers of motors who imagine that it is everybody's duty to get out of their way or take the consequences.

It is for General Tucker to consider whether it would be advisable to raise an action against the brewers for the damage done to his car, before some other judge, or appeal; but in any event the hardship of the situation is great and justice has been caricatured and scandalised.—Yours truly,

EVEN-HANDED JUSTICE.

### MOTORISTS AND THE POLICE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—From the newspaper report of my case heard recently before the Reigate magistrates, when I was summoned for exceeding the speed limit, and more especially from the remarks made (in my enforced absence, as explained in my letter to the Bench) by the chairman, Mr. Jeremiah Coleman, one would gather that I had both deceived the police and misled the Bench. According to the newspaper reports which I have read, the constable who served the summons on me stated that I had given the wrong address. It is true that my new address (to which I have recently moved) was not at the time on my licence, but the police might have had the fairness to inform the Bench that I gave my card with my full name and correct present address to the constable who stopped me on the road, and that they should have had no difficulty in finding me. This can be borne out by a witness who was present at the occurrence. Further, my letter to the magistrates of October 11th did not contain any misleading statements, as attributed to me by Mr. Jeremiah Coleman in his lamentations from the Bench. On the contrary, I confessed my sins and tendered my most humble apologies and regrets. I have never yet condescended to any mean subterfuges such as is suggested by the report of this case, and I trust you will insert this letter in justice to myself.—Yours truly,

COLIN DEFRIES.

[We may point out that our report of the case did not contain the inaccuracies referred to, which, however, did appear in certain newspapers.]

### DIFFICULTY IN STARTING ENGINES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In your issue of June 30th last you published a letter from Mr. C. N. R. Wheatley complaining of the trouble in starting an 8-h.p. De Dion car, and I have waited until now to see if the De Dion Company would offer any explanation or give the reason why their single-cylinder cars are often so difficult to start. I have also carefully perused various publications issued by De Dion Bouton, Ltd., but cannot find any explanation of what I take to be the true reason of this difficulty, and as it is one of the most important points on their car, their silence on the subject is inexplicable. In the bottom of the spray chamber of the De Dion car carburettor is a small hole running downwards at an angle and coming out from the centre of the plug in the bottom of the carburettor. On to the bottom of which the nut screws which holds the carburettor together. The object of this hole is to drain off superfluous petrol or water which may condense off the indrawn air, and it also serves, if the carburettor floods, to relieve the flooding. Owing to the suction of the engine, air is drawn through this hole and with it particles of dust, which in many cases result in the hole being choked. When this happens any overflow of petrol lies in the bottom of the chamber, which results in the engine getting such a rich mixture that it will not explode.

As most motorists flood the carburettor before starting, and if there is any difficulty in starting they proceed to flood the carburettor again, it will at once be seen that with this hole choked the trouble gets worse the more one tries to start by flooding the carburettor. I have been three-quarters of an hour starting my car, and it was only after some weeks that I found the cause, and then had to use a fine drill to open the hole, as it was so firmly choked. Since then the engine starts without any trouble, although for several weeks I had no end of bother. I have not the slightest doubt that this was the trouble, not only with Mr. Wheatley but with many others who have had difficulty in starting their single-cylinder De Dions.—Yours truly,

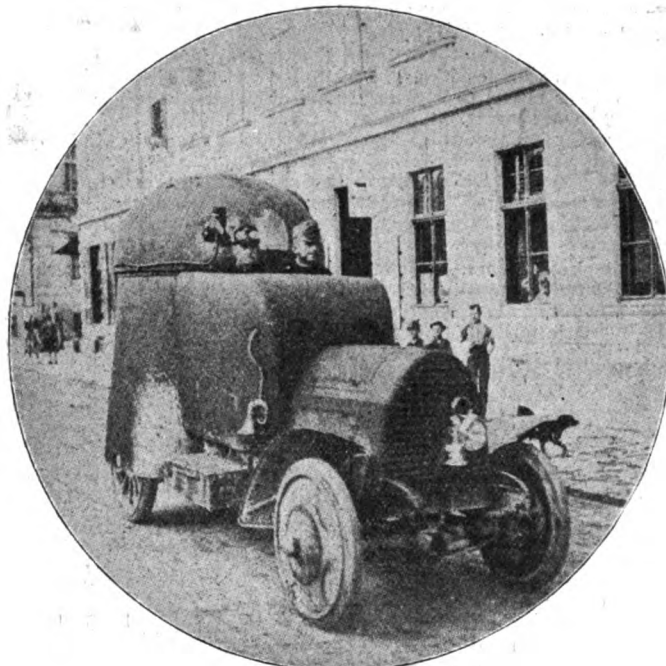
C. M.

### THE INFLATION OF TYRES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In view of the necessity of having tyres pumped up to a sufficiently high pressure in order that one's tyre bills may be kept as low as possible, might I suggest to the various tyre manufacturers that following the size of the tyre or the name of the maker should be a distinct impression on every tyre showing the minimum pressure at which this will satisfactorily run?

Thus continually impressing upon the owner, chauffeur, and garage



The Armoured Mercedes Car used in the recent Military Manœuvres in Austria.

proprietor the fact that his tyres should be pumped up to a certain pressure would surely have a good effect.—Yours truly,

INFLATOR.

### MASCOTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was much interested and amused at Mr. C. M. Holloway's account of his cat's ride with him on his car. I am a motorist myself and a great lover of cats, and I would just like to remind Mr. Holloway how susceptible cats are to cold and liable to pneumonia, so that it would not be advisable to take his dear "Tommy" on very cold days, as he might catch his death cold through it.—Yours truly,

A. G.

TYRE PUNCTURE.—"J. T.," of Castletown, Isle of Man, asks for the experience of readers in mending punctures with vulcanising solutions, and would like to know the effect on the rubber.

A TAIL LAMP was found in Sible Hedingham on Saturday, October 21st. It is a large brass one, and will be returned to the owner on applying to Mr. M. Gentry, Sible Hedingham, Essex.

TOURIST TROPHY RACE.—*Métallurgique Cars* write:—"We notice that Captain Deasy thinks we have overlooked the requirements of a large section of the public in the way of touring cars. We would, therefore, like to point out that these are the very people we cater most for, as we have built up to now only touring cars. We fit even on our smallest four-cylinder chassis 16-20-h.p. spacious double landaulet-limousines, with seating capacity for six people. This chassis is naturally lighter than our 24-28-h.p. which we entered for the Tourist Trophy. The latter is much stronger, and we would therefore not hesitate to fit any type of heavy limousine to it."

## THE TOWN CARRIAGE COMPETITION.

THE judges, Messrs. F. E. Dyke Acland, W. Worby Beaumont, C. Vernon Boys, T. H. Cochrane, E. H. Cozens-Hardy, R. E. B. Crompton, H. S. Hele-Shaw, A. G. New, Wilson Noble, Sir David L. Salomons and Robert Todd, in this competition, reports of which have already appeared in our columns, have recommended that the following medals be awarded:—

CLASS "A," for vehicles costing up to £600 complete.

Gold medal to Mr. Carl Oppermann, for his electrical vehicle No. 31, and

A gold medal to the Wolseley Tool and Motor Car Company, Ltd., for its limousine car, No. 27.

A silver medal to the City and Suburban Cab Company, Ltd., for its public service vehicle, No. 26, and

A silver medal to the Adams Manufacturing Company, Ltd., Car No. 32, for ease of manoeuvring.

In CLASS "B," for vehicles costing over £600 complete.

A gold medal to the Electromobile Company, Ltd., for electrically-propelled vehicles, Nos. 7, 8, 9, 10, and

A gold medal to Mr. Frederic Coleman for his "White" steam cars, Nos. 1 and 2.

A silver medal to the London Motor Garage, Ltd., for a "C. G. V." car, No. 13; with an additional silver medal to the same company for excellence in carriage work.

A silver medal to the Krieger Electric Carriage Syndicate, Ltd., for its electrical vehicles, Nos. 17 and 18.

A silver medal to Messrs. Dennis Brothers, Ltd., car No. 14, for comfort to passengers.

A silver medal to the Pilgrims Way Motor Company, Ltd., car No. 12, for originality in design and accessibility.

We give in tabulated form the order of merit under each of the fourteen heads which were taken into consideration in arriving at the awards. These were lettered A—O, the points being as follows, and the letters corresponding with those that appear at the top of each column.

- A.—General design of complete car (chassis and body).
- B.—General appearance and finish of body work.
- C.—Absence of smell and smoke; proper direction of exhaust vent.
- D.—Absence of leakage of lubricant.
- E.—Absence of noise with car stationary or running.
- F.—Absence of vibration with car stationary or running.

## THE ORDER OF MERIT ON EACH OF THE FOURTEEN POINTS TAKEN INTO CONSIDERATION.

## CLASS A.—FOR VEHICLES COSTING UP TO £600 COMPLETE.

Competing No.	Car.	A.	B.	C.	D.	E.	F.	G.	H.	J.	K.	L.	M.	N.	O.
27	Siddeley ... ..	1	2	5	4	3	2	1	7	6	4	1	2	2	3
25	Spyker ... ..	2	7	7	6	2	5	1	4	4	8	9	2	5	6
28	James and Browne... ..	3	7	1	7	6	4	1	3	1	4	1	2	4	8
31	Oppermann ... ..	4	3	1	1	1	1	1	1	3	1	7	2	8	5
33	Argyll ... ..	5	3	9	7	7	7	1	9	4	2	1	8	2	9
24	Beeston-Humber ... ..	6	6	4	4	3	2	1	8	9	6	1	2	5	2
32	Adams-Hewitt ... ..	7	5	3	1	8	7	1	2	1	9	7	1	9	1
30	Georges Richard ... ..	8	9	6	3	3	5	1	6	7	2	1	8	5	4
26	Georges Richard ... ..	9	1	8	7	8	7	1	4	7	7	1	2	1	7

## CLASS B.—FOR VEHICLES COSTING OVER £600 COMPLETE.

Competing No.	Cars.	A.	B.	C.	D.	E.	F.	G.	H.	J.	K.	L.	M.	N.	O.
9	Electromobile ... ..	1	7	1	1	1	1	1	6	1	1	1	1	1	9
1	White Steam ... ..	2	2	1	1	1	1	1	12	12	22	1	1	4	4
2	White Steam ... ..	3	2	10	1	1	1	1	12	12	22	1	1	11	4
19	Argyll... ..	4	16	21	1	12	17	1	18	20	21	1	1	9	21
20	Argyll... ..	4	16	19	19	12	17	20	18	20	7	1	1	14	21
21	Argyll... ..	4	2	18	18	11	14	20	23	20	7	23	1	6	21
5	Lanchester ... ..	7	15	1	1	19	17	20	7	12	7	1	1	21	18
6	Lanchester ... ..	7	10	13	1	19	14	1	7	12	19	1	1	16	18
14	Dennis ... ..	9	2	22	1	15	12	1	15	5	18	1	23	1	1
22	Argyll... ..	10	16	19	1	21	20	1	15	12	7	1	1	12	9
23	Argyll... ..	10	2	17	1	15	12	1	15	12	7	1	1	6	9
8	Electromobile ... ..	12	8	1	1	1	1	1	5	1	1	1	1	6	6
10	Electromobile ... ..	13	8	1	1	1	1	1	4	1	1	1	1	4	9
12	Pilgrim ... ..	14	12	1	1	14	16	1	10	5	18	1	22	16	17
7	Electromobile ... ..	15	11	1	19	15	1	1	3	1	1	20	1	12	6
13	C. G. V. ... ..	16	1	15	1	9	10	23	12	10	7	1	1	1	2
11	Ariel Simplex ... ..	17	20	14	22	1	22	1	18	12	16	1	1	15	14
17	Electric (Kreiger) ... ..	18	20	1	1	1	1	1	1	5	1	1	1	23	15
18	Electric Victoria (Kreiger) ... ..	19	20	1	1	1	1	1	1	5	1	1	1	20	18
4	Wilson-Pilcher ... ..	20	19	22	1	23	10	1	18	23	7	1	20	21	16
15	Germain ... ..	21	13	10	22	21	23	1	7	10	19	20	1	9	20
16	Renault ... ..	22	13	16	22	15	20	1	10	19	7	20	19	16	3
3	Napier ... ..	23	12	10	1	9	3	1	18	9	7	1	21	16	8

G.—Smoothness of running and comfort of passengers. An examination was made as to the use of [adequate tyres, size of wheels, spring suspension, and means of preventing road shocks.

H.—Ease of cleaning (a) exposed metal work and coach work, and (b) machinery (including oiling).

J.—Ease of access for repair, removal of body, access to important working parts, access to tools, to lubricating holes and stauffers, &c., removal of undershields, access to concealed gear).

K.—Ease of starting (a) cold (b) after recent use, with relation to smooth action of clutch (if any) and to smooth acceleration.

L.—Ease of stopping and speed changing without jerks or noise. An examination of the brakes was made both as to their efficiency and design.

M.—Ease of manoeuvring.

N.—Comfort of passengers in relation to cushions, folding seats (if any), &c., number of passengers carried exclusive of driver, access to interior by side entrance, exclusion of rain, storage space for tools and parts.

O.—Comfort of driver in relation to easy manipulation, shelter from wind and rain, ease of signalling to other vehicles (without special mechanical devices being required for this latter purpose).

Each of the above has been considered as a separate competition, and the order of merit in each is appended. Where duplicate numbers are given the merit is equal.

## NEW COMPANIES REGISTERED.

BOULT, TAYLOR AND COMPANY, LTD., has been registered with a capital of £10,000 to carry on the business of automobile garage keepers, &c. Their offices are at 12, Upper St. Martin's Lane, W.C.

NOTTINGHAM MOTORS.—Capital, £1,000. As title. No initial public issue. Registered without articles.

CITY GARAGE.—Capital £4,000. To take over the business of garage proprietors carried on by Mr. H. F. Borman, of Erdington, near Birmingham, and Mr. C. B. Borman, of Gloucester, as the City Garage. No initial public issue. First directors, H. F. Borman and C. B. Borman, 36, Worcester Street, Gloucester.

KEMPSHALL TYRE COMPANY OF EUROPE.—Capital £4 5,000. To adopt an agreement with Mr. E. Kempshall for the acquisition of certain patents and rights relating to improvements in motor and other tyres. Mr. E. Kempshall is a permanent director, subject to holding 20,000 shares. 182, Queen Street, E.C.



## STEEL FOR MOTOR-CAR CONSTRUCTION.

THE motor-car has been brought to its present state of perfection by the unremitting attention to the numerous details of its mechanism: the engines, the ignition, the gearing and the design of the body have all been, and are, the objects on which the brains of a numberless band of experts are concentrated. But there is one question which certainly deserves more consideration than it at present receives, and that is the quality of steel used for such important parts as the crank shafts, driving shafts, and axles. Apparently, there is a general impression that steel is steel, and that there remains absolutely nothing more to be said about it. And if the weight of the car were of no moment, perhaps it would not be necessary to say much more on the subject; but as it appears to be of vital importance that the weight should be cut down to the last pound, then the question of the steel used for the working parts merits the most serious attention of the motor engineer.

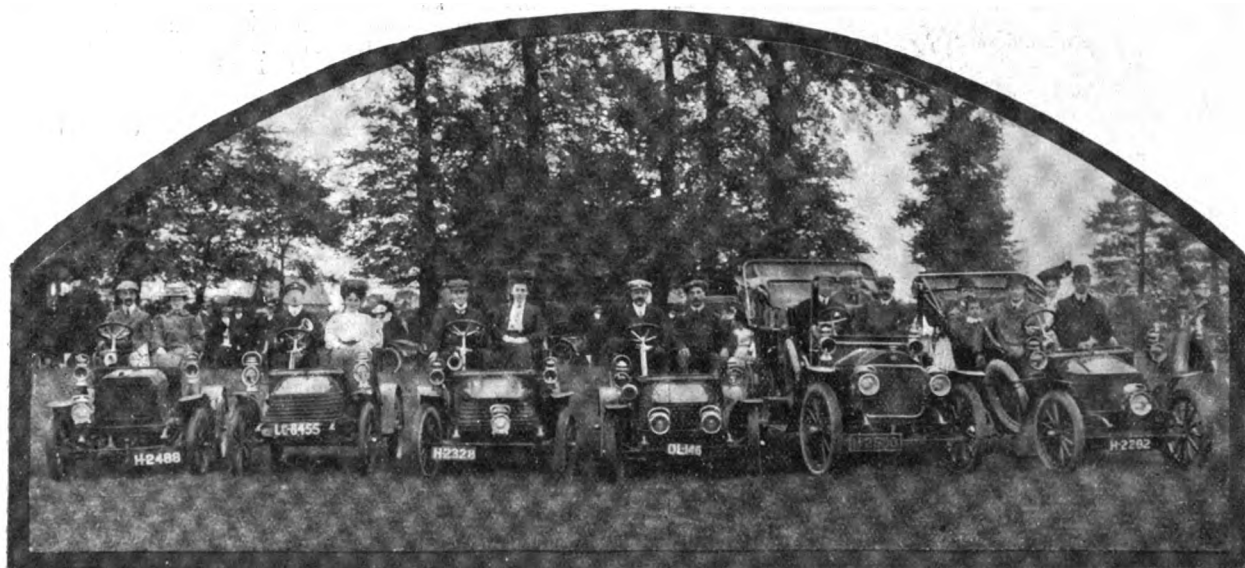
The motoring public, whilst displaying a nice discrimination in such matters as sparking-plugs, tyres, and carburettors, are compelled to rely entirely on the reputation of the maker; and in the event of an accident caused by the breaking of an axle or shaft, this reputation suffers in proportion to the publicity the mishap obtains. It is quite true that the steel question is now the subject of a little more interest than was formerly the case, as may be seen from the number of specifications in which certain classes of steel, such as nickel or nickel-chrome, are asked for; and frequently even a physical test is stated. But in how many instances is the analysis checked or the test verified at the motor works? And yet it would appear to have a certain amount of importance as to whether an axle is made of a special steel having a breaking strain of 45 tons per square inch, or of an ordinary mild forging steel with

It will be seen that the elastic limit, an important item, is increased proportionately even more than the ultimate tensile strength, and, taken in conjunction with the elongation, speaks well for the toughness of the material. Nor does steel containing the lower percentages of nickel present any difficulties in machining, and as we are only dealing here with the material employed in motor-vehicle construction, it is not necessary to enter into any of the peculiarities of, say, 15 per cent. to 30 per cent. nickel steel.

Another steel which is remarkable for its tenacity is one containing both nickel and chrome, the demand for which is to some extent limited owing to its somewhat expensive nature. The results of the physical tests vary according to the proportionate percentages of these alloys present, but the following may be taken as a typical test:—

	Elastic Limit.	Ultimate Tensile Strength.	Elongation.	Reduction of Area.
Nickel-Chrome Steel	41.6 tons per sq. inch.	58.0 tons per sq. inch.	23 % in 2 in.	49.0 %

As must naturally be the case with a steel of this high tensile strength, the machining, of course, involves a little extra trouble, but the material is obviously suitable in an admirable degree for parts subjected to strains. This steel has also been used for gears to run without case-hardening, but it is the opinion of a good many that the steel has yet to be made which will beat one made specially for case-hardening, provided that the casing be carried out in a systematic manner.



A group of Siddeley Cars at the Southern Motor Club's recent Gymkhana at Cheam.

a breaking point of only 30 tons per square inch. Probably in the early days of the motor-car industry the English steel manufacturers were a little behind their rivals across the Channel in realising the scope there was for special steels, but such is not the case now. Owing to the expensive nature of the alloys used in the production of high-tensile steels, which has made a very formidable matter of the almost innumerable but necessary experiments, together with the rather elaborate testing plant which is essential, it is only at several of the largest steel works where it has been possible to conduct the investigations necessary for the production of these steels. One firm which appears to have specialised to a very large extent in steel for motor-car construction is Wm. Jessop and Sons, Ltd., of Sheffield, who have permitted us to make use of the following tests.

From a practical point of view the most suitable steel for parts of the car subject to shocks is a material containing nickel, which is usually present to the extent of from 3 to 5 per cent., and the addition of which has a marvellous effect upon the strength of the metal. For purposes of comparison we give three tests which show, beyond question, the superiority of nickel steel:—

	Elastic Limit.	Ultimate Tensile Strength.	Elongation.	Reduction of Area.
Mild Forging Steel ...	16.2 tons per sq. inch	32.8 tons per sq. inch.	30 % in 2 in.	45.4 %
3 % Nickel Steel ...	32.8 tons per sq. inch	47.6 tons per sq. inch.	23 % in 2 in.	37.8 %
5 % Nickel Steel ...	38.2 tons per sq. inch	50.4 tons per sq. inch.	21 % in 2 in.	37.8 %

Although up to the present nickel and nickel-chrome steels have proved to be, for practical purposes, the best steels for the parts mentioned, Messrs. Jessops are still experimenting with a view to "going one better," and one of their latest steels has given a test which only a short time ago would have been considered an absolute impossibility. The following test was obtained from a  $\frac{1}{2}$  in. diameter rolled bar, without treatment of any nature:—

Elastic Limit.	Ultimate Tensile Strength.	Elongation.	Reduction of Area.
31 tons per sq. inch.	53.0 tons per sq. inch.	70.0 in 2 in.	54.2 %

Whether this material will come within the range of practical politics remains to be seen, but recent experiments tend to show that even more may be done to increase the strength of these special steels, and with this belief the steel manufacturers are sparing no effort or expense, and what is now wanted is the co-operation of the motor-car makers.

## POLICE TRAPS.

THE police are exercising a sharp surveillance over the stretch of road between Nottingham and Bingham.

THE Staffordshire police are now in possession of an electrical timing apparatus.

THERE is a measured distance on the Findon main road, Worthing. The police trap in the Shooter's Hill Road, London, S.E., has been in active operation.

## CLUBS AND ASSOCIATIONS.

### THE INSTITUTION OF AUTOMOBILE ENGINEERS.

THE first meeting of the Institution of Automobile Engineers will be held at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W., on Wednesday next, at 8 p.m. A short introductory address will be given by the president, Colonel R. E. Crompton, C.B., R.E., on the work and objects of the Institution, which will be followed by a paper on "Fuel," by Professor W. A. Bone, D.Sc., F.R.S., of Leeds.

### BRIGHTON MOTOR CYCLISTS.

THE motor section of the Brighton Cyclists' Club was formed in 1904, and has done a considerable amount of useful work in an unobtrusive way. To quote a single point of local interest, the reduction of the heavy toll formerly levied on motor-cyclists at the Shoreham "railway" bridge



Touring in France.—The Hotel de Ville, Lyons.

was a concession made by the L.B. and S.C.R. authorities as a result of representations made by this club, which is affiliated to the Auto-Cycle Club and the Motor Union. The club house has a billiard-room, reading-room, refreshment-bar, &c., at 190, King's Road Arches.

### BRITISH MOTOR BOAT CLUB.

THE annual dinner of the club will be held early in December, when the commodore, Admiral Sir W. Kennedy, K.C.B., will preside at the banquet.

### MARINE MOTOR ASSOCIATION.

THE general meeting of the members of the Marine Motor Association was held on the 25th ult. at the Golden Cross Hotel, London. Mr. H. W. Hutchinson presided, and the members present included Messrs. Linton Hope, Seaton Edge, Perman, A. Harden, T. Thornycroft, F. S. Bircham, and J. A. Smith. It was reported that the association was in a very flourishing condition. The past season had been the most successful in its history. Altogether over eighty motor-boat races had been held under the rules of the association during the past year, as against fourteen in the previous twelve months. It was also reported that the membership was daily increasing, there being now close upon 100 names on the book. A number of new rules and alterations to those already in existence were passed.

### AUSTRALIA.

IN the recent run of the Automobile Club of New South Wales, Messrs. Innes' and Morgan's Humber car greatly distinguished itself.

The Automobile Club of Victoria has had a successful hill climb at Heidelberg, where they had a hill 1,050 yards in length with a gradient of one in six and a half. There were forty-three entrants, and over 100 automobiles were lined up at the finishing point, constituting the most imposing array of motor-cars yet seen in the colony.

The times showed a marked improvement on previous runs up this hill. Mr. David Thompson (16-20-h.p. Humber), who carried off the speed honours by the small margin of a second from Sir Reginald Talbot's (12-16-h.p. Talbot) car, averaged a speed of nearly twenty-two miles an hour up the hill from a standing start. A private match was then run off between Mr. S. Dalrymple (12-16-h.p. Talbot) and Mr. H. Howard-Smith (12-16-h.p. Talbot), Mr. Dalrymple winning an exciting race by fifteen yards in the fast time of 1 min. 40.3-5 sec.

The official awards on the handicapping formulæ were as follows:—

#### MULTI-CYLINDER CARS.

1st, W. C. Knight (10-h.p. De Dion); 2nd, Sir Reginald Talbot (12-16-h.p. Talbot); 3rd, F. L. Klingender (8-10-h.p. Humber).

#### SINGLE-CYLINDER CARS.

1st, Dr. R. E. Weigall (6-h.p. De Dion); 2nd, A. G. Hampton (6-h.p. De Dion); 3rd, F. E. Fay (6-h.p. De Dion).

THE balance of the funds of the late Warwickshire A.C. has been handed to the Motor Union.

THE Montreal (Quebec) Automobile Club has held the first motor gymkhana in the province.

THE Derby and District A.C. intends to invite the Motor Union to hold a provincial meeting in the county next year.

SIR HUGH BELL, Bart., J.P., and Mr. R. Armitage, M.P., will be among the guests at the annual dinner of the Yorkshire A.C. on the 14th prox.

ON the occasion of the Manchester Motor Club's 100 miles reliability trial, six non-stop runs were made, of which three were to the credit of Humber cars.

THE Cumberland Motor Union and the North Berks Automobile Club have been admitted to membership of the Motor Union. The clubs now included in the latter number 80, and the aggregate membership is 13,800.

### CRYSTAL PALACE AUTOMOBILE CLUB.

THE open hill climb of the Crystal Palace Automobile Club on Captain Kidd's Hill, at Hartfield, near East Grinstead, was illustrated in our columns last week. The calculations of the judges and timekeepers have resulted in the following order being assigned, based on formula:—

Car.	Cubic Capacity.	Weight.	Speed.	Marks.
1. 9-h.p. Riley ...	63	1414	79.1	100
2. 12-16-h.p. Clement-Talbot ...	166	2702	100	91.6
3. 5-h.p. De Dion ...	43	1566	37	75.6
4. 12-h.p. De Dion ...	105	3164	43.9	74.6
5. 12-16-h.p. Clement-Talbot ...	166	3024	72.7	74.5
6. 6-h.p. De Dion ...	56	1876	40.4	73.8
7. 12-16-h.p. Clement-Talbot ...	166	3248	65.4	72.1
8. 15-h.p. De Dion ...	155	3612	49.0	64.3
9. 14-20-h.p. Unic ...	145	2352	66.5	63.2
10. 12-14-h.p. Regal ...	148	2562	50	48.5
11. 12-15-h.p. Arrol-Johnston ...	184	3206	41.2	47.2
12. 17-20-h.p. Scout ...	179	3024	48.5	46.0
13. 12-h.p. Darracq ...	144	2352	49.6	45.6
14. 15-h.p. Ford ...	134	1484	72.1	45.0

#### CLASS B.

1. 24-h.p. Minerva ...	228	3346	84.9	100
2. 18-h.p. Germain ...	220	2716	100	98.8
3. 20-h.p. Gladiator ...	225	3248	75.3	86.5
4. 18-h.p. Siddeley ...	201	2646	71	84.4
5. 18-28-h.p. Clement ...	225	4144	55.6	82.3
6. 18-h.p. Arrol-Johnston ...	230	2968	77.3	80.2
7. 25-h.p. Siddeley ...	333	3892	80.7	75.7
8. 30-h.p. Thornycroft ...	318	3472	88	72.2
9. 40-h.p. Napier ...	302	3948	64.8	68.0
10. 20-32-h.p. Darracq ...	289	3584	62.5	62.3
11. 20-22-h.p. Brown ...	230	3528	47.3	58.3

#### CLASS C.

1. 60-h.p. Napier ...	472	4592	92.5	100
2. 30-40-h.p. Daimler ...	443	3822	87.1	83.8
3. 30-h.p. Daimler ...	443	3724	89.5	83.7
4. 50-h.p. Napier ...	475	3521	100	82.6
5. 30-h.p. Darracq ...	422	3696	83.5	81.3
6. 25-h.p. James and Browne ...	351	3549	42.7	44.2

#### CLASS D.

1. 35-h.p. Daimler ...	516	3892	100	100
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#### CLASS E.

1. 20-h.p. Gladiator ...	225	3248	99.6	100
2. 18-h.p. Arrol Johnston ...	230	2968	100	89.7
3. 18-h.p. Siddeley ...	201	2646	69.6	63.9

## CASES UNDER THE MOTOR-CAR ACT.

### SECTION 1.—RECKLESS DRIVING.

STEPHEN FREDERICK JOHNSON, motor-car driver, of The Elms, Hampstead Heath, was summoned at the North London Police Court for driving in a manner dangerous to the public, and to give warning by bell or horn of his approach. The evidence was that at eight o'clock on the night of the 3rd ult. defendant drove down the Seven Sisters Road and tried to pass between a tramcar and a pony-cart. He struck both vehicles with great violence, and knocked the pony and driver through a shop window. The driver was severely hurt, and another man who happened to be in the way was also seriously injured, and was still in hospital. The driver and conductor of the tramcar declared that the defendant sounded no alarm, and dashed into the car and the cart. Defendant and a witness named Leach said the motor-car was not going faster than six miles an hour, and the accident would not have happened had not the pony swerved towards the centre of the road. Mr. Cluer fined defendant £5 and 10s. costs on one summons, and 40s. and 2s. on the other, or a month's imprisonment.

At Kingston Court on Thursday of last week six motorists were fined in sums ranging from £5 to £10 each.

At the Derby Borough Police Court, Arthur Hellaby, of Aston-on-Trent, was summoned for driving a motor-car at a pace dangerous to the public in the Corn Market, Derby, on October 6th. Mr. R. S. Clifford defended. The evidence was to the effect that the car was travelling at a speed of fourteen to fifteen miles an hour, and that as it turned round into St. James's Street it nearly ran over a man named Robinson. Witnesses were called, and as the evidence was contradictory the Bench dismissed the summons. They, however, fined defendant £1 and costs for driving without a licence, it being understood that the defendant's licence expired in March, 1905, and he had not taken one out since.

### SECTION 2.—IDENTIFICATION PLATES.

At the Leeds Police Court the Yorkshire Mutual Garage Company, Woodhouse Lane, have been summoned for a breach of the Motor Car Act. Recently they sold a motor-car, bearing their registered number, to a gentleman, who afterwards had the car registered a different number, but failed to return the old registration plate. His manager found the plate lying about the works, and, fixing it to another car, drove it out. For this offence he was last week fined, and a prosecution was now brought against the company. After legal argument the charge was withdrawn on an undertaking being given by the company that they would in future retain possession of their identification plates.

### SECTIONS 1 AND 9.—RECKLESS DRIVING AND SPEED LIMIT.

George Butcher, chauffeur, in the employ of Mr. A. W. Foster, of Brockhampton Court, near Ross, was summoned by P.C. Jones for driving a motor-car in Commercial Road, Hereford, on September 10th last, recklessly, having regard to all the circumstances of the case. A second summons had also been issued against him for driving a motor-car in Commercial Road on the same day at a speed exceeding twenty miles an hour. Mr. W. J. Boycott appeared for the prosecution, and Mr. Arthur J. Corner, solicitor, Hereford, for the defence. On the case being called on Mr. Corner raised a technical objection to the validity of the second summons, which was a charge of contravening the speed limit. He pointed out that the summons for reckless driving was issued on September 12th, that the summons for exceeding the speed limit was issued on September 15th, and that the notice of the intended prosecution in respect of that charge was also dated and had been served on the defendant on the 15th September. He said that as a matter of fact the summons for a breach of Section 9 of the Motor Car Act, 1903 (excessive speed) had been issued before the notice, as required by the Act, of an intended prosecution had been handed by the police to the defendant. The notice could not therefore be a notice of an intended prosecution, as the prosecution had already been commenced at the time of the service of the notice, and the prosecution could not be an "intended" prosecution.

Mr. Corner submitted that the summons was bad. Mr. Boycott in reply admitted that the summons had been issued before the service of the notice, but it had not been served until after the notice was given, and that the summons was therefore good. The Bench upheld Mr. Corner's objection and agreed that the second summons must fall to the ground. The case of alleged reckless driving was then proceeded with, and after hearing evidence that too was dismissed.

### SECTION 9.—THE SPEED LIMIT.

On behalf of the chauffeur of Mr. A. N. Hornby, who was charged at Nantwich with driving a motor-car at sixty miles an hour, and against whom the police withdrew the summons, a solicitor has obtained costs from the authorities. The chief constable said that, having found that the car was only 10-h.p., they realised that a mistake had been made.

Declaring that they were determined to check the excessive speed of motor-cars on highways, the Hove magistrates have imposed a fine of £10 and costs on Mr. E. M. Penn, of Banbury, for driving a car along the London main road at an estimated speed of thirty miles an hour.

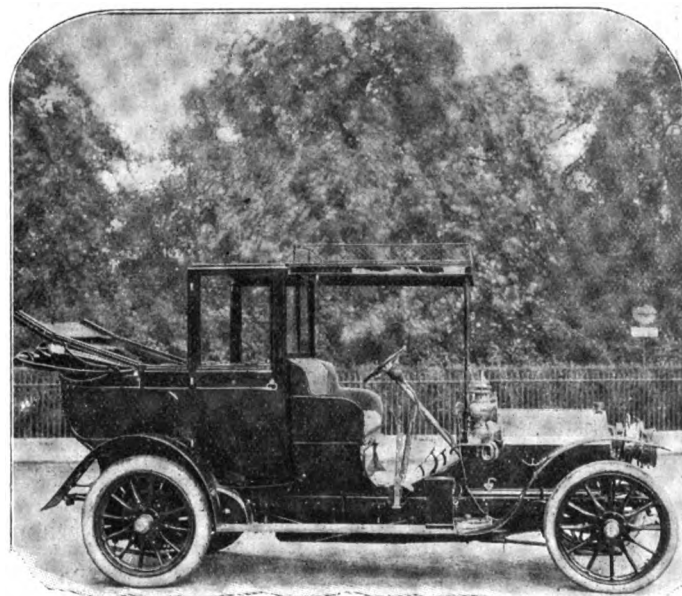
A chauffeur named Bauche was fined for motoring along the same road at twenty-eight miles an hour.

At Worthing Petty Sessions, Edwin C. Pare, Upper Addiscombe Road, Croydon, was summoned for driving a motor-bicycle at a speed beyond the legal limit, on the Findon main road, on Sunday, September 30th. There was a second summons against defendant for failing to stop at the request of the police. P.S. Payne and P.C.s Slade and Tickner gave evidence. It was stated that when P.C. Tickner held up his arm, defendant appeared to be about to stop, but increased the speed, and went on. The policeman blew his whistle, but defendant only looked round and did not stop. Frank Chinn, an inspector of the Metropolitan Police, stationed in Croydon borough, produced proof of registration. He further stated that, upon the receipt of a letter from Superintendent Bridger, he interviewed defendant, who admitted riding the machine "BY 519," on the date named, from Croydon to Littlehampton, *viz* Horsham. He said, however, that he could not remember passing Findon, or seeing the constable hold up his arm for him to stop. Defendant was fined £2 and 19s. 4d. costs for the first offence, and £3 and 19s. 4d. costs for the second.

On one day last week six motorists were fined £5 and costs at the Penkridge Police Court for exceeding the speed limit at Weston-Lizard.

### APPEAL DISMISSED.

At the Reading Quarter Sessions the Recorder has given judgment in the case reported last week in which George J. Fawdrey, chauffeur, of Kingston Bagpuize, appealed against a conviction of the Reading



The 16-h.p. De Dietrich Landulet recently supplied by Messrs. Jarrott and Letts, Ltd., to Mrs. Charles Waterlow, Stanmore.

Borough Justices for driving a motor-car at a dangerous speed in Broad Street on July 21st. He said the appeal must be dismissed with costs.

### MOTOR-BUS REGULATIONS.

LORD MONTAGU of Beaulieu presided on Tuesday at the opening meeting of the second session of the Society of Motor Omnibus Engineers, held at the Hotel Cecil, London. He had thought the new regulations with regard to motor-buses might, on the whole, be accepted, but he hoped the County Council would not be entrusted with the duty of carrying them out. It was a most unsuitable body for the purpose and had quite enough to do as it was. He hoped the Government would appoint an independent board.

Mr. Douglas Mackenzie read a paper in which he expressed the opinion that the police were justified in the precautions they took to ensure that the brakes should receive proper attention, but they were sometimes unduly harsh in their issue of "stop" notices. As a case in point, an inspector entered a garage at six o'clock in the morning and proceeded to try the brakes of all the omnibuses that were not yet out. Naturally, as these buses were timed to start late, they were the last to be dealt with by the fitters, and the brakes had not been then adjusted on all of them, although they would have had proper attention before starting time. The inspector stopped five of these, and they could not be put into service until they had been passed later in the morning, several hours being wasted in each case. That was a typical instance in which the principles actuating the police were in every way admirable, but in which the application was unnecessarily vexatious. With

regard to the new regulation requiring a bridle round the cardan shaft, the lecturer said it was an open secret that it arose through a historic fatal accident, in which the bottom shaft fell out of the gear-box, taking the pedal brake drum with it, and leaving the front end of the cardan shaft loose to swing round, as it did to the destruction of the hand brake. Three very similar accidents had happened with other vehicles of the same make, but it was not easy to see how any bridle could be a real security unless it encircled the cardan shaft so closely as to involve the risk of contact. It would surely be better, he said, to make the long propeller shaft in two halves, to carry the forward half on two ball bearings, and to fix the other half with two long cardan joints. A plain "Oldham coupling" would then be the best connection between the gear-box shaft and the supported forward half of the propeller shaft. This regulation might be interpreted reasonably, and be no hardship, but where the cardan shaft was only as foot or two in length, such a bridle was quite unnecessary. In reference to the necessity for distinguishing the various routes by name boards and colours, Mr. Mackenzie suggested that the Commissioner of Police should appoint a committee of omnibus users, not professional policemen or omnibus owners, but those who had to find their way about London by omnibus, and that committee should decide the colour of the panel, the style of lettering, and the actual places to be written on every omnibus. Those companies which wanted their omnibuses to be interchangeable from route to route could easily adopt "false" panels, fitting into guides at both ends. The companies could then exhibit their fancy names on the board—under the eaves if they still desired to do so. The police had laid down definite rules as to body and seat dimensions, but by adhering to them too rigidly they were perpetuating a particular type and strangling all attempts to improve it. So with regard to the proportion between the number of passengers inside and outside, improved conditions were hindered by the bogey of top weight. Another detail in which the police had been unnecessarily restrictive was that of wheel track, they having refused to license all vehicles the front wheels of which did not track exactly with the back ones.

### MOTOR-CAR ACCIDENTS.

As a powerful motor-car, belonging to Sir Thomas Lipton, was approaching Coventry from London, it swerved and turned completely over, and the five occupants were pitched into the road. The driver escaped with a severe shaking, but Mr. F. Mulholland, of Ferryhead Street, Fulham, London, who was on the driving-seat, was killed. The three occupants of the body of the car were strolling players who had begged for a ride when about ten miles from Coventry. One of these had his arm smashed, and the others were badly injured, one succumbing to his injuries the following morning.

THE North Warwickshire coroner was engaged for nearly five hours on Saturday in inquiring into the cause of death of the two men. An engineer employed at the sewage pumping-station, within 250 yards of the accident stated that the car passed him at the rate of between thirty and forty miles an hour. The driver said he was going about eighteen miles an hour when he passed a millers' wagon. Immediately he got clear of this vehicle he got into a muddy road, the car swerved to the left, and, coming in contact with the grass at the side, swerved to the right and went over turrel-fashion. A motor expert, who examined the car and the ground, said the accident must have been due to skidding, and was just as likely to have occurred in the conditions which prevailed at the spot if the pace had been only ten miles an hour. The jury decided that the occurrence was accidental, and that no blame attached to the driver.

WHILE Lieutenant Paton, Northumberland Fusiliers, was on his way to Aldershot by motor-car, he ran into a cyclist named Osborne Hart, at Chobham, and caused his death. At the inquest, Inspector Jannaway stated that he had measured the distances, and found that Hart was picked up 203 ft. from the scene of the accident, while the car travelled 572 ft. before it could be stopped, although the driver said he had both brakes on. Lieutenant Paton said that the car might have been going at thirty miles. It was possible to tell when a car was going at ten miles, but impossible to tell when it was twenty or thirty miles an hour. He admitted that his was a 40-h.p. car, and could easily do forty miles an hour.

### PUBLIC MOTOR SERVICES.

THE system of horse-haulage for the tramways in the Gilmore Place district of Edinburgh is still in force, but that district is now about to be served by the Scottish Motor Traction Company, who are running motor-omnibuses to Corstorphine, Cramond, and the Forth Bridge. A fifteen minutes' motor service is being arranged for this route. It is over this route that the tramway company and the corporation have disagreed as to the method of traction to be employed in the future. In about a month's time the motor company expect to maintain a five minutes service from Tollcross to Craiglockhart Station, and consequently the equipment of the motor company is being increased. A motor-omnibus has been started on the service to Loanhead.

A MOTOR-OMNIBUS accident occurred on Waterloo Bridge, London, on Tuesday afternoon. A steam motor-omnibus, crowded with passengers, proceeding over the bridge from Waterloo Station towards the Strand,

in attempting to pass another vehicle, skidded and ran upon the pavement on the Westminster side of the bridge, and struck the parapet of the bridge with considerable force. Several pillars of the parapet were dislodged and fell into the river below, and the omnibus itself was only brought to a standstill by striking the large blocks of masonry immediately above the foundation of the archways, the blocks being displaced.

THE Edinburgh and District Motor-bus Company, Ltd., have started a service of motor-buses between the General Post Office and Murrayfield.

THE Chester Town Council have resolved that three motor-buses be procured at an estimated cost of £3,000, to serve the routes from Market Square to the Bache, and to Canal Bridge, Cheyney Road via Canal Street and Raymond Street.

"THIS action," said counsel, addressing a jury at the Brompton County Court on the 19th ult., "is brought by Sir Thomas Hewitt as a matter of principle and in the interest of the public. On the 24th of April a motor-bus belonging to the London Road Car Company had a side-slip in Fulham Road and came into collision with one of plaintiff's motor-cars which was on the pavement just about to enter the garage, and we are making a claim in respect of the damage done. But the London Road Car Company, by fighting the claim, say that they are perfectly entitled to run into anybody's car. They do not put it in that crude way, but they say we cannot help our buses skidding. We do our best, but if they skid and knock anybody down so much the worse for that somebody. Quite apart from the question of negligence, it is the contention of the plaintiff that a huge engine of destruction like the motor-omnibus, which is admittedly uncontrollable in certain circumstances, constitutes a nuisance on the public highway." For the defence it was contended that the road was very greasy and side-slip could not have been avoided. The Judge asked the jury if they considered the motor-omnibus a nuisance on the highway. If they did, they should award plaintiff damages. Nowadays the side-slip was set up in defence in many cases where careful driving would have avoided it, but in the present case it appeared such was not the case. The jury awarded plaintiff £5 damages. Judge Selfe: "On what ground do you find that verdict—that the omnibus was a nuisance? The foreman: That the vehicle was not under control, but we say the driver was not negligent."

THE suggestion has been made that a motor-car service should be established between Sligo and Ballina.

THE Aberdeen District Committee of the County Council have intimated a claim against the Great North of Scotland Railway Company of £121 7s. 6d. for extraordinary expenses incurred in maintaining a certain road over which the company motor-bus traffic to Culter passes. The company do not admit liability.

THE South Shields Town Council has been informed that the North-Eastern Railway Company will start a motor-bus service on December 1. The buses will run every twenty minutes from South Shields Railway Station to Cleadon and Whitburn, five miles distant. The Railway Company state that the fares will be fixed so as not to compete with the South Shields trams plying within the borough.

A MOTOR-OMNIBUS service is to be inaugurated between Malvern and Gloucester.

THE report of the directors of Humber, Ltd., for the year ended August 31st, states that, after making due allowance for debts, depreciation, and managing director's commission, a net profit of £106,558 appears, making with the sums brought forward an available balance of £108,930. The directors, after providing the dividend on the preference shares for the three years ended August 31st, recommend the payment of a dividend of 5 per cent. on the ordinary shares, placing £40,000 to reserve, and carrying forward £11,430. To meet the demand for cars a large expenditure has been incurred in the purchase of additional machinery and in extending the works. A large factory at Coventry has also been taken on a short lease, and a suitable site has been acquired with a view to the erection of new works.

THE report for the year ended September 30th, of the Daimler Motor Company (1904), Ltd., states that the profit, after provision has been made for interest on debenture stock, depreciations, etc., amounts to £213,469. There are bonuses to be deducted to employees, and the balance from last year to be brought forward, so that there is £227,050 for disposal. An interim dividend on the preference shares has been paid, and it is now proposed to form a special fund for renewal of plant and machinery, and for experimental and development work; to pay the balance on the preference shares; to pay 6 per cent. dividend on certain of the ordinary shares; and in addition there is a sum for division equally between the preferred and the ordinary shareholders; £120,000 goes to reserve, and £47,948 is carried forward.



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## COMMENTS.



THE Lord Chief Justice, with Justices Ridley and Darling as his colleagues, has administered a rebuke to the police, which should be a useful warning to those who inspire their policy, as well as to the officers directly concerned in its execution. Last March the police at Croydon measured a portion of highway in the London Road, with the intention of timing motorists who were journeying that way. Mr. Little, a local resident, becoming aware of the purpose of the watchful constable, informed the drivers of a few cars that it would be well if they drove carefully, as there was a police trap in operation. For thus assisting motorists to observe the law he was summoned by the police for obstructing them in the execution of their duty. But the Croydon magistrates were wiser than the prosecutors, and the summons was dismissed—a decision in accordance with common sense, for, as we pointed out at the time, the duty of the police is not to lay traps in anticipation of offences being committed, but to preserve the lives and property of the public, and prevent the committal of criminal acts. A trap certainly does not do that.

### Warning is Legal.

THIS, however, was not apparent to the official mind, and so the police gave notice of appeal. The case was heard on Tuesday, when judgment was given for Mr. Little, the Lord Chief Justice observing that he was by no means satisfied that no offence had been committed. The fact that judgment was pronounced in somewhat grudging terms makes the decision the more satisfactory to motorists who have no desire to inconvenience other users of the road or hurt any human being or animal thereon. But they do protest against methods which are frequently open to suspicion, and generally clumsily worked by men of undoubted bias but dubious ability.

### The New Deasy Car.

THE latest addition to the ranks of British-built cars is the Deasy, which was officially started on its career by a lunch given by the Deasy Motor Car Manufacturing Company, Ltd., to a number of representatives of the Press on Tuesday last. The chair was occupied by Captain Deasy, who, to indicate the growing importance of the British automobile industry, stated that it had been computed that about £12,000,000 is already invested in motor-car companies in this country, that the value of British cars manufactured during the first nine months of the current year exceeds three millions sterling, and that about a quarter of a million of men are employed in the United Kingdom in the manufacture and driving of motor-cars. He afterwards dealt briefly with the chief features of the new Deasy car, leaving to Mr. E. W. Lewis,

its designer, the task of more fully explaining the details. The lunch over, an opportunity was afforded us of inspecting a chassis of the new vehicle, which is of 24-h.p., and which comprises a number of special points—notably in the design of the engine and the suspension of the frame—to which we hope to refer more fully and also to illustrate in a later issue.

### The Cars of 1907.

IN our next issue we shall publish a complete list of the cars for 1907, with particulars as to the more important details of their design. This will be arranged so as to afford a guide to the forthcoming Show, as well as to the cars for the season that will follow Cordingley's Exhibition at the Agricultural Hall, spaces for which are being so well taken up that a great success is already assured. The remarkable expansion of the industry in all directions, the advent of new firms into the business and the attention which established concerns in other trades have given the motor-car, have made it clear that the Agricultural Hall display is as necessary to the automobile movement as it was in the days when prejudice was more pronounced than now. With regard to the compilation of cars that will be a feature of next week's *M.C.J.*, these will be classified according to price, so that visitors, by referring to our list and consulting their own estimate of what they wish to expend, will be able readily to learn what cars are available for their selection.

### Magisterial Insolence.

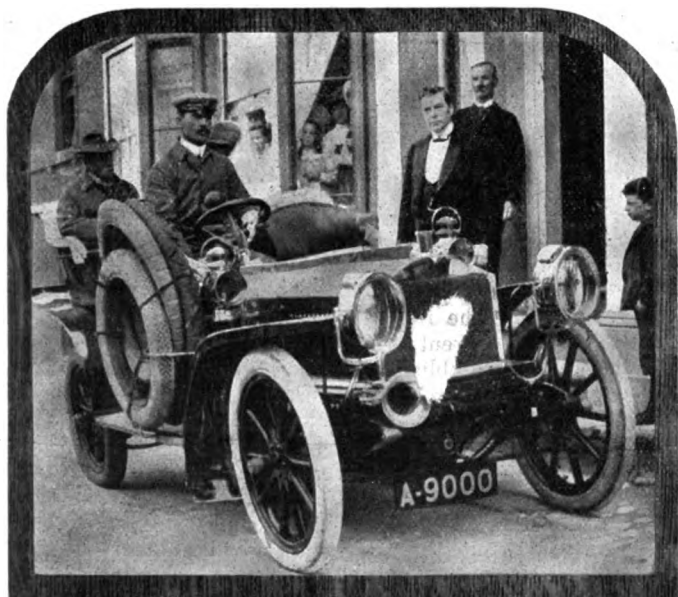
AT the Kingston Police Court, last week, a young fellow was summoned for driving to the common danger on the Portsmouth road. His principals were in the car at the time and the speedometer showed twelve miles an hour. Having his licences for the three years he had had them, the defendant called attention to the fact that they were without endorsement, when one of the magistrates brutally exclaimed, "It was time they were endorsed."

### Technical Instruction in Scotland.

ON Wednesday next, the anniversary of the Motor Car Act, Professor Stanfield will commence his course of instruction on motor-car engineering at the Heriot-Watt College, Edinburgh. This will be specially intended for owners, users, and drivers of motor-cars, and will consist of lectures, laboratory work, and drawing office practice. The laboratory at the College is equipped with several forms of oil, gas, and petrol engine, and various types of motors will be exhibited during the course, many leading makers assisting Professor Stanfield—who has acted as an honorary observer on the last two Scottish Trials—in this way. The class will also be extended for the purpose of giving instruction in the repair and adjustment of the various mechanical parts of a motor-car. We are glad to learn that the Scottish Automobile Club has agreed to offer a medal to the student attaining the highest proficiency in the class.

### The Shows.

THE season of the shows is upon us, and journalists are getting ready for a busy season in chronicling the advent of new cars and reporting upon the fresh features of the old ones. Invitations to social gatherings and sumptuous banquets—for the motor industry is prosperous and can afford to be regally hospitable—adds to the worry and confusion of these early days of November. With regard to the Shows we would offer a word of advice to exhibitors. They must remember that the public now inquiring as to the details of the mechanism is a more intelligent public than that which became curious in the early days of the Shows. Hence the necessity for providing attendants who to courtesy and patience add knowledge. That there is considerable information abroad as to automobile matters is a fact which must be increasingly recognised in arrangements for stands for motor-car shows.



Lord Roberts leaving the historic Hand Hotel, Llangollen, during the course of his recent tour through North Wales.  
Photo by [S. R. Martin.]

### Motoring in Jamaica.

JAMAICA has its Motor Union, of which Mr. Ernest Nuttall is hon. secretary. Last season there were quite a number of motor vehicles on the island, and from Mr. Nuttall's article on another page it is evident that they had "a good time"—climate and scenery being equable and picturesque respectively. So far as residents are concerned, cars must be registered in the parish where the owner resides—a procedure slightly different to that which obtains in this country. Otherwise the regulations are very similar to those prevailing in Great Britain, and, although there is no speed limit, motorists must have regard to the safety and convenience of other users of the road.

### Children on the Roads.

REALLY Mr. Cathcart Wason is incorrigible. He has again appeared as a House of Commons querist, asking the Home Secretary whether his attention had been called to the report of a recent motor accident and the running over a child of three years of age, and to the remarks of the coroner that children should not be allowed to wander along highways at dangerous places, and that chauffeurs could not be expected to look after their machines and children; and whether he would take steps to remove the coroner from all City magisterial functions. Mr. H. Gladstone replied that he had no power to remove

any coroner from office, but was addressing an inquiry to the coroner in question on the subject of the remarks attributed to him. We hardly understand the necessity for the Home Secretary to bother about the matter at all, for surely it is quite reasonable to impress the public with the idea that the roads are intended for purposes of travel and locomotion, not as playgrounds.

### The Taxation of Cars.

WHENEVER Mr. Wason addresses a question on automobile matters, Mr. Galloway Weir generally follows. The former M.P. was curious on Monday. Mr. Weir was a questioner on Tuesday, inquiring of the Chancellor of the Exchequer if he would consider the expediency of placing a tax on motor-cars on a scale rising in proportion to their horse-power. "The Royal Commission," Mr. Asquith answered, "have recommended against the taxation of motor-cars on the basis of horse-power or cylinder capacity, in view of the administrative difficulties involved and of the fact that the experience of its working in France is not entirely satisfactory. The whole question of the taxation of motor vehicles is being considered in connection with that report; but I am not in a position to say whether I shall have any proposals to make on the subject until the time comes for introducing the Budget." The latter part of the reply is quite in accordance with the usual demeanour of Chancellors anxious to keep their own counsel; the first portion of the answer suggests that the lines of the recommendations of the Commission with regard to taxation are likely to be followed in the Government's Bill of next year.

### A Judge on Motor Buses.

IN summing up a case in which damages were claimed against the London Motor Omnibus Company, Limited, for personal injuries sustained in an accident, Mr. Justice Bigham has just said that the main question was whether the defendants were liable for any compensation at all. They were not responsible unless the plaintiff was injured in consequence of some negligence on the part of the defendants or their servants. The negligence alleged was that the omnibus skidded as the immediate consequence of excessive speed, and the jury would have to say whether the vehicle was being driven at excessive speed at the time of the accident. Of course, a motor-omnibus ought to be driven at a less rate of speed when the roads were greasy. Every miscalculation of distance on the part of the driver did not amount to negligence. They were all liable to errors of judgment, and it would be unfair and unreasonable to say that every error of judgment was the result of negligence. It was one of the infirmities of our nature. There was some suggestion that this omnibus was improperly constructed, but there was no evidence of that. People could not be expected to anticipate every improvement that might be brought out in the next half-century. If this omnibus had all the ordinary and normal provisions the defendants could not do more. After such an expression of opinion the jury returned a verdict in favour of the motor-bus company.

### A Motorist's Views.

THE letter from Alderman T. Scott Foster, J.P., on another page, raises many problems of importance, and suggests one or two useful rules of conduct for motorists, as well as other users of the road. He is an enthusiastic motorist, and, as an examiner of the motor-car classes for men retiring from the Marine Artillery and other branches of the two services, is doing useful service in his locality. Always driving with care, he may be regarded as a type of the gentleman-motorist who is really interested in the mechanical side of motoring. For he pays regard to "the little things that matter," and has recently fitted taps to his carburettors by which to drain off any petrol that may remain after a run. This generally amounts to three or four ounces, and its removal assists in starting when the car is

next taken out, as there is no stale petrol in the carburettor. Motorists like Alderman Scott Foster, of Scuthsea, are doing much to preserve the public in their immediate localities from the exhibitions of bias and venom which seem to be permanently displayed against motorists in several towns and many large villages.

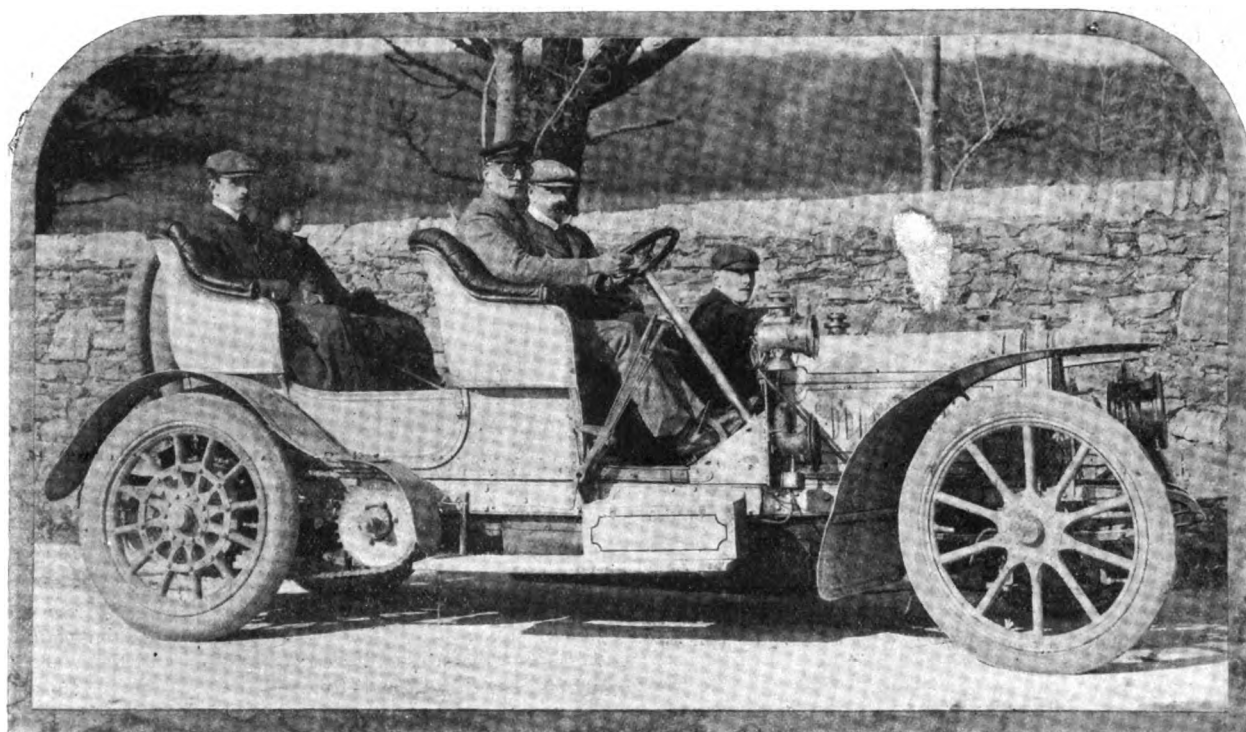
#### Scouts on the Road.

♦ WILL the roads in country districts ever become overcrowded? The question is suggested by a letter from Mr. Edward Gardner, who wants to form an association "to form bodies of scouts to patrol the main roads, whose duties would be to take the numbers of cars committing offences under these Acts, and names of witnesses of such offences, and to prosecute such offenders." This is apparently a piece of flattery to the Automobile Association, whose scouts, however, serve the purpose of warning motorists, when they are going too fast, to slacken their speed instead of breaking the law. This is more useful work than being on the road merely for the purpose of

villages; that it should be made an offence to cause annoyance or loss to persons on the road through dust; that the motor-horn should be abolished and a bell substituted; that means should be taken to prevent the escape of noxious fumes; that a maximum candle power should be fixed for head-lights; that the owner should be liable to prosecution as well as the driver if he is present when an offence is committed; and that a register should be kept at all the principal police stations.

#### The Motor Cab.

♦ WILL it be necessary to warn the London cabman that he cannot prevent the introduction of the taximeter into public service? In fact, we fail to see why he should really desire to withstand the change which, adapted to the motor-cabs shortly to be introduced, will effect quite a revolution in the traffic of the streets of the metropolis. There are several things that should tell in favour of the motor cabby with his taximeter. At present many people do not patronise the ordinary horse-drawn vehicle because of the uncertainty pre-



A 40-h.p. Crossley car with Mr. Filson Young, the well-known author, at the wheel, and carrying as passengers Lord Raglan and Lord Raglan's son and daughter, the Hon. Fitzroy Somerset and Miss Somerset. The photograph was taken in the Isle of Man during the Tourist Trophy week.

waiting until people have committed a technical breach of the peace and then seeking to secure their conviction in a police-court. Besides, there seems something un-English in the proposal.

#### A Council's Wisdom.

♦ THERE is a rich antiquarian flavour about the deliberations of the bucolic wiseacres of Hayfield. They have a Rural Council; that rural council has been having a meeting; the meeting has been receiving suggestions; and the suggestions are really voluminous. One speaker would send motorists to prison with the Suffragettes; another would erect toll-bars to obstruct the onward rush of the speedy car; these and various other proposals have been considered, exciting various views and encountering opposition of a more or less decided nature. But at length the Council did agree upon some conclusions, of which the following are the more important, viz.:—To recommend that the speed of motors should be limited to fourteen or fifteen miles an hour, and that power should be conferred on local authorities to fix lower limits in towns and

vailing with regard to the fare; that will be destroyed by the mechanical recorder. Then the speed of the motor-cabs will attract a larger area of patronage, while the reduction of the present minimum fare would be of great assistance in widening the circle from which "fares" are drawn. As a matter of fact the Cabmen's Union has long sought to interest its members in motor matters; the taximeter seems a natural corollary of the adoption of mechanical transit.

#### Sympathy from a Bench.

♦ THE sympathy of the Huddersfield Bench and the imposition of "the minimum fine adopted in that bench, viz., £3 and £1 1s. 6d. costs," were both bestowed upon a motorist who was summoned at the police court for travelling at a speed exceeding twenty-five miles per hour. The police had elaborated their trap at Edgerton, but it was impossible for the driver to defend himself, being informed on a subsequent day of the intended prosecution when it was too late to obtain witnesses. Mr. F. A. Reed, of Messrs. Learoyd and

Co., defended, and emphasised the point just mentioned, at the same time calling attention to the views of the Royal Commission on the subject of the speed limit. But to no purpose; they apparently have a "minimum fine" of their own at Huddersfield, and such the motorist will have to pay. The "sympathy" extended apparently carried no monetary reduction.

#### Of Interest to Pedestrians.

THE correspondence now proceeding in the columns of a contemporary with regard to motorists and the public has moved Mr. Arthur Wimperis to the preparation of some suggestions to those who wander on the road, from which the following may be taken as samples of the series:—"Pedestrians before going outside their own premises should ring a bell for five minutes, announce their exact moment of exit by waving a white flag, attached to a stick or umbrella, and should be compelled by the police to walk in the ditch, if any. In cases where there is no ditch the pedestrian should be compelled to provide himself with spring-heeled boots and climbing-irons. He would thus be enabled to spring lightly from the roadway into the nearest tree upon the approach of a car. Incidentally, this would add greatly to the excitement and pleasure of motoring, while affording healthy exercise to the pedestrian and lending animation to the scenery of frequented highways. At intervals of, say, half a mile on all high roads ambulance depots should be fixed, containing stretchers, splints, bandages, and all paraphernalia for expeditiously removing what is left of inconsiderate pedestrians who transgress the new rule of the road. It is infamous that motorists should have to clear up their own litter as they do at present." Motorists can laugh at such implied strictures; there is no need to worry.

#### Guildford Justice.

ONE of the victims of police activity at Guildford sends us full reports of the proceedings in several cases heard by the Bench there the other day. These reveal a tendency to believe the police and ignore the sworn evidence of witnesses that should really be watched by the Motor Union. To take one instance at random, some witnesses declared that a footpath was in existence in a certain place, and whether this was so or not was really material to the matter. Yet in a previous case the police had said there was no footpath. The magistrates, instead of probing thoroughly into the question, merely fined the defendant—apparently in accordance with the custom of the court.

#### The Motor Tyranny.

MR. G. LOWES DICKINSON has an article in the current "Independent Review" which he judges will appear to motorists as "outrageous, monstrous, and absurd." In saying this he does himself an injustice, for we have become so accustomed to the vituperative outpourings of wrath from the pens of anti-motorists that his mild diatribe will distress no one in particular. It is too obviously lopsided in view to have any effect upon public opinion, consisting mainly of a string of conclusions based upon some of the slenderest evidence tendered to the Royal Commission. Only that which suited his purpose has been selected. Mr. Dickinson declares that it is sufficient condemnation of the policy suggested by the Commissioners that it is generally opposed by the chief constables of counties. That is one reason why the public will support it. The official police view must be in favour of the speed limit as against the proposals of the Commission, or they would be condemning their own methods during the past few years. While the article in the "Review" is of little moment, an editorial comment is more notable as revealing the invasion of the biassed atmosphere into the sanctum of the writer, who says that "ten or twelve miles an hour in the open country, and six in towns and villages, are the utmost limits compatible with public safety and he comfort of householders who have the misfortune to live on

main roads." This is really too simple, and some organisation ought to arrange a motor trip through Surrey police traps for the automobile education of the editor of the "Independent Review"—an interesting magazine with a variety of contents in addition to the screed about the Motor Tyranny.

#### Motor Ambulances.

LONDON is considerably behind some provincial cities in the matter of street ambulances, and we readily endorse the opinion of the Metropolitan Street Ambulance Association that "a motor-ambulance with a first-aid attendant should be held in readiness at various fixed points in the London area. The telephone would keep the various centres in touch with the police and hospitals. The fittings and stores for each ambulance could be obtained and renewed at the central depot of the St. John Ambulance Association, and in this way the movement might have its valuable supervision." Of course, the necessity for the provision of motor-ambulances is not so great in the heart of the City as in the suburbs; but there are many districts in the Metropolitan police area where such appliances are really wanted.

OUR readers will regret to learn that Mr. Walter Gibbons, one of the most active members of the committee of the Automobile Association, has had to undergo an operation for appendicitis. We are glad to hear that he is in a fair way to recovery, and trust this will be speedy and sure.

THE profit of Argyll Motors, Ltd., for the year ended September 30th last, is £74,915. The directors recommend that £11,000 be placed to reserve account, and, after providing dividends at the rate of 6 per cent. on the preference shares, and at the rate of 10 per cent. on the ordinary shares for the year, that the balance of £6,950 be carried forward, subject to deductions as formerly.

WE would express the hope that the Bohemian concert in aid of M. Rene Thomas, the French motor-cyclist, who sustained severe injuries on the Canning Town track last July, and who is still an inmate of Poplar Hospital, will be well supported. It will take place on Monday next at Frascati's Restaurant, London, W. Those who cannot attend may send subscriptions to the treasurer of the fund now being raised, Mr. A. G. Reynolds, Rookstone, Woodford Green, Essex.

AN agency for the Florentia cars, which have attracted much attention at the Paris Salon and other international exhibitions, has now been established in London. Messrs. De Brou and Co., Ltd., have obtained the sole concession for these vehicles, and examples of the 18-24-h.p. and 40-50-h.p. cars can now be seen at the firm's new showrooms at 34, Hans Crescent, opposite Harrod's Stores, S.W. They will make their first appearance at a British exhibition at the forthcoming Stanley Show at the Agricultural Hall, when an 18-24-h.p. polished chassis will be a feature of the car section of that display.

DISSOLVED acetylene is a system of lighting automobiles which has been successfully used on Messrs. Tilling's motor-buses and those of many other companies for eighteen months past. It is now being adapted to the purposes of the light touring car in the following way:—A neat polished oak or mahogany case carried on the footboard contains a cylinder of the dissolved gas, which is turned on by a tap to the burners when required to be used. The twenty cubic feet of gas contained in the cylinder is sufficient to serve the two headlights of an ordinary touring car for forty hours, not necessarily consecutively, but the occasions extended over as many days, weeks, or months, as may be convenient. When exhausted the cylinders may be exchanged, a gauge in the case giving ample warning when this is likely to occur. Agencies are being established throughout the country for the exchange of cylinders, and a central depot has been opened at 20, Long Acre, London, W.C., by the Motor Lighting Co., who will be glad to hear from firms who recognise the value of the idea they have incorporated in their speciality.



## MOTORING IN JAMAICA.

BY ERNEST NUTTALL.

IT was Julian Hawthorne who said that, "Commerce aside, the island of Jamaica is beyond the reach of all competition as a pleasure resort in winter. The sun is always warm, the nights are always cool, the atmosphere is always healthy, and you can choose your mean temperature to suit yourself. On the higher levels of the mountains you can get that of an English summer, and on the plains it will average 80 deg. or more. The scenery of sea and mountain is, on the whole, the most beautiful in the world."

Many American motorists are making holiday in the island, where the principal roads are on the whole excellent. They are the admiration of tourists, who are going over in increasing numbers each succeeding winter to escape the rigours of a northern climate. Patches of new metal, however, sometimes mar the otherwise even surface of these roads, and are hard on tyres. The motorist need give no thought to anti-freezing mixtures for his car in this tropical climate.

The nature of the country is decidedly mountainous, with the result that there are comparatively few stretches of really level road. The Blue Mountain Range runs up to the height of over 7,000 feet. It can thus be seen that the island, with its 4,200 square miles of mountain and vale, is reserved almost wholly for those lovers of nature and the picturesque to whom the greatest exhilaration comes not in rushing over level country at fifty miles per hour, but in the steady, if less rapid, rise from plain to mountain top, where each turn of the winding road reveals new beauties, and the torrid heat of the lowlands gives place to the balmy atmosphere of everlasting spring. There are at present in Jamaica comparatively few resident owners of motor-cars—probably not more than a score in the whole island. Steam finds most favour. During the tourist season, say, from November to April, with the exception of an occasional shower, one may look for fine, clear weather. The rainy "seasons" fall in May and October.

Two or three causes have so far militated against the automobile coming into general use. First, the lack of properly equipped repair shops; secondly, the high import duty on gasoline, which renders it impossible to retail the article under 60 to 70 cents per gallon.

The Government has so far resisted all appeals from the Jamaica Motor Union to reduce the duty, and has failed to appreciate the immense benefit which the island would derive from the influx of a large number of motorists each tourist season.

There are no commercial vehicles in Jamaica. Yet there is room for business. The banana trade is ever on the increase. Mule carts, wagons and drays are employed in this traffic, and motor-vans would be more satisfactory under certain conditions. First of all gasoline must be eliminated and either kerosene motors or steam cars used instead, if possible with crude oil as fuel. A maximum speed of twelve miles per hour is sufficient, and good hill climbing power a desideratum.

The mails and mail coach passengers could for the most part be handled with advantage by motor-buses, as in Porto Rico. Probably a few light delivery vans might be disposed of in Kingston (the chief town), but until a repair and supplies shop is established this branch of the industry will languish. Such an establishment is not likely to prove a success until the standardization of parts becomes general.

One business advantage the island possesses is that English is the language spoken, but this is offset by the high import duties—16 per cent. *ad valorem* on cars and 15 cents per gallon (English) on gasoline.

For the benefit of intending visitors to Jamaica it may be stated that the motor-car law is not unreasonable in its provisions. There is no speed limit, but one must be careful of the lives and limbs of the humblest of His Majesty's liege subjects, and must regulate speed in accordance with the traffic on the roads. Also, "the rule of the road is a paradox quite, for if you keep to the left you will always be right," except in overtaking

a vehicle, which should be passed on the right. In the event of an accident occurring, whether or not the motorist is in fault, he must stop, and, if required, give his number.

Last season there were quite a number of cars here, and comparatively few accidents occurred. All claims were, with the assistance of the writer, settled out of court to the satisfaction of the motorists concerned.

The motor vehicle law passed by the Legislative Council in 1905 provides that every motor-car shall be registered with the collector of taxes for the parish in which the owner resides or carries on business (except the owner be a person not resident in Jamaica, in which case it shall be registered with the collector of taxes in the parish into which it shall have been first introduced or in which it shall have been acquired by such a person), and that every collector of taxes shall assign a separate number to every motor-car registered with him. The fees are 10s. for cars and 5s. for motor-cycles.

It is also provided that a person shall not drive a motor-car on a public highway unless he has a licence for the purpose, and no one may employ an unlicensed driver. Any person under the age of seventeen years is disqualified from obtaining a licence except that one for driving motor-cycles may be granted to a person over fourteen years.



Off on a Shooting Expedition.

[Allgemeine Automobil Zeitung.]

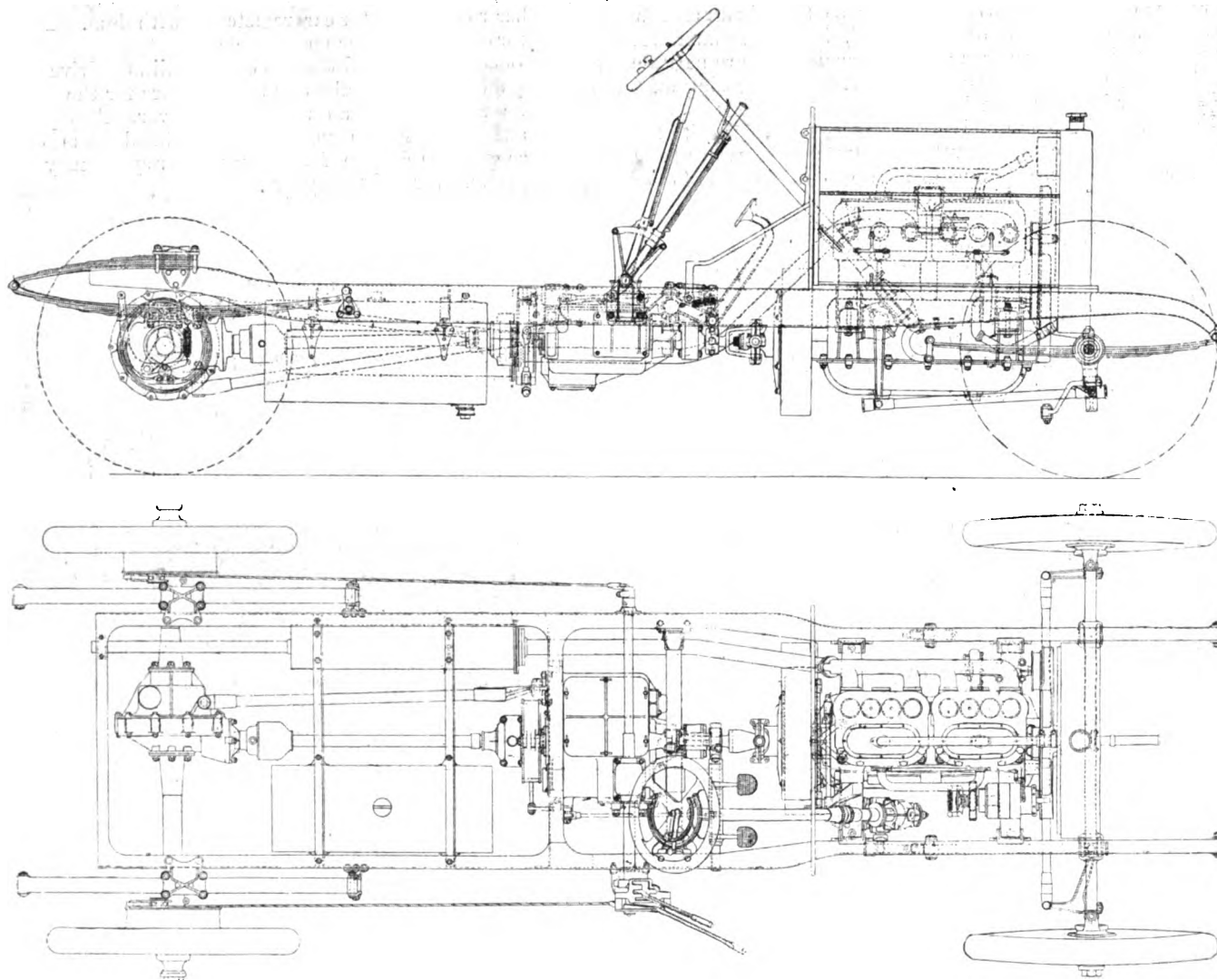
The Jamaica Motor Union is at present in its infancy, having uttered its first cry (a protest against the high duty on gasoline) towards the close of the year 1905. The objects of the Union are those for which most similar organisations are established—principally the encouragement of the use of mechanically-propelled road vehicles, the discouragement of inconsiderate driving, the supplying of information on general subjects connected with motoring, opposition to Bills introduced into the Legislative Council and local bye-laws embodying proposals restrictive of automobilism, and the negotiating with local authorities for the improvement of roads and removal of dangerous corners.

To motor-cycle racing in this country some interest was given last year by the visit of Henri Cissac to the Brighton and Blackpool motor meets, at the latter of which, in July, he set up world's records, doing the flying kilometre in 25 3-5 sec., the standing start kilometre in 35 sec., and the mile (standing start), in 50 1-5 sec. Among the notable performances of British riders must be reckoned J. S. Campbell's victory in the English eliminating trials over the Isle of Man course, and C. R. Collier's British record of 54 miles 523 yards on the Canning Town track.

## THE 1907 SIDDELEY CARS.

As was mentioned in the last issue of the *M.C.J.*, the Wolseley Tool and Motor Car Company are building seven models of cars for touring and town use for the 1907 season. Of these three, while improved in many of the details, are on the same general lines as the 1906 cars; we refer to the 15-h.p. live axle and 18-h.p. and 40-h.p. chain-driven vehicles, in all of which the engine comprises four separate cylinders. The 15-h.p. is well adapted to receive bodies designed for town work, and, in fact, it was a vehicle of this class which secured a gold medal in the recent Town Carriage competition; the 18-h.p. chain-driven machine is being continued on account of its popularity in the colonies, while the 40-h.p. model, which is an enlarged edition of the 1906 32-h.p., is intended for

Still dealing with features which are found on all the four new types, it may be stated that the frames are of pressed steel, the engine has the cylinders cast in pairs complete with heads and water jackets, and the valves, both inlet and exhaust, located on one side and operated off a single cam shaft. The inlet valves are provided with a variable lift device, by means of which the speed of the engine can be regulated as desired. This is obtained by the medium of a sliding rack, which meshes with small pinions that work on screw threads on the upper ends of the valve push rods, the distance between the latter and the valve stems being thus varied by means of a lever on the steering wheel. An automatic governor is also fitted, which acts on a throttle valve in the inlet pipe, a foot accelerator being provided to put the governor out of action when desired. Removable covers fitted to the base chamber of the motor enable the big



Figs. 1 and 2.—Elevation and Plan of Siddeley 30-h.p. Live Axle Car.

the use of those motorists who desire to fit a somewhat heavy body to the chassis. Having briefly dealt with three of the seven 1907 types, we come to the remaining four, which, being of a new design, call for more extended notice. They comprise a 10-h.p. double-cylinder, 18-h.p. and 30-h.p. four-cylinder and a 45-h.p. six-cylinder; the first three having live axle and the latter side chain transmission. A feature of these four vehicles is that many of their components have been standardised, and are common one to another, the cost of production being consequently reduced. Thus the engine of the 18-h.p. four-cylinder car is identical as regards design, bore and stroke with that of the 10-h.p. two-cylinder, the pistons, valves, valve springs, &c., all being interchangeable. Again, the new 45-h.p. six-cylinder machine has an engine which, except as regards the number of cylinders, is exactly similar to that of the 30-h.p.

ends to be readily inspected. All the bearings throughout the vehicle, except those on the engine, are of the ball type, while in all cases the shaft which connects the clutch with the gear-box is provided with a universal joint to provide for any want of alignment between the two parts, and to permit of either being dismantled without disturbing the other. The front axles are of I-section forged steel and of the dropped type.

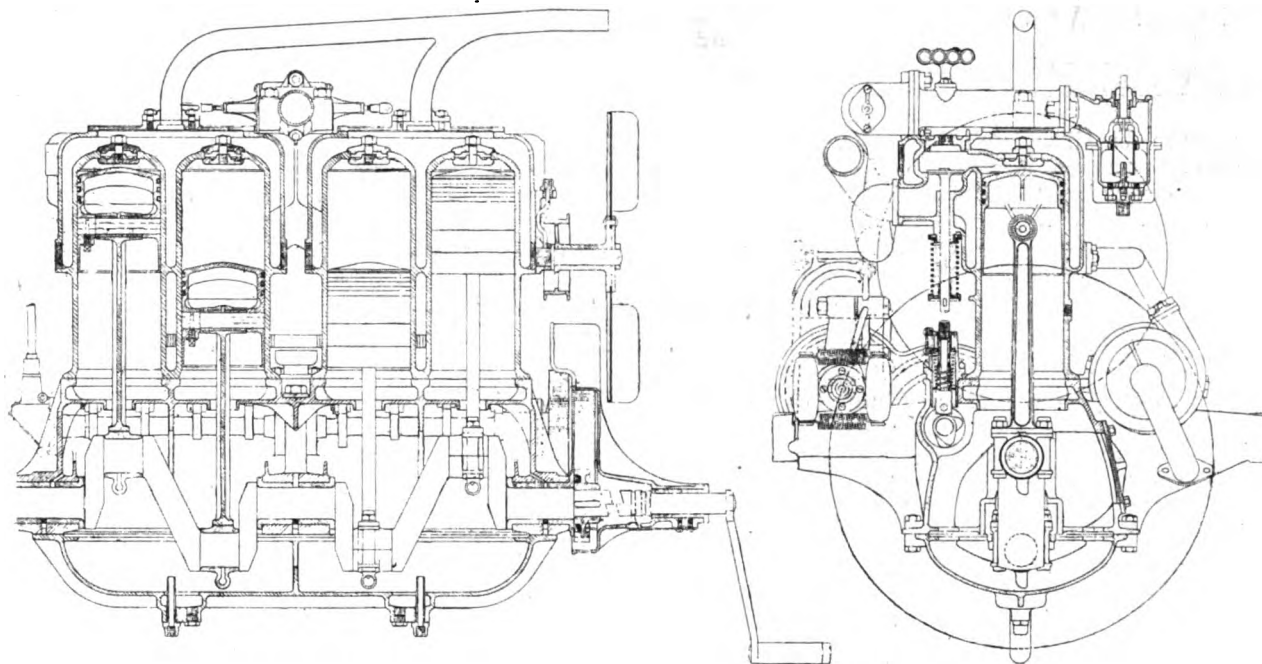
Passing now to the details of the 10-h.p. car, which is the smallest vehicle the Wolseley Company are building for next year, the engine, which has two cylinders, 4 in. bore by 4½ in. stroke, is set in the fore part of frame under a neat bonnet. The water circulation is on the thermo-siphon system through a honeycomb radiator with a special design of air-inducing fan. The ignition is by coil and accumulators, the advance and retard being controlled on the 18-h.p., as well as on the 10-h.p. car,

by a lever projecting from the dashboard. The clutch is of the leather-faced cone type, and is operated by a push pedal; the gear-box is arranged to give three speeds and a reverse with direct drive on top, actuated by a single lever working in an ordinary notched quadrant. A cardan shaft having a universal joint at the forward end and a sliding one at the rear conveys the power through bevel gearing to the rear live axle, which drives the rear road wheels through squares on the end, the wheels themselves running on ball bearings on the axle casing, this design being also adopted on the 18-h.p. and 30-h.p. live axle cars. As regards the brakes, these are all of the metal-to-metal type, a pedal operating one of the contracting pattern, working on a drum at the rear end of the gear-box countershaft, and a pull-up hand lever actuating internal-expanding brakes working on drums attached to the rear road wheels. The chassis, which weighs  $11\frac{1}{2}$  cwt., has a wheel base of 7 ft. 6 in. and a track of 4 ft.  $0\frac{1}{2}$  in.; the road wheels are 30 in. in diameter, shod with 90 mm. tyres.

The 18-h.p. car follows closely on the lines of the 10-h.p., the main differences being outlined below. The engine, of which two views are given in Figs. 3 and 4, comprises four 4 in. by  $4\frac{1}{2}$  in. cylinders. As in the 30-h.p. and 45-h.p. vehicles, the water circulation is maintained by a gear-driven pump, the

made to rise and fall in the lower half. In this way the worm gear is not only employed to drive the contact maker, but also to effect the advance and retard by shifting the angular position of the commutator spindle relatively to the gear which causes it to rotate. In other words, not only is the worm gear used for driving purposes, but it also acts as a sort of rack and pinion, for as the worm rises it alters its position in relation to the worm wheel, while still continuing to drive the latter. The carburettor is located on the right-hand side of the engine; it is carried rather higher than usual, the admission pipe extending across between the tops of the two central cylinders. Another point about the motor which is worthy of notice, and which is shown in Figs. 3 and 4, is that the starting handle, instead of being supported by the frame, is attached directly to the engine. The bottom half of the base chamber is so arranged that it can be removed without disturbing the three bearings on which the crank-shaft runs. Two lengths of chassis are made, one having a wheel base of 8 ft. 9 in. and the other 9 ft. 9 in. The front springs are of the semi-elliptic, and the rear pair, which are of a good length, of the three-quarter elliptic type, the latter being outside the frame.

An elevation and plan of the 30-h.p. car are given in Figs. 1 and 2. Here again the general design is similar to the 18-h.p.



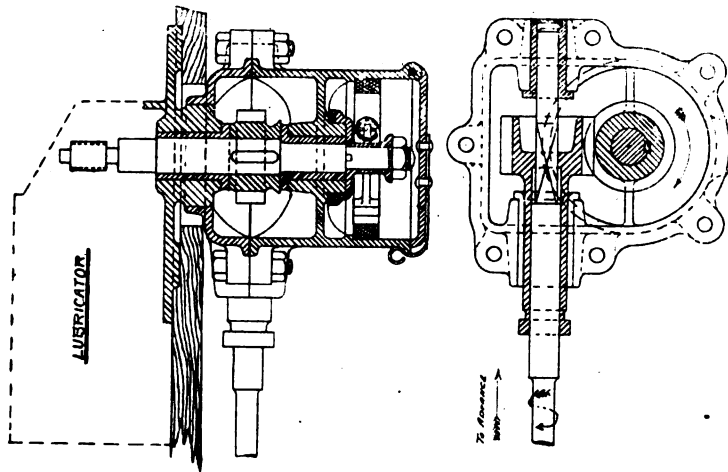
Figs. 3 and 4.—Longitudinal and Transverse Sectional Views of 1907 Siddeley 18-h.p. motor.

mixture is furnished by a pressure-fed automatic carburettor, and the ignition is effected by means of a gear-driven high-tension magneto, the latter being so fixed that it can readily be dismantled. Provision is also made for the use of a supplementary ignition by coil and accumulators to work with the same wiring connections. The arrangement of the contact maker and the system adopted of advancing and retarding the same is an interesting feature of the design, and reminds us somewhat of that adopted in the Brotherhood cars. As will be seen from Figs. 5 and 6, the contact maker itself is located under the bonnet on the engine side of the dashboard, its spindle projecting through the latter to actuate the mechanical lubricator. The necessary rotary motion to the spindle is effected by a light shaft driven at its lower end by spiral gearing off the cam shaft, and fitted at its upper end with a worm, which meshes with a worm-wheel on the contact maker-lubricator spindle. The final worm drive is also utilised to bring about the advance and retard of the ignition. To this end the connecting light shaft is made in two parts, the upper portion being at its lower end of a square section, fitting into a square hole in the lower part in such a way that, while the two must rotate together, the upper part can, under the action of the ignition lever, be

vehicle, and except in the instances specified below the details of the two vehicles are the same, the various parts naturally being of larger proportions to suit the higher power available. The bore and stroke of the four-cylinders is 4 5-8 in. by 5 in. The clutch is of a new metal-to-metal cone type. A sectional view is given in Fig. 7, from which it will be seen that it is designed to run in oil, and that the engagement of the two surfaces is maintained by a spiral spring, the tension of which can be readily adjusted. The gear-box, both in this model and the 45-h.p., is adapted to give four speeds forward and a reverse, with a direct drive on the third speed, the idea being to allow the bulk of the running of the car to be done on the direct drive, the top indirect speed being only brought into use for especially fast work. The various gears are all controlled by a single lever working in a "gate," which gives a separate motion for each speed with a positive interlock between them. The 30-h.p. chassis has a wheel base of 10 ft. 2 in., the space available behind the dashboard for the body being 7 ft. 11 in.

Finally we come to what is probably the Wolseley Company's most important innovation—the 45-h.p. six-cylinder car, for which the side chain drive has been adopted. The engine consists of three pairs of twin cylinders of the same bore and

stroke as used in the 30-h.p. vehicle. The design of the crank shaft for this engine has received special care, with the object of obtaining a perfect balance. To this end the second and fifth cranks are provided with discs, while the two central cranks, Nos. 3 and 4, have a crank pin which is common to both. The shaft itself turns on four long bearings. A single carburettor



Figs. 5 and 6.—Longitudinal and Transverse Sectional View of Contact Maker and Lubricator actuating Mechanism.

furnishes the mixture for all six cylinders, while the ignition and other details of the engine are the same as on the 30-h.p. car, this remark also extending to the clutch and gear-box. In view of its high power, the brake capacity has been increased by the fitting of two wide brake drums on the differential shaft, one on each side of the gear-box, the usual hand-operated brakes on the rear wheels being also provided. The vehicle has a wheel base of 11 ft. 3 in., which provides ample accommodation for any type of body.

In the foregoing description we have only been able to refer somewhat generally to the more prominent features of the new Siddeley cars; there are many points of interest in the details which pressure on our space prevents us dealing with at this time. Suffice it to say, therefore, that in the course of our recent visit to the Wolseley Company's works at Birmingham

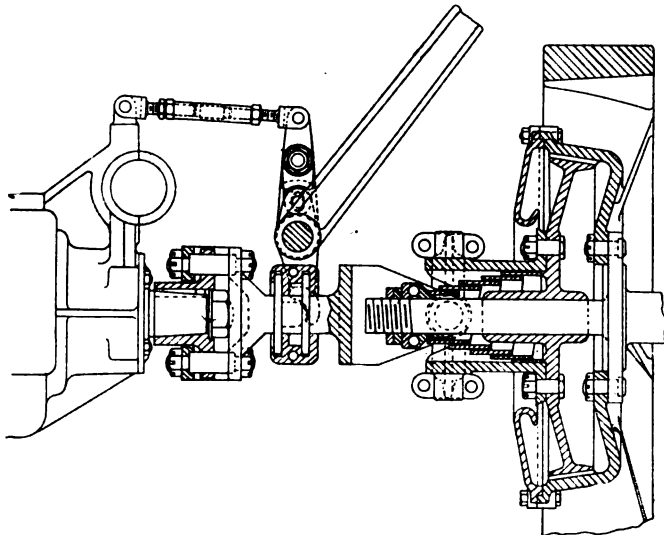


Fig. 7.—Sectional Elevation of new metal-to-metal Clutch.

we had ample evidence that not only is great attention paid to the selection of suitable materials, but that every care is taken in producing from these materials automobile components which, when assembled together to form the complete car, should maintain, if not add to, the reputation for reliability which the vehicles turned out by the company have so long enjoyed.

## CONTINENTAL NOTES.

### A Run of Old-Timers.

Considerable interest is being shown in the run of old-time motor-cars which is to be held in Paris on Sunday next. Meeting in the Place de la Concorde at 9.30 a.m., the vehicles will run through the Bois de Boulogne and up the Suresnes Hill to Sevres, the return being made by the same route in the afternoon. Already over twenty entries have been received, they including several 3½-h.p. Benz, 4½-h.p. Panhard, 2½-h.p. Renaults, 4-h.p. Peugeots, a Hildebrand-Wolffmüller motor-bicycle, and several De Dion tricycles.

### Six-Cylinder Cars.

A new addition to the list of builders of six-cylinder cars is the Germain Company, whose vehicle will make its *debut* at the forthcoming Paris show. The dimensions of the cylinders are 120 mm. bore by 130 mm. stroke, and the crank shaft runs on specially large ball bearings; three speeds forward and reverse are provided, with direct drive on top speed, the transmission being to a live axle on a patent pressed steel system.

### An International Race in Germany.

Prince Henry of Prussia announced at a banquet in Berlin on the 1st inst., held in connection with the Automobile Exhibition in the German capital, that the Emperor would offer a prize for competition in the international motor race which the German Imperial Automobile Club intends to hold next year. The Emperor has expressed his willingness that the race should take place in the middle or end of June on the Taunus circuit, where the Gordon Bennett race was held in 1904.

### Speed Trials at Origny-Sainte-Benoite.

Interest in the speed trials at Origny-Sainte-Benoite, near Saint Quentin, France, held on Sunday last under the auspices of "Les Sports," was greatly damped by the soaking wet day. The trials were on somewhat novel lines, as the course on which they were held comprised 100 metres of level road, a kilometre rise of an average gradient of 7 per cent., 700 metres on the level, and 200 metres downhill; the competitors being timed over the whole distance. Fifty-four cars were duly weighed in, but owing to the bad weather only thirty-seven appeared on Sunday morning, and, in view of the bad state of the road, it was eventually decided to postpone the racing car class until Monday. In the touring category, the best time of the day was made in the four-cylinder section (minimum and maximum bore of respectively 140 mm. and 160 mm.) by Viton on a Rochet-Schneider, he covering the two kilometres in 1 min. 28 1-5 sec., equal to 51 miles per hour. Van der Stegen on a Germain was the first in the class for cars having engines with a bore of between 85 and 95 mm., his time being 1 min. 56 3-5 sec., or 38½ miles per hour. Better weather prevailed on Monday, when the trials of the racing cars were run off. The best time of the day was made in the heavy car section by Mr. A. Lee Guinness, who on his 200-h.p. Darracq covered the two kilometres in 1 m. 0 2-5 sec., equal to 74½ miles per hour. Mr. Cecil Edge on his six-cylinder Napier being second in 1 m. 6 4-5 sec. Nivet, on a Darracq, was the victor in the 250-400 kilog. category in 1 m. 44 1-5 sec., and Demogeot first in the 400-650 kilog. class in 1 m. 8 2-5 sec.

### A Reliability Trial for Voiturettes.

A reliability trial for voiturettes, held under the auspices of the "Auto," was commenced on Monday last. Twenty-two cars were entered for the event, these comprising a Metais, three Civelli de Bosch, three Lion Peugeot, three Delage, two Alcyon, a Vulpes, three Sizaire-Naudin, an Ibis, two Bolide, a Mieusset, a Foullaron, and an Auto-Stand. The cars are divided into two classes—single-cylinders with a maximum bore of 120 mm. and two-cylinder machines up to 90 mm. bore—a limit to the total weight of the car being fixed in proportion to the cylinder bore. The trial, which will terminate on Monday next, com-



prises six daily runs of about 200 kilometres, during which an average speed of 30 kilometres per hour must be maintained, and a final run of 250 kilometres confined to those entrants who have maintained the specified speed throughout the six stages. The event is being run off over a 31 kilometre circuit in the Saint Arnould district. The rules provide that drivers may be changed at the start of each stage only, that repairs may only be performed by the two occupants of the car, and that all replenishments and repairs, &c., including tyres, will count in the time occupied by the competitors.

#### The Berlin Motor-Car Exhibition.

A motor-car exhibition, organised by the German Imperial Automobile Club in conjunction with the German Motor Manufacturers' Union, was opened in the buildings of the Zoological Gardens, Berlin, on the 1st inst., and will continue until the 12th inst. The show, which was opened by the Crown Prince in the unavoidable absence of the Kaiser, owing to the latter's

sixth day, Munich-Homburg, 460·6 kilometres. A hill-climbing competition up the Kesselberg will be included in the third day's run, and a speed trial in the Forstenrieder Park, Munich, on the fourth day.

#### Public Services in Germany.

Negotiations are in hand with a view to establishing a motor-omnibus service between Dollnitz and Halle.—A company is being formed at Neustadt to run a number of motor vehicles in the town for the conveyance of both passengers and goods.—The municipal authorities of Cassel have just appointed a special committee to inquire into the question of a motor-'bus service in the town.

#### A Special Road for Automobiles.

The Prussian Forestry Department is considering a plan to construct a special road for motor-cars between Berlin and Wannsee, which latter place is much frequented owing to its



The Speed Trials at Origny-Sainte-Benoite in the rain on Sunday last.

indisposition, is by far the largest that has so far been held in Germany, there being close upon 400 exhibitors, while its international character may be gathered from the fact that cars of German, French, Italian, Belgian, American, Swiss, Austrian and British construction are on view, the latter including the Daimler and the Humber.

#### The Herkomer Trophy Touring Contest.

The Bavarian Automobile Club has issued a provisional programme of the 1907 Herkomer Trophy touring competition, which will probably be held in June. It is proposed that the contest shall extend over six days, during which time a distance of 1,782 kilometres will be covered. On the first day the run will be from Dresden to Meiningen, 368·7 kilometres; on the second, Meiningen-Munich, 403·7 kilometres; third day, Munich-Lindau, 312·2 kilometres; fourth day, return to Munich by a shorter route, 236·8 kilometres; fifth day, rest in Munich; and

lovely situation and surroundings. The proposed road would be about ten miles long.

#### Miscellaneous Items.

A motor-'bus service is about to be started in Paris between the Place Pigalle and the Halle aux Vins.—A movement is on foot in Switzerland with the view of inducing the Government to forbid the driving of motor-cars on Sundays and holidays.—The police authorities of Bonn, Germany, have issued a regulation forbidding the use of motor tyres fitted with non-skid studded covers or bands.—The sixth annual Belgian motor-car exhibition is to be held in Brussels from the 12th to 27th January next.

A MOTOR-OMNIBUS body made by Messrs. Brown and Hughes, of Netherwood Road, Shepherd's Bush, W., is being shown on a German 'bus in the Berlin Automobile Exhibition.

## THE NEW SINGER CARS.

FOR the coming season Messrs. Singer and Co., Ltd., are bringing out a new series of cars, which, while intended for the use of motorists of moderate means, will be found, as regards the general design and soundness of construction, to compare favourably with the high-grade and powerful touring cars at present on the market. The new series includes twin, three, and four cylinder vehicles, all fitted with White and

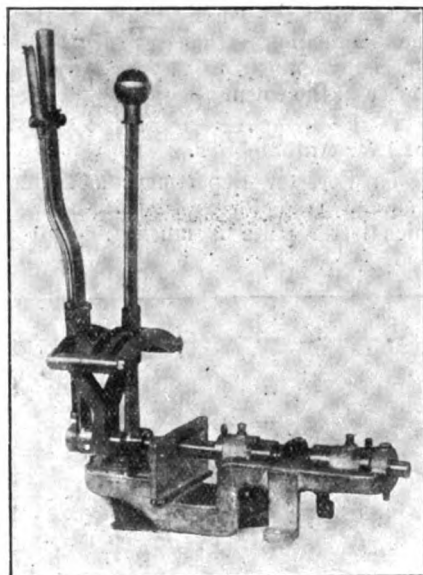


Fig. 1.—The Singer Change-Speed Gear Control.

Poppe engines, and two and four cylinder models with Aster motors, and although the following description is that of the 7-h.p. two-seated car of which we give an illustration in Fig. 3, the remarks may, generally speaking, be taken as applying to all the types. An important feature of the design is the sectionalised system of construction that has been adopted, the speed mechanism, pedal control, gear-box and other parts, being so fitted that they can be easily detached without disturbing other portions of the chassis.

The main frame is of pressed steel, the engine and gear-box being mounted on a sub-frame of similar construction. The 7-h.p. engine comprises two separate cylinders, 80 mm. bore by 90 mm. stroke; the valves are all mechanically-operated, the inlets being located on one side and the exhausts on the other.

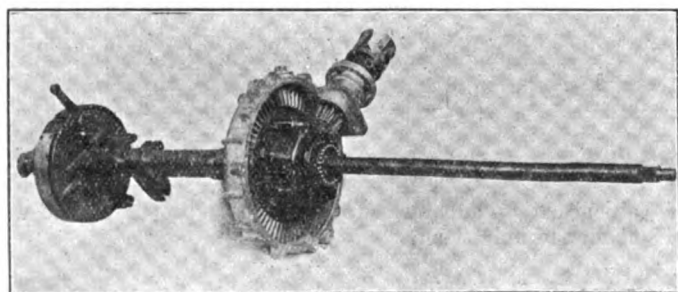


Fig. 2.—View of Live Axle on Singer Car, showing Differential and Bevel Gear.

A Longuemare carburettor furnishes the mixture, while the ignition is by accumulators and coil. The water circulation is maintained by a chain-driven pump and a framed ribbed-tube radiator provided with an air-inducing fan. As will be seen from Fig. 3, the combined radiator and water tank is of a neat design, and gives a distinctive appearance to the car.

The clutch is of the firm's own design, and is of the self-contained leather-faced cone type. The male and female portions are kept in engagement by three short coil springs,

which can be readily adjusted by means of three set screws. The gear-box is adapted to give three forward speeds and a reverse, with direct drive on top, and is operated by a single lever working in a "gate" (Fig. 1). When in the neutral position the lever is kept by springs in the middle of the "gate" between the two quadrant slots. To operate the gear the lever is pulled or pushed into one or the other of the quadrants, giving a medium and high gear in one quadrant when pushed fully forward or backward respectively, and similarly the low speed and reverse in the other quadrant. The gear-striking lever shaft is fitted with a pair of ball bearings, which renders it exceedingly free in its action. From the gear-box the power is transmitted by a cardan shaft and bevel gear to a strong live axle. The differential gear is of the straight pinion type. The road wheels run on ball bearings on the sleeve; the live axle transmits the power to the road wheels through dog clutches on the ends, and has thus only the driving strain to withstand.

Metal-to-metal internal-expanding brakes are fitted to the rear road wheels and a metal-to-metal brake at the rear of the gear-box. The clutch and brake pedal are carried on a separate aluminium bracket, so that they can be readily attached to or

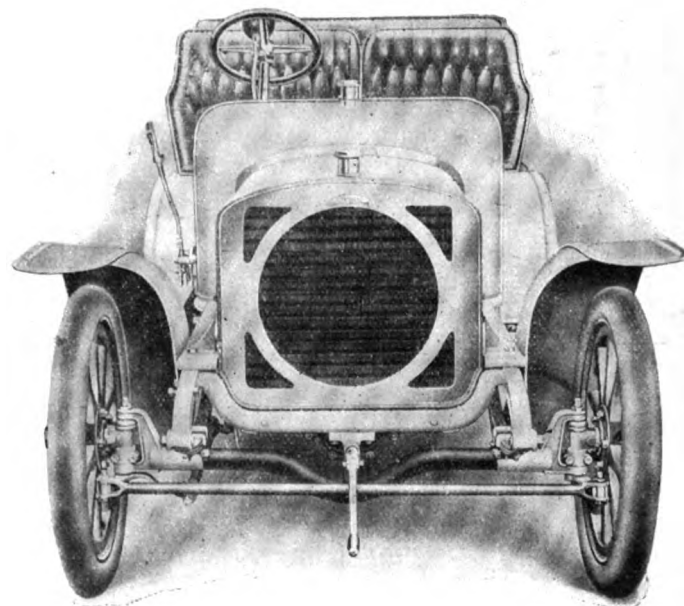


Fig. 3.—Front View of the new Singer Car.

detached from the frame. With the exception of the engine, the car is fitted with ball-bearings throughout, including the shafts in the gear-boxes, the axles, steering heads and the differential. The control is by means of levers on the steering wheel, one operating the timing of the ignition and the other the throttle. The dashboard is made up in the dished type, and is so arranged as to form the petrol tank. At each side vertical tubes are fitted, so that if it is afterwards desired to fit a wind screen and hood this can be done with a minimum of trouble and expense. The body, which is hinged to give access to the mechanism, is comfortably upholstered, and there is ample room in the box at the rear for a spare tyre and numerous spare parts and tools. The road wheels are of the artillery type, 700 mm. diameter, shod with 85 mm. tyres.

At the general meeting of Messrs. Dennis Bros., Ltd., held at Guildford last week, a dividend of 12½ per cent. was declared, and the sum of £7,000 carried to reserve, with a substantial amount brought forward. It was also decided to increase the capital of the company to £100,000, the shareholders expressing their willingness to take up the extra shares *pro rata* to their present holding. In the last five years this company has paid three 10 per cent. and two 12½ per cent. dividends.

IN connection with H.M.S. "Excellent" at Portsmouth a class has been established for the instruction of naval men in motor-car driving.

WITH regard to the next A.C.G.B.I. tyre trials, a sub-committee of the Society of Motor Manufacturers and Traders has been appointed to wait upon the Technical Committee of the Automobile Club.

THE Sirdar Rubber Company, Ltd., have received a large order for Royal Sirdar-Buffer tyres for the Malay Federated States.

THE Wolseley Tool and Motor Company, Ltd., are shortly opening a depot in Deansgate, Manchester, which will be under the charge of Mr. A. F. Crowdy.

SIX of the crew of the Institution lifeboat at Walton-on-the-Naze have been to London to take back the "James Stevens," which has been fitted out as a motor-lifeboat.

THE Daimler Company announce that on receipt of a post-card from any owner of a Daimler car a travelling inspector will be sent to examine the vehicle free of charge.

THE Motor Union Insurance Company will commence to issue policies on the 1st of January next under a scheme of mutual insurance worked under the Companies' Acts.

SOME interest is being aroused in America by the abandonment of the branch house system by the Pope Manufacturing Company, who will in future sell their vehicles exclusively through agents.

THE Albion Motor Car Company, Ltd., are opening a showroom at 88, Mitchell Street, Glasgow, for the exhibition of the Albion pleasure and commercial vehicles, and for the conduct of their sales department generally.

F. WELLSMAN, a Newmarket stable boy, has won a £500 Deasy motor-car, raffled for at the Lockerbie Town Hall bazaar, opened last week by Princess Louise. Over 21,000 shilling tickets were sold, two of which were purchased by Wellsman.

THE fines inflicted on those responsible for the publication of articles on the Blackpool motor races, which were held to constitute a contempt of court, have been reduced from £50 to £10 on condition that the defendants publish an apology in their paper.

THE Wolseley Tool and Motor Car Company, Ltd., are anxious that their establishment in York Street, Westminster, should not be known as "Niagara," but as The Wolseley Company's Head Offices, Showrooms and Garage, or "The Wolseley Headquarters."

ACCORDING to Mr. B. G. Jenkins the weather during November will hardly be of a motoring character. His weather chart indicates a cold snap in the first week, with a succession of milder days during the second. A cold cyclonic period is predicted round the 17th, with fog about the 22nd, the month concluding with gales, thunder, and snow.

THREE simple signals have been adopted by the Automobile Association for the use of members when on the road. If generally followed, they should prove of great utility in indicating to those connected with the A.A. the dangers that lurk by the way. Illustrated sheets showing the system of signalling are supplied to members of the Association from the office, 18, Fleet Street, E.C.

COMMENDABLE was the action of the provincial clubs during the past season in securing the good opinions of chief constables and other people of influence. Such local dignitaries were invited to the gatherings at country houses and at the annual dinners, and not only was a good feeling cemented in this way, but it was conclusively proved that cars are as reliable as claimed by their devotees, and that drivers are as considerate as declared by their spokesmen. Some organisations, having regard to the dust raised by numbers of vehicles proceeding along country roads in Indian file, abandoned the organised processions of earlier years, and advised members to proceed to the rendezvous by roads of their own choice.

## HERE AND THERE.

MESSRS. HATCHER AND SONS, LTD., have been having an exhibition of "Burberry" motor clothing at their premises in Taunton.

THE services of Messrs. Hely and Co., of 1, London Road,

Sevenoaks, were requisitioned in connection with a motor-car smash which recently occurred near the town. They are well equipped to deal with all classes of repair work.

THE Scottish Reliability Trial, 1907, conducted by the Scottish Automobile Club, has been fixed to take place during the week commencing June 24th next.

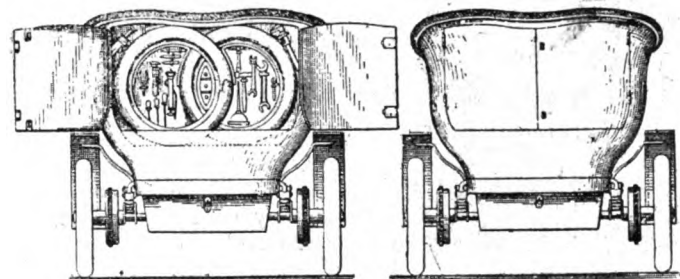
AT a meeting of the Society of Engineers on Monday last a paper on "Recent Storage Battery Improvements" was read by Mr. Sherard Cowper-Coles, Assoc. M.I.C.E.

THE first petrol car ever fitted with a radiator in connection with the water circulation is said to have been the Panhard driven by Girardot in the Paris-Dieppe race of 1897.

SHEET No. 40 of the Ordnance Survey maps—now published to the trade by Mr. T. Fisher Unwin—is on the usual scale of two miles to an inch, and includes the county of Kent. The valuable features of this series are familiar to motorists.

THE Caledonian Motor Car and Cycle Company, Ltd., of Bon Accord Street, Aberdeen, have had a very satisfactory year, and the directors are contemplating a scheme of reconstruction in order to arrange for the extension of the company's operations.

AN ingenious spare tyre and tool receptacle has recently been devised by Mr. Michael Ehret, of Philadelphia, U.S.A. The arrangement is so clearly shown in the accompanying illus-



tration that no explanation is necessary. It may be added, however, that the idea can be carried out on all types of car bodies having a side entrance.

MESSRS. JARROTT AND LETTS have just issued a handy Instruction Book, which will be found extremely helpful by all users of De Dietrich cars, whether they are of the 1906 or earlier models. Those who own vehicles of this type should therefore write to the firm for a copy of the pamphlet.

BARTHOLOMEW's road surface map of London and the neighbourhood comes to hand in its strong and handy form on a scale of 2 in. to the mile. Clearly printed and accurately planned, this map, published by Messrs. J. Bartholomew and Co., is of real value to all who travel in and about the Metropolis.

THE MAHARAJAH SCINDIA has published a motorists' guide to his State of Gwalior, in which are incorporated historic sketches, together with coloured road maps, with the petrol stations and rest houses designated. The tourist in this country passes through scenes rich in architectural, historical, and ethnological interest. The Grand Trunk road runs through a magnificent continuous panorama of the early Hindu kingdoms, while the scenery is diversified mountain, plain and garden.

CAPTAIN THEO MASUI, agent-general for the Germain cars in England, is shortly leaving London for India, taking with him two vehicles which will be run in the Bombay trials. The machines have been specially constructed for hot climates, they having a larger radiator than usual, and the bodies are built stronger in order to withstand the great heat and wet. They are also fitted with an ingenious gauze screen, which, whilst keeping flies, mosquitoes, &c., from the occupants of the car, does not impair the view of the driver in any way.

MR. A. WILLIAMS has opened a motor garage at 348, High Street, Lewisham, S.E.

THE Automobile Contract Company, Ltd., have removed to 51, Conduit Street, London, W.

THE Fiat Company are bringing out a 50-60-h.p. six-cylinder car for the coming season.

A NEW garage for the accommodation of a large number of cars is being erected near Piccadilly, London, for the Electromobile Company, Ltd.

THE East Grinstead Motor Garage, in the London Road, East Grinstead, is letting cars on hire, as well as repairing wayward ones that fall by the road.

MESSRS. MOORE AND SPIERS are holding auctions of motor-cars at the Alexandra Palace on the 15th and 16th inst., and at the Gloucestershire County Ground, Bristol, on the 21st inst.

MR. GUY GOLD, 1, Cornhill, E.C., draws our attention to his "Insurance of Motor-Cars at Lloyd's," for which he claims the advantages of no compulsory arbitration or cancellation clauses, while reduction on premiums are allowed in certain instances.

A NEW motor and cycle tyre and tyre repairing depot has been opened at 31, Brooke Street, Holborn, E.C., under the management of Mr. W. G. Weston, who will have a stock of motor-tyres with square and round treads, manufactured by the Avon India Rubber Company, Ltd.

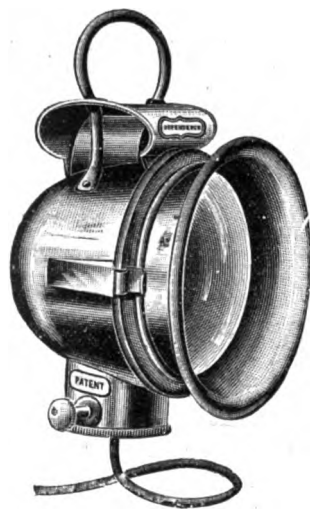
MESSRS. J. AND R. OLDFIELD, of Warwick Street, Birmingham, recently invited us to witness a demonstration of their "Dependence" electric head and side-light lamps.

These lamps give a clear road light of 100 yards ahead, and yet there is no fierce glare to contend with. The light runs parallel from the reflector direct to the road, and a diffused light spreads itself sufficiently to discern hedges on either side of the road. The makers inform us that the secret of the merits of these lamps lies in the lens and reflector, and, as they have a separate department devoted to the manufacture of optical instruments, they are in a position to produce a lens and reflector giving exceptionally good results. The chief points claimed for the electric lamp are a pure white light, perfectly clean,

cannot blow or jolt out, removable for examination of any part of the car without fear of causing a fire, and can be lighted immediately. The cost of burning is comparatively small; a 40-amp. accumulator will give a minimum of thirty hours' continuous light in four lamps. The "Dependence" lamps are well made throughout, and the company claim that their latest production in electric lamps is merely the outcome of years of experience in catering for the motor-car trade. Each succeeding year they have had to watch the development of speed and re-design their models to meet the new conditions thus created.

THE failure of Thomson's steam omnibus in this country did not deter Nairn from making an experiment in a similar direction, and in 1871 he attempted to maintain the "Pioneer" as a regular conveyance from Edinburgh to Portobello. He, too, was unsuccessful, although during the summer the omnibus made nearly 1,000 runs, carrying an average of twenty-one passengers each journey.

DURING the progress of the forthcoming motor and cycle shows Messrs. Harvey, Frost and Co. will hold practical demonstrations of their H. F. vulcanisers at their establishment, 39, Great Eastern Street, E.C. There they will also show a new auxiliary appliance for use with the vulcaniser, which, in addition to the curing of superficial defects in tyre covers, will also make good any weakened, decayed, broken or burst fabric in the foundation of the cover. This appliance can be adapted to the "Car" vulcanisers without any alteration whatever.



MESSRS. CROSSLAND, WASS AND CO. are hiring out for their garage in Cardiff 14-h.p. cars for daily use.

MESSRS. DUCROS MERCEDES, LTD., have just sold a 70-h.p. Mercedes four-cylinder chassis to Lord Alwyne Compton.

WE hear that Messrs. T. Burton and Co., motor engineers, Blackburn, are experimenting with a new paraffin carburettor.

THE Society of Motor Manufacturers and Traders has decided not to proceed further with the agency scheme set out in the draft circulated previous to the meeting on the 10th ult.

WE learn that Messrs. Dennis Bros., Ltd., have been successful in securing an order for the Royal mail vans for service between Dereham, Fakenham, and other outlying districts around Norwich.

WITH reference to the system of street watering by motor-vehicles which Messrs. Trackson, Bros., Ltd., have introduced to the authorities of Brisbane, it is calculated in the colony that the cost will be 1s. 6d. per mile sprinkled.

THE new catalogue of the Dook-Swain Tyre and Rubber Co., Ltd., of the Soho Tyre Works, Pollard Street, Manchester, will be of value to all who are interested in the tyre question. Their beaded-edge tyres are being made in two patterns, "Standard" and "Special," the latter being a particularly flexible, resilient, and durable type. The section of this which has been submitted to us is proof of the superfine quality of the rubber employed. To this "Special" tyre the Dook-Swain metal-studded non-skid can be fitted, while the firm also undertake the re-treading of tyres. Another department of the Dook-Swain Co.'s activity is that of accessories, in which they have several specialities, including a combined petrol pourer and sieve, by means of which any tank can be filled without waste of petrol or risk of fire. A short length of flexible tubing is provided, so that tanks inconveniently placed can be reached with ease. This tubing is detachable, and the whole appliance can be packed away in a very small compass—a matter of importance when many things have to be carried and space is limited. The device screws on to the petrol can, a straight tube reaching to the bottom of the tin, through which passes the necessary air to take the place of the outgoing petrol. Well made and designed, the Swain petrol pourer and sieve is one of those simple little accessories which should be found in the equipment of every motorist, while it should be regarded as indispensable in garages and places of trade.

As an adjunct to the equipment of the motor school the new device in the Victoria Street Garage, 94, Victoria Street, S.W., is a desirable and useful appliance. It will secure to the pupil some degree of experience ere he is cast adrift in traffic, there to manipulate his car to the danger, more or less, of other users of the road. We recently saw a demonstration of the attributes of this "mechanical instructor." The pupil was seated in the motor-car with the engine running. The car, however, was stationary, its front axle being raised on a screw-jack, while the rear wheels were mounted on a set of rollers securely anchored to the floor. By the side of the car stood the instructor, a double dial with levers under his hand. On the wall facing the car were two dials, one having two pointers, black and red, similar to the hands of a barometer, the other with a single digit. The two combined were practically "the road" which the pupil in the driver's seat was watching. One dial is divided into sections representing conditions which the driver of a car would expect to encounter, such as "Slow Traffic," "Road Clear," "Dangerous Crossing," "Traffic Stopped," &c. The other dial with the two hands represented the course of the road to be followed by steering. Manipulating the levers the tutor was able to produce the conditions of actual travel, calling upon the pupil to stop, to avoid obstacles and carry out the various operations necessary in such contingencies. One of the levers in the control of the instructor produced the conditions of hill-climbing, its application being detected only by the ear or sense of feeling on the part of the driver, who thus learns when it becomes necessary to change gear. Altogether the device is useful as accustoming the novice to the handling of the car without being actually on the road, so that when he really encounters traffic he knows exactly what to do to avoid danger.



## LUBRICATION IN COLD WEATHER.

THE winter season is now rapidly approaching, and motorists will be well advised to be fully prepared with regard to the extra care needed to keep their cars in proper running order during the periods of cold weather that may be expected. A first and foremost point to which attention may be drawn is that of the danger of burst cylinders and radiators due to the freezing of the water in the jackets, the usual method of obviating this being to either keep the vehicle in a heated stable or to add glycerine to the circulation water, or, as a last resource, to drain off the water from the radiator cylinder jackets when the car is put away for the night. Another matter which will require consideration is that of lubrication. Motor oils usually increase in viscosity very considerably when subjected to cold, and under extreme conditions may become semi-solid and incapable of flowing, except when under the influence of great pressure. Unless the means of feeding the lubricant to the various bearings be absolutely positive, or the lubricant supply and the feed pipes are so located as to benefit from the heat developed from the engine, there is in very cold weather no certainty that

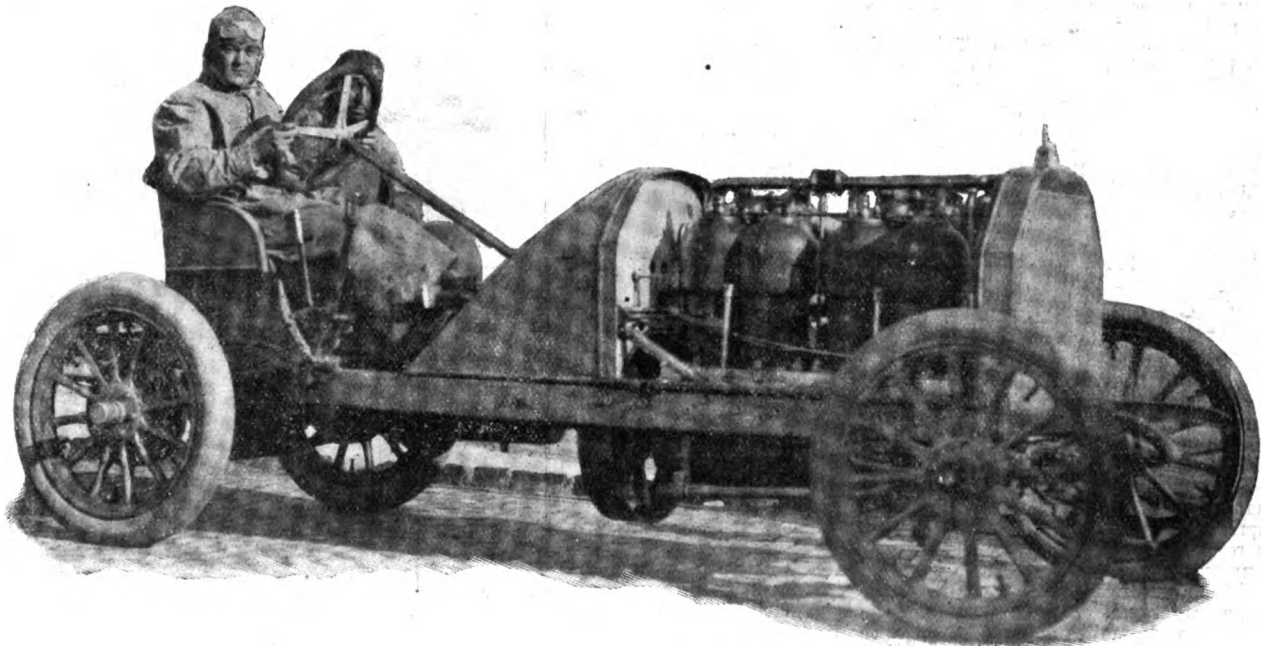
## SOME USEFUL NOTES.

ALWAYS see that your spare parts—especially the valves—are of the proper size for the engine, so that there may be no annoying delay if they should be suddenly called into requisition

SOME motorists, when adjusting their chains, do not seem to realise that there is a correct position for the shackles on the back scroll. The top of these side-plates, or shackles, should always be leaning away from the hollow of the scroll.

INLET valves do not get nearly as hot, and consequently do not expand as much as exhaust valves. For this reason less clearance should be allowed between the stems and push-rods of mechanically-operated inlet valves than would be allowed between the stems and push-rods of exhaust valves.

INASMUCH as the springs on mechanically-operated inlet valves are usually weaker than on the exhaust valves, the wear on the parts which move them will not be so great. Another



Mr. H. R. Pope at the wheel of the 100-h.p. Itala he drove at the recent Race Meeting at Blackpool.

oil is being properly distributed. Many, if not most, mechanical lubricators are sufficiently positive in their action to force the lubricant through a small and exposed pipe, even though the oil be rendered very viscous through cold. The oil in the lubricator reservoir must, however, be sufficiently fluid to allow the pumps to fill and operate properly, and hence the reservoir should be so located as to be under the influence of the heat from the motor. In any case, to ensure efficient lubrication in winter a high degree of watchfulness should at all times be maintained.

FROM Mr. S. F. Edge come a couple of very interesting photographs, one of which depicts the erecting shop at the Napier Works for six-cylinder cars. Large as is the department, a new chassis erecting shop, which covers a greater area than the whole of the machine shop shown in the photograph, is already in operation. Three years ago the ground at Acton on which the works and machinery now stand was only a field, while to-day about seven acres are covered with buildings, in which over 1,200 men are employed in the manufacture of Napier cars. The second photograph is that of a very large group of the employees taken at the lunch hour; it illustrates in striking fashion the important position the construction of automobiles is assuming among British industries.

reason why the wear is less is that there is no pressure on the inlet valves at the instant when they are lifted, while the exhaust valves may have forty or more pounds pressure to the square inch on them at this moment.

IN the case of a motor the cylinders of which may be somewhat worn and the piston rings slightly reduced in size or of imperfect fit, there is likely to be a serious escape of the charge during the compression stroke, with a consequent lowering of the pressure of explosion, and also a considerable escape of the burning charge during the power stroke. This is particularly the case when the motor is started after it has been standing some time and is quite cold. The cylinders themselves are maintained at a comparatively low temperature by the cooling action of the jacket water; but the pistons and their rings have much less opportunity to give up the heat imparted to them by the explosions, and consequently are at a higher temperature than the cylinder walls. After being run a short time the pistons and their rings become expanded more than do the cylinders and fit the bore much more tightly than when the engine is cold, thus reducing the escape of gases during the compression and power strokes and adding to the useful output of the motor.

## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
87-88, Charing Cross Road, W.C.]

### RULES OF THE ROAD.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have been a driver of horses almost daily for a period of twenty-five years, a rider of cycles for about twenty, and a motorist for six years, and therefore may claim to know something of the rules and amenities of the road. As a result of this experience I am convinced that, properly driven, a motor-car is the safest vehicle on the road, and, moreover, one that can be stopped in less than half the distance of a horse-drawn vehicle. Surely it is not beyond the wisdom of Parliament to deal with fast driving in such a way that it would soon be stamped out without injustice to the careful driver, who is usually the man of moderate means. I have been much struck with the evident prejudice and animosity against motorists on the part of some of the correspondents in the daily Press of late. The opinion of these is worthless. On the other hand, some motorists in their letters have shown a levity which all moderate thinkers must deplore. These latter cause all the trouble.

The advocates of taxing motors off the road forget, or do not care, how much injustice is done to the considerate driver. They would punish the men of moderate means without reaching the road-hog. There are owners and chauffeurs, unfortunately, who care nothing for the pedestrian, the horse driver, the cyclist, or the motorist. Punish these as severely as you please, but spare the innocent.

We want a law compelling every rider and driver to keep to the left, or near side of the road, not only on passing, but always. Now that our electric cars do from ten to twenty miles an hour (by-the-by, passengers in these cars never object to the speed) cyclists about the same speed (these often pass me in my car), and motors ditto, it is imperative that the rules of the road should be more explicit and should be enforced against all. As mayor of Portsmouth for two years, I made efforts to bring about a better observance of the existing rules, but I fear with little effect. Our chief constable is now, by an arrangement of constables at dangerous corners and at cross roads, making an effort to educate drivers to the proper use of the roads. Many motorists and some others should not be allowed to drive. The scorching motorist may be weeded out if magistrates would exercise the powers they possess by suspending the driving licence for six months or for a year. A paid driver would then run the risk of losing his living for a time, and would obviously be more careful. The punishment to the owner who drives would be a wholesome deterrent. If, after a period of suspension, either should offend again, imprisonment would be effective.

With reference to dust, retain the twenty-mile limit by all means for the country. It is fast enough to be safe on our English roads. Locally I drive a small car, and for country drives, and professionally sometimes, a larger one. As a result of careful observation I find that a speed of over twenty miles an hour increases the volume of dust enormously, but under this speed, on a fairly good road, the dust is not more objectionable than that raised by a carriage and pair. It should be remembered that all road users raise dust, and a coach and four raises more than a car driven at a moderate speed. If coaches with four horses were common, would those who now complain advocate taxing them off the road? In pictures of the old coaching days one sees clouds of dust represented, and it was the custom on the main routes to have pumps at certain distances for road-watering purposes. Cars with smooth tyres do not make dust. The damage is done by horses; and cars and bicycles simply raise it more or less. It is due to our local authorities to say that the roads were never in better condition than they are to-day. That they will be still more improved in the near future there can be no doubt.

The police trap is an abomination, because often the innocent are summoned, and the guilty, who go at such a speed that the numbers cannot be seen, escape. Speedometers should be attached to all cars. I find mine a great comfort. Insurance, especially third party, should be illegal.

Some writers advocate the fixing of speed limits by local authorities in their several districts. The result would be chaos, and no driver would know the limit in any district he might enter. With reference to accidents, in my town, with over 200,000 inhabitants—and in the season 250,000 people—only one fatal accident has occurred since the advent of the car, as the result of a collision with a pedestrian. This was accidental, and due to the hesitancy of the latter. Several have been killed by trams, and many by horses, in the same period. The latter are not, however, so prominently recorded in the newspapers. The chief constable informs me that minor accidents due to cars have been very few indeed. The worst offenders in the matter of speed are the week-end people; and I have stopped two and remonstrated with them only recently.

Our manufacturers are just wresting from the foreigner the business, which hitherto was almost a monopoly with the latter. To tax cars in a vindictive spirit would cause men of moderate means to give up keep-

ing them and would prevent others from purchasing. The consequences in these times of unemployment would be deplorable.—Yours truly,  
T. SCOTT FOSTER.

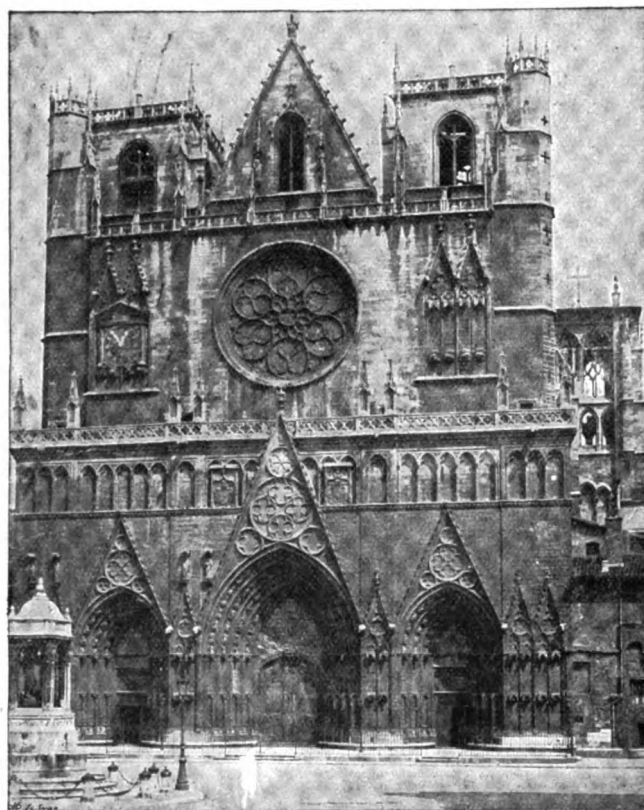
### THE QUESTION OF SPEED.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am pleased that my letter should be deemed worthy of a reply from Mr. A. I. Hickman, but must certainly take exception to his proposed panacea for speed driving. I think we are taxed and licensed quite enough now without having to carry about more paste-board, to say nothing of the inevitable fee we should have to pay. Twenty miles an hour may seem slow when on roads hundreds of miles long, as are found abroad; but the distances between places in England are so short that every mile or two one comes across a village, hamlet or farm which calls for the greatest caution.

I must adhere to my ideas that I have held ever since the craze for speed became rampant, that the only remedy is to mechanically fix the rate; this will do away with any further examination, and a lot of hard swearing in case of mishaps. There are many victims to speed who would have been alive to-day if they had taken "Festina lente" for their motto.—Yours truly,

W. J. W., A 1299.



Touring in France.—The Cathedral of Saint Jean, Lyons.

### THE DEVELOPMENT OF THE MOTOR CAR MOVEMENT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I read with very great interest your article on the "Development of the Motor Car Movement, 1896-1906," in No. 399, of the 27th October, but I must take exception to the following lines on page 745:—"While the efforts of Messrs. H. J. Lawson and F. R. Simms, in connection with the Motor Car Club, which they founded, were directed towards catching the public eye."

The facts are briefly and as correctly recorded in the "International Review," No. 6, of June, 1904, giving my biography in connection with the motor-car movement, viz., that on the 15th October, 1895, I suggested to Sir David Salomons, in the presence of my friend, the Hon. Evelyn Ellis, after dinner, at Broomhill, the residence of Sir David, that "a Self-Propelled Traffic Association" should be formed, and for which I had already framed the general outline, rules and constitution. Sir David Salomons, however, took the matter into his hands, and established the Association himself. This independent action was really the reason for the formation of the Motor Car Club, entirely conceived by myself. When I saw, however, that the Motor Car Club, which seemed in a fair way to meeting with success, was being mixed up with questionable trade interests, I retired from the

said club, and it then became my ambition to start an independent members' club, which should be thoroughly representative of the automobile movement. I here refer to the Automobile Club of Great Britain and Ireland, of which I am proud of having been the founder.—Yours truly,

FREDK. R. SIMMS.

### ROAD SIGNS AT NIGHT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Will you allow me to draw the attention of your readers to the great, though not as yet widely recognised, necessity for illuminating road signs and finger posts on country roads at night?

About a month ago, whilst driving a car from Winchester to London after dark, I narrowly escaped an accident. Shortly after crossing over the railway on the way from Farnham to the Hog's Back, the main road takes a sharp turn to the left, which, as the night was very dark and a fine drizzle was falling, I could not see until I was right on the bend. Not knowing the road, I kept straight on where I could see an opening in the hedge in front of me, and after applying both brakes pretty sharply, pulled up in a narrow cart track, out of which I had considerable difficulty in reversing, owing to the darkness and proximity of a ditch.

Another bad corner is that at the entrance to Bagshot village, just past the "Cricketers' Arms." One day last week I was being driven along the road by a man who did not know it, and, had I not warned him, we certainly should have had trouble, as the car was a heavy one



A party of young Scots on their way to school from Langholm (Dumfriesshire) to Westerkirk. The distance between the two places is seven miles, the children being conveyed to and fro (morning and night) by motor-wagons. In order to cheapen the cost of conveyance to the local authority the wagons are utilised for the carriage of goods between the two points.

Photo by

[P. L. Glendenning.

and we were travelling about 18 miles an hour. All who know this corner will remember the abrupt curve of the road leading to the narrow bridge at the bottom of the hill. I cannot remember if there is a red triangle to denote this point, but if there is, it certainly is not sufficiently prominent to catch the eye of a driver, who must keep his eyes glued to the road on a dark night.

I simply take these two as instances of the many dangerous corners there are on main roads.

Now, if proper signs, after the manner of those used in France and America, which indicate the nature of the danger, were placed at such spots as I have described, and illuminated at night, travelling would certainly be safer, and the driver relieved of a great deal of anxiety.

Then there is the question of discomfort and loss of time to be considered, for one is compelled to frequently stop and examine the finger posts, often half buried in a hedge, by the light of a lamp, detached from the car.

Who is going to undertake this scheme, which I feel convinced would be the greatest boon to all users of the road?

Now that the alteration of the law respecting motors is under consideration, some action might be taken to compel local authorities to illuminate signs in the districts under their control.

There is, I believe, some rumour that one of the associations, which has been formed for the object of rendering assistance to motorists, "has the matter under consideration," but nothing practical has yet

been done, and this is just the time of year when the illumination of signs is most necessary.

I would suggest that if the matter cannot be adequately dealt with at once, a body be formed for the purpose of:—

(1) Illuminating all caution and danger signs.

(2) Erecting better signboards on the main roads from London, which would face the driver instead of lying parallel with the roads, thus making them far easier to read.

Take, for instance, the road to Brighton. At all points on the road at which the route was not perfectly straightforward a sign would be erected, something after the following:—

BRIGHTON	36 M.
Redhill	5½ m.
Crawley	6½ m.

It would be necessary to secure the co-operation and support of all users of the road, as the initial cost of erection would be considerable, but, doubtless, the scheme could be elaborated so that contributors would receive other benefits.

The signs could be illuminated by petrolite lamps. It would be interesting to hear the opinions of other motorists on this subject.—Yours truly,

E. T. WRIGHT.

### BLOCKED CARBURETTORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Those who have read any of the many detailed reports of the recent Tourist Trophy Race cannot but have been struck by the large proportion of the competitors who claim to have suffered delay owing to a choked carburettor, caused, presumably, by the presence of some foreign substance in the petrol. It is fair to assume that in every case quite exceptional precautions had been taken, including very careful filtering when filling the tank, to ensure the cars going to the post in the most perfect state possible, and it is, in fact, a matter of common knowledge that no stone that could be fairly turned was left unturned by owners and drivers to have their cars in the highest possible state of efficiency for this important event. In view, therefore, of the failure of the carburettor, in spite of the care taken, it will doubtless occur to the ordinary everyday motorist that when the pick of the trade, supported by the most skilled drivers and mechanics, cannot avoid such difficulties, it is hopeless for him and his kind to expect to escape, and he will accept these annoyances as among the unavoidable but unpleasant experiences of a motorist's career, and continue to rely upon careful straining of the petrol when filling his tank to escape similar stoppages.

This is, of course, a very necessary precaution, which should never be missed; but, unfortunately, no matter how carefully performed, it is never a thorough preventive of certain foreign particles still finding their way from the tank to the carburettor and choking the spray jet. How this solid matter is produced after such careful straining is to most a mystery, but we may point out that there is undoubtedly some chemical activity set up in the tank by the action of the petrol on the metal which induces a certain deposit to be formed in the tank. The only way, therefore, to deal with this is to strain the petrol a second time after it leaves the tank and before reaching the carburettor. If this precaution is taken we do not think a choked carburettor will be likely to trouble the motorist, no matter what type of petrol car he may control.—Yours truly,

E. M. BOWDEN'S PATENTS SYNDICATE, LIMITED.

### RAILWAY LEVEL CROSSINGS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Having noticed in the *M.C.J.* that you have mentioned several instances where accidents and narrow escapes at level crossings have occurred, I wish to draw your attention to the level crossing at Crawley, on the main London and Brighton road, to see if the unsatisfactory state of things that now exists cannot be remedied before any lives are lost. On the evening of the 3rd inst., about six o'clock, I witnessed what might have proved a serious accident, had it not been for the promptness of the driver of a motor landaulet applying his brakes, owing to the gates being across the road, with two lamps on, but scarcely visible until he was right upon them. Should this meet the eye of the particular driver (who, whilst he was waiting for the train to pass, had one of his passengers alight and enter a shop adjoining them) possibly he will substantiate my statement about the lights. Some few weeks ago a gentleman passing through in the night ran into the gates with a motor-cycle (through the insufficient lighting) breaking two pieces of timber off the gates but fortunately without serious personal injury.

The Motor Union should bring this long-existing trouble to the notice of the L. B. and S. C. Railway Company. The bad situation of the signal box, from which the man in charge cannot see on the Brighton

side more than a few yards, is another difficulty. Being unable to see the road for a longer distance, the signalman has sometimes thrown the gates over the roads, and thus caused several cars to pull up very sharp to avoid accident. If the box were moved to the opposite side of the road the man in charge would have a clear view of both ways, and possibly something could also be done to the benefit of the travelling public.—Yours truly,

H. K.

### BENZOLENE AS FUEL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In the year 1897, and for some years afterwards, I employed ordinary commercial benzolene as fuel for motors, and can see no reason why its use should not be continued. The price never exceeded 7½d. per gallon, delivered in ton lots. To show how efficient it was as fuel, reference should be made to the report on the Trials of Self Moving Vehicles at Birmingham in 1898, conducted by the Royal Agricultural Society of England—see the Society's Journal, Volume 9, part 3. In these trials, the machine I was responsible for was run with this fuel, and the following figures, taken from the judges' report, clearly shows how efficient it was:—

Total weight of car and load	...	...	2.49 tons.
Cost of fuel per mile	...	...	0.49 pence.
Cost of fuel per ton per mile	...	...	0.18 pence.
Cost of fuel per ton per cargo per mile	...	...	0.465 pence.

—Yours truly,

J. S. CRITCHLEY.

### THE TENTH ANNIVERSARY OF THE EMANCIPATION OF THE MOTOR-CAR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We are instructed by our committee to acquaint you of a change in the original programme as notified you, which we trust will enable you to participate in the celebration. A goodly muster of pioneers is already assured, but our committee desires that no eligible gentleman shall be absent except for reasons of an unavoidable nature. In the first place, several gentlemen who rendered good service in the early days are prevented from joining the function as originally arranged, owing to the opening of the Olympia Show having been fixed for the day following. Again, neither the traditional route nor starting place are available on the 14th inst., owing to the projected visit of the King of Norway to the Guildhall.

It has therefore been decided to limit the official programme to a luncheon in the Balmoral Rooms at the Trocadero Restaurant, W., at which Sir David Salomons, Bart., will preside.—Yours truly,

CHAS. JARROTT } Joint  
C. MCROBIE TURRELL } Hon. Secs.

### A DOCTOR'S EXPERIENCE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have read from time to time in your valuable paper different opinions as to the use of a motor-car in a doctor's practice. At the beginning of August, 1905, I went to our local motor agent, Mr. A. E. Pettifer, and asked his advice as to a motor-car for my work. He said he was prepared to loan me a car for one month's free trial, and if I found it answer he would undertake to find me a car and keep it in thorough running order for £115 a year, I to find petrol and oil. I tried it, and struck the bargain for twelve months. I sold three of my horses, keeping one in case of any breakdown. I have used this car continually day and night, doing an average of forty-six miles a day, and am pleased to say have never had ten minutes' delay from any breakage, beyond a few punctures. I have worn out two sets of tyres and have nearly finished the third. I must say before I had this car I was out morning, noon and night, very seldom getting a few hours at home; now I do the journeys in half the time and at half the cost, although my practice is situated in one of the worst districts in England. The little car has never faltered, and more than once I have climbed the noted Froome's Hill twice in one day. The little car, a 6 h.p. Wolseley, is not the quietest, but I should say for reliability is second to none. I am in my second year and it is running as well as ever.—Yours truly,

SATISFIED DOCTOR.

### MOTOR-CAR CARRIAGE TO THE CONTINENT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The matter of charges for conveying motors to the Continent is one that is doubtless of great interest to many of your readers. The South Eastern and Chatham Railway Company charge £5 5s. for taking a car from Folkestone to Boulogne, carriage from London extra, but I have been able to send my car from London to Boulogne for only 30s., and from Brussels to London for a like sum. Recently I bought a second-hand car and later despatched it by the Bennett line of steamers from London Fridge to Boulogne, passed it through the Customs, and paid my deposit—so much per 100 kilos. Car weighing 610 kilos (between 12 and 13 cwt.)—the deposit was about £12 5s., after which I took up my three passengers. I ought then to have driven to

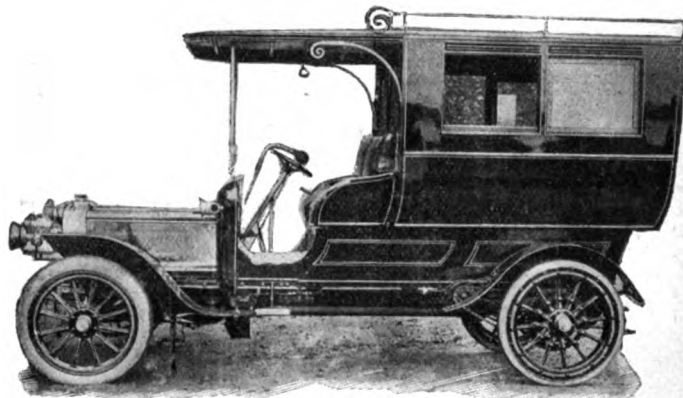
Arras, there to pass an examination in driving and to be licensed to drive and to have a plate fixed during my stay in France. As I had not intended taking Arras in my itinerary, and not feeling too certain as to my ability to pass a Government inspector as an expert in driving, I gave Arras "a miss," driving from Boulogne as follows:—Montreuil, Abbeville, Amiens, Compiègne, Rheims; we left there for Charleville-Mezieres, this was the first stopping place in the Ardennes on the way to Givet. Between these two places our little car took us to the topmost point of the Ardennes. At Givet, the French and Belgian frontier, I received my deposit back, and by rights should have paid customs before entering Belgium, viz., 12 per cent. on the value of the car, and again being served out with a permit and a number plate. The house where I should find the gentleman who would take my money and give me the permit was indicated to me by the frontier official, but, losing my way *en route* to it, I neither paid customs nor obtained a permit, but continued my drive without either, reaching Dinant in time for tea, where we stayed the night. The next morning, off to Namur and thence to Brussels, which we reached at the close of the afternoon. I there learned that the road to Ostend was quite impossible *pavé* the whole distance, so put my car on board the City line of steamers for London, the charge from Brussels being, on this line, the same as Bennett's to Boulogne, viz., 30s.—Yours truly,

C. M. HOLLOWAY.

### AUTOMATICALLY-CONTROLLED IGNITION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the correspondence on this subject, I cannot say that I uphold the method of controlling the throttle and advance spark by one lever. There are occasions when you may want more or less gas without interfering with the timing of the ignition, and *vice versa*. On my 14-20 h.p. Vinot car the throttle is handled through the medium of



The Daimler 'Bus recently supplied to Viscount Boyne. It is of 28-h.p. and has a wheelbase of 11 ft.

the governor, and speed can be regulated on this car by this method to a nicety, whereas I scarcely ever find it necessary to alter the timing of the firing, as when the speed of the engine is too low for the timing as placed, to be suitable, it is really an advantage to change down to a lower gear. Of course there is no trouble in changing speed on this car, owing to its being fitted with a vertical gate arrangement, the nicest and sweetest change-speed I have ever used.—Yours truly,

ALAN A. L. HICKMAN.

W. T. B. is informed that the offices of the Automobile Association are at 18, Fleet Street, E.C.

THE "RADIO" SILENCER.—In reply to "W.," Messrs. Wood and Co., of Ashton-under-Lyne, are the makers of the "Radio" silencer.

SOCIETY OF AUTOMOBILE MECHANIC DRIVERS.—We are asked by the secretary to announce that a meeting of those interested in this society will be held at Rawlings' Garage, Halkin Street, Belgrave Square, S.W., on the 26th inst., when important business will be discussed.

A MOTORIST who lost a motor axle wheel cap bearing the name of the Relyante Motor Company, Walthamstow, on the road between London and Wallington (Oxon.) will be glad if the finder will return it to the makers.

FOREIGN LAMPS AS BRITISH.—Messrs. George Polkey, Ltd., call our attention to the fact that foreign lamps bearing no name are being sold as British. In the case of their lamps they would remind readers that they bear the name of "Polkey"—without which none are genuine.

MR. H. W. SOUTHALL, jun., 7, Union Passage, Birmingham, writes:—"It has come to my knowledge that a rumour is being circulated to the effect that there is an injunction pending against me in respect of the patents under which I manufacture and sell the Southall Tyre Gauge. I am writing to you to strenuously deny this and to advise you that it is absolutely untrue. There has been no injunction obtained, neither is there one pending."



## PRECAUTIONS FOR SAFE DRIVING.

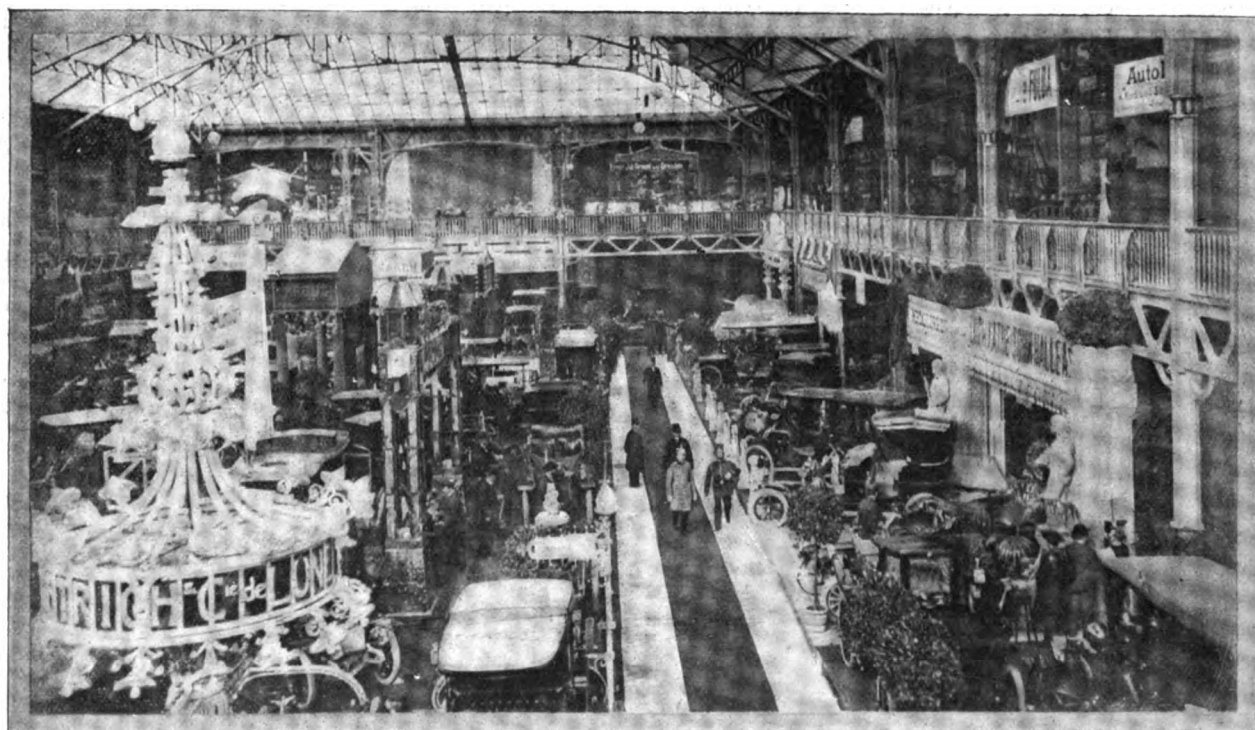
THE following suggestions are made in the interest of safety and comfort in driving, and as an assistance to the novice-motorist in getting the most out of his car with the least expenditure of fuel and a minimum of wear and tear. Safety in operating rather than speed should be the prime consideration in motor driving, and every motorist can assist in placing the reputation of the motor-car in this respect upon a firm foundation.

As all petrol cars create a certain amount of noise as long as the engine is running, whether or not the vehicle is in motion, the driver has largely to rely upon his sense of sight. This fact demands an especial amount of visual alertness on his part. When approaching an intersecting road the view of which is cut off by buildings or otherwise, he must have his car under perfect control, as he will not be warned by the noise of intersecting traffic so effectually, at least, as is the horse driver. In crossing a tramway line at an angle the only safe course is to take a backward as well as a forward look for approaching cars. When driving in districts where the motor-car is unfamiliar, the problem of meeting and passing horses becomes a serious matter, and results in the unpleasurable consumption of much nervous tissue on the part of all concerned. One rule bearing upon this phase of motoring which may always be profitably observed is this: Never allow yourself to infringe the rules of the road or the prevailing law or regulation in regard to stopping on request or as to speed. It is of

legitimate to pursue your regular legal pace until some sign of fright is noted, when the speed should be decreased and the car stopped if necessary. The engine may be shut down if it seems needful, but if it is possible to get by without taking too great chances, it is almost always advantageous. When the car is past the horse, it may be speeded up in order to get out of hearing as soon as possible. Any signal to stop on the part of the driver should be obeyed as quickly as the brakes permit. When horses are met driven by ladies or children and there are the slightest indications of fright, the car had best be brought to a full stop, and one should wait, with hand on the switch, ready to stop the engine instantly, unless the animal is under full control. Under all circumstances, the motorist should speak to any horse which appears frightened. Such action on his part, in conjunction with the efforts of the driver, generally proves effectual.

Sometimes, even when the vehicle is stopped and the engine motionless, a horse cannot be induced to pass the car. There is only one thing to do in this case, and that is for the automobilist to lead him by. This gives one an opportunity to say a few pleasant words to the occupants of the vehicle and perhaps relieve the situation.

Country roads are often very narrow, densely wooded on both sides, and have very sharp curves. These curves should be rounded with the car under perfect control and the horn should be sounded well in advance. Night driving over roads of this description is more picturesque and exciting than safe and restful. One interesting fact is that horses will hardly ever start to run away when confronted by the



General View of the German Motor Car Exhibition at present being held in Berlin.

the greatest advantage in case of trouble to feel that you were well within your rights.

It appears to be not so much the noise of the motor-car that frightens the horse as its "horselessness." In the dim equine intellect, the motor car doubtless savours of the supernatural and his fear is correspondingly unreasonable and uncontrollable. When passing a restive animal, the voice is very effective as a quieting agency. Such expressions as "Whoa, boy," "Easy now," said in a reassuring tone, seem to have great influence, and evidently relieve the situation of its supernatural element, as judged from the equine standpoint. Experience has shown that ordinarily the best manner in which to pass a standing horse headed in the same direction as the car is to cross to the extreme further side of the road, and drive by about as quickly as the law allows, but never faster. The car is soon past the animal and he will seldom start to follow the cause of his fright and rarely will back, because the car and its terrors are rapidly drawing away from him.

Passing a standing horse headed in the opposite direction, the animal has a full opportunity to see the car approach and work up his nervous tension, and rather more care is necessary. The quietest gear should be retained, if possible, and the car should be slowed down to its minimum—in every instance below the legal limit, and one should approach on the extreme opposite side of the road ready to throw out the clutch and switch off the ignition at the least exhibition of dangerous quietude.

In meeting a horse being driven by a capable driver, it is perfectly

acetylene lamp of a motor-car. The horse is evidently completely dazed and somewhat stupefied and ordinarily will not move. How dazzling the huge acetylene projectors of modern cars are to the occupants of horse-drawn vehicles we of the automobile fraternity can probably but dimly imagine. There is certainly such a thing as carrying too much light on a motor-car so far as the comfort of traffic in general is concerned.

The motor horn, too, may, considers an American writer, be perverted from a valuable instrument of warning to an agency of offence. It is intended to notify the drivers of other vehicles of one's approach, and not as an advertisement to the community at large that one has a motor-car. The excessive use of the horn has, in some districts, done more to create a feeling adverse to motor-cars than almost any other feature of the movement. The horn must, of course, be used in accordance with the law, but it is entirely unnecessary to go "tooting" through the open country to the useless annoyance of everyone within earshot. The horn's legitimate use is to notify traffic of the car's approach when otherwise it would be unaware of the fact. When about to pass a horse-drawn vehicle going in the same direction it becomes really necessary to warn the driver of the other vehicle by sound that one is approaching, as the sense of sight will not advise him. In fact, the horn is only intended to notify people of the vehicle's approach who would not be likely to learn of it through the sense of sight.

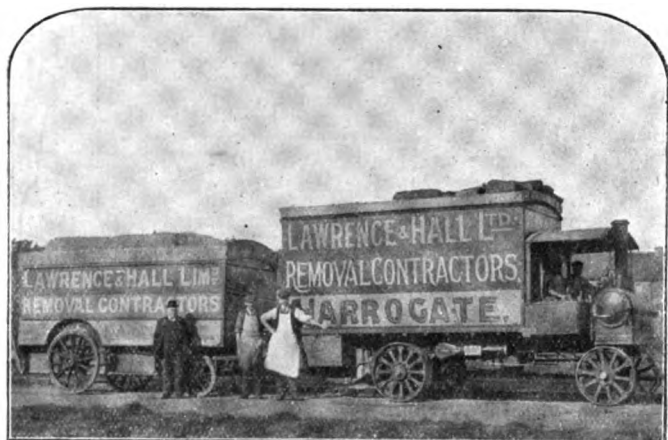
When meeting or passing trams when they are either moving or stopped, the automobilist should use especial care, as at any instant a

passenger may jump from the tramcar directly in front of the motor vehicle. The noise of the tramcar drowns the sound of the approaching automobile, and people do not always "look before they leap."

The driver of a motor-car, who always occupies the driving seat and has the support of the steering column, seldom realises, until he tries it, the discomfort which he imposes upon the occupants of the tonneau seats, in passing over crossings and gullies at a high rate of speed. A few rides in the tonneau, behind a speedy driver, will be likely to make him more considerate in this feature of his driving. In turning corners, too, the tonneau passengers have the full benefit of the slue which accompanies high speed under these conditions. The throttle and spark control of every car ought to be so adjusted as to admit of low speed being instantly realised when passing over "bumps" or turning corners, so that they may be traversed without unnecessary discomfort.

### RECENT IMPROVEMENTS IN ACCUMULATORS.

At a meeting of the Society of Engineers held on Monday last, a paper was read on "Recent Storage Battery Improvements," by Mr. Sherard Cowper-Coles, Assoc. M. Inst. C.E., M.I.M.E., M.I.E.E. The author first referred to the comparatively small advance that has been made with the lead accumulator of recent years, although the industry is of considerable importance, the annual monetary output for storage batteries in England and Germany being estimated at nearly £1,000,000, so that any economies effected in the life or manufacture of accumulators would be of great importance to the commercial world, irrespective of the new fields of application it would open up. The nickel iron cell was referred to, and a typical discharge diagram given as compared to a lead accumulator. Ignition cells for firing petrol engines were then



A Yorkshire 5-ton Steam Lorry which is used exclusively for furniture removing. In nine months the machine has travelled over 5,000 miles, carrying every journey a lift van and trailing a pantechnicon, as shown in the illustration.

considered, and their advantages and disadvantages enumerated as compared to the magneto machines, and figures were given showing that the motorist, in having an ignition cell charged, paid for the labour and convenience and not the electrical energy. Efficiency being of minor importance, it was maintained that primary batteries with reversible electrodes would be cheaper than storage batteries. The defects of the negative pasted plate were then considered, and the author stated that, in his opinion, the deterioration in the negative active matter was due to the fact that sulphate of lead is soluble in strong sulphuric acid. The author carefully traced the reaction which takes place in a negative electrode during charge and discharge, and showed that the concentrated acid within the plate is the medium for the continual transference of matter from the interior of the plate to nearer the surface, thus clogging up the pores and preventing the access of electrolyte to the interior. The author then gave an historical sketch of the accumulator as far as relates to cells of a compact nature, and to electrodes that retain a large quantity of the electrolyte within themselves, and therefore have not attenuated pores, but in which the active matter itself is not necessarily porous, under four headings:—1. Solid cells, in which access to electrolyte is not provided for. 2. Cells of the "multiple-unit" pasted-plate type, in which an attempt is made to deal with the electrolyte difficulty. 3. Cells without plates of the solid network type, in which the solidity of the cell and access of active matter to electrolyte are both dealt with. 4. Cells without plates of the solid network type, in which the electrodes consist of non-conducting networks covered with a film only of active matter. After directing attention to the various stages of development of the network type of cell, the conclusion arrived at by the author was that immediate future developments would be in the direction of electrodes which contain the electrolyte within themselves.

## CASES UNDER THE MOTOR-CAR ACT.

### SECTION 1.—RECKLESS DRIVING.

At the Sheffield Police Court, Herbert Walker was summoned on two counts, for driving "at a speed" dangerous to the public, and for driving in "such a manner" as to be dangerous to the public. Mr. H. L. Coath, who prosecuted, said that the cases were brought under Section 1 of the Motor Car Act of 1903, which made it an offence for any person to drive a motor-car on a public highway recklessly or negligently, or at a speed or in a manner dangerous to the public, having regard to all the circumstances of the case. The two informations were laid as a matter of precaution because the High Court had decided that "speed" and "manner" could not be included in one summons, and it was sometimes difficult to decide under which head the offence was committed. By that section of the Act a man might drive at eighteen miles an hour at one time and not commit an offence against the law, but a few minutes later the traffic on the same road might be such as would make driving at a considerably less speed an offence. After hearing evidence the Chairman of the Bench said the Bench felt that they must impose a penalty that would be a deterrent against such offences. The police had done quite right in bringing the prosecution. As there was nothing against the defendant before, they imposed a penalty of £10 including costs, or a month in default. Perhaps that would act as a warning to other reckless drivers.

Sir Thomas Lipton's chauffeur has been fined £5 and costs for reckless driving near Coventry. The motor-car, in trying to pass a wagon, overturned, and the five occupants were hurled into the road. A Fulham man named Mulholland, one of the passengers, was killed. Notice of appeal was given.

### SECTION 9.—THE SPEED LIMIT.

Eleven motorists have been fined at the Kingston-on-Thames County Petty Sessions a total of £61. One of the defendants was a lady, the speed of whose car was given as thirty miles an hour. She was fined £5.

Two motorists have been fined at Newmarket for exceeding the legal limit on race days when there was much vehicular traffic on the road.

In a charge of exceeding the speed limit brought against Mr. Theodore Conolly, at Kingston, the evidence of a speedometer has been successfully pitted against the police stop-watch. Superintendent Marks said by his timing the defendant covered a quarter of a mile at the rate of thirty miles an hour. Mr. Conolly said that when he was stopped his speedometer registered just over fourteen miles an hour. This was admitted by Superintendent Marks. The Chairman said that on the evidence given it would be impossible to convict, and dismissed the summons.

Eight cases of exceeding the legal limit were heard at the Shoreham Petty Sessions on Monday. The fines averaged £4 except in the case of a motor-cyclist, who proved an alibi. He (Mr. S. Smith, of 126A, High Street, Tonbridge), was summoned for exceeding the speed limit with a motor-bicycle along the Upper Shoreham Road, at Southwick, on October 18th. He denied the offence, and Mr. E. Digby Gates defended. P.C. Marsh said defendant's speed was about 27½ miles an hour, and when his attention was drawn to the fact that he had overrun the constable (P.C. Legg) stationed to stop him, defendant remarked, "Your friend thinks I can pull up anyhow." Cross-examined, witness declared he was practically certain the defendant was the man stopped. He took the licence from his pocket. P.C. Brett, who gave the signal of the approach of the defendant, said he could not say whether defendant was the man or not, as the bicycle passed him at a high rate of speed. P.C. Legg, who stopped the cyclist, said defendant was very much like the man; he very much resembled him, but witness could not swear to him. The defence was an alibi, it being declared that defendant lent his cousin his motor-bicycle. The licence was kept in a bag attached to the back of the machine, and it was surmised that, looking in the bag for a spanner or something, his cousin found the licence there and put it in his pocket. Defendant gave evidence, and stated that his cousin, whose name was Thompson, and who came from Sheffield, mentioned he had been stopped. When witness received the summons he had communicated with his cousin, but had not heard from him, and therefore consulted a solicitor. After hearing evidence as to defendant's movements on the day in question, the Bench considered the alibi proved, and dismissed the case, but application for costs was refused.

### THE DANGER OF OVERHANGING TREES.

LATE on Saturday night a motor-car accident occurred at Burscough, near Southport. A party of four gentlemen was driving from Wigan to Southport, and when passing along a narrow lane bordered by trees one of the rear passengers, Robert Smith, of Wigan, was caught on the head by an overhanging tree and knocked out of the car on to the roadway. The car afterwards swerved and went through the hedge into a plantation. Mr. Smith was found unconscious, in a pool of blood, and was taken to a cottage close by and attended to by Dr. Heald, of Ormskirk, but died an hour later without regaining consciousness.

## CLUBS AND ASSOCIATIONS.

### MOTOR UNION OF WESTERN INDIA.

MAJOR BARLOW having tendered his resignation of the hon. secretaryship of the Union, as he is about to leave Bombay, Capt. L. T. R. Hutchinson, I.M.S., has been elected joint honorary secretary in his place. It has been decided to take a room in a central position as an office and members' room. The annual subscription has been reduced, and in future Bombay members will pay Rs. 20 and Mofussil members Rs. 5 per annum. Preparations are in progress for holding Reliability Trials at Christmas from December 24th to 31st, and it is provisionally proposed, subject to the sanction of Government, to start from Bombay and to run through Poona, Satara, Kolhapur, Belgaum and Dharwar to Hubli, returning by the same route. First entries, Rs. 50, close on November 30th, and final entries Rs. 75, on December 15th.

The committee have had the subject of tolls under consideration for some time past. Various proposals have been circulated to members for opinion, and it has now been decided to address the Government with a view of securing the abolition of tolls throughout the Presidency.

### LINCOLNSHIRE MOTOR CYCLE CLUB.

THE formation of the local centres of this club is nearing completion. A strong centre has been formed at Grimsby with nearly forty members, and Mr. E. Strutt, 78, Oxford Street, Grimsby, is local hon. secretary. At Spalding another centre has been established, Mr. W. Pollin being the hon. secretary, and the Red Lion, headquarters. On Thursday, last week, Mr. A. W. Foster, the chairman, and Mr. Wilkinson, the club secretary, went to Grantham, and a meeting was held at the George Inn, when it was resolved to form a centre. Many names of intending members were handed in to Mr. A. J. Mettham, 19, Market Place, the hon. secretary.

### MOTOR YACHT CLUB NOTES.

THE club dinner has been fixed for November 20th at the Savoy; the Vice-Commodore, Sir Boverton Redwood, will preside. The membership of the club continues to increase in the most satisfactory manner. The two hundred and fifty mark has now been well passed, and at the present rate of expansion the new year should see a good three hundred on the register.

A joint meeting of committeemen of the club and of representatives of the Society of Motor Manufacturers and Traders took place on Friday, October 26th, when several valuable improvements for the Motor-Boat Reliability Trials of 1907 were suggested.

### LINCOLNSHIRE.

THE committee of the Motor Union having accepted the invitation of the Lincolnshire Automobile Club to hold the 1907 May meeting at Lincoln, the club has elected a very strong committee to arrange for the reception of the guests.

The new rules for the club competitions have been drawn up by the committee. Among the more important is that which bars those in the trade from any club competition; but trials will be arranged in which all the members may compete. It is also proposed that no prize shall be accepted in which there are contests restricted to any particular make of car, or appliance or material.

THE annual dinner of the Southern Motor Club will be held on the 13th prox.

THE application of the Council of the Cyclists' Touring Club to the Chancery Division of the Law Courts to change the nature of the club is to be opposed by a number of the members dissatisfied with the recent decision.

### ROAD REPORTS.

ESSEX.—The water trough on the Epping main road opposite the Robin Hood public-house, owing to its position on the extreme edge of the road, has for a long time been the cause of great obstruction to both the Epping main road and also to the cross road leading from Loughton to High Beech. The committee of the Essex County Automobile Club set to work and ultimately obtained the necessary consent of the various authorities for setting the trough back twenty feet on to the forest land, the cost of such removal being defrayed by the club. No time has been lost in making the long-desired removal, and many thanks are due to the Essex County Automobile Club by all users of this road. The club has also been instrumental in obtaining the erection of danger triangles, &c., in various parts of the county.

NEWMARKET.—At a meeting of the owners of houses and training establishments on the Bury road, Newmarket, the following resolution has been adopted with a view to representations being made to the Local Government Board in favour of a speed limit being imposed:—

"That the maximum speed limit for motor-cars and all vehicular traffic be restricted to ten miles per hour from the end of the Bury road known as the Bury Toll Bar, to a point on the Cambridge road opposite to the boundary of the extension to the Newmarket Cemetery."

SURREY.—The Roads Improvement Association have been approached with a suggestion that it should acquire Mickleham Cottage, which is situated in Mickleham Village, at the corner of Dorking and Leatherhead roads. This corner is generally regarded as the most dangerous corner on all the Surrey main roads. The price asked is £3,000.

NORTHUMBERLAND.—It is stated, on the authority of Mr. J. A. Bean, the county surveyor of Northumberland, that two hundred miles of highway in the area will have to be re-made to meet the requirements of the heavy motor traffic. The roads there have practically no foundation and only a thin coating of metal.

### NEW COMPANIES REGISTERED.

YORK MOTOR GARAGE.—£1,000. Agreement with Mr. H. W. Kirby. No initial public issue. First directors, Messrs. H. W. Kirby (managing director) and G. B. Johnston. 1, Thornton Place, York Street, Marylebone, N.W.

SELBY MOTOR AND GENERAL ENGINEERING COMPANY.—£25,000. To adopt agreements (1) with T. D. Staggs and A. Jarman, (2) with Staggs and Robson, Limited, and (3) with E. Perkins, and to carry on the business indicated by the title. First directors, W. Rasdall, W. F. Morton, T. D. Staggs, E. Perkins, S. Robson, E. A. Jarman, and W. H. Coates. 1, Minster Gates, York.

AVERY AND ROBERTS.—£500. Manufacturers and retailers of tools and motor accessories, &c. First directors, P. N. Avery and G. Roberts. 64, Stanley Street, Liverpool.

MOTOR UNION INSURANCE COMPANY.—£100,000. Minimum cash subscription, £50,000. First directors (not less than four or more than seven), Earl Russell, Messrs. W. B. Jessopp, G. P. Turner, C. H. Dodd,



The Adams-Hewitt Mail Phaeton which was awarded a silver medal for easy manœuvring in the recent Town Carriage Competition.

and W. R. Jeffreys. Trustees of Motor Union of Great Britain and Ireland may appoint two directors. £1,000 per annum, divisible. 1, Albemarle Street, W.

LANDAULET MOTOR-CAB COMPANY.—£75,000. To adopt agreements (1) with Newfoundland Industries, Limited, and (2) with the Farman Automobile Company, Limited, and to carry on the business of proprietors of motor-cabs and other conveyances, &c. First directors, Messrs. C. Kusel, A. Pereno, H. Jones, A. L. Bersey, J. B. Roberts, G. Baggs, and R. W. Shepherd. 41, Coleman Street, E.C.

MOTOR PANTECHNICS.—£100. First directors, Messrs. W. Tattersall and B. M. Goode.

MOTOR PATENTS.—£600. To acquire an invention relating to an improvement in the manufacture of a vulcanising apparatus, having particular reference to the repair of solid or pneumatic motor, cycle, or other vehicle tyres and tubes, and to adopt an agreement with Messrs. G. W. P. Johnston and C. H. L. Alder. 110, Cannon Street, E.C.

MORECAMBE MOTOR AND ENGINEERING COMPANY.—£5,000. First directors, Messrs. F. H. Simpson, F. E. Hollings, and N. Walker. Heysham Road, Morecambe, Lancs.

DE WILTON AND BROMFIELD.—£5,000. To adopt an agreement between Mr. E. de Wilton and Mr. E. J. Gully for the acquisition of certain rights and benefits, and to carry on the business of stors and repairers of motors and component parts, &c. 4, Broad Street House, E.C.

CROSVILLE MOTOR COMPANY.—£5,000. To take over the business of a manufacturer of and agent for motors and other vehicles, carried on at Crane Wharf, Chester, by Mr. G. C. Taylor, together with leasehold premises held by him at Crane Wharf. First directors are Messrs. G. C. Taylor and C. W. Catt.

## THE PUBLIC AND POLICE TRAPS.

THE Lord Chief Justice and Justices Ridley and Darling, sitting as a Divisional Court, on Tuesday, heard an appeal which raised a question of importance both to motorists and the public. In March last Mr. Little was summoned by the police for obstructing them in the execution of their duty, because he gave warning to motorists that they were being timed over a portion of the London Road, Croydon. Mr. Little took the summons to the secretary of the Motor Union, and the Union instructed counsel on his behalf, with the result that the magistrates dismissed the summons. The police appealed upon the point of law, and obtained a special case, on which the Divisional Court pronounced judgment on Tuesday in favour of Mr. Little.

Mr. Danckwerts, K.C., and Mr. Bodkin appeared for the police; and Mr. Horace Avory, K.C., and Mr. Hemmerde for Mr. Little.

Mr. Bodkin said the point raised was whether a person in a public thoroughfare, knowing that the police were exercising their duty by watching motor-cars in order to prosecute the drivers for going at an excessive speed, by giving a signal to the drivers which caused them to slow down over the police trap obstructed the police in the execution of their duty. The proceedings were taken under the amending Act of the Prevention of Crimes Act of 1881. The later statute provided that the provisions of the earlier one should apply to all acts resisting or obstructing a police officer in the execution of his duty. The police had measured spaces at distances of one furlong apart. While they were so engaged, Mr. Little, by signals and by calling out "Police trap," warned motor-car drivers of the presence of the police, and the drivers slowed down. The respondent was fully aware that the police constables were on duty, and the warnings were repeated by him on upwards of a dozen occasions for forty minutes.

Mr. Avory said that the case did not set out that one of the motorists was travelling at an excessive speed at one time, and it was found that the respondent was not in any way acting in concert with the drivers. Therefore he was an independent citizen doing what he had a right to do. The argument on the other side appeared to be that they must not deprive the police of their lawful prey.

The Lord Chief Justice, in dismissing the appeal and upholding the refusal of the justices to convict, said he was by no means satisfied that no offence had been committed, though he could well imagine that with proper allegations as to breach of the law and the proximity of immediate detection there might be an interference with the course of justice. He thought they would be straining the criminal law to hold that there was an offence in this case upon the facts. The matter was more one for the Legislature.

The other judges concurred, and the appeal was dismissed with costs.

## POLICE TRAPS.

AT Sturry, on the road between Canterbury and Margate, is a measured distance of, it is reported, only 110 yards. We shall be pleased to have definite information on this point, as well as upon the reason for the police activity against motorists, which seems to be growing in the county of Kent.

THERE is a fine twenty mile road from Chester to Whitchurch, and on the stretch from Broxton to Tushingham the police have a measured distance seven miles in length.

THERE are police traps in the Upper Shoreham road, Southwick, the Lancing road, and at Fishergate and Kingston-on-Sea, stoppage in which is a prelude to appearance at the Shoreham Police Court, where "Motor Days" are now a regular feature of the week.

IN prosecuting a motorist at the Penkridge Police Court the solicitor representing the Chief Constable of the county described a police trap on the Watling Street Road at Weston-under-Lizard. He said an electrical apparatus was set up over a measured quarter of a mile, with batteries at each end. The wires were set inside a wall which ran along the side of the road, and, by permission, through the grounds of the Rectory. At one end of the wire were stationed Inspector Tucker and Police-constable Wheatly, and at the other Sergeant Harris and Police-constable Willis. Before a car entered the section a warning signal was given, and when it had passed a certain point another signal was given, and the stop watches were set going.

A NEW police trap has been established in Surrey, extending over a distance of no less than five miles. The terminal points are the milestone just beyond Milford village—namely, the thirty-third from London—and the thirty eighth stone from London, which is also inscribed "6 miles to Liphook." The latter is just below the last shoulder before reaching the Devil's Punch Bowl.

THERE is a police trap in the Shooters Hill road, S.E. It is on the London road leading to Shooters Hill, Dartford, &c., and is located between the "Sun in the Sands" public-house and Blackheath. The trap is near a portion of the road which has just been laid with asphalt for the prevention of dust. The police are in plain clothes and are said to be not very accurate in their timing methods.

THERE is a police trap on Kingston Hill (Surrey) every Saturday and Sunday; the exact position is often changed. We believe this has been established in consequence of the complaint of one resident.

THE police in the Haslemere and Hindhead district are reported to be about to enter on a new and active campaign against motorists. The method adopted will be one with which the Automobile Association

patrols have long been familiar on the Portsmouth road. A flying column, or rather detachment of police, in both plain clothes and uniform, will rapidly manoeuvre on the roads in question, setting a trap, snatching up a car or two, and then, when the alarm has been raised, darting off to another point.

SCOTTISH motorists should beware of the police trap that has been established on the Kilmarnock road, about thirteen miles from Glasgow.

## PUBLIC MOTOR SERVICES.

MOTOR-BUSES are becoming familiar objects among the traffic of Edinburgh. The Edinburgh and District Motor Bus Company have been running such vehicles from Toll Cross to Craiglockart Station, and the service between the G.P.O. and Murrayfield is now being run in three half-penny stages. The Scottish Motor Traction Company, which previously ran motor-buses to Corstorphine, Cramond, and Loanhead, have instituted a direct service from the Waverley Station to Colinton Road via Princes Street, Lothian Road, and Tollcross.

FIXED stopping places are to be allowed in Birmingham for the motor-buses plying for hire in the city.

THERE is a probability of the Ayr Town Council running motor-buses in the near future.

THE Great Western Railway Company contemplate a service of motor-buses between Aberystwyth and Aberayron.

THE motor-bus that has been seen on the roads about Chichester during the past summer has now been withdrawn, the reason assigned being the bad condition of the roads.

A COMMITTEE has been formed, with Mr. R. W. Bates, of the Alfreton Ironworks, as one of the moving spirits, to establish a motor-bus service in the Alfreton district.

## MOTOR-BUS DRIVER'S DUTIES.

THE first case dealing with the position occupied by motor-bus drivers in relation to the Employers' Liability Act was heard at Brompton on the 1st inst. Henry Legge, of 54, Colehill Lane, Fulham, a mechanical bus driver, sought to recover damages from the London and District Motor-Bus Company in respect of personal injuries. According to plaintiff's story, he was about to drive his motor-bus from the depot at Farm Lane, Fulham, when the starting handle, of which he had previously complained, failed to release itself automatically, as it should have done, and spun round at about 900 revolutions a minute, owing to the engine starting. The handle struck Legge's arm, and broke it so badly that the bone was within an ace of penetrating the skin. Some idea of the nature of a motor-bus driver's business was to be gathered from a list of the mechanical contrivances he daily had to control. The list was put in to prove that Legge was employed in manual labour within the meaning of the Act. His left foot controlled a clutch and a foot-brake, his right a throttle valve brake, and his right hand a hand brake. The left hand manipulated three levers—two for the speeds and one for the engine release—and in addition to this he had to look after the steering wheel, a lubricator, and an oil pump. He travelled seventy miles a day, and had when necessary to tighten bolts and adjust parts. For the defence it was contended that the buses were overhauled every day, and that the mishap to plaintiff was a pure accident. The judge pointed out that a horse-bus driver had been held by the Appeal Courts to be outside the statute, and it was for the jury to consider whether the duties which plaintiff had described brought him within the Act. The jury found that the plaintiff was a manual labourer within the meaning of the Act, and awarded him £150 damages. They added that, in their opinion, negligence and want of proper supervision had been proved. His Honour reversed this decision, and entered judgment for the defendants, although he confessed that he would have been with plaintiff in the contention that he was employed in manual labour within the meaning of the Employers' Liability Act. He did not consider negligence had been proved, and had only heard the jury's verdict in order to save a re-hearing of the case if a higher court sent it down again. Stay was granted in view of an appeal.

## TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.



# THE Motor-Car Journal.

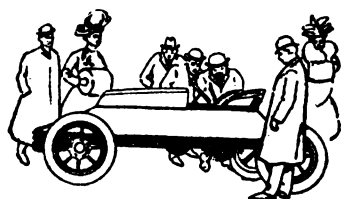
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## COMMENTS.



**W**EDNESDAY last was an important anniversary in connection with the automobile movement, and although we anticipated the event by the publication of our Anniversary Number on the 27th ult., we may point out the appropriate celebration of the day by the Motor Union. That important body held a national conference

to discuss the future and an anniversary dinner to pay a tribute to the past. Certain it is that the progress has been steadily progressive, the occasional spurts and frequent set backs not having seriously affected the ultimate result. Signs are everywhere apparent that the industry is now becoming recognised as one of the standard branches of the engineering trade, and companies and firms engaged therein are generally acknowledged to be of substantial character. This is a very hopeful sign of the times, and all will pray to be free from the wiles of such financiers as those whose operations ten years ago led to many vain hopes that were never realised.

### Inspector Jarrett Again.

REIGATE, Inspector Jarrett and Mr. Staplee Firth are a trio of names that have frequently figured together in recent years. They were again in juxtaposition on Saturday—much to the chagrin of the inspector and greatly to the satisfaction of the solicitor, whose persistent questionings of police officers have so often proved disconcerting to official witnesses. Mr. Paul Brodtmann, who is well known in the tyre world, was summoned for exceeding the legal speed limit by the rate of seventeen miles an hour. In the course of the hearing Mr. Staplee Firth asserted that it was well known that Inspector Jarrett had boasted of his *modus operandi* in obtaining convictions when at Guildford and at Ripley, and the magistrates at those places had dismissed a number of cases, as his evidence could not be relied upon. At Ripley, for the last two years, there had been none or very few prosecutions. After Inspector Jarrett left that district cases were dropped, but it now seemed as if the inspector had commenced again in Reigate. The case against Mr. Brodtmann was dismissed, as well as two others, the sensation of the day culminating in Mr. Firth making application for a summons against Inspector Jarrett for threats and assault. He was informed that the proper time to make such an application was at the opening of the Court, and promised to renew the application at the next Court.

### Technical Training.

DURING the past year, so full of commercial success, the directors of the Daimler Motor Company (1904), Ltd., have not omitted to look ahead, and Mr. E. Manville, who succeeded Sir Edward Jenkinson as chairman, told the shareholders at the meeting last week that the Board had come to the conclusion that the progress, not only of their own business, but that of the automobile industry generally, depends on the technical training of young men anxious to enter the industry.

Hence it had been resolved that such a system of training should be inaugurated as would compare with the other methods of the Daimler Company in its thoroughness. This scheme has been successfully started, the fundamental principles of which involve a general technical education under the supervision of a competent officer of the company, as well as detailed instruction in design and manufacture, whilst at the same time no profit is made out of the pupils, the charges inflicted being only such as to cover the actual expenses to which the company is put. Such a system, if widely and wisely adopted, will do much to provide the industry with a supply of competent men.

### The Motor Union.

ALREADY there is competition for the honour of receiving the Motor Union next year in many of our leading provincial towns. Lincoln has just approached the motorists' organisation; the Derby club has been considering the question of giving an invitation; and now the Blackpool Motor Club have put in a claim for a seaside gathering, their town to be the venue. From the point of view of emphasizing the pacific intentions of motorists, these peripatetic assemblies have been admirably conceived and successfully carried out in Chester, Bath, Harrogate, Nottingham, and other centres. Equal utility should follow next year's meetings, and we would suggest that all likely invitations should be obtained early, so that acceptance or otherwise can be made on some kind of plan to secure a wise disposition of influence throughout the country.

### Motor-Car Imports and Exports.

THE importation of foreign-built cars into this country continues to show a steady increase. According to the returns now available no less than 380 cars, valued at £189,666, were imported during last month; parts were responsible for a further sum of £168,589, giving a combined total of £358,255, which compares with only £188,927 in October, 1905. As regards the imports during the first ten months of the current year, these have amounted to 5,201 cars, worth £2,199,199, and parts to the extent of £1,598,686, the aggregate of £3,797,885 contrasting with only £2,887,178 in the first ten months of last year, or an increase of roundly £910,000. Turning now to the exports of British motor-cars and parts, these, during October last, amounted to £105,399—the largest so far recorded in any one month. For the first ten months of 1906 the shipments comprised 1,021 cars, valued at £368,519, and parts estimated at £247,146, the total of £615,665 representing an increase of £256,018.

### The Institution of Automobile Engineers.

AT the inaugural meeting of the Institution of Automobile Engineers, which will continue with headquarters in London the work which the Motor and Cycle Engineers' Institute has been doing at Birmingham, Colonel Crompton, the president, explained the objects in view. He said that the old Institute had done good work at Birmingham for many years in the reading and discussing of papers, but it was felt that as London was the centre of everything, including the automobile

movement, the headquarters of an institution dealing with this new profession ought to be in London. It was hoped to include in the Institution all those connected with motor engineering, and it would be the Council's aim to arrange for the discussion of the questions of the hour as they turned up. There could be no doubt, he added, that the profession provided an opening for the exercise of the highest talents of the mechanical engineer. The rules provide that candidates for admission as members must be persons not under twenty-five years of age who have occupied for at least four years "a responsible position in the practice of automobile engineering."

#### Motor-'Bus Side Slips.

THE attention of the A.C.G.B.I. having been called to the many accidents which have been caused of late by and to motor-omnibuses on account of the slippery state of the streets, it has decided to inaugurate a competition for the purpose of testing the many devices now on the market, and so determine their relative merits. Everyone will feel that



Miss Constance Fletcher, of Sutton Courteney, near Abingdon, at the wheel of her 8-h.p. M.M.C. Car.

Miss Fletcher is an enthusiastic motorist, commencing her career with an Oldsmobile; a Deauville quickly followed, while now she has, in addition to the M.M.C., a Century and a J. and B. landaulet. A month or so ago she was instrumental in forming the North Berks Automobile Club, which already has forty-eight members, including many of the leading motorists in the county.

this is a matter which demands serious and immediate attention. The month of January next has been chosen for these tests, and regulations are now being drafted and arranged.

#### Future Legislation.

THERE was a good representation of both Houses of Parliament at the new Ritz Hotel, Piccadilly, London, on Monday, when Mr. Frederic A. Coleman entertained a party of friends to meet Mr. Walter White and to enjoy his hospitality. Talking to one of these M.P.'s we gathered the impression that there is a feeling among the motoring members on the Government side of the House that reasonable views are likely to be taken with regard to the forthcoming legislation. Many inquiries have been made from official quarters as to the views of motorists on taxation and the intricate problems associated with licensing and registration, and we need have no fear that hasty and ill-advised legislation will be attempted. There is no doubt that the Local Government Board are prepared to accept

nearly the whole of the suggestions of the Royal Commission. and that the report of that body will not only be the basis but practically constitute the whole structure of the Bill, for the early production of which there seems no great anxiety.

#### The White Dinner.

REVERTING to the dinner, mention of which introduced the previous note, we would refer to it as a pleasant introduction to the serious business of the season. Although the 30-h.p. White steam car for 1907 is now in this country, nothing was heard of it on Tuesday, the reunion being entirely of a social character. Supporting Mr. Coleman were Earl Russell, Lords Hothfield and Blythwood, Sir Henry Norman, M.P.—who received congratulations on his knighthood—Sir Martin Conway, the Hon. Arthur Stanley, Messrs. R. C. Lehmann, Stopford Brooke, C. D. Rose, and H. H. Raphael, M.P.'s (relieved from the tedium of attendance at the House), and many other motorists of national fame. Mr. Walter C. White, whose firm are responsible for the White-steam car, was among the guests, all of whom were initiated into the Order of the White Carnation on entering the elegant dining room where harmony and mirth quickly carried us to the morning hours. Two toasts only were given—the King of England and the President of the United States. As at the Fiat dinner, trade topics were tabooed—an innovation that did not detract from the delight of the sixty gentlemen who were favoured with invitations.

#### Noise and the Motor-'bus.

APPARENTLY the motor-'bus has few friends. Motorists who own cars which are quiet and inoffensive look askance at the Penny-a-Time-Motorist, and the Commissioner of Police has been construing his powers in a way that has secured the locking up of hundreds of chassis until such times as less irksome methods prevail. The industry is certainly being harassed in a very tantalising fashion, and makers and designers are being much worried during the progress of their work by fear of refusal of licences when the 'buses are finished. Just as, in the early day of cars, every minor mishap to a car was magnified into a great disaster, so the troubles of the heavier vehicles are now exaggerated even by the Press of cities like Birmingham—where our confreres in the journalistic world ought to know better. In London, Sir Theodore Martin is becoming the leader of the onslaught on motor-'buses, and has inaugurated his presidency of the Street Noise Abatement Committee with a diatribe on "The Noise Fiend of London," delivered before the Medical Society of London on Monday. Not only are 'buses noisy, but "the stench that came from these vehicles was worse than ever came from the infernal regions." We confess we cannot enter into a disputation with Sir Theodore on that point; but with regard to his other fears would counsel him to patience.

#### Trading by Clubs.

EVER and anon the old question as to the association of trade matters with club affairs recurs in some new phase. The presence of commercial firms in events organised by amateur organisations for their members is a knotty point that has cropped up in some societies, and now the association of the Motor Union with the insurance business seems to have given a reason for the adoption of the following resolution by the committee of the A.C.G.B.I. at its last meeting: "That, in the opinion of this committee, the undertaking of or participation in commercial business by this Club, or by any affiliated union, society, or club, which is not essentially a trade organisation, is not in accord with the objects of this club, and is, therefore, to be deprecated and discouraged." We have italicised one word which justifies the assumption that the new insurance scheme of the Motor Union has called forth this official ultimatum. Possibly we shall next hear that the committee of the Motor Union has resolved that the publication of a newspaper and the

canvassing for advertisements constitutes participation in "commercial business," and calls for serious consideration by the A.C.G.B.I., whose official journal was once a bone of contention among members of that organisation.

### The National Conference.

WEDNESDAY's gathering of automobilists at the Hotel Great Central, London, was no ordinary affair. It was really a great national demonstration in favour of an united policy to secure a reasonable attitude being adopted by Parliament with regard to motorists. More than eighty motor-cars, clubs and organisations were represented, while the influential character of the conference was increased by inviting those members of the Legislature who are also adherents of the Motor Union. No fewer than twenty-four resolutions were submitted to the meeting, which then passed to the consideration of the suggestion of Sir John Macdonald, that simultaneous motor-car demonstrations should be held throughout the country next spring to set before the public the automobile policy. Dr. Hele-Shaw also proposed that there should be an appeal to the Local Government Board against the imposition of impracticable conditions on public service vehicles by local authorities. In our next issue we shall fully analyse the deliberations of the conference

able, but it was not unknown before the advent of the motor-car. Could the vehicle be so improved that it would not raise dust, or at all events raise it in less quantity? Any practical and efficient suggestion to secure that result they would be very glad to embody in their cars, but the more obvious remedy was that roads should be so made that they did not yield dust. Many prominent motorists had expressed their willingness to pay an additional tax provided that the money was applied in improving the roads; and they had suggested that this object would best be carried out by the establishment of a central authority to take charge of the main arteries of traffic throughout the country. That was not only a practical but a generous proposal, which the Government ought thoroughly to consider before they launched further legislation.

### A Quartette of Problems.

REFERRING to more technical matters the chairman of the Humber Company had a quartette of present difficulties to enumerate in an optimistic vein, confident that they will shortly cease to make difficult the progress of the motorist. A better study of the distribution of the weight of the car may do something to assuage the terrors of side-slip, while the worries of change speed may be minimised by a new invention now



The French Reliability Trial for Voiturettes.—The Competitors at the starting point. (See page 810.)

so that the results may be seen at a glance. Briefly stated, they may be said to follow the recommendations of the Royal Commission.

### Our Opponents.

PROBABLY had some of the members of the Highways Protection League been shareholders in the Humber or Daimler companies, and present at the meeting of either concern, they would hold a revised view of the road and its problems. As Mr. Edward Powell observed at the Humber gathering, it is really a marvellous thing that a number of well-intentioned people should now be agitating for a reversion to the retrograde anti-automobile policy of more than ten years ago. Mr. Powell rightly observed that the fault of the present law was that it drew no distinction between a crowded thoroughfare and a deserted moorland road, while the motorists in some districts were subject to a benighted Bench and an unreasonable police. The driver of a horse-drawn vehicle might pass along the road at any speed he liked so long; as he did not drive to the danger of the public, and that was all that they asked for automobilists. The roads should be adapted to the vehicles as the natural and primary remedy. The dust nuisance, he admitted, was intoler-

under test. Several makers are also experimenting with a view to ascertaining whether auxiliary wheels or removable rims will provide the better remedy for the delays caused by the replacement of punctured tyres. And, lastly, Mr. Powell is sufficiently optimistic to believe that the device for starting the engine from the driver's seat may become general, and so add to the convenience of the motorist to a very great extent. In such ways as these lies the acceleration of the popularity of the motor-car.

### An Architect on Motor Houses.

ARCHITECTS are taking an interest in the motor-car, their services being now freely requisitioned in the erection of suitable houses for the accommodation of motor-vehicles. A paper on the subject has been read by Mr. M. G. Pechell at a meeting of the Architectural Association, in which he recommended the adoption of the following sizes:—If a depth of 6 ft., plus the length of the car, is taken, a dimension of 18 ft. to 24 ft. might be made a maximum; a good working width being 10 ft. to a fair maximum of 14 ft. This is for the single car house. Where two cars are kept a width of about 24 ft. is desirable, if working benches are fitted in the house. Less can be given where working benches are relegated to a special workshop, and in this case a width of 26 ft. or upwards will accommodate three cars.

With regard to the pit, he said that where a straight run in can be secured this may be fitted with a raised wooden curb, having a light cover flush with top of curb. In other cases, a flush pit is preferable, with a cover heavy enough to take the weight of the car. The pit should not be shorter than 6 ft., up to about 9 ft. as a maximum, with a width of 2 ft. 6 in. to 3 ft., and a depth of 3 ft. 6 in. to 4 ft. 6 in., the shallower dimension being that more often used. A rebate in the wall at each side, about 3 in. deep, should be formed to take the cover, which is in short sections. Permanent steps formed in brick are the best. Brick sides and a cement floor should be employed.

#### Criticisms Invited.

ON this point of motor-houses Mr. F. Keynes Purchase, F.S.I., has also been enlightening his fellow motorists. He is of opinion that 17 ft. is not quite deep enough, but 16 ft. is probably a little too wide. Some of the longest cars now measure 19 ft. over all, and when a house of this sort is being built it is as well to provide for any contingency. Therefore Mr. Purchase suggests 20 ft. as being the proper depth. Taking the outside width of the car at 6 ft., 2 ft. should be allowed on each side, which will be 10 ft. If this is made 12 ft. or 13 ft., there is room for a small working bench. In such a house this expert has expressed the view that a pit may well be dispensed with. If the front of the car is lifted from the ground with pulleys and some supports put under the front wheels, most of the working parts can be got at; but if any heavy repairs are contemplated a pit becomes a necessity. It should be about 2 ft. 10 in. wide, and any length from 4 ft. upwards (4 ft. or 5 ft. is a good length), and 4 ft. deep. It is best to have it deep enough, as if one is too low down a box or platform can always be used to stand upon. The pit should be covered with strong boards about 2 in. thick, and in convenient lengths for lifting. In a 5 ft. pit about three lengths would be convenient. Having thus set forth the opinions of two architectural experts, we now invite the views of our readers on the subject.

#### Mr. Hall, K.C., on Commission.

MILITARY men like Lieut.-General Sir Charles Knox, K.C.B., and legal luminaries headed by Mr. Marshall Hall, K.C., gave encouragement to the Automobile Co-operative Association, Ltd., at its first annual dinner, last week, at the Criterion Restaurant, London. Mr. Hall voiced the toast of "Success to the Association," eulogising its aims and praising its methods. As a motorist he urged consideration for others, and denounced anything which savoured of secret commissions in the motor-car business. These commissions, he said, should be disclosed and everybody should know the discount that was allowed. The Association was anxious to help the manufacturers who were satisfied with a reasonable profit and were willing to give good material in their productions. It might be well to have an expert to see the quality of the materials used in the construction of cars. Good drivers, too, should be encouraged and co-operation established among motorists of all degrees. Sir Wroth Lethbridge, Captain E. du Boulay and Dr. Stuart Welles also spoke.

#### The Automobile a Factor in National Prosperity.

OUR Correspondence Columns are open to those of hostile views towards the motor-car as well as to advocates; for it is well that upholders of the automobile movement should know the worst that can be said against them as well as all the good points in their favour. Mr. Harris, whose letter appears in another column, seems to have only a parochial outlook. It may happen that in some places houses have become difficult to let owing to the fact that the local authorities so neglect the roads that there is always a quantity of dust about to be churned into the air by any passing vehicle. But the motor-bus has revived some neighbourhoods, and by taking people a long way in a little time is merely transplanting residents from one district to another. Near Bournemouth there

is an estate the development of which long ago depended on its motor-car service—one of the first of the kind; and throughout the country there are many districts that have been made more prosperous by the advent of the new locomotion. The matter cannot be regarded from a merely local platform. It is essentially one to be looked at from the national aspect, and those who are prepared to do so recognise in the automobile—whether in the form of car or bus or heavy vehicle—a new factor in the national welfare. It may have led to a kind of senile decay in some industries, but what of the impetus, tangible and substantial, it has given to others?

#### Varying Speed Limits.

SOMETHING of the difficulties that would arise in this country were the powers of local authorities unduly extended with regard to automobile regulations is presented in the United States, where the differences in the laws of the various States often leads to confusion and sometimes to trouble. Thus in Pennsylvania the index numbers on cars have to be five inches high; in most other States a height of three inches suffices. The varying speed limits, however, present only the greatest difficulty as well as the nearest approach to what would happen in our English counties if their councils were allowed to settle such questions of pace. Some of these restrictions of speed are as follows:—Missouri, 9 miles per hour; in Washington, 4 m.p.h. at crossings, 12 m.p.h. in congested districts, and 24 m.p.h. in the country; in South Carolina 6 m.p.h. at intersections of the road, otherwise 15 m.p.h. in Oregon, 8 m.p.h. in cities, and in the country when approaching within 100 yards of vehicles drawn by horses; outside such limits a speed up to 24 m.p.h. is permitted. These few examples gleaned at random from a host of regulations and inter-state laws, are sufficient to indicate the undesirability of allowing the power to settle speeds, &c., to be taken out of the hands of the Legislature, or some central authority to which it can rightly delegate its powers.

MR. G. GOLDSCHMIDT, the well-known motor accessory agent, of 333, Green Lanes, Finsbury Park, N., has opened new premises at 61, Cleveland Street, Mortimer Street, London, W., where he will have a complete range of lamps, horns, sirens, etc., on view during the Olympia Show.

A MEETING of motor-car agents will be held at Olympia on Wednesday next at 7 p.m., having been convened by Messrs. Mann, Egerton and Co., Ltd. Probably something will be said with regard to the restrictive policy of certain makers as to refusing agents the right to adopt their own means of publicity so far as exhibiting cars to likely customers is concerned.

THE new works of the New Motor and General Rubber Company, Ltd., are at 374, Euston Road, N.W.

A CENSUS was taken of the motor-cars passing over the level-crossing at Reigate Railway Station on Sunday afternoon. In three hours the total number of cars was sixty-one, of which thirty-five had been registered in London.

THE motor-steam fire engine now at the Northcote Road (Battersea) fire station, is to be sent to a new fire station at Eatham Road, Lee, while more than a score of the men will be efficient chauffeurs. Motor appliances will also be provided for the station now approaching completion at the corner of Cannon Street and Queen Victoria Street, E.C.

BRIEF speeches were made at the dinner of the Daimler Motor Company on Tuesday, Mr. Edward Manville observing that the close of the first decade of practical automobilism had witnessed the vastly increased success of the Daimler Company. He paid a tribute to the ex-chairman of the company, Sir Edward Jenkinson, and referred to the portrait of him which the shareholders had had painted by Professor von Herkomer.

MAJOR LINDSAY LLOYD has retired from the Army, and from the secretaryship of the Mechanical Transport Committee of the War Office. He has joined the board of Elastes, Ltd., which has been formed to manufacture a new rubber substitute, and will act as manager of that company.



## MOTORING IN SPAIN.

THE motor-car is responsible for quite a new literary development, viz., the novel that is at once guide-book and fiction. Mr. and Mrs. C. N. Williamson are the leading exponents of the new art, and their latest work, "The Car of Destiny," is one of the best examples of novel writing up-to-date. Naturally, in such a volume, events move fast and furiously, with high-powered cars driven to keep pace with each other impelled by Love, which never falters, but running on tyres that sometimes trouble. Fortunately they wear well; and when they do burst or puncture something of an opportune character happens to atone for the misfortune of the car.

"The Car of Destiny" is a very topical volume, in which the King of Spain and his bride are introduced with more than poetic licence, and their personalities associated with heroes and heroines in quite a familiar way. The plot of the story is slight, but the incidents woven around it are truly terrible and often difficult to imagine as possible, even in Spain, where the automobile is quickening the pace of national improvement. There is, however, some good descriptive writing occasioned by the automobile chase of the Duke of Carmona by the Marquess de Casa Triana. Thus we have an account of the pass between Old and New Castile—a pass "crowned by a lion on a granite pedestal," and then, continuing the journey:—

The grey car took the lead again, and at a turn of the road it seemed that the whole world lay at our feet; yet it was not even all of Old Castile, so vast a country is my Spain. Far as the eye could travel spread the fair land, green with the tender green of spring, yellow with patches of golden sand, darkly tufted with woods; struck with shafts of flying light, ringed in with ethereal blue. Nothing could steal from me this illuminated missal of memories, and were I to be banished tomorrow I should have Spain to keep in my heart, I said, as we rushed down the steep winding way that serpentine along the southern slope of the Guadarrama. A break-neck road it was, but nobly engineered, twisting back upon itself in many coils, letting us fly with the speed of a bird to lower levels; and it seemed that scarcely had we sunk over the brink of the mountain than we were at the turn on the right which would lead to the Escorial. Straight before us, rising out of the bare mountain-side, and seeming a part of it, towered and stretched a building vaster than any I had seen even in the limitless spaces of dreamland. Were it not for its cold regularity I should have thought myself approaching another desert of giants who made toys of monoliths and obelisks; but these appalling domes and towers could be the work of man alone. There was no toying here; all was forbidding and gloomy, for this was the Escorial—immense, sinister, as if fashioned from the grim product of those iron mines which gave its name.

By playing hide and seek with the chauffeur, who when disguised as the owner of the car, was left behind to suffer durance vile, while his master, oily and begrimed, continued his love-sick chase—additional interest is given to the story. Much of the pleasure of Continental travel depends upon the character of the driver; in this case the particular and peculiar merits of the chauffeur are responsible for some of the main diversions of the people depicted in the volume.

Now I may as well explain that Peter Ropes is no common chauffeur. He is the son of the old coachman who served my father for many years in England; was groom to my first pony; went abroad with me as handy man; was with me through most of my adventures; when I took up motoring, volunteered to go into a factory and thoroughly learn the gentle art of chauffeuring; and at this time understood an automobile and loved it as he understood and loved a horse; he is of my age almost to the day, and I suppose will be with me in some capacity until one of us dies. He has a brown face, which might have been carved from a piece of oak, the eyes of a soldier, and never utters a word more than he must.

"You said I could go to the *pelota* this afternoon," he continued. "When I came back I went to the garage, and found a strange chauffeur examining your Gloria. I stood at a distance, behind the King of England's car, and watched what he would do. M. Levavasseur, the proprietor of the garage, came in just then, and I inquired in a low voice who the fellow was. He didn't know; but the man has asked for Mr. Trevenna's chauffeur, saying, when he heard I was out, that he was a friend of mine. I gave Levavasseur the hint to keep quiet and got out of the way myself. Presently the chauffeur walked over to Levavasseur, and said, in French, that he wouldn't wait any longer."

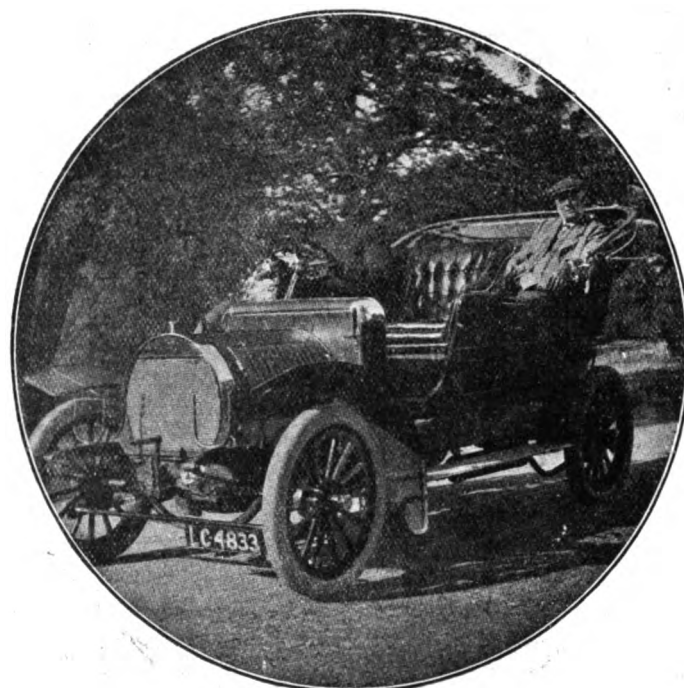
"Well, what then, Ropes?" I asked.

"He went away, and I went after him. He didn't see me, and I don't believe he would have known me from Adam if he had. He stopped at another garage, and I thought best not to go in there. But I waited, and after a while a very dark, tall gentleman, who looked Spanish, walked into the garage. Five minutes later he and the chauffeur came out together."

What happened then must be learnt from the book itself. Suffice it to say that a stern chase ensued. But, alas! Guides are sometimes treacherous when rival lovers are about, and the way is only made smooth to the one whose gifts have the most golden hue; and so, wanting to go to Manzanares from Ciudad Real, one set of motorists asked for advice from a native who was suspiciously handy.

How the wily patrician of Spain, in love with the fair friend of the King's fiancée, motored through towns and villages pursued by his native rival—an exile from the land, but a welcome suitor to the lady who was being whirled from place to place with all the speed of the modern car, is told with vim and power. The interest of the writing is enhanced by the photographic illustrations, some of which we shall reproduce in a later issue by the courtesy of the publishers, Messrs. Methuen and Co.

We soon lost sight of gay Madrid, say the authors, with its domes and spires clear cut against white mountains, to run through a green landscape of growing corn and grape, vineyards framed for our eyes with distant hills flaming in Spanish colours, red and gold. Colonel O'Donnel pointed out an isolated elevation which he said was the exact centre of Spain, and, of course, there was a convent on its top. Every other hill had a ruined watch tower, brown against a sky of deeper, more thoughtful blue than Italy's radiant turquoise. Men we met rode upright as statues on noble Andaluz animals, grand as war horses in



Sir Edmund Verney in the 16-24-h.p. Spyker Car supplied to him by Mr. G. H. Wait, of Leicester.

mediaeval pictures; but some did not scorn to turn abruptly aside at sight and sound of our motor, to go cantering across fields to a prudent distance. Carters with nervous mules held striped rugs over the creatures' faces till we had passed; donkeys brayed and hesitated whether to sit down or run away, but ended in doing neither; yet no man frowned. It was a spin of but fifty miles from Madrid to the olive plantations (the first I had seen in Spain) near Toledo, but the road surface was not of velvet, and we had often to slow down for animals who hated, because they did not understand, that most faithful and loyal of beasts, the automobile. Therefore it was close upon one o'clock when the noble old town rose in wild majesty before us on its granite horseshoe hill, girdled by the dark gold bed of the Tagus.

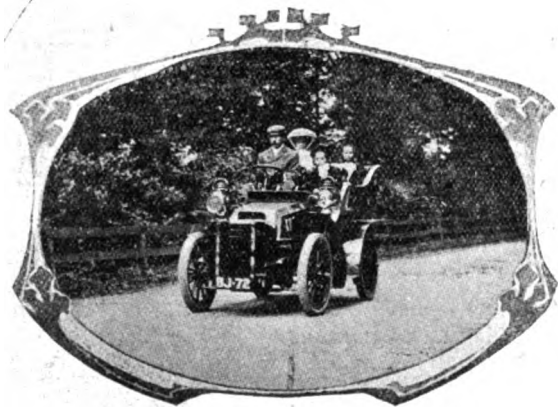
Altogether the book is one in which many a motorist who has enjoyed travel in Spain will revel, while it will enthrall others to a desire to make the journey. We have little insight into the ways and customs of Sunny Spain, although here and there the touches of hotel life add utility to the pages; but it affords a pleasant guide to the roads and places while dipping deeply into the lore and history of the country. Certainly a delightful hour or two can be spent with "The Car of Destiny."

FIVE motorists were each fined £6, at Knutsford, for exceeding the speed limit when on their way to the Blackpool meeting.

## A TOUR FROM ALDEBURGH, ON THE EAST COAST, TO ABERYSTWTH, ON THE WEST.

I HAVE just completed the above tour on a 10-h.p. Turner-Miesse steam car, and it is by far the most enjoyable trip I have had. I started from Aldeburgh with my wife and daughter on October 14th, and worked across country to Stowmarket, and thence through Bury, Newmarket, and Cambridge over splendid roads to Huntingdon and Kettering, where we stopped for the night, proceeding the next morning through Market Harborough, and, by mistake, on to Kibworth instead of Kilworth. We had an awful run across country, but eventually regained our proper course at Lutterworth, and thence to the old Roman road, Watling Street. This was in splendid condition, and we made up some of our lost time, passing through Atherstone and Fazeley, where the road was packed with horses, sheep, pigs, cattle, poultry, and thronged with people. It was market day, and I have never been in such a pandemonium in my life. However, we soon worked our way through, and went on to Wyrley, passing several coal mines on the way. Here we turned off Watling Street and ran into Wolverhampton, where Messrs. Turner's works are, and left the car for the night in its native place.

We left Wolverhampton on the following Wednesday afternoon, and, the roads being very greasy, took it steadily through Stourbridge, Worcester, and climbed over the great



The Author on Turner Miesse Steam Car.

hill at Malvern known as the Worcestershire Beacon. The car went up this in splendid style without a halt anywhere, and we stopped for the night at the British Camp Hotel, some little way down the other side of the hill. It rained hard the next morning, but we got away about 11 a.m., passing through Ledbury and Hereford to Hay. Here we entered Wales, and travelled along the Wye Valley through Builth and Newbridge to Rhayador amidst the most lovely scenery imaginable and on excellent roads, the gradients being quite moderate. We met several herds of sheep and oxen on the way, and it was most interesting to see the intelligent manner in which the sheep dogs drove them past us.

Leaving Rhayador we went through Llangurig, still following the Wye, and there was a lot of up-hill work till we reached Steddfa Gurig, some 1,300 or 1,400 ft. above the sea. From here there is a splendid run down, which had to be taken steadily, as the road was loose in places. Just by the Dyffryn Castle Hotel the road forks, the right hand leading direct to Aberystwith, whilst the left also leads there, but *via* the Devil's Bridge. On this latter road there is a water splash, which I am told is usually not very deep, but on this occasion the water was dashing across in such volumes that I thought it best to go by the direct road and to approach the bridge from the Aberystwith side. It is a very quaint structure, consisting of three arches one above the other. The waterfall here and the view generally is beautiful almost beyond description—in fact, the whole way from Hay is one continuous panorama.

We left Aberystwith, and had to climb a very long and stiff hill, which the motor took splendidly, and went *via* Bow Street (which sounded quite familiar) and Dovey, past some slate quarries to Dolgelly, thence, *via* Bala, Corwen, and Llangollen, to Shrewsbury. This, considering the hills and the numerous stoppages to admire the scenery, was a good day's run. Leaving Shrewsbury, we came on to Watling Street once more, soon, however, leaving it and going through Lichfield, Burton, and Derby to Nottingham. Here we stopped, as it was very foggy and raining fairly hard. The next morning we ran through Grantham, Sleaford, Swineshead, Long Sutton, to King's Lynn and Hunstanton, our last day's run being through Fakenham, Norwich, Beccles, and Saxmundham.

The car, which I have had for over a year without spending a penny in repairs, ran splendidly throughout and took every hill without a falter. The distance altogether was about 800 miles, but previous to this the vehicle had run over 4,000 miles without a stoppage or breakdown of any sort. The tyres, which are Continentals, have not been pumped up for months and are still as hard as ever. Surely one can wish for nothing more reliable than this; and, as to cost of running, at home, where I can buy paraffin oil fairly cheap, the cost of fuel and lubricating oil is slightly under 2d. per mile.

W. H., Aldeburgh.

## A NEW WEST-END GARAGE,

A FEW days ago we had an opportunity of inspecting the large new motor garage which has just been completed by Messrs. Mitchell, on a site which was formerly occupied by a brewery, between Wardour Street and Dean Street, London, W., an entrance from both thoroughfares being available. Some idea of the size of the new building, which is entirely fireproof, may be gathered from the fact that it has a floor space of over 70,000 square feet. The ground and first floors specially reserved for garage work and the storing of cars are both asphalted, the large space providing for the prompt ingress and egress of vehicles. Just below the level of the first floor an extensive range of numbered cupboards has been provided, and it is intended to allot these without extra charge to the users of the garage for the reception of loose tools and accessories. The centre of the building is occupied by a "well," which provides light and efficient ventilation to the ground and the upper floors. At one end of the well, and extending across the extreme width, is a large electrically operated lift, capable of accommodating anything from a small car to a large motor-bus. On the second floor Messrs. Mitchell have installed a very complete range of electrically-driven machine tools, not only for repair work, but also for the construction of motor-cars. In the manufacturing department arrangements are in hand for the construction of one hundred motor-cabs, which Messrs. Mitchell propose to put in service in London. Already two sample chassis have been built, these having the 14-h.p. four-cylinder engine located under the driver's seat. The third floor is devoted to body-making, upholstering, and painting, and even the roof itself is available for washing cars and testing purposes. Messrs. Mitchell have also instituted a department for private hiring, and already landaulets, limousines, and touring cars of high power are available for this purpose. We may add that the new garage is open for the reception of cars at any time of the day or night.

MESSRS. PANHARD AND LEVASSOR, who are shortly removing their British repair works to a large new factory at Acton Vale, London, W., have just issued a most complete price list of accessories and spare parts for Panhard cars. The list extends to about 125 pages, and, in addition to being alphabetically arranged, each part is assigned an index number, on giving which any renewal required can be quickly delivered. In addition, illustrations are given of a large number of the various components, so that even if the motorist may not be familiar with the technical name of the article he requires, he can ascertain its number from the picture. The list is one which should be in the hands of all owners of Panhard vehicles.

## SOME CURRENT TOPICS.

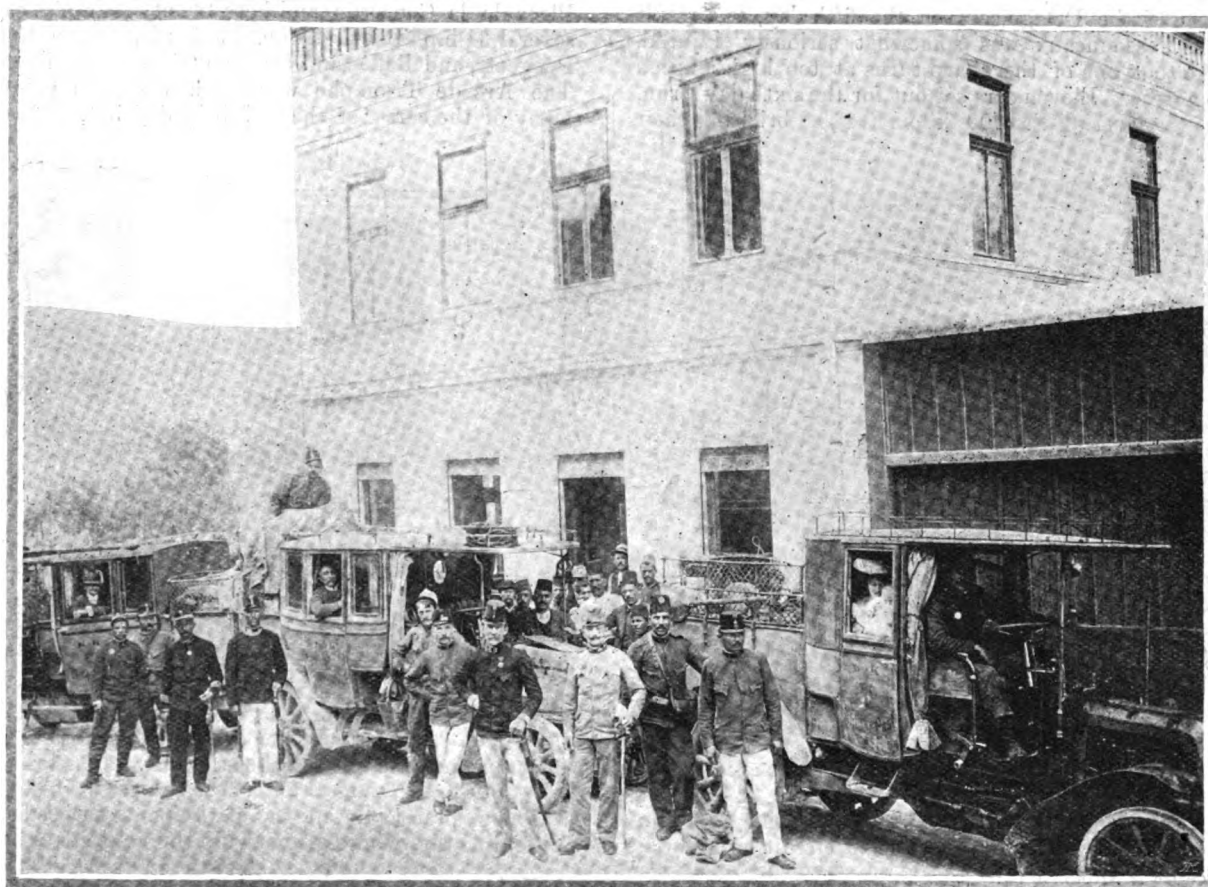
### Radical Changes in French Racing Rules.

If the changes which have been put forward by the Sporting Commission of the French Automobile Club meet with acceptance by the General Committee of that body, a radical alteration in the rules under which automobile races are held in France will be made. Hitherto the main regulation has been that introduced in connection with the Gordon Bennett race, and which restricted the chassis weight of the competing vehicles to 1,000 kilog. While this rule has undoubtedly been of service in the evolution of the motor-car from the heavy and cumbersome machine of the early days to the relatively light and

changing must be effected by the driver and his mechanic, that detachable rims shall be allowed, and that, without affecting the result of the race as regards the fastest time, a separate classification shall be made as to the number of tyres used by each car. It will thus be seen that to a large extent next year's Grand Prix will be run on very similar lines to the British Tourist Trophy race; the fuel allowance works out, however, at about 9.47 miles to the gallon, so that, although those who intend to take part in the contest will have quite a number of new problems to solve, the competing vehicles will still be of relatively high power.

### Carburettor Troubles due to Dirt.

In view of the small opening through which petrol must pass on its way from the float chamber to the vaporising section of a carburettor, it is important that it be kept as free as possible from all foreign matter. An extremely small quantity of petrol is used at each suction stroke, and its flow is controlled



Three of the Cars used in the Military Motor Post-Service in Bosnia.

[Allgemeine Automobil Zeitung.]

powerful vehicle of the present day, the fact that motor-car builders are now able to build racers fitted with engines of over 100-h.p. and yet be within the weight limit has gradually given rise to the view that the 1,000 kilog. limitation is no longer serving a useful purpose. A decision to again hold a race for the Grand Prix de l'A.C.F. in 1907 having already been arrived at, the Sporting Commission has for some time been considering the lines on which it shall be run, and the result of their labours was made known during the past week. It is proposed that the weight limit shall be entirely abandoned and that in future builders will be free of any reservation in this respect. In place of the 1,000 kilog. restriction, it is suggested that a limit shall be placed on the fuel consumption, and that for the 800 kilometre race, which is to be run off in a single day, 240 litres of spirit shall be served out to each competitor, the one who completes the total distance in the fastest time on this allowance of fuel being the winner. Other proposed rules are that all repairs and tyre

by admitting it through a very contracted opening, especially when the engine is running slowly under throttle; therefore, the flow, if not stopped altogether, will be unduly retarded and made irregular by a very small obstruction. Thus the proper proportion of petrol vapour and air in the explosive mixture, which is the very life of a petrol engine, will be disturbed, and the motor will either fail to develop the proper power or it may stop altogether. It is, therefore, of prime importance that all petrol be carefully filtered when it is put into the tank, and as this is quickly and easily done, there is no excuse for neglecting this most reasonable precaution. A little care while in the peace and quiet of one's private garage may save a serious *panne* either in the city surrounded by the inevitable crowd, or away in the country, miles from anywhere. Taking a clogged carburettor apart, cleaning it and putting it together again on the road, even under the most favourable circumstances, is not an experience one would wish to repeat.

## CONTINENTAL NOTES.

## A Reliability Trial for Voiturettes.

The reliability trial for voiturettes organised by the "Auto," has been in progress during the past week. As mentioned in the last issue of the *M.C.J.*, twenty-two entries had been received, but of these only the following fifteen actually started:—Two Delage, two Alcyon, three Sizaire-Naudin, an Auto-Stand, a Metais, a Vulpes, a Fouillaron, three Lion-Peugeot, and a Bailleau. The first day's run was done in extremely bad weather, the rain being practically incessant; notwithstanding this, thirteen succeeded in covering the distance in the specified time. The cars which failed to finish were the Bailleau and the Metais, which were both placed *hors de combat* owing to skidding. Better weather prevailed on the 7th inst., when all thirteen cars accomplished the day's task of 200 kilometres at an average of 30 kilos per hour. The position was unchanged on the third day, but on the fourth one of the Sizaire-Naudins fell out of the running, a skid resulting in a broken wheel. An accident occurred to one of the Delage cars on the fifth day, as a result of which M. Personneaux was somewhat seriously injured. Apparently he took one of the sharp turns at too high a speed and ran into a tree. Eleven cars set out for the sixth day's run, all succeeding in covering the 200 kilometres, so bringing their

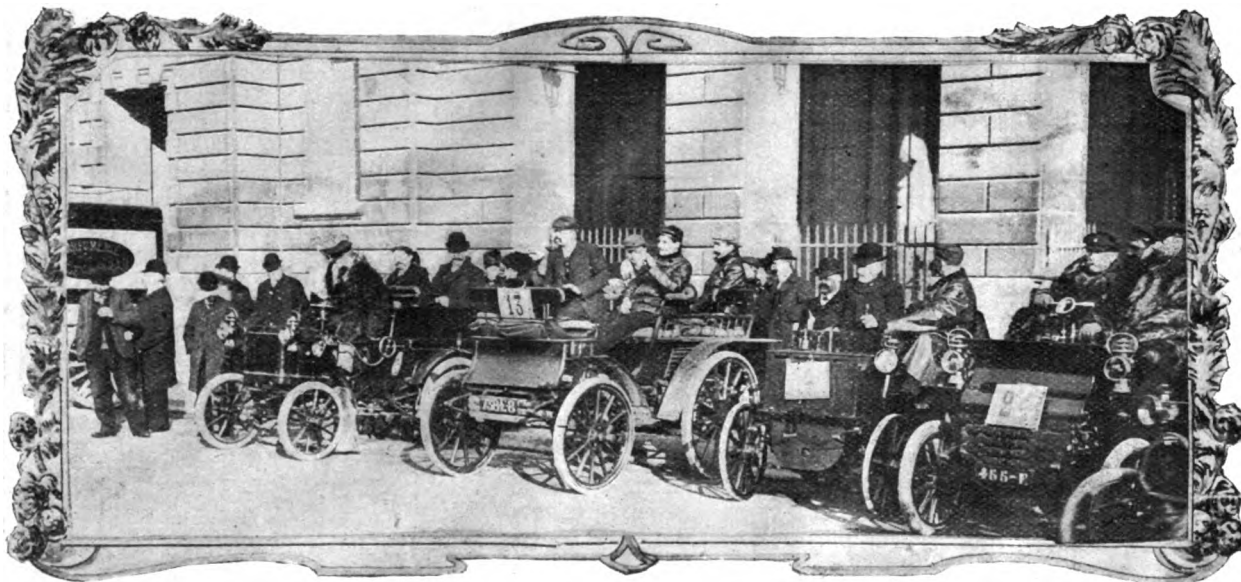
half will be returned to every competitor who actually starts, and the other half to all who finish the race within twelve hours. Not more than four machines of any one make can be entered. The winner will be awarded the Targa Florio and a cash prize of £600, the second receiving £320, the third £160, the fourth £80, and the fifth £40.

## The Triple Victory Banquet.

A banquet was held in Paris on Monday last, under the auspices of the "Auto" to celebrate the triple victory of France in the 1906 Grand Prix, Circuit des Ardennes and Vanderbilt Cup Races. The guests of the evening were the heads of the Renault, De Dietrich and Darracq firms, together with Sis, Duray, and Wagner, and their respective mechanics.

## A Run of Old-Timers.

Considerable interest was evinced in the run of old-time motor-cars which was held in Paris on Sunday last. The meeting place was in front of the A. C. F. Club House, in the Place de la Concorde, and here twenty-four old cars, including several 3½-h.p. Benz, 4½-h.p. Panhards, 2½-h.p. Renaults, 4-h.p. Peugeots, and Bollée and De Dion tricycles put in an appearance. The Arc de Triomphe was reached after a painful effort, by many of the cars "of the old brigade," but, although the pace



Some of the Vehicles which took part in the run of old Motor cars, held in Paris on Sunday last.

total up to 1,200 kilometres and qualifying for the 250 kilometre race which took place over the same circuit on Monday last. The result is appended:—

Order.	Car.	Driver.	Time.		
			H.	M.	S.
1.	Sizaire-Naudin	Sizaire	4	0	7
2.	Delage	Menard-Lucas	4	5	40
3.	Peugeot	Giuppone	4	14	41
4.	Peugeot	Goux	4	38	25
5.	De Dion	Pellegrin	4	50	22
6.	Vulpes	Barriaux	4	53	42
7.	Sizaire-Naudin	Chesnay	5	2	34
8.	Peugeot	Aimé	5	21	23
9.	Fouillaron	Grillet	7	11	34
10.	Alcyon	Thiercelin	7	16	58
11.	Alcyon	Anzani			

M. Sizaire's time works out at an average of 37½ miles per hour—an excellent performance for such a small vehicle.

## The 1907 Targa Florio Race.

The preliminary rules with regard to the 1907 Targa Florio race, which is to be held in Italy on April 21 next, have just been issued. The contest, which will be over a distance of from 250 to 375 miles, will be open for four-cylinder cars of a bore from 120 to 130 mm., and for six-cylinder vehicles of proportionate dimensions. The entry fee is £40 per car, of which

was slow, practically all the participants succeeded in reaching Ville d'Avray, where a review of the veterans was held.

## A Motor-Car Lamp Competition.

The Touring Commission of the French Automobile Club is organising a competition of motor-car lamps. The tests will be carried out both in the A.C.F. laboratory and on the road. A sum of £60 has been set aside as prizes in connection with the event, entries for which are to be sent to La Commission de Tourisme de l' A.C.F., 6, Place de la Concorde, Paris.

## Miscellaneous Items.

The value of the motor-cars and parts exported from France during the nine months ending with September last amounted to £4,137,200, an increase of £1,107,760 over the corresponding period of 1905.—A public service of motor-cars is about to be established between Grammont and Alost, Belgium.—A competition of devices and apparatus for the rapid inflation of motor tyres is to be held during the course of the Paris Salon next month by the Touring Commission of the A.C.F.—It is reported that arrangements are in hand for the construction of a motor racing track near Turin.—So far twenty-three entries have been received for the reliability trial of 1907 models which the A.C.F. will hold from the 25th inst. to December 5th.



LORD WOLVERTON, Lady Smyth, and Lord Davey are included in the list of recent purchasers of Daimler cars.

THERE is a general feeling among the competitors in the 1906 Tourist Trophy race that the length of the course should be increased. Twelve entries have already been received for next year's contest.

A MOTOR-CAR exhibition is to be held at Calcutta in January next.

THE Chester Motor Garage Co., who have a well-equipped establishment at 3A, Foregate Street, Chester, are now making Cape cart hoods of good design and finish.

New members of the A.C.G.B.I. include Lord Herschell, Baron Wassenar, Sir P. Brocklehurst, Rear-Admiral Sir A. Berkeley Milne, Bart., and Capt. the Hon. F. C. Stanley, D.S.O.

MOTORISTS will be pleased to have the Lorraine cross brooch or pin souvenirs which Messrs. Jarrott and Letts, Ltd., will supply to owners of De Dietrich cars who make application with the necessary penny stamp for postage.

THE Laystall Motor Engineering Works has been converted into a private limited company. The business of repairers, &c., will be continued as heretofore under the personal management of Mr. F. T. Bersey, at 27 and 29, Laystall Street, Rosebery Avenue, E.C.

THE Agricultural Hall Company, Limited, is offering a reward to any person whose evidence shall lead to the conviction of the originator of the slanderous report that the Hall is for sale. Notice is officially given by the company that such report is absolutely unfounded.

VISITORS to Olympia reaching London by the St. Pancras, Euston, or King's Cross Stations, may avail themselves of the free motor-omnibus service to Olympia arranged by The Motor House, from their showrooms at 314-316 and 366-368, Euston Road, N.W., direct to the Show. Vehicles will leave Olympia and The Motor House every hour.

A TRIO of books with the alliterative titles of the "Awful Airship," the "Mad Motor," and the "Silly Submarine" has been published by Messrs. Blackie and Son, Ltd. Mr. C. Robinson and Mr. W. Copeland have supplied illustrations and rhymes after the style of the old nursery jingles, making the quaintly shaped and designed volumes capital presents for the juveniles during the coming season.

IT is now anticipated that the new motor track at Weybridge will be finished early next year, and it is hoped to hold half a dozen or more meetings on it in 1907. The Automobile Club will work in harmony with the local organisation, which it is proposed to call the Brooklands Automobile Racing Club. The course will be three miles in length, elliptic in shape, and with easy curves, banked to take speeds approaching 100 miles an hour.

MESSRS. MANN, EGERTON AND CO., LTD., of Norwich, have compiled a useful leaflet of hints as to the proper treatment of pneumatic tyres, in which they assign the chief causes of the undue deterioration of tyres as follows:—(1) Insufficient inflation; (2) Insufficient section for weight of car; (3) Careless use of clutch and brakes; (4) Too high speed around corners; and (5) Neglect to patch up cuts in rubber, and allowing tyres to wait too long before retreading. Suggestions with regard to the inflation of tyres and the weighing of cars are also given by the firm.

ONE of the most interesting examples of trade literature lately received is the White Bulletin, No. 12, a copy of which Mr. Frederic Coleman will be pleased to send to any reader on postal application to 35-37, Kingly Street, Regent Street, W. It reveals the varied use of the automobile in the United States—for sport, industrial service, military use, State work, ambulance help, and other purposes. The illustrations are particularly effective, those of the havoc wrought by the San Francisco earthquake and fire being noticeably so. In the relief work connected with that disaster the White car played a conspicuous part, and deserves the prominence it obtains in this Bulletin.

## HERE AND THERE.

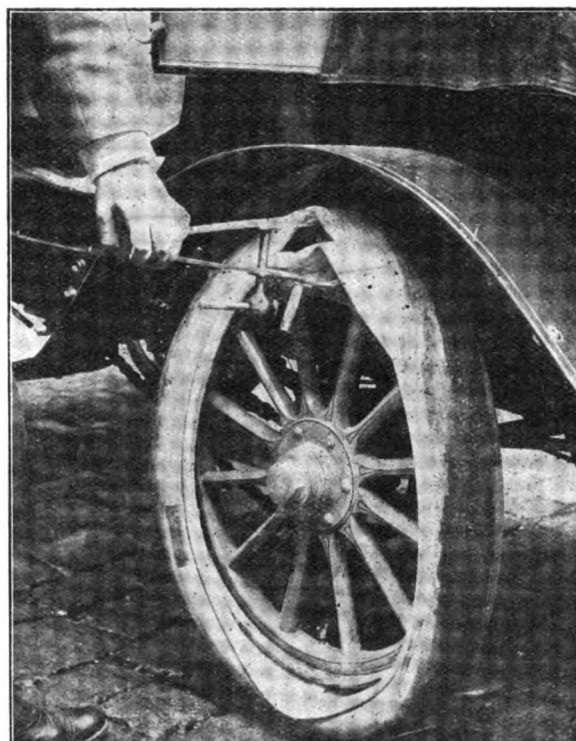
MESSRS. JARVIS, MILLER-SHIP AND Co. have established themselves at 71, Broad Street, Birmingham, as motor-car repairers.

FIVE lads have been hauled before the Rathfarnham magistrates for throwing stones at motorists, and suitable admonition given from the Bench.

LORD BURTON has placed an order with the Daimler Company for a 35-h.p. car.

THE Hull City Garage, Ltd., have opened a garage with accommodation for 100 cars at 57, Beverley Road, Hull, where free service is rendered to members of the Yorkshire A.C.

WE illustrate herewith the ingenious lever which has recently been devised by Mr. W. S. Jessop, of Leeds, to facilitate the fitting and removal of valves and security bolts when it is necessary to change the inner tube of a motor pneumatic tyre. The device consists of a double forked lever with clutches to fit into the rim of the wheel, to the rear end of which is hinged an upper lifting arm. In the socket of the double lever is attached a screw of suitable pitch, which actuates the top arm. The screw is fixed sufficiently near the end to obtain ample



leverage for lifting or forcing up the outer cover of the tyre and by turning the screw the cover is forced into any required position and held rigidly until the valve or security bolts are placed in position or removed from the rim. The under part of the top arm is provided with a notched portion, to act as a guide for the end of the screw, so that any slipping of the same or the lifting arm shall be avoided. On the upper side of the latter is a projection to prevent any outward movement of the tyre cover during the operation of screwing up the valve and bolts, or in placing the same in position.

Mr. LOFTUS PERKINS fitted one of his high pressure tubular boilers in an effective tractor in 1870, with which he made some very satisfactory runs. Ultimately the machine was sent to Belgium, and Mr. Perkins subsequently made a tramway engine fitted with his high pressure engine. In 1881 a steam car was designed by Mr. J. G. Inshaw, and a few years later Mr. Magnus Volk designed an electric dog-cart. But already on the Continent the application of the internal combustion engine was turning men's minds to other types, and the story of the automobile entered another phase with the inventions of Daimler and Benz

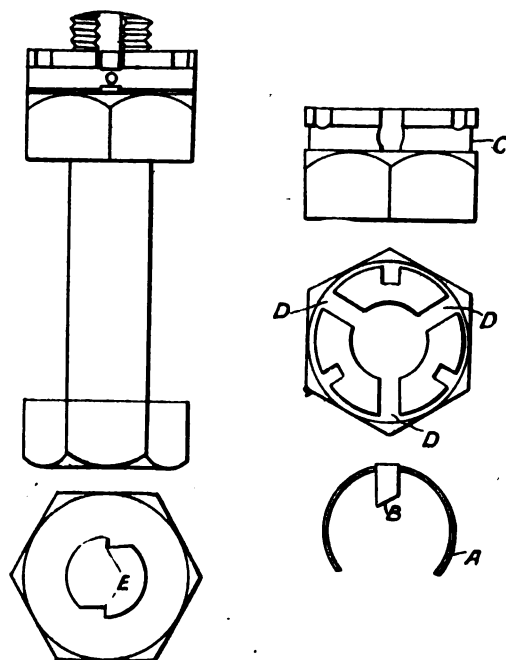
A GARAGE has been established at 5, East Bond Street, Leicester, by Mr. C. E. Gibson.

AN excellently devised road plan, showing the location of their Pimlico Wheel Works, in Rannoch Street, Fulham Palace Road, has been issued by Messrs. Smith, Parfrey and Co.

A CATALOGUE has been issued descriptive of La Grande motor saddles, made by the Lycett Saddle and Motor Accessories Company, Ltd., of Adderley Street, Birmingham. These are well designed with a view to comfort and durability. They also issue a list of their Rawido belts, which give an efficient and smooth elastic drive under all climatic conditions.

A FRENCH authority, M. Legendre, has been investigating the effect of motor-car exercise on health. He is of opinion, says the "Hospital," that the motor should be forbidden in cases of tuberculosis with fever, congestion of the lungs and liver, and gastric ulcer. Motor exercise has improved cases of emphysema, nervous asthma, chlorosis, and certain alimentary affections, including gastralgia, anorexia, and chronic constipation.

THE accompanying illustrations show the details of a new lock nut which has recently been devised and patented by Mr. E. Summerfield, motor engineer, Netley, Hants. From the plan view of the bolt it will be seen that two grooves E are formed in



the threaded part, the grooves being so shaped as to form a buttress on one side for its whole length. A shallow continuous groove C is also formed in the sides of the castle nut, in which also three equidistant slots D are cut. The slots are intended to receive a pin B, projecting above and from the inside of a spring clip A. The latter is sprung into the groove in the nut so as to fit in same closely, the projection being housed in one of the slots in the nut. The action of the whole is as follows:—In screwing the nut on to the bolt, the spring clip A being in place, the pin travels freely over the grooves E in the bolt, the form of the grooves and the elasticity of the spring clip allowing for this; but it is impossible to unscrew the nut from the bolt, or for it to work off accidentally, while the spring clip remains in the groove in the nut, as the projecting end B of the pin on the clip engages with the buttress of one of the grooves in the bolt, preventing the nut from turning back. To facilitate the removal of the spring clip from the groove in the nut, when it is desired to unscrew the latter, three other small slots are made in the nut, which enables any rigid pointed instrument, such as a nail, to be inserted under the spring clip, so forcing it out of its groove. We may add that Mr. Summerfield is desirous of entering into negotiation with a firm to take up the manufacture of his lock nut, which has already met with the approval of several motor engineers.

THE many friends of the late Mr. Dan Albene will be interested to learn that Mr. Frank S. Ogilvie, of the Garden City, Herts, has undertaken to paint a portrait in oils of that well-known pioneer of the agricultural motor.

BROOKE MOTORS, London, Ltd., the sole selling agents for the Brooke 30-h.p. six-cylinder car for the United Kingdom and all British Colonies and Dependencies, have taken offices at 35, Albemarle Street, London, W., and all inquiries with reference to the above car will be dealt with from that address.

THE Argylls Motors, Ltd., have gone into print, and now issue a fortnightly review of the progress of the agencies for their cars, as well as of much useful information to owners of vehicles. It is edited by a practical man, whose previous training enables him to do full justice to the resources at his command.

MR. P. C. MARSHALL, chairman of the New Rossleigh Cycle and Motor Company, Ltd., has, owing to the increase in the company's business, felt compelled to resign the chairmanship, to which Mr. W. L. Sleight has been elected. Mr. Marshall will, however, retain his seat on the board. The net profits of the company for the past year have been £5,046, enabling a dividend to be paid on the ordinary shares of 15 per cent.

A STRIKING indication of the rapidly increasing use of motor-cars for business purposes has been afforded us by the Albion Motor Car Co., Ltd., which has long devoted special attention to this class of automobile. Taking the number of commercial vehicles delivered by this concern in 1904 as 100, those turned out in 1905 would be 400, while those completed this year would be 900, an increase in two years of no less than 800 per cent.

CAPTAIN J. ORR-EWING was in the chair at a dinner given on the 9th inst. by the Fiat Motors to a party of friends at the Trocadero, London. Several interesting speeches were made after the repast, Colonel Bosworth proposing the toast of Automobilmism, to which Mr. Leveson Searth responded. Messrs. D'Arcy Baker, Amery Parkes, and Comyns Beaumont also spoke, voicing the good wishes of the company for the success of the Fiat car in the coming season.

FROM Mr. W. Barker, of Pitcairn Road, Mitcham, we have received a small sample tin of a new iron cement which he has recently put on the market for the repair of blowholes, cracks, surface defects, &c., in iron and steel castings, cracked engine cylinders, and also for the reliable jointing of tubes and pipes, &c. The cement is a specially dry composition, and when mixed with water into a thick paste is claimed to become as hard as iron in twenty-four hours. It is stated not to be affected by petrol, paraffin, or other oils, and that it expands to the same extent as iron.

AT the stand of the Farman Automobile Company, Ltd., at Olympia, may be seen a motor-cab very similar to those which will be run by the Landaulet Cab Company, Ltd., which has just been formed to put a number of the vehicles in service in London. The cabs will be of 8-10-h.p., geared to four, twelve and eighteen miles an hour; the bodies will be of the landaulet type, the engine being located under the driver's seat, so as to allow the cab to turn within the small space of 25 ft., as required by the Scotland Yard authorities. There will be provision for luggage, and the cabs can be used open or closed, and, therefore, suitable for use in all weathers.

DETAILED figures showing the output of the automobile factories in the United States during the calendar year 1904 have just been issued by the U.S. Census Bureau. They show among other things that during that year 21,692 cars, valued at £5,329,012, were manufactured by the 178 establishments reporting. In addition to this automobiles to the value of £175,841 were reported by establishments engaged primarily in the manufacture of other products. For the first time the figures have been classified and reveal some interesting facts. In 1904 there were 12,131 runabouts manufactured, valued at £1,766,301, and of this number 10,000 were petrol, 455 electric, and 677 steam. Touring cars to the number of 7,220, with a total value of £2,356,304, were also made in that year, and of this number 6,444 were gasoline, and 737 steam.

# THE MOTOR-CARS OF 1907.

## CLASSIFIED IN ACCORDANCE WITH PRICE OF CHASSIS.



IN the following pages will be found, in tabular form, a specially-compiled list of over 500 motor-cars—both British and foreign—which will be on the market in this country during the 1907 season. In order that it may be of service to motorists, we have arranged the cars in classes according to the price of chassis. In this way any would-be purchaser, having decided to limit his expenditure to a certain sum, can ascertain the selection of cars at his disposal with a minimum of trouble. As regards the details given in the tables we have deemed it advisable to confine these to the leading particulars of the different vehicles, rather than complicate matters by including information of a more or less technical character, and thereby rendering them somewhat forbidding to the average automobilist. While the list is the most authoritative that has so far been published, it is not claimed that it is complete, for in a few instances the makers themselves have been unable to give us the particulars of their 1907 models, and these have consequently not been included. In some cases, too, the classification may not appear to be quite correct owing to the makers or agents having only furnished the price of the complete car, leaving us

to decide as to the chassis section in which it shall be entered. Again, it has to be pointed out that whilst we have only given one type of body—usually the standard—to each chassis, the latter are usually so constructed that any desired pattern of carriage work can be fitted to it, at prices to be arranged with the manufacturer of the car or the coachbuilder. The chassis themselves, while in other respects similar, are frequently made in different lengths of wheel-bases at proportionate prices. A further point to which attention may be drawn is that of transmission, several builders now offering their clients a choice of a vehicle of the same horse-power with either a live axle or a side chain drive, while in the case of the ignition most cars can now be provided with two systems at the desire of the buyer. As regards the dimensions given under the heading "bore and stroke," these are indicated in inches or millimetres as furnished us by the makers. In compiling the tables we have been considerably impressed with the great variation in the horse-power rating adopted by the different firms, and in this connection we would venture the hope that the time is not far distant when more uniformity in this respect will prevail.

### CHASSIS COSTING £150 OR UNDER.

Name of Car.	Maker.	H.P. Maker's Rating.	No. of Cylinders.	Bore and Stroke.	Ignition.	Clutch.	Trans- mission.	No. of Speeds.	Type of Frame.	Wheelbase. ft.in.	Price of Chassis. £	Price with Body. £	Type of Body.
British..	British Motor & Engineering Co., Ltd.	7	2	75x80	Accu.	..	Leather Cone	Live Axle	3	Channel Steel	6 5	105	2-Seated.
Ford ..	Central Motor-Car Co., Ltd.	15	4	38x31	Accu.	..	Plate ..	Live Axle	2	Pressed Steel	7 0	152	2-Seated.
Horley ..	Horley Motor and Engineering Co.	9	1	112x130	Accu.	..	Leather Cone	Live Axle	3	Armd. Wood	—	105	2-Seated.
Horley ..	Horley Motor and Engineering Co.	9	1	112x130	Accu.	..	Leather Cone	Live Axle	3	Armd. Wood	—	126	Tonneau.
Horley ..	Horley Motor and Engineering Co.	8½	2	80x80	Accu.	..	Leather Cone	Live Axle	3	Armd. Wood	—	152	2-Seated.
Horley ..	Horley Motor and Engineering Co.	8½	2	80x80	Accu.	..	Leather Cone	Live Axle	3	Armd. Wood	—	173	4-Seated.
Jackson No. 1	R. Reynold Jackson & Co., Ltd.	5	1	84x90	Accu.	..	Leather Cone	Live Axle	3	Pressed Steel	5 6	115	Dogcart.
Premier ..	Premier Motor Co., Ltd.	10-12	2	88x140	Accu.	..	Leather Cone	Live Axle	3	T. Steel	7 9	150	2-Seated.
Reo ..	Reo Motors, Ltd.	8	1	4½x6	Accu.	..	Disc ..	Single Chain	2	Angle Steel	6 6	165	4-Seated.
Reyrol ..	Motor Supply Co., Ltd.	6	1	100x110	Accu.	..	Leather Cone	Live Axle	3	Armd. Wood	5 6	105½	2-Seated.
Reyrol ..	Motor Supply Co., Ltd.	6	1	100x110	Accu.	..	Leather Cone	Live Axle	3	Pressed Steel	5 6	121½	2-Seated.
Rover ..	Rover Co., Ltd.	6	1	95x110	Accu.	..	Single Disc	Live Axle	3	Armd. Wood	6 0	130	2-Seated.
Starling ..	Star Cycle Co., Ltd.	6	1	4x4½	Accu.	..	Leather Cone	Chains	3	Armd. Wood	6 0	120	2-Seated.
Torpedo ..	F. Hopper & Co.	5	1	4x4½	Accu.	..	—	Live Axle	3	Armd. Wood	—	115	2-Seated.

### CHASSIS COSTING BETWEEN £151 AND £200.

Adams-Hewitt ..	Adams Manufacturing Co., Ltd.	9-10	1	121x152	L. T. Mag. and Accu.	Metal Band	Single Chain	2	Chan. Steel	6 8	175	194	2-Seated.
Airex ..	Rex Motor Manufacturing Co., Ltd.	9	2	38x31	Accu.	Leather Cone	Live Axle	3	Pressed Steel	7 1½	—	194½	Side Entry.
Alldays ..	Alldays & Onions, Ltd.	8	1	114x114	Accu.	Leather Cone	Live Axle	3	Pressed Steel	6 6	—	194	2-Seated.
Alldays ..	Alldays & Onions, Ltd.	10	2	31x41	Accu.	Leather Cone	Live Axle	3	Pressed Steel	6 6	199½	220½	2-Seated.
Alldays ..	Alldays & Onions, Ltd.	10	2	31x41	Accu.	Leather Cone	Live Axle	3	Pressed Steel	6 6	199½	241½	4-Seated.
British ..	British Motor and Engineering Co., Ltd.	10-12	4	75x80	Accu.	Leather Cone	Live Axle	3	Pressed Steel	8 6	180	210	Side Entry
Cadillac ..	Anglo-American Motor Car Co., Ltd.	9-10	1	5x5	Accu.	Disc ..	Single Chain	2	Pressed Steel	6 2	—	195	2-Seated.
Cadillac ..	Anglo-American Motor Car Co., Ltd.	9-10	1	5x5	Accu.	Disc ..	Single Chain	2	Pressed Steel	6 2	200	231	Side Entry
Courier ..	Euston Motor Co., Ltd.	8	4	70x76	H. T. Mag. and Accu.	Exp. Metal.	Live Axle	3	Pressed Steel	6 3	180	185	2-Seated.
Cupelle ..	Cupelle Motors, Ltd.	7	1	96x100	Accu.	Leather Cone	Live Axle	3	Pressed Steel	6 5	155	180	2-Seated.
Cupelle ..	Cupelle Motors, Ltd.	8-10	2	85x110	Accu.	Leather Cone	Live Axle	3	Pressed Steel	6 5	200	245	2-Seated.
Darraeq ..	A. Darraq & Co., Ltd.	7	1	105x120	Accu.	Leather Cone	Live Axle	3	Pressed Steel	6 6	—	159	2-Seated.
Darraeq ..	A. Darraq & Co., Ltd.	8-10	2	90x120	Accu.	Leather Cone	Live Axle	3	Pressed Steel	6 6	—	199	2-Seated.
Darraeq ..	A. Darraq & Co., Ltd.	8	1	—	Accu.	Leather Cone	Live Axle	3	Pressed Steel	—	—	207	Tonneau.
De Dion ..	De Dion-Bouton, Ltd.	8	1	110x120	Accu.	Expanding	Live Axle	3	—	6 2	191	—	—
Gregoire ..	Osborn & Co., Ltd.	6-8	2	80x110	H. T. Mag. and Accu.	Leather Cone	Live Axle	3	Pressed Steel	6 3	185	205	2-Seated.
Gregoire ..	Osborn & Co., Ltd.	6-8	2	80x110	H. T. Mag. and Accu.	Leather Cone	Live Axle	3	Pressed Steel	6 3	185	230	4-Seated.
Jackson No. 2	R. Reynold Jackson & Co., Ltd.	9	2	85x100	Accu.	Leather Cone	Live Axle	3	Pressed Steel	6 0	153	173	Phaeton.
Jackson No. 4	R. Reynold Jackson & Co., Ltd.	9	2	85x100	Accu.	Leather Cone	Live Axle	3	Pressed Steel	7 6	185	210	Dogcart.
Jackson No. 6	R. Reynold Jackson & Co., Ltd.	9	1	110x130	Accu.	Leather Cone	Live Axle	3	Pressed Steel	8 6	200	235	Side Entry
Little Star ..	Star Engineering Co., Ltd.	7	2	34x41	Accu.	Leather Cone	Chains	3	Armd. Wood	6 9	165	175	2-Seated.
Mass ..	Lancaster Motor Garage	8	2	85x100	Accu.	Leather Cone	Live Axle	3	Pressed Steel	6 8	180	195	Tonneau.
Maxwell ..	F. W. Peckham Motor Synd., Ltd.	8	2	4x4	Accu.	Multiple Disc	Live Axle	2	Pressed Steel	6 0	—	173½	2-Seated.
Maxwell ..	F. W. Peckham Motor Synd., Ltd.	10	2	4x4	Accu.	Multiple Disc	Live Axle	2	Pressed Steel	6 0	—	194½	2-Seated.
Mayfair ..	Mayfair Motor Co., Ltd.	6	1	80x110	Accu.	Leather Cone	Live Axle	3	Pressed Steel	6 3	—	195	2-Seated.
Miniature Standard	Standard Motor Co., Ltd.	10	4	23x31	Accu.	Metal Cone	Live Axle	3	Channel Steel	7 1	199	238	Side Entry.
Pope Tribune ..	Service Co., Ltd.	14	2	41x41	Accu.	Leather Cone	Live Axle	3	T. Steel	7 9	—	200	Side Entry.
Premier ..	Premier Motor Co., Ltd.	10-12	2	88x140	Accu.	Leather Cone	Live Axle	3	Armd. Wood	—	—	225	4-Seated.
Reyrol ..	Motor Supply Co., Ltd.	10	4	—	Magneto	Leather Cone	Live Axle	3	Armd. Wood	7 0	—	210	2-Seated.
Rover ..	Rover Company, Ltd.	8	1	114x130	Accu.	Metal Cone	Live Axle	3	Armd. Wood	7 0	—	235	Tonneau.
Rover ..	Rover Company, Ltd.	8	1	114x130	Accu.	Metal Cone	Live Axle	3	Armd. Wood	7 0	—	188	2-Seated.
Riley ..	Riley Cycle Co., Ltd.	9	2	31x41	Accu.	Leather Cone	Single Chain	3	Pressed Steel	7 3	183	201	2-Seated.
Singer ..	Singer & Co., Ltd.	7	2	80x90	Accu.	Leather Cone	Live Axle	3	Armd. Wood	7 0	—	165	2-Seated.
Stuart ..	Star Cycle Co., Ltd.	7	2	31x4	Accu.	Leather Cone	Live Axle	3	Armd. Wood	7 0	—	180	3-Seated.
Stuart ..	Star Cycle Co., Ltd.	7	2	31x4	Accu.	Leather Cone	Live Axle	3	Armd. Wood	7 0	—	190	4-Seated.
Sturmei-Parsons	Sturmei Motor and Eng. Co., Ltd.	8	1	127x127	Accu.	Band ..	Live Axle	2	—	6 6	180	200	—

## CHASSIS COSTING BETWEEN £201 AND £250.

Name of Car.	Maker or Agent.	H.P. Motor's Rating.	No. of Cylinders.	Bore and Stroke.	Ignition.	Clutch.	Trans- mission.	No. of Speeds.	Type of Frame.	Wheelbase. ft. in.	Price of Chassis. £	Price with Body. £	Type of Body.
Bentall ..	E. H. Bentall & Co.	9	2	90x95	L. T. Mag.	Metal Cone	Live Axle ..	3	Pressed Steel	8 0	220	250	4-Seated.
British ..	British Motor & Engineering Co., Ltd.	14	4	80x80	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 0	240	263	Side Entry
Cadillac ..	Anglo-American Motor-Car Co., Ltd.	9-10	1	5x6	Accu.	Disc	Single Chain	3	Pressed Steel	6 2	—	237	Tonneau.
Calthorpe ..	Calthorpe Motor Co.	12-14	4	80x90	Accu.	Multiple Disc	Live Axle ..	3	Pressed Steel	7 9	250	275	4-Seated.
Gregoire ..	Osborn & Co., Ltd.	8-10	2	90x120	H. T. Mag. and Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 0	230	275	Side Entry
Gregoire ..	Osborn & Co., Ltd.	8-10	2	90x120	H. T. Mag. and Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 0	230	250	2-Seated.
James and Browne ..	James & Browne	8-10	2	89x115	Accu.	Metal	Side Chain	3	Pressed Steel	6 6	200	225	2-Seated.
Leader ..	New Leader Motors, Ltd.	10-12	4	8 1/2 x 8 1/2	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	7 6	218	245	2-Seated.
Lindsay ..	Lindsay Motor-Car Co., Ltd.	12	4	80x80	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	6 7	200	243	2-Seated.
Metallurgique ..	Metallurgique Cars	10-12	2	95x110	Accu.	Metal	Live Axle ..	3	Pressed Steel	8 6	235	255	2-Seated.
Micromet ..	W. H. M. Burgess	7-9	2	85x113	Accu.	Leather Cone	Live Axle ..	4	Pressed Steel	—	—	250	2-Seated.
Mobile ..	Mobile Motor & Engineering Co., Ltd.	10-12	2	88x120	Accu.	Leather Cone	Live Axle ..	3	Arm'd. Wood	8 3	—	275	Tonneau.
New Eagle ..	St. George Motor Car Co.	10-12	4	80x80	Accu.	Leather Cone	Live Axle ..	3	Arm'd. Wood	8 3	—	285	Side Entry.
Orleans ..	Orleans Motor Car Co., Ltd.	9	2	95x100	Accu.	Expanding	Live Axle ..	3	Tubular	6 0	—	230	4-Seated.
Pengoot ..	Friswell, Ltd.	7-8	1	105x102	Accu.	Leather Cone	Live Axle ..	3	—	6 7	—	230	2-Seated.
Pivot ..	P. Cuthbertson	10-12	4	80x85	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 0	230	280	Side Entry.
Reo ..	Reo Motors, Ltd.	16	2	42x6	Accu.	Disc	Single Chain	2	Pressed Steel	7 6	245	285	Side Entry.
Renault ..	Renault Freres, Ltd.	8-9	4	75x120	Magneto	Leather Cone	Live Axle ..	3	Pressed Steel	8 6	236	386	Landulet.
Rothwell ..	Kelpie Machine Co.	10-12	2	88x140	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 3	245	295	Side Entry.
Siddeley ..	Windsley Tool and Motor Co., Ltd.	10	2	4x4 1/2	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	7 6	250	300	Side Entry.
Singer ..	Singer & Co., Ltd.	10 1/2	3	80x90	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	7 3	230	315	Landulet.
Speedwell ..	New Speedwell Motor Co., Ltd.	10-12	2	98x130	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 6	—	290	Side Entry.
Star ..	Star Engineering Co., Ltd.	10	4	8x4 1/2	Accu.	Leather Cone	S.C. or L.A.	3	Pressed Steel	7 3	235	290	4-Seated.
Swift ..	Swift Motor Co., Ltd.	9-10	2	90x110	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	6 10	210	225	2-Seated.
Swift ..	Swift Motor Co., Ltd.	9-10	2	90x110	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	6 10	220	250	4-Seated.
Vulcan ..	Vulcan Motor Co., Ltd.	10	2	8 1/2 x 4 1/2	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	7 0	220	260	Tonneau.
Vulcan ..	Vulcan Motor Co., Ltd.	10	2	8 1/2 x 4 1/2	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	7 9	230	275	Side Entry.
Westminster ..	Westminster Motor Works, Ltd.	10-12	4	70x90	Mag. & Accu.	Leather Cone	Live Axle ..	3	Steel	8 6	220	250	Side Entry.

## CHASSIS COSTING BETWEEN £251 AND £300.

Adams ..	Adams Manufacturing Co., Ltd.	12-14	2	105x120	H. T. Mag. & Accu.	Epicyclic	Live Axle ..	3	Steel	8 6	—	290	4-Seated.
Alldays ..	Alldays and Onions	10	2	3 1/2 x 4 1/2	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 0	290	—	—
Alldays ..	Alldays and Onions	10	2	3 1/2 x 4 1/2	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 6	—	351 1/2	Landulet.
Argyll ..	Argyll Motors, Ltd.	12	2	95x140	Accu.	Leather Cone	Live Axle ..	3	Channel Steel	7 9	275	325	Side Entry.
Argyll ..	Argyll Motors, Ltd.	15	4	84x110	Accu.	Leather Cone	Live Axle ..	3	Channel Steel	8 0	290	340	Side Entry.
Bell ..	Bell Bros.	16	4	3 1/2 x 4	Accu.	Leather Cone	Live Axle ..	3	Channel Steel	8 6	275	325	Side Entry.
Calthorpe ..	Calthorpe Motor Co., Ltd.	12-14	4	80x90	Accu.	Multiple Disc	Live Axle ..	3	Pressed Steel	8 6	275	315	Side Entry.
Calthorpe ..	Calthorpe Motor Co., Ltd.	16-20	4	80x100	Accu.	Multiple Disc	Live Axle ..	3	Pressed Steel	8 6	300	360	Side Entry.
Clement ..	Clement Motor Co., Ltd.	10-12	2	88x140	Accu.	Multiple Disc	Live Axle ..	3	Pressed Steel	8 8	280	345	Side Entry.
Cov. Humber ..	Humber, Ltd.	10-12	4	3 1/2 x 3 1/2	Accu.	Leather Cone	Live Axle ..	3	Tubular	7 1	—	270	2-Seated.
Darracq ..	A. Darracq & Co., Ltd.	10-12	2	100x110	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	7 1	255	271	Phaeton.
De Dion ..	De Dion-Bouton Ltd.	10	2	80x120	Accu.	Plate	Live Axle ..	3	Pressed Steel	6 6	280	—	—
Drummond ..	North British Motor Mfg. Co., Ltd.	14-16	4	8 1/2 x 4	H. T. Mag. and Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 6	285	315	Side Entry.
Globe ..	Hitchon Gear and Auto. Co., Ltd.	12-14	4	80x90	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 4	—	350	Side Entry.
Gregoire ..	Osborn & Co., Ltd.	10-14	4	75x100	H. T. Mag. and Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 0	285	380	Side Entry.
Hallamshire ..	Durham, Churchill & Co.	12	2	95x130	Accu.	Metal	Live Axle ..	3	Arm'd. Wood	7 8	275	300	Tonneau.
Horlock ..	Horsfall and Bickham	12-16	4	80x90	Accu.	Leather Cone	Live Axle ..	3	Arm'd. Wood	7 0	275	315	4-Seated.
Horlock ..	Horsfall and Bickham	12-16	4	80x90	Accu.	Leather Cone	Live Axle ..	3	Arm'd. Wood	8 0	300	360	Side Entry.
Humber ..	Humber, Ltd.	10-12	4	3 1/2 x 3 1/2	Accu.	Leather Cone	Live Axle ..	3	Tubular	8 0	290	315	4-Seated.
Maxwell ..	F. W. Peckham Motor Synd., Ltd.	16	2	5x5	Accu.	Multiple Disc	Live Axle ..	3	Pressed Steel	7 0	—	299 1/2	Side Entry.
Mayfair ..	Mayfair Moto. Co., Ltd.	10	2	98x130	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 6	275	340	Side Entry.
Rothwell ..	Kelpie Machine Co., Ltd.	12-14	4	80x90	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 3	265	315	Side Entry.
Russell ..	Central Motor Car Co., Ltd.	16	2	4 1/2 x 4 1/2	Accu.	Single Disc	—	3	Arm'd. Wood	7 8	—	325	Side Entry.
Singer ..	Singer & Co., Ltd.	12-14	4	80x90	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	7 8	255	295	4-Seated.
Singer ..	Singer & Co., Ltd.	12-14	4	80x90	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 4	270	310	Side Entry.
Standard ..	Standard Motor Co., Ltd.	15	6	2 1/2 x 3 1/2	Accu.	Single Disc	Live Axle ..	3	Pressed Steel	7 6	260	275	2-Seated.
Swift ..	Swift Motor Co., Ltd.	9-10	3	80x90	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	6 10	260	275	2-Seated.
Swift ..	Swift Motor Co., Ltd.	9-10	3	80x90	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	—	270	300	4-Seated.
Talbot ..	Clement Talbot, Ltd.	10-14	4	75x90	H. T. Mag.	Leather Cone	Live Axle ..	3	Channel Steel	9 0	—	355	Side Entry.
Vulcan ..	Vulcan Motor Co., Ltd.	12	4	3 1/2 x 4 1/2	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	7 9	265	300	Side Entry.
Vulpes ..	Seymours, Ltd.	12-16	4	90x100	H. T. Mag. and Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 2	295	340	Side Entry.
Vulpes ..	Seymours, Ltd.	12-16	4	90x100	H. T. Mag. and Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 3	295	395	Landulet.

## CHASSIS COSTING BETWEEN £301 AND £350.

Albion ..	Albion Motor Car Co., Ltd.	16	2	4 1/2 x 5	Magneto	Leather Cone	Side Chains	3	Channel Steel	7 0	340	400	Tonneau.
Argyll ..	Argyll Motors, Ltd.	14-10	4	90x120	Accu.	Multiple Disc	Live Axle ..	3	Channel Steel	9 6	340	575	Limousine.
Argyll ..	Argyll Motors, Ltd.	14-16	4	90x120	Accu.	Multiple Disc	Live Axle ..	3	Channel Steel	8 4	325	375	Side Entry.
Beaufort ..	Beaufort Motor Co., Ltd.	12	2	120x130	L. T. Mag.	Leather Cone	Live Axle ..	3	Pressed Steel	8 2	315	345	Side Entry.
Bentall ..	E. H. Bentall & Co.	16	4	90x95	L. T. Mag.	Metal Cone	Live Axle ..	3	Pressed Steel	9 0	325	375	4-Seated.
Brown ..	Brown Bros.	18-20	4	100x110	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 2	—	375	Side Entry.
Courier ..	Euston Motor Co., Ltd.	14	4	85x100	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	9 0	340	375	Side Entry.
Cov. Humber ..	Humber, Ltd.	15	4	3 1/2 x 4	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 9	310	335	Rolde Blgs
Cupelle ..	Cupelle Motors, Ltd.	12-14	4	85x110	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 1	338	380	Side Entry.
Enfield ..	Enfield Autocar Co., Ltd.	15	4	95x115	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 6	341 1/2	367 1/2	Phaeton.
Heron ..	Heron Motor Co.	14	4	80x90	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 0	350	400	Side Entry.
Leader ..	New Leader Motors, Ltd.	12-16	4	3 1/2 x 4	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 1	335	415	Side Entry.
Luce ..	Teste & Lassen	14	4	90x110	H. T. Mag.	Metal	Live Axle ..	4	Pressed Steel	—	325	365	Side Entry.
Masoot ..	Farman Automobile Co., Ltd.	10-12	2	95x180	H. T. Mag. and Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 2	315	375	Side Entry.
Mas ..	Lancaster Motor Garage	14	4	85x110	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	9 6	350	400	Side Entry.
Mayfair ..	Mayfair Motor Co., Ltd.	15	4	85x110	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 6	350	415	Side Entry.
Micromet ..	W. H. M. Burgess	1-16	4	85x113	H. T. Mag.	Leather Cone	Live Axle ..	4	Pressed Steel	—	—	400	Side Entry.
Mobile ..	Mobile Motor & Engineering Co., Ltd.	14	2	95x120	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	—	—	341 1/2	Tonneau.
Mobile ..	Mobile Motor & Engineering Co., Ltd.	14-17	4	80x90	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	—	—	367 1/2	Side Entry.
Mors ..	Mors, Ltd.	10	4	75x90	H. T. Mag.	Metal	Live Axle ..	3	Pressed Steel	7 1	320	410	4-Seated.
N. E. C. ..	New Engine Co., Ltd.	15	2	4 1/2 x 4 1/2	Accu.	Leather Cone	Live Axle ..	4	Pressed Steel	9 0	350	475	Touring.
Panhard ..	Panhard & Levasor	8-11	3	80x120	H. T. Mag. and Accu.	Leather Cone	Side Chains	4	Arm'd. Wood	8 4	320	475	Landulet.
Pengoot ..	Friswell, Ltd.	10-12	2	105x105	Magneto	Leather Cone	Side Chains	4	Steel	—	—	395	4-Seated.
Rover ..	Rover Co., Ltd.	16-20	4	95x110	Accu.	Double Disc	Live Axle ..	3	Arm'd. Wood	9 0	—	400	Side Entry.
Star ..	Star Engineering Co., Ltd.	14	4	3 1/2 x 4 1/2	Magneto	Leather Cone	Side Chains	3	Pressed Steel	8 6	325	375	Side Entry.
Star ..	Star Engineering Co., Ltd.	14	4	3 1/2 x 4 1/2	Magneto	Leather Cone	Side Chains	3	Pressed Steel	10 0	350	475	Landulet.
Swift ..	Swift Motor Co., Ltd.	12-14	4	80x90	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 11	345	390	Side Entry.
Vauxhall ..	Vauxhall & West Hydr Eng. Co., Ltd.	12-16	4	3 1/2 x 3 1/2	Accu.	Metal Cone	Live Axle ..	3	Pressed Steel	8 2	330	375	Side Entry.
Vici ..	Vici Motors, Ltd.	15	4	92x102	Accu.	Metal	Live Axle ..	4	Pressed Steel	8 9	350	450	Side Entry.
Vulcan ..	Vulcan Motor Co., Ltd.	14	4	3 1/2 x 4 1/2	Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 6	310	360	Side Entry.



## CHASSIS COSTING BETWEEN £351 AND £400.

Name of Car.	Maker or Agent.	H.P. Maker's Rating.	No. of Cylinders.	Bore and Stroke.	Ignition.	Clutch.	Trans- mission.	No. of wheels.	Type of Frame.	Wheelbase. ft.in.	Price of Chassis. £	Price with Body. £	Type of Body.
Academy .. ..	Motor Academy .. ..	14	4	80x90	H. T. Mag. and Accu.	Cone .. ..	Live Axle ..	3	Pressed Steel	8 6	375	425	Side Entry.
Albion .. ..	Albion Motor-Car Co., Ltd.	16	4	4 1/2 x 5	L. T. Magneto	Leather Faced	Side Chains	3	Channel Steel	8 6	380	440	Side Entry.
Albion .. ..	Albion Motor-Car Co., Ltd.	16	4	4 1/2 x 5	L. T. Magneto	Leather Faced	Side Chains	3	Channel Steel	8 6	370	525	Brougham.
Alldays .. ..	Alldays & Onions, Ltd.	20	4	3 1/2 x 4 1/2	Accu. .. ..	Leather Face	Live Axle ..	3	Pressed Steel	8 6	387 1/2	451 1/2	Side Entry.
Bell .. ..	Bell Brothers .. ..	20	4	4 x 5	H. T. Mag. and Accu.	Metal .. ..	Live Axle ..	3	Pressed Steel	8 6	395	485	Side Entry.
Belsize .. ..	Belsize Motors, Ltd.	20-30	4	4 x 4 1/2	Accu. .. ..	Metal .. ..	Live Axle ..	3	Pressed Steel	8 6	390	595	Side Entry.
Britannia .. ..	Victoria Carriage Works	18-24	4	105x130	H. T. Mag. and Accu.	Leather Face	Live Axle ..	3	Pressed Steel	10 0	400	475	4-Seated.
Brown .. ..	Brown Brothers, Ltd.	20-24	4	100x120	H. T. Mag. and Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	9 0	385	425	Side Entry.
C.C.C. .. ..	Chassis Construction Co., Ltd.	18-22	4	95x120	H. T. Mag. & Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	9 0	400	480	Side Entry.
Cottersau .. ..	McNeill Hutchinson & Co., Ltd.	12-16	4	85x100	H. T. Mag. & Accu.	Leather Cone	To choice ..	4	Pressed Steel	8 8	385	460	Side Entry.
Cottersau .. ..	McNeill Hutchinson & Co., Ltd.	18-20	4	85x105	H. T. Mag. & Accu.	Leather Cone	Side Chains	4	Pressed Steel	8 8	400	475	Side Entry.
Duryea .. ..	Sturmev Motor & Engineering Co., Ltd.	15	3	115x115	Accu. .. ..	Exp'd'g Metal	Single Chain	2	—	6 6	365	395	4-Seated.
Enfield .. ..	Enfield Autocar Co., Ltd.	15	4	25x115	Accu. .. ..	Leather Cone	Live Axle ..	3	Pressed Steel	8 6	—	375	Phaeton.
Germain .. ..	Theo. Maull .. ..	14	4	92x110	H. T. Magneto	Leather Cone	Live Axle ..	3	Pressed Steel	8 8	400	550	Dbl. Phn.
Gregoire .. ..	Osborn & Co., Ltd.	16-20	4	90x120	H. T. Mag. & Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 7	400	445	Side Entry.
Hallamshire ..	Durham Churchill and Co.	12-14	4	84x110	Accu. .. ..	Metal .. ..	Live Axle ..	3	Pressed Steel	8 6	375	459	Side Entry.
Leader .. ..	New Leader Motors, Ltd.	18-22	4	3 1/2 x 5	Accu. .. ..	Leather Cone	Live Axle ..	3	Pressed Steel	8 11	375	465	Side Entry.
Lindsay .. ..	Lindsay Motor Car Co., Ltd.	20	4	95x120	H. T. Mag. & Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	9 0	390	470	Side Entry.
Mobile .. ..	Mobile Motor & Engineering Co., Ltd.	16-20	4	95x130	Accu. .. ..	Leather Cone	Live Axle ..	3	Pressed Steel	—	—	472 1/2	Side Entry.
Nordenfeldt ..	British Bariquand & Marre Eng. Co. Ltd.	12-14	4	90x120	H. T. Mag. & Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	9 6	400	480	Side Entry.
Quadrant .. ..	Quadrant Cycle Co., Ltd.	14-16	4	80x90	Accu. .. ..	Leather Cone	Cross Roller	4	Pressed Steel	8 0	—	420	Side Entry.
Renaux .. ..	Renaux Freres, Ltd.	10-14	4	75x120	H. T. Mag.	Leather Cone	Live Axle ..	4	Pressed Steel	9 3	390	650	Closed.
Robinson & Hole	Robinson & Hole, Ltd.	16-20	4	90x120	Accu. .. ..	Multiple Disc	Live Axle ..	3	Pressed Steel	8 6	400	450	Side Entry.
Scout .. ..	Dean & Burden Bros., Ltd.	14-17	4	88x115	H. T. Mag.	Leather Cone	Live Axle ..	3	Armd. Wood	8 8	390	450	Side Entry.
Sturmev Duryea	Sturmev Motor and Engineering Co.	18-20	4	102x127	Accu. .. ..	Plate .. ..	Single Chain	2	Steel	8 6	385	460	Side Entry.
Unic .. ..	Mann & Overton's, Ltd.	20	4	87x110	L. T. Mag.	Leather Cone	Live Axle ..	4	Pressed Steel	9 6	380	560	Limousine.
Vauxhall .. ..	Vauxhall & West Hy. Eng. Co., Ltd.	12-16	4	3 1/2 x 3 1/2	Accu. .. ..	Metal Cone	Live Axle ..	4	Pre-ssel Steel	8 2	—	375	Side Entry.
West .. ..	West, Ltd. .. ..	15	4	84x110	H. T. Mag. and Accu.	Leather Cone	Live Axle ..	3	Steel	8 6	400	470	Side Entry.

## CHASSIS COSTING BETWEEN £401 AND £450.

Argyll .. ..	Argyll Motors, Ltd.	16-20	4	95x130	Accu. .. ..	Multiple Disc	Live Axle ..	3	Channel Steel	9 9	430	675	Limousine.
Austin .. ..	Austin Motor Co., Ltd.	18-24	4	4 1/2 x 5	H. T. Mag.	Multiple Disc	Live Axle ..	4	Pressed Steel	9 0	450	525	Side Entry.
Brouhot .. ..	Brouhot Motor Co., Ltd.	12-16	4	—	L. T. Mag.	Metal Exp.	Side Chains	3	Pressed Steel	8 4	425	475	Side Entry.
Calthorpe .. ..	Calthorpe Motor Co., Ltd.	20-25	6	80x90	Accu. .. ..	Multiple Disc	Live Axle ..	3	Pressed Steel	9 6	425	525	Side Entry.
Chenard-Walcker	Walter Gutmann .. ..	16-20	4	88x130	H. T. Mag.	Leather Cone	Live Axle ..	4	Pressed Steel	9 4	425	485	Side Entry.
Clement .. ..	Clement Motor Co., Ltd.	14-18	4	85x120	H. T. Mag.	Multiple Disc	Live Axle ..	3	Pressed Steel	9 6	430	515	Side Entry.
Climax .. ..	Climax Motors, Ltd.	16	4	84x120	H. T. Mag. and Accu.	Metal Cone	Live Axle ..	4	Pressed Steel	9 0	425	500	Side Entry.
Courier .. ..	Euston Motor Co., Ltd.	18-24	4	98x130	Accu. .. ..	Leather Cone	Live Axle ..	3	Pressed Steel	9 6	430	480	Side Entry.
Cupelle .. ..	Cupelle Motors, Ltd.	14-16	4	85x110	Accu. .. ..	Leather Cone	Live Axle ..	3	Armd. Wood	9 6	417	483	Side Entry.
Darraeq .. ..	A. Darraq & Co. .. ..	16-18	4	90x150	Mag. or Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	7 9	414	439	4-Seated.
Derracq .. ..	A. Darraq & Co., Ltd.	16-18	4	90x120	Mag. or Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	9 0	434	459	Dble. Phae.
Decauville .. ..	F. M. Hobson, Ltd.	12-16	4	90x105	H. T. Mag.	Leather Cone	Live Axle ..	3	Pressed Steel	9 0	410	460	Side Entry.
Drummond .. ..	North British Motor Mfg. Co., Ltd.	20-24	4	4 1/2 x 5	H. T. Mag. and Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	9 9	435	510	Side Entry.
Duryea .. ..	Sturmev Motor and Eng. Co., Ltd.	15	3	115x115	Accu. .. ..	Expanding	Single Chain	2	Pressed Steel	8 6	425	500	Side Entry.
Gladfator .. ..	Gladfator, Ltd.	14-18	4	85x130	H. T. Mag.	Metal Disc	Live Axle ..	4	Pressed Steel	9 6	430	505	Side Entry.
Globe .. ..	Hitchon Gear & Auto Co., Ltd.	22-25	4	108x114	Accu. .. ..	Leather Cone	Live Axle ..	4	Pressed Steel	8 10	445	500	Side Entry.
Hallamshire ..	Durham Churchill & Co.	20	4	95x130	Accu. .. ..	Metal .. ..	Live Axle ..	4	Pressed Steel	9 6	440	500	Side Entry.
Heron .. ..	Heron Motor Co. .. ..	16	4	85x120	H. T. Mag.	Leather Cone	Live Axle ..	3	Pressed Steel	8 6	450	500	Side Entry.
James & Browne	James & Browne, Ltd.	14-16	4	3 1/2 x 4 1/2	Accu. .. ..	Metal Cone	Side Chains	4	Pressed Steel	8 5	436	575	D Land't.
Lindsay .. ..	Lindsay Motor Car Co.	28	4	112x120	H. T. Mag. & Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	10 6	450	530	Side Entry.
Mascot .. ..	Farman Automobile Co., Ltd.	12-16	4	84x110	H. T. Mag. & Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	8 2	405	480	Side Entry.
Mass .. ..	Lancaster Motor Garage	16-20	4	98x130	H. T. Mag. & Accu.	Leather Cone	Live Axle ..	3	Pressed Steel	10 1	450	500	Side Entry.
Mayfair .. ..	Mayfair Motor Co., Ltd.	20	4	98x130	Accu. .. ..	Leather Cone	Live Axle ..	3	Pressed Steel	8 6	410	530	Landulet.
Metallurgique ..	Metallurgique Cars	16-20	4	90x110	Accu. .. ..	Metal .. ..	Live Axle ..	3	Steel	9 3	450	510	Side Entry.
Mobile .. ..	Mobile Motor & Engineering Co., Ltd.	22	4	95x130	Accu. .. ..	Leather Cone	Live Axle ..	3	Pressed Steel	—	—	509 1/2	Side Entry.
New Arrol-Johnston	New Arrol-Johnston Car Co., Ltd.	12-15	2	4 1/2 x 6 1/2	L. T. Mag.	Multiple Disc	Live Axle ..	4	Pressed Steel	8 9	410	450	Side Entry.
Premier .. ..	Premier Motor Co., Ltd.	20-24	4	100x120	H. T. Mag. and Accu.	Leather Cone	Live Axle ..	—	—	9 9	450	510	Side Entry.
Regent .. ..	Regent Motor Co. .. ..	18	4	90x120	L.T. Mag.	Leather Cone	Live Axle ..	3	Pressed Steel	9 3	420	600	L'dt. Spec.
S.C.A.B. .. ..	Central Motor Car Co., Ltd.	18-20	4	90x100	H. T. Mag.	Leather Cone	Live Axle ..	4	Pressed Steel	8 6	450	525	D.Phaeton.
Scout .. ..	Dean & Burden Bros., Ltd.	17-20	4	90x115	H.T. Mag.	Leather Cone	Live Axle ..	3	Armd. Wood	8 8	440	500	Side Entry.
Seymour Turner	Seymour's, Ltd.	20-25	4	4 x 5	H.T. Mag. and Accu.	Metal .. ..	Live Axle ..	4	Pressed Steel	9 3	450	550	Landulet.
Siddeley .. ..	Woleley Motor and Tool Co., Ltd.	15	4	4 x 4	Accu. .. ..	Leather Cone	Live Axle ..	3	Pressed Steel	9 6	425	515	Side Entry.
Spyker .. ..	British Auto. Com. Synd., Ltd.	15-20	4	90x110	Magneto	Leather Cone	Live Axle ..	3	Pressed Steel	8 4	480	445	Side Entry.
Star .. ..	Star Engineering Co., Ltd.	18	4	4 x 5	Magneto	Leather Cone	Side Chains	4	Pressed Steel	9 6	425	500	Side Entry.
Talbot .. ..	Clement Talbot, Ltd.	15	4	90x117	H.T. Mag. and Accu.	Leather Cone	Live Axle ..	4	Chan. Steel	9 6	450	485	Side Entry.
Talbot .. ..	Clement Talbot, Ltd.	12-16	4	85x120	H.T. Mag. and Accu.	Leather Cone	Live Axle ..	4	Chan. Steel	9 6	450	495	Side Entry.
Vinot .. ..	T. J. Harman & Co.	16-24	4	95x130	H.T. Mag.	Leather Cone	Side Chains	3	Pressed Steel	9 2	440	525	Side Entry.
Vulcan .. ..	Vulcan Motor Co., Ltd.	20	4	3 1/2 x 4 1/2	H.T. Mag.	Leather Cone	Live Axle ..	3	Pressed Steel	8 9	410	450	Tonneau.
West .. ..	West, Ltd. .. ..	16-20	4	90x130	H.T. Mag.	Leather or Ml.	Live Axle ..	3	Steel	9 9	520	440	Side Entry.

## CHASSIS COSTING BETWEEN £451 AND £500.

Beaufort	Beaufort Motor Co., Ltd.	20	4	105x125	H.T. Mag. and Accu.	Leather Cone	Live Axle	3	Pressed Steel	8 9	500	550	Side Entry.
Beeston-Humber	Humber, Ltd.	20-30	4	110x130	H.T. Mag. and Accu.	Leather Cone	Live Axle	4	Pressed Steel	9 3	472 1/2	525	D. Phaeton.
Bell	Bell Bros.	30	4	4 1/2 x 5 1/2	H.T. Mag. and Accu.	Metal	Live Axle	4	Pressed Steel	9 6	500	600	Side Entry.
Bell	Bell Bros.	30	4	4 1/2 x 5 1/2	H.T. Mag. and Accu.	Metal	Side Chains	4	Pressed Steel	9 11	500	600	Side Entry.
Berliet	J. E. Hutton, Ltd.	14	4	80x120	L.T. Mag.	Disc	Side Chains	4	Pressed Steel	10 6	460	620	Closed.
Brooke	J. W. Brooke & Co., Ltd.	15-20	4	92x120	L.T. Mag.	Cone	Side Chains	3	Pressed Steel	10 0	490	550	Side Entry.
Brown	Brown Bros., Ltd.	24	4	110x130	H.T. Mag. and Accu.	Leather Cone	Live Axle	4	Pressed Steel	10 6	500	550	Side Entry.
Calthorpe	Calthorpe Motor Co.	28-40	4	110x120	Accu.	Metal	Live Axle	3	Pressed Steel	9 9	200	577 1/2	Side Entry.
C.C.C.	Chassis Construction Co.	24-30	4	110x130	H. T. Mag.	Multiple Disc	To choice	3	Pressed Steel	9 6	500	—	—
Climax	Climax Motors, Ltd.	20	6	80x90	H.T. Mag. and Accu.	Metal	Live Axle	4	Pressed Steel	9 6	475	550	Touring.
Courier	Euston Motor Co., Ltd.	24-30	4	110x130	H.T. Mag.	Leather Cone	Live Axle	3	Pressed Steel	9 6	500	555	Side Entry.
Deasy	Deasy Motor-Car Mfg. Co., Ltd.	24	4	105x180	H. T. or L. T. Mag.	Metal	Live Axle	4	Armd. Wood	10 2	483	525	Side Entry.
De la Butre	Hollingsdrake Auto. Co., Ltd.	15	4	85x120	H. T. Mag.	Metal	Live Axle	3	Steel	8 8	460	580	Side Entry.
Dennis	Dennis Bros., Ltd.	12-14	4	84x110	H. T. Mag. and Accu.	Leather Cone	Worm	3	Pressed Steel	8 10	475	525	Phaeton.
De Dion	De Dion Bouton, Ltd.	15	4	90x100	H. Mag. and Accu.	Cone	Live Axle	3	Pressed Steel	8 10	495	—	—
F.I.A.T.	Fiat Motors, Ltd.	14-16	4	90x110	L. T. Mag.	Disc	Live Axle	4	Pressed Steel	9 6	460	525	Side Entry.
Horbick	Horfall & Bickham	18-24	6	80x90	Mag.	Leather Cone	Live Axle	3	Pressed Steel	9 6	500	600	Phaeton.
Horbick	Horfall & Bickham	20-24	4	108x114	Mag.	Leather Cone	Live Axle	3	Pressed Steel	9 0	475	550	Phaeton.
Junior	Junior, Limited	24	4	100x120	L. T. Mag.	Multiple Disc	Side Chains	4	Pressed Steel	9 8	500	600	Side Entry.
Mascot	Farman Auto. Co., Ltd.	16-20	4	88x130	H. T. Mag. and Accu.	Leather Cone	Live Axle	3	Pressed Steel	9 6	455	525	Side Entry.
Mascot	Farman Auto. Co., Ltd.	20-22	4	95x130	H. T. Mag. and Accu.	Leather Cone	Live Axle	3	Pressed Steel	9 6	500	575	Side Entry.
Mass	Lancaster Motor Garage	24-30	4	110x130	H. T. Mag. and Accu.	Leather Cone	Live Axle	3	Pressed Steel	10 1	500	575	Side Entry.
Mayfair	Mayfair Motor Co., Ltd.	28	4	110x130	Accu.	Leather Cone	Live Axle	3	Pressed Steel	10 6	470	590	Landulet.
Minerva	Minerva Motors, Ltd.	24	4	106x115	H. T. Mag. and Accu.	Leather Cone	Live Axle	3	Pressed Steel	9 5	490	550	Side Entry.
Mors	Mors, Ltd.	16	4	85x100	H. T. Mag.	Metal	Live Axle	3	Pressed Steel	7 9	475	575	Side Entry.
National	A. R. Garnett	20-24	4	4 1/2 x 6 1/2	H. T. Mag.	Leather Cone	Live Axle	3	Pressed Steel	9 6	475	550	Side Entry.
New Arrol-Johnston	New Arrol-Johnston Car Co., Ltd.	18	2	4 1/2 x 6 1/2	L. T. Mag.	Multiple Disc	Live Axle	4	Pressed Steel	8 10	490	580	Side Entry.
Nordenfeldt	British Bariquand & Marre Eng. Co., Ltd.	24-30	4	112x140	H. T. Mag. & Accu.	Leather Cone	Live Axle	14	Pressed Steel	9 6	495	600	Side Entry.
Orleans	Orleans Motor Co., Ltd.	15	4	90x110	Accu.	Leather Cone	Live Axle	3	Armd. Wood	9 0	—	500	Side Entry.
Orleans	Orleans Motor Co., Ltd.	15	4	8 1/2 x 4 1/2	H. T. Mag. & Accu.	Leather Cone	Live Axle	3	Pressed Steel	9 8	475	575	Side Entry.
Panhard	Panhard & Levasor	15-20	4	90x130	H. T. Mag. & Accu.	Leather Cone	Side Chains	4	Armd. Wood	9 3	490	585	Phaeton.

## CHASSIS COSTING BETWEEN £451 AND £500—continued.

Name of Car.	Maker or Agent.	H.P. Making Rating.	No. of Cylinders.	Bore and Stroke.	Ignition.	Clutch.	Transmission.	No. of Speeds.	Type of Frame.	Wheelbase.	Price of Chassis.	Price with Body.	Type of Body.
Pilgrim	Pilgrims Way Motor Co., Ltd.	20-37	4	4½ x 5	Accu.	Multiple Disc	Single Chain	3	Armd. Wood	8 6	500	700	Landulet.
Pivot	P. Cuthbertson	16-20	4	85 x 120	Accu.	Leather Cone	Live Axle	4	Steel	8 8	480	540	Side Entry.
Quadrant	Quadrant Cycle Co., Ltd.	20-22	4	96 x 130	Accu.	Leather Cone	Cross Roller	4	Pressed Steel	9 0	—	525	Side Entry.
Rochet-Schneider	Donne & Williams, Ltd.	16	4	100 x 120	H. T. Mag.	Leather Cone	Live Axle	3	Pressed Steel	9 3	480	580	Side Entry.
Siddeley	Wolseley Tool and Motor Co., Ltd.	18	4	4 x 4	H. T. Mag.	Metal Cone	Live Axle	3	Pressed Steel	9 5	475	550	Side Entry.
Simms Welbeck	Simms Mfg. Co., Ltd.	20-25	4	105 x 125	H. T. Mag.	Leather Cone	Live Axle	3	Pressed Steel	9 5	465	550	Side Entry.
Singer	Singer and Co., Ltd.	20-22	4	95 x 130	Accu.	Leather Cone	Live Axle	3	Pressed Steel	9 6	480	575	Landulet.
Sunbeam	Sunbeam Motor Car Co., Ltd.	16-20	4	95 x 120	H. T. Mag. & Accu.	Leather Cone	Side Chains	4	Armd. Wood	9 7	480	580	Side Entry.
Swift	Swift Motor Co., Ltd.	16-20	4	90 x 110	H. T. Mag. & Accu.	Metal Disc	Live Axle	4	Pressed Steel	8 11	490	555	Side Entry.
Thornycroft	J. I. Thornycroft & Co., Ltd.	14	4	8½ x 8½	H. T. Mag.	Multiple Disc	Live Axle	3	Pressed Steel	9 6	475	535	Side Entry.
Vauxhall	Vauxhall & West Hydric. Eng. Co., Ltd.	12-16	4	8½ x 8½	Accu.	Metal Cone	Live Axle	3	Pressed Steel	8 2	—	495	Landulet.
Vici	Vici Motors, Ltd.	25	4	119 x 125	H. T. Mag. & Accu.	Metal	Live Axle	4	Pressed Steel	9 3	490	590	Side Entry.
Vulpec	Seymour, Ltd.	20-24	4	110 x 130	H. T. Mag. & Accu.	Leather Cone	Live Axle	4	Pressed Steel	9 3	495	545	Side Entry.
Winton	Winton Motor Carriage Co.	25	4	4½ x 5	Accu.	Plate	Live Axle	2	Pressed Steel	8 7	50½	585	Fouring.
West	West, Limited	18-22	4	90 x 130	H. T. Mag. & Accu.	Lthr. or Mtl.	Live Axle	3	Steel	9 9	480	590	Side Entry.
West	West, Limited	20-22	4	95 x 130	H. T. Mag. & Accu.	Lthr. or Mtl.	Live Axle	3	Steel	9 9	475	545	Side Entry.
Wilson-Pilcher	Armstrong, Whitworth, & Co., Ltd.	12-16	4	8½ x 8½	Accu.	Multiple Disc	Live Axle	4	Pressed Steel	—	465	650	Landulet.
Whitlock-Aster	Whitlock Auto. Co., Ltd.	12-14	4	84 x 110	Accu.	Leather Cone	Live Axle	4	Pressed Steel	9 4	—	580	Landulet.

## CHASSIS COSTING BETWEEN £501 AND £550.

Berliet	J. E. Hutton, Ltd.	22	4	100 x 120	L. T. Mag.	Disc.	Side Chains	4	Pressed Steel	8 10	520	620	Side Entry.
Bianchi	Straker & MacConnell, Ltd.	20-30	4	110 x 130	L. T. Mag.	Multiple Disc	Side Chains	4	Pressed Steel	8 8	550	625	Dbl. Phn.
Bollee (Leon)	Cannstatt Auto. Supply Co.	16-20	4	—	H. T. Mag. and Accu.	Leather Cone	Live Axle	4	Pressed Steel	9 6	540	640	Side Entry.
Bronhot	Bronhot Motor Co., Ltd.	16-20	4	—	L. T. Mag.	Metal Expdg	Side Chains	4	Pressed Steel	8 4	520	600	Side Entry.
Cadillac	Anglo-American Motor Car Co., Ltd.	26-30	4	4½ x 5	Accu.	Donb's Disc	Live Axle	3	Pressed Steel	9 6	525	575½	Side Entry.
Clement	Clement Motor Co., Ltd.	18-23	4	95 x 130	H. T. Mag.	Multiple Disc	To choice	4	Pressed Steel	9 6	530	615	Side Entry.
Cottareau	McNeill, Hutchison & Co., Ltd.	22-30	4	105 x 120	H. T. Mag. and Accu.	Leather Cone	To choice	4	Pressed Steel	9 10	545	630	Side Entry.
Cupelle	Cupelle Motors, Ltd.	18-24	4	98 x 130	Accu.	Leather Cone	Live Axle	3	Armd. Wood	10 0	515	585	Side Entry.
Cupelle	Cupelle Motors, Ltd.	24-30	4	110 x 130	H. T. Mag. and Accu.	Leather Cone	Live Axle	3	Armd. Wood	10 0	550	630	Side Entry.
Daimler	Daimler Motor Co., Ltd.	28	4	120 x 150	Accu.	Leather Cone	Side Chains	4	Pressed Steel	9 6	560	675	Phaeton.
Darracq	A. Darracq & Co., Ltd.	20-28	4	112 x 120	H. T. Mag. & Accu.	Leather Cone	Live Axle	4	Pressed Steel	10 0	544	589	Side Entry.
Deauville	H. M. Hobson, Ltd.	16-20	4	100 x 105	H. T. Mag. & Accu.	Leather Cone	Live Axle	3	Pressed Steel	9 2	505	560	Side Entry.
Drummond	North British Motor Manufg Co., Ltd.	3-36	4	5 x 5	H. T. Mag. & Accu.	Leather Cone	Live Axle	3	Pressed Steel	9 9	540	615	Side Entry.
Enfield	Enfield Autocar Co., Ltd.	25	4	12½ x 135	H. T. Mag. & Accu.	Multiple Disc	Live Axle	3	Pressed Steel	9 10	548	619½	D. Phaeton.
Gladiator	Gladiator, Ltd.	18-28	4	95 x 130	H. T. Mag.	Disc	Live Axle	4	Pressed Steel	10 6	530	625	Side Entry.
Heron	Heron Motor Co.	22	4	95 x 130	H. T. Mag.	Metal	Live Axle	3	Pressed Steel	9 9	560	625	Side Entry.
Lanchester	Lanchester Motor Co., Ltd.	20	4	4 x 8	L. T. Mag.	Multiple Disc	Worm Drive	3	Pressed Steel	9 1	550	650	Touring.
Leader	New Leader Motor Co., Ltd.	24-32	4	4 x 6	Accu.	Leather Cone	Live Axle	3	Pressed Steel	11 0	515	575	Side Entry.
Mousset	W. H. M. Burgess	20-24	4	105 x 130	H. T. Mag.	Expdg. Metal	Side Chains	4	Pressed Steel	—	530	600	D. Phaeton.
Mors	Mors, Ltd.	17	4	87 x 125	L. T. Mag.	Metal	Side Chains	4	Pressed Steel	7 10	535	645	4-Seated.
Pivot	P. Cuthbertson	24-30	4	110 x 130	Accu.	Leather Cone	Live Axle	3	Steel	9 8	550	630	Side Entry.
Rapid	Straker & MacConnell	20-30	4	110 x 120	H. T. Mag.	Multiple Disc	Live Axle	4	Pressed Steel	9 10	550	625	Dbl. Phn.
Renault	Renault Freres, Ltd.	14-20	4	90 x 120	H. T. Mag.	Leather Cone	Live Axle	3	Pressed Steel	9 10	540	580	Limousine.
Renault-Royce	C. S. Rolls & Co.	15	3	100 x 127	Accu.	Leather Cone	Live Axle	3	Pressed Steel	8 7	—	575	Side Entry.
Rothwell	Eclipse Machine Co., Ltd.	20-24	4	4 x 5	H. T. Mag. & Accu.	Leather Cone	Live Axle	3	Pressed Steel	9 9	550	600	Side Entry.
Siddeley	Wolseley Tool & Motor Co., Ltd.	18	4	4½ x 4	H. T. Mag. & Accu.	Leather Cone	Side Chains	4	Pressed Steel	10 6	550	600	D. Phaeton.
Speedwell	New Speedwell Motor Co., Ltd.	25	4	110 x 130	H. T. Mag.	Multiple Disc	Live Axle	3	Pressed Steel	9 6	—	575	Side Entry.
Star	Star Engineering Co., Ltd.	24-30	6	8½ x 8	Magneto	Leather Cone	Side Chains	3	Pressed Steel	10 0	525	600	Side Entry.
Straker-Squire	Straker & Squire, Ltd.	25	4	110 x 130	L. T. Mag.	Leather Cone	Live Axle	3	Pressed Steel	9 2½	550	725	Phaeton.
Talbot	Clement-Talbot, Ltd.	20	4	100 x 120	H. T. Mag. & Accu.	Leather Cone	Live Axle	4	Channel Steel	9 9	580	590	Side Entry.
Vinot	T. J. Harman & Co.	16-24	4	95 x 130	H. T. Mag.	Leather Cone	Side Chains	4	Pressed Steel	9 2	510	595	Side Entry.
West	West Limited	24-30	6	80 x 90	H. T. Mag. & Accu.	To choice	Live Axle	3	Steel	9 9	550	620	4-Seated.
West	West Limited	24-30	4	110 x 120	H. T. Mag. & Accu.	To choice	Live Axle	3	Steel	9 9	550	620	4-Seated.
Whitlock-Aster	Whitlock Auto. Co., Ltd.	18-22	4	95 x 130	Magneto	Leather Cone	Side Chains	3	Pressed Steel	10 0	550	600	Touring.

## CHASSIS COSTING BETWEEN £551 AND £600.

Austin	Austin Motor Co., Ltd.	25-30	4	4½ x 5	L. T. Mag. & Accu.	Multiple Disc	Side Chains	4	Pressed Steel	9 9	600	700	Phaeton.
Braier	Mann & Overton's, Ltd.	18	4	90 x 120	L. T. Mag.	Cone	To choice	4	Pressed Steel	9 6	580	—	—
C. G. V.	London Motor Garage Co., Ltd.	14-18	4	8½ x 4	H. T. Mag. & Accu.	Leather Cone	Live Axle	3	Armd. Wood	9 0	560	750	Landulet.
Daimler	Daimler Motor Co., Ltd.	28	4	120 x 150	Accu.	Leather Cone	Side Chains	4	Pressed Steel	10 6	600	750	Phaeton.
De la Buire	Hollingsdrake Auto. Co., Ltd.	24	4	100 x 130	H. T. Mag.	Metal	Live Axle	4	—	9 3	592½	712	Side Entry.
Dennis	Dennis Bros., Ltd.	18-22	4	95 x 130	H. T. Mag. & Accu.	Leather Cone	Worm	3	Pressed Steel	9 1	600	650	Phaeton.
De Dietrich	Jarrott & Leitz, Ltd.	16	4	104 x 130	L. T. Mag.	Metal	Side Chains	4	Pressed Steel	9 11	600	700	Side Entry.
F. I. A. T.	Fiat Motors Co.	18-24	4	—	L. T. Mag.	Disc	Side Chains	4	Channel Steel	9 6	580	705	Side Entry.
Fiorante	M. de Brou & Co., Ltd.	18-24	4	100 x 140	H. T. Mag.	Metallic	Live Axle	4	Pressed Steel	—	590	—	—
Hallamshire	Durham, Churchill & Co.	24	4	105 x 140	Accu.	Metallic	Live Axle	3	Pressed Steel	10 4	570	650	Side Entry.
Iris	Legros & Knowles	25	4	4½ x 5½	H. T. Mag.	Multiple Disc	Live Axle	3	Pressed Steel	10 0	575	700	Side Entry.
Isotta-Fraschini	Hall, Capris & Co., Ltd.	16-22	4	100 x 130	H. T. Mag.	Disc	Side Chains	4	Pressed Steel	9 6	580	635	Side Entry.
James and Browne	James and Browne, Ltd.	25-30	4	4½ x 6	Accu.	Metal	Side Chains	4	Pressed Steel	8 5	570	690	Landulet.
Mass	Lancaster Motor Garage	30-40	6	110 x 120	H. T. Mag. & Accu.	Leather Cone	Live Axle	3	Pressed Steel	11 0	600	700	Side Entry.
Metallurgique	Metallurgique Cars	24-28	4	105 x 115	Accu.	Metal	Live Axle	3	Steel	9 3	570	640	D. Phaeton.
Napier	S. F. Edge, Ltd.	18	4	3½ x 4	Accu.	Leather Cone	Side Chains	4	Armd. Wood	8 7	600	—	—
National	A. B. Garnett	35-40	4	6½ x 5	H. T. Mag.	Metal Cone	Live Axle	4	Pressed Steel	10 6	600	675	Side Entry.
N.E.C.	New Engine Co.	30	4	4½ x 4½	Accu.	Leather Cone	Worm	2	Pressed Steel	10 2	600	735	Touring.
New Arrol-Johnston	New Arrol-Johnston Car Co., Ltd.	24-30	4	4½ x 5	L. T. Mag. and Accu.	Multiple Disc	Live Axle	4	Pressed Steel	9 8	600	700	Landulet.
New Eagle	St. George's Motor Car Co.	24-30	4	110 x 130	H. T. Mag. & Accu.	Metal	Live Axle	3	Armd. Wood	—	—	625	Side Entry.
Nordenfeldt	British Barling and Marre En. Co., Ltd.	24-30	4	11½ x 140	H. T. Mag. & Accu.	Leather Cone	Side Chains	4	Pressed Steel	9 6	595	700	Side Entry.
Panhard	Panhard & Levasor	18	4	100 x 130	H. T. Mag. and Accu.	Disc	Side Chains	4	Armd. Wood	10 3	590	700	Phaeton.
Portos	Cannstatt Automobile Supply Ass., Ltd.	25-30	4	110 x 120	H. T. Mag. and Accu.	Leather Cone	Live Axle	4	Pressed Steel	10 0	600	690	Phaeton.
Rochet-Schneider	Donne & Williams, Ltd.	20	4	100 x 140	L. T. Mag.	Leather Cone	Live Axle	4	Pressed Steel	9 3	600	690	Side Entry.
Scout	Dean & Burden Bros., Ltd.	25	6	90 x 115	H. T. Mag. and Accu.	Leather Cone	Live Axle	3	Armd. Wood	10 0	580	650	Side Entry.
Vinot	T. J. Harman & Co.	24-32	4	105 x 140	H. T. Mag.	Leather Cone	Side Chains	4	Pressed Steel	9 6	595	685	Side Entry.
Vulcan	Vulcan Motor Co.	30	6	8½ x 4½	Accu.	Leather Cone	Live Axle	3	Pressed Steel	9 10	600	700	Side Entry.
Vulpec	Seymour, Ltd.	30-40	4	120 x 150	H. T. Mag. and Accu.	Cone	—	4	Pressed Steel	9 3	600	675	Side Entry.

## CHASSIS COSTING BETWEEN £601 AND £650.

Adams	Adams Mfg. Co., Ltd.	35-40	8	105 x 115	Accu.	—	Live Axle	20	Pressed Steel	10 6	650	—	—
Aibion	Aibion Motor-Car Co., Ltd.	24	4	4½ x 4½	L. T. Mag.	Multiple Disc	Side Chains	4	Pressed Steel	9 6	632	740	Side Entry.
Aibion	Aibion Motor-Car Co., Ltd.	24	4	4½ x 4½	L. T. Mag.	Multiple Disc	Side Chains	4	Pressed Steel	10 2	640	—	—
Aibion	Aibion Motor-Car Co., Ltd.	24	4	4½ x 4½	L. T. Mag.	Multiple Disc	Side Chains	4	Pressed Steel	10 10	646	—	—
Ariel-Simplex	Ariel Motors (1906), Ltd.	28 x 38	4	4½ x 5½	Accu.	Leather Cone	Live Axle	4	Pressed Steel	10 0	600	725	Side Entry.
Beaufort	Beaufort Motor Co., Ltd.	23	4	120 x 130	L. T. Mag. & Accu.	Leather Cone	Side Chains	3	Pressed Steel	9 6	645	695	Side Entry.
Benz	Cannstatt Auto. Supply Ass., Ltd.	18	4	94 x 114	H. T. Mag. & Accu.	Leather Cone	Live Axle	4	Pressed Steel	9 3	635	—	—
Britannia	Victoria Carriage Works	24-41	6	105 x 130	H. T. Mag. & Accu.	To choice	Side Chains	4	Pressed Steel	10 0	650	750	Side Entry.
Brotherhood	Sheffield Simplex Motor Works, Ltd.	20-25	4	4 x 5	Accu.	Leather Cone	Side Chains	3	Pressed Steel	9 3	610	827½	Special.

## CHASSIS COSTING BETWEEN £601 AND £650.—continued.

Name of Car.	Maker or Agent.	H.P. Maker's Rating.	No. of Cylinders.	Bore and Stroke.	Ignition.	Clutch.	Trans- mission.	No. of Speeds.	Type of Frame.	Wheelbase.	Price of Chassis.	Price with Body.	Type of Body.
Brouhot	Brouhot Motor Co., Ltd.	24-30	4	—	L. T. Mag.	Metal Expdg.	Side Chains	4	Pressed Steel	11 0	625	800	Landulet.
C.G.V.	London Motor Garage Co., Ltd.	20-24	4	4 1/2 x 5 1/2	H. T. Mag. & Accu.	Leather Cone	Side Chains	4	Arm'd. Wood	9 4	640	850	D. Phaeton.
Chenard-Walcker	Walter Gutmann	30-40	4	120 x 130	H. T. Mag.	Leather Cone	Live Axle	4	Pressed Steel	9 6	630	—	—
Clément	Clément Motor Co., Ltd.	24-32	4	105 x 140	H. T. Mag.	Multiple Disc	Side Chains	4	Pressed Steel	9 10	650	—	—
Daimler	Daimler Motor Co., Ltd.	30	4	130 x 150	Accu.	Leather Cone	Side Chains	4	Pressed Steel	9 6	620	—	—
Daimler	Daimler Motor Co., Ltd.	28	4	120 x 150	Accu.	Leather Cone	Side Chains	4	Pressed Steel	11 6	650	910	Landulet.
Dennis	Dennis Bros., Ltd.	24-30	4	105 x 140	H. T. Mag. and Accu.	Leather Cone	Worm	3	Pressed Steel	10 9	650	800	Brougham.
Dennis	Dennis Bros., Ltd.	30-35	4	120 x 130	Accu.	Leather Cone	Worm	3	Pressed Steel	10 3	650	—	—
Gladiator	Gladiators, Ltd.	21-32	4	105 x 140	H. T. Mag.	Disc	—	3	Pressed Steel	9 10	650	745	Side entry.
Horstbick	Horstbick & Bickham	30-40	4	115 x 130	H. T. Mag. and Accu.	To choice	Live Axle	3	Pressed Steel	10 6	650	750	Phaeton.
Maudslayi	Maudslayi Motor Co., Ltd.	20-30	4	4 1/2 x 5	H. T. Mag. and Accu.	Leather Cone	Side Chains	3	Tubular	10 0	625	825	S. Land'let.
Maxwell	F. W. Peckham Motor Synd., Ltd.	32-40	4	5 x 5	Accu.	Multiple Disc	Live Axle	3	Pressed Steel	9 0	—	734	Side entry.
N.E.C.	New Engine Co., Ltd.	30	4	4 1/2 x 4 1/2	Accu.	Leather Cone	Worm	4	Pressed Steel	10 2	625	750	Touring.
Peugeot	Friswell, Ltd.	18-24	4	105 x 105	Magneto	Leather Cone	Side Chains	4	Pressed Steel	—	650	700	4-Seated.
Pipe	London Motor Garage Co., Ltd.	23-36	4	4 x 4 1/2	H. T. Mag. and Accu.	Metal	Side Chains	4	Pressed Steel	9 9	640	825	Limousine.
S.C.A.R.	Central Motor-Car Co.	18-29	4	90 x 100	H. T. Mag.	Leather Cone	Live Axle	3	Pressed Steel	8 9	—	750	Limousine.
Simms-Wellbeck	Wolsley Tool and Motor Co., Ltd.	30	4	4 1/2 x 5	H. T. Mag.	Metal Cone	Live Axle	4	Pressed Steel	10 2	650	—	—
Speedwell	Simms Mfg. Co., Ltd.	30-35	4	105 x 125	H. T. Mag.	Leather Cone	Live Axle	3	Pressed Steel	10 5	650	750	Side Entry.
Spyker	New Speedwell Motor Co., Ltd.	40	6	110 x 130	H. T. Mag.	Multiple Disc	Live Axle	3	Pressed Steel	9 6	650	—	—
Standard	British Auto. Com. Synd., Ltd.	20-30	4	110 x 120	Magneto	Leather Cone	Live Axle	3	Pressed Steel	8 6	615	650	Side Entry.
Thornycroft	Standard Motor Co., Ltd.	24-30	6	4 x 4 1/2	Accu.	Single Disc	Live Axle	4	Pressed Steel	10 0	630	725	Side Entry.
	J. I. Thornycroft and Co., Ltd.	30	4	4 1/2 x 5	L. T. Mag.	Multiple Disc	Live Axle	3	Pressed Steel	10 5 1/2	650	715	Side Entry.

## CHASSIS COSTING BETWEEN £651 AND £700.

Armstrong-Whitworth	Armstrong, Whitworth & Co., Ltd.	28-36	4	5 x 4	L. T. Mag. & Accu.	Multiple Disc	Live Axle	4	Pressed Steel	9 8	700	815	Side Entry.	
Ariel-Simplex	Ariel Motors (1906) Ltd.	30-40	4	5 1/2 x 5 1/2	L. T. Mag.	Metal	Live Axle	4	Pressed Steel	10 0	670	—	—	
Beaufort	Beaufort Motor Co., Ltd.	30	6	100 x 130	H. T. Mag. & Accu.	Disc	Side Chains	4	Pressed Steel	10 6	695	—	—	
Beaufort	Beaufort Motor Co., Ltd.	28	4	120 x 130	H. T. Mag. & Accu.	Leather Cone	Side Chains	4	Pressed Steel	9 6	670	720	Side Entry.	
Berliet	J. E. Hutton, Ltd.	40	4	120 x 140	L. T. Mag.	Disc	Side Chains	4	Pressed Steel	8 10	680	780	Side Entry.	
Bouée (Léon)	Cannstatt Auto. Supply Ass., Ltd.	25-30	4	108 x 130	H. T. Mag. & Accu.	Leather Cone	Side Chains	4	Pressed Steel	9 8	700	—	—	
Brooke	J. W. Brooke & Co., Ltd.	30	6	—	H. T. Mag.	Plate	Live Axle	4	Pressed Steel	10 6	685	750	Side Entry.	
Brown	Brown Bros., Ltd.	40	6	110 x 130	H. T. Mag. & Accu.	Leather Cone	Live Axle	4	Pressed Steel	10 6	700	800	Side Entry.	
Courier	Euston Motor Co., Ltd.	45-50	6	110 x 130	Magneto	Leather Cone	Live Axle	4	Pressed Steel	10 6	700	750	Side Entry.	
Crossley	Jarrott & Lettis, Ltd.	30-40	4	121 x 153	L. T. Mag.	Metal	Live Axle	4	Pressed Steel	10 3	700	800	Side Entry.	
Daimler	Daimler Motor Co., Ltd.	30	4	180 x 150	Accu.	Leather Cone	Live Axle	4	Pressed Steel	10 6	670	—	—	
Gladiator	Gladiators, Ltd.	25-35	4	105 x 140	H. T. Mag.	Disc	Side Chains	4	Pressed Steel	10 10	660	—	—	
Hotchkiss	London & Parisian Motor Co., Ltd.	25-30	4	115 x 120	H. T. Mag.	Leather Cone	Live Axle	4	Pressed Steel	9 11	660	—	—	
Iris	Legros & Knowles	35	4	5 x 5 1/2	H. T. Mag.	Multiple Disc	Live Axle	3	Pressed Steel	10 0	700	825	Side Entry.	
J. & B. Verter	James & Browne, Ltd.	30-40	6	4 x 5	Accu.	Metal Cone	Side Chains	4	Pressed Steel	11 8	680	—	—	
Junior	Junior, Ltd.	40	4	120 x 150	L. T. Mag.	Multiple Disc	Side Chains	4	Pressed Steel	9 10	680	800	Side Entry.	
Metallurgique	Metallurgique Cars	30-35	4	100 x 140	Accu.	Metal	Live Axle	4	Steel	—	9 8	700	775	Side Entry.
Nagant-Hobson	H. M. Hobson, Ltd.	35	4	125 x 140	L. T. Mag.	Multiple Disc	Side Chains	4	Pressed Steel	9 10	700	860	Side Entry.	
Rapid	Straker & MacConnell, Ltd.	40	4	120 x 140	H. T. Mag.	Multiple Disc	Live Axle	4	Pressed Steel	10 0	700	775	D. Phaeton.	
Renault	Renault Frères, Ltd.	30-30	4	100 x 140	Magneto	Leather Cone	Live Axle	4	Pressed Steel	9 10	660	—	—	
Rolls-Royce	C. S. Rolls & Co.	30	4	100 x 127	Accu.	Leather Cone	Live Axle	4	Pressed Steel	9 6	—	735	Side Entry.	
Standard	Standard Motor Co., Ltd.	24-30	6	4 x 4 1/2	H. T. Mag. & Accu.	Single Disc	Live Axle	4	Pressed Steel	11 0	675	800	Landulet.	
Wilson & Pilcher	W. G. Armstrong, Whitworth & Co.	18-24	6	95 x 95	Accu.	Disc	Live Axle	4	Pressed Steel	8 2	680	775	Side Entry.	
Winton	Winton Motor Carriage Co.	35	4	5 x 5	Accu.	Multiple Disc	Live Axle	4	Pressed Steel	9 4	700	750	Side Entry.	
Züst	Farman Auto. Co., Ltd.	28	4	130 x 140	L. T. Mag.	Metal Disc	Side Chains	4	Pressed Steel	9 8	700	810	Side Entry.	

## CHASSIS COSTING FROM £701 TO £800.

Ariel-Simplex	Ariel Motors, Ltd.	35-45	4	5 1/2 x 5 1/2	H. T. Mag. and Accu.	Metal	Live Axle	4	Pressed Steel	11 0	750	1000	D. Land'let
Belaize	Belaize Motors, Ltd.	30	6	102 x 115	Accu.	Metal	Live Axle	3	Pressed Steel	10 2	800	850	Side Entry.
Berliet	J. E. Hutton, Ltd.	60	4	140 x 140	L. T. Mag.	Disc	Side Chains	4	Pressed Steel	8 7	800	—	—
Bianchi	Straker & MacConnell, Ltd.	40	4	130 x 150	L. T. Mag.	Multiple Disc	Side Chains	4	Pressed Steel	9 6	750	825	D. Phaeton
Brasler	Mann & Overtons, Ltd.	25	4	112 x 130	L. T. Mag.	Cone	Side Chains	4	Pressed Steel	9 6	740	950	Limousine.
Courier	Euston Motor Co., Ltd.	40-50	6	110 x 130	—	—	—	—	Pressed Steel	—	750	—	—
Daimler	Daimler Motor Co., Ltd.	30	4	130 x 150	Accu.	Leather Cone	Side Chains	4	Pressed Steel	11 6	720	—	—
Daimler	Daimler Motor Co., Ltd.	35	4	140 x 150	Accu.	Leather Cone	Side Chains	4	Pressed Steel	9 6	720	—	—
Daimler	Daimler Motor Co., Ltd.	35	4	140 x 150	Accu.	Leather Cone	Side Chains	4	Pressed Steel	10 6	770	—	—
De Dietrich	Jarrott & Lettis, Ltd.	24	4	120 x 120	H. T. Mag.	Metal	Side Chains	4	Pressed Steel	10 4	800	900	Side Entry.
De la Baire	Hollingsdrake Auto. Co., Ltd.	35	4	120 x 140	H. T. Mag.	Metal	Live Axle	4	—	10 0	740	880	Side Entry.
De launay-Belleville	Burlington Carriage Co.	20	4	—	H. T. Mag.	Leather Cone	To choice	4	Pressed Steel	10 0	750	900	Touring.
De Dion	Diat-Bouton, Ltd.	28	4	110 x 130	Magneto	Metal	—	3	Pressed Steel	10 6	720	—	—
F. I. A. T.	Flat Motors, Ltd.	30-40	4	125 x 150	L. T. Mag.	Disc	Side Chains	4	Channel Steel	9 6	720	885	Side Entry.
Florentia	M. de Brou & Co., Ltd.	24-30	4	120 x 120	L. T. Mag.	Metal	Side Chains	4	Pressed Steel	—	740	—	—
Gobron-Brillie	Gobron-Brillie British Motor Co., Ltd.	24	4	—	Mag. and Accu.	Double	Side Chains	4	Pressed Steel	9 6	750	950	Phaeton.
Hotchkiss	Horstbick & Bickham	45-60	6	115 x 130	Mag. and Accu.	To choice	Live Axle	4	Pressed Steel	11 6	800	900	Phaeton.
Isotta-Fraschini	Hall, Capris & Co., Ltd.	28-35	4	130 x 150	H. T. Mag.	Metal Disc	Side Chains	4	Pressed Steel	10 0	775	900	Side Entry.
Italia	Italia Automobili, Ltd.	20	4	115 x 130	L. T. Mag.	Multiple Disc	Live Axle	4	Pressed Steel	—	750	—	—
Lanchester	Lanchester Motor Co., Ltd.	28	6	4 x 8	H. T. Mag. and Accu.	Multiple Disc	Worm Drive	3	Pressed Steel	11 5	775	850	Touring.
Marchand	Premier Motor Co., Ltd.	30-40	4	—	Magneto	Multiple Disc	Side Chains	4	Pressed Steel	9 10	787 1/2	850 1/2	Side Entry.
Maudslayi	Maudslayi Motor Co., Ltd.	35-45	4	5 x 5	H. T. Mag. and Accu.	Leather Cone	Side Chains	4	Tubular	—	10 6	775	—
Mitsumoto	W. H. M. Burgess	30-40	4	125 x 130	H. T. Mag.	Expanding	Side Chains	4	Pressed Steel	—	725	800	Side Entry.
Minerva	Arnott & Holloway, Ltd.	40-60	6	105 x 120	H. T. Mag. & Accu.	Cone	Live Axle	3	Pressed Steel	10 6	800	850	Side Entry.
Mors	Mors, Ltd.	28	4	108 x 150	H. T. Mag. & Accu.	Metal	Side Chains	4	Pressed Steel	10 3	740	880	Side Entry.
Morgan	Morgan & Co., Ltd.	24-28	4	114 x 143	H. T. Mag. & Accu.	Cone	Live Axle	4	Pressed Steel	10 6	750	—	—
Orleans	Orleans Motor Co., Ltd.	40	4	135 x 150	H. T. Mag. & Accu.	Cone	Live Axle	4	Pressed Steel	10 2	800	900	Side Entry.
Panhard	Panhard & Levasseur	24-30	4	110 x 140	H. T. Mag. & Accu.	Disc	Side Chains	4	Arm'd. Wood	10 4	800	1000	Phaeton.
Reo-Schneider	Donne & Williams, Ltd.	30	4	120 x 130	L. T. Mag.	Expanding	Side Chains	4	Pressed Steel	10 1	750	850	Side Entry.
Siddeley	Wolsley Tool & Motor Co., Ltd.	40	4	5 1/2 x 5	H. T. Mag.	Metal Cone	Side Chains	4	Pressed Steel	10 4	750	900 1/2	Landulet.
Spyker	British Auto. Com. Synd., Ltd.	30-40	4	130 x 130	Magneto	Leather Cone	Live Axle	3	Pressed Steel	9 4	715	750	Side Entry.
Sunbeam	Sunbeam Motor Car Co., Ltd.	25-30	6	95 x 120	H. T. Mag. & Accu.	Leather Cone	Side Chains	4	Arm'd. Wood	10 4	750	800	Side Entry.
Talbot	Clement Talbot, Ltd.	30-45	4	120 x 140	H. T. Mag. & Accu.	Disc	Side Chains	4	Pressed Steel	10 5	790	—	—
Thornycroft	J. I. Thornycroft & Co., Ltd.	36	6	4 1/2 x 5	H. T. Mag.	Multiple Disc	Live Axle	4	Pressed Steel	11 7	800	870	Side Entry.
Vinot	T. J. Harman & Co.	30-45	4	115 x 140	H. T. Mag.	Leather Cone	Side Chains	4	Pressed Steel	9 10	830	890	Side Entry.
Vulpe	Seymour's, Ltd.	60-80	4	140 x 150	H. T. Mag. & Accu.	Leather Cone	Side Chains	4	Pressed Steel	9 3	800	950	Landulet.
Weigel	Weigel Motors, Ltd.	40	4	130 x 140	H. T. Mag. & Accu.	Multiple Disc	Live Axle	4	Pressed Steel	10 0	800	—	—

## CHASSIS COSTING FROM £801 TO £900.

Ariel-Simplex	Ariel Motors, Ltd.	35-45	6	4 1/2 x 5 1/2	Accu.	Leather Cone	Live Axle	4	Pressed Steel	11 3	825	1,025	Limousine.
Beas	Cannstatt Auto Supply Assoc., Ltd.	28	4	105 x 130	L. T. Mag. & Accu.	Leather Cone	Live Axle	4	Pressed Steel	10 4	835	—	—
Belaize	Belaize Motors, Ltd.	40	6	4 x 4 1/2	H. T. Mag. & Accu.	Multiple Disc	Live Axle	3	Pressed Steel	—	820	1,000	Berlin.
Clément	Clément Motor Co., Ltd.	30-40	6	95 x 130	H. T. Mag.	Multiple Disc	Side Chains	4	Pressed Steel	9 10	830	—	—
C. G. V.	London Motor Garage Co., Ltd.	30-35	40	4 1/2 x 6	H. T. Mag. & Accu.	Leather Cone	Side Chains	4	Arm'd. Wood	9 4	840	1,075	D. Land'let.

## CHASSIS COSTING FROM £801 TO £900—continued.

Name of Car.	Maker or Agent.	H. P. Maker's Rating.	No. of Cylinders.	Bore and Stroke.	Ignition.	Clutch.	Trans- mission.	No. of Speeds.	Type of Frame.	Wheel- base.	Price of Chassis.	Price with Body.	Type of Body.
Daimler	Daimler Motor Co., Ltd.	35	4	140×150	Accu.	Leather Cone	Side Chains	4	Pressed Steel	11 6	820	—	—
Daimler	Daimler Motor Co., Ltd.	45	4	150×150	Accu.	Leather Cone	Side Chains	4	Pressed Steel	11 6	820	—	—
Daimler	Daimler Motor Co., Ltd.	45	4	150×150	Accu.	Leather Cone	Side Chains	4	Pressed Steel	10 6	870	—	—
Darracq	Huntley Walker & Co.	30-40	6	100×120	H. T. Mag. & Accu.	Cone	Live Axle	4	Pressed Steel	11 4	805	—	—
Delannay-Billeville	Burlington Carriage Co.	28	4	—	H. T. Mag.	Leather Cone	Side Chains	4	Pressed Steel	10 0	850	1000	Touring.
Florentia	M. de Brou & Co., Ltd.	40-50	4	140×160	L. T. Mag.	Metallic	Side Chains	4	Pressed Steel	—	880	—	—
Gladiator	Gladiators, Ltd.	40	4	95×130	H. T. Mag.	Disc	Side Chains	4	Pressed Steel	10 6	880	—	—
Gobron-Brillié	Gobron-Brillié British Motor Co., Ltd.	35	4	—	Mag. & Accu.	Double	Side Chains	4	Pressed Steel	10 6	900	1100	Phaeton.
Iris	Legros & Knowles	40	6	44×54	H. T. Mag.	Multiple Disc	Live Axle	3	Pressed Steel	11 0	875	1000	Side Entry.
Mercedes	Du Cros-Mercedes, Ltd.	20-25	4	100×130	L. T. Mag.	Metal	Side Chains	4	Pressed Steel	10 9	850	—	—
Metallurgique	Metallurgique Cars	40-45	4	119×140	Accu.	Metal	Live Axle	4	Pressed Steel	9 6	825	900	Side Entry.
New Eagle	St. George's Motor Car Co.	35-45	4	130×150	H. T. Mag. & Accu.	Metal	Epi-cyclic	3	Pressed Steel	10 6	875	—	—
Orleans	Orleans Motor Co., Ltd.	35	6	110×120	H. T. Mag. & Accu.	Cone	Live Axle	4	Pressed Steel	10 10	875	975	Side Entry.
Pugeot	Friswell, Ltd.	30-40	4	130×140	Magneto	Leather Cone	Side Chains	4	—	10 3	900	950	4-Seated.
Rolls-Royce	C. S. Rolls & Co.	30	6	100×127	Accu.	Leather Cone	Live Axle	4	Pressed Steel	9 8	—	945	Side Entry.
Siddeley	Wolsley Tool and Motor Co., Ltd.	45	6	44×5	H. T. Mag.	Metal Cone	Side Chains	4	Pressed Steel	11 3	875	—	—
Thames	Thames Engineering Co., Ltd.	45-50	6	44×5	H. T. Mag. & Accu.	Metal Cone	Live Axle	3	Pressed Steel	11 0	875	—	—

## CHASSIS COSTING FROM £901 TO £1,000.

Belsize	Belsize Motors, Ltd.	80	6	54×5	H. T. Mag.	Multiple Disc	Live Axle	3	Pressed Steel	11 5	1,000	—	—
Bollée (Léon)	Cannstatt Auto. Supply Assoc., Ltd.	40-50	4	130×150	H. T. Mag. and Accu.	Leather Cone	Side Chains	4	Pressed Steel	10 8	1,000	—	—
De Dietrich	Jarrott and Letts, Ltd.	40	4	130×180	L. T. Mag.	Metal	Side Chains	4	Steel	10 6	1,000	1100	Side Entry.
Gobron-Brillié	Gobron-Brillié British Motor Co., Ltd.	40	4	—	Mag. and Accu.	Double	Side Chains	4	Pressed Steel	10 6	980	1150	Phaeton.
Hotchkiss	London and Parisian Motor Co., Ltd.	35-45	6	120×120	H. T. Mag.	Leather Cone	Live Axle	4	Pressed Steel	10 11	1,000	1100	Side Entry.
Itala	Itala Automobiles, Ltd.	40	4	130×140	L. T. Mag.	Multiple Disc	Live Axle	4	Pressed Steel	—	1,000	—	—
Napier	S. F. Edge, Ltd.	40	6	4×4	Accu.	Metal	To choice	3	Pressed Steel	11 2	975	—	—
Pipe	London Motor Garage Co., Ltd.	50	4	54×54	H. T. Mag. and Accu.	Magneto	Side Chains	4	Pressed Steel	10 3	980	1,100	D. Phaeton.
Rochet-Schneider	Donne & Willans, Ltd.	40	4	140×180	L. T. Mag.	Expanding	Side Chains	4	Pressed Steel	10 1	970	1,080	Side Entry.
Rolls-Royce	C. S. Rolls and Co.	40×50	6	114×114	Accu.	Leather Cone	Live Axle	4	Pressed Steel	11 0	950	1,045	Side Entry.
Standard	Standard Motor Co., Ltd.	50	6	54×5	Mag. and Accu.	Single Disc	Live Axle	4	Pressed Steel	11 0	950	—	—
Talbot	Clement Talbot, Ltd.	50-60	4	140×140	Mag. and Accu.	Disc	Side Chains	4	Pressed Steel	10 9	1,000	—	—
Vinot	T. J. Harman and Co.	35-50	6	105×140	H. T. Mag.	Leather Cone	Side Chains	4	Pressed Steel	10 2	980	1,025	Side Entry.
Züst	Farman Auto. Co., Ltd.	150×160	4	150×160	L. T. Mag.	Disc	Side Chains	4	Pressed Steel	9 8	1,000	1,100	Side Entry.

## CHASSIS COSTING FROM £1,001 TO £1,100.

Benz	Cannstatt Auto Supply Co., Ltd.	40	4	120×180	L. T. Mag. and Accu.	Leather Cone	Side Chains	4	Pressed Steel	10 8	1,080	—	—
Blanchi	Straker & MacConnell, Ltd.	70	4	145×185	L. T. Mag.	Multiple Disc	Side Chains	4	Pressed Steel	—	1,050	—	—
Delannay-Belleville	Burlington Carriage Co.	40	4	130×140	L. T. Mag.	Leather Cone	Side Chains	4	Pressed Steel	10 0	1,080	—	—
Isotta-Fraschini	Hall, Capris & Co., Ltd.	50-65	4	145×160	H. T. Mag.	Metal Disc	Side Chains	4	Pressed Steel	11 0	1,085	1220	Side Entry.
Mercedes	Du Cros Mercedes, Ltd.	35-40	4	110×140	L. T. Mag.	Metal	Side Chains	4	Pressed Steel	10 4	1,010	1075	Side Entry.
Mors	Mors, Ltd.	45	4	125×150	L. T. Mag. and Accu.	Metal	Side Chains	4	Pressed Steel	11 0	1,020	—	—
Panhard	Panhard & Levasor	35	4	125×150	H. T. Mag. and Accu.	Metal	Side Chains	4	Arm'd. Wood	10 6	1,040	1350	Limousine.
Rapid	Straker & MacConnell, Ltd.	70	4	140×180	H. T. Mag.	Multiple Disc	Live Axle	4	Pressed Steel	11 0	1,050	—	—
Renault	Renault Frères	35-45	4	130×150	Magneto	Leather Cone	Live Axle	4	Pressed Steel	10 3	1,040	1350	Limousine.

## CHASSIS COSTING FROM £1,101 TO £1,300.

Benz	Cannstatt Auto. Supply Co., Ltd.	50	4	130×140	L. T. Mag. & Accu.	Leather Cone	Live Axle	4	Pressed Steel	10 6	1,280	—	—
C. G. V.	London Motor Garage Co., Ltd.	50	4	54×64	H. T. Mag. and Accu.	Leather Cone	Side Chains	4	Arm'd. Wood	9 6	1,180	—	—
De Dietrich	Jarrott & Letts, Ltd.	60	4	145×180	L. T. Mag.	Metal	Side Chains	4	Pressed Steel	10 10	1,230	1,350	Side Entry.
De la Buire	Hollingsdrake Automobile Co., Ltd.	50	6	120×140	H. T. Mag.	Metal	Live Axle	3	Pressed Steel	10 6	1,270	1,320	Side Entry.
F. I. A. T.	Flat Motors, Ltd.	50-60	6	—	L. T. Mag.	Disc	Side Chains	4	Pressed Steel	—	1,200	—	—
German	Theo Masul	60	6	120×130	H. T. Mag.	Disc	Live Axle	—	Pressed Steel	11 2	1,250	—	—
Mercedes	Du Cros Mercedes, Ltd.	45-50	4	120×150	L. T. Mag.	Metal	Side Chains	4	Pressed Steel	10 4	1,200	1,275	Side Entry.
Metallurgique	Metallurgique Cars	60	4	150×140	Mag. & Accu.	Metal	Live Axle	4	Pressed Steel	9 6	1,250	—	—
Mors	Mors, Ltd.	50	6	110×150	L. T. Mag. & Accu.	Metal	Side Chains	4	Pressed Steel	11 2	1,220	1,375	Side Entry.
Napier	S. F. Edge, Ltd.	60	6	5×4	Accu.	Metal	Live Axle	3	Pressed Steel	11 2	1,285	—	—
Panhard	Panhard & Levasor	60	4	160×175	H. T. Mag. & Accu.	Metal	Side Chains	4	Arm'd. Wood	10 6	1,230	1,500	Phaeton.

## CHASSIS COSTING OVER £1,300.

Benz	Cannstatt Auto. Supply Assoc., Ltd.	60	4	145×140	L. T. Mag. & Accu.	Leather Cone	Side Chains	4	Pressed Steel	10 4	1,580	—	—
Gobron-Brillié	Gobron Brillié British Motor Co., Ltd.	60	4	—	Mag. & Accu.	Double	Side Chains	4	Pressed Steel	10 6	1,320	1,500	Phaeton.
Itala	Itala Automobiles, Ltd.	80	4	155×145	L. T. Mag.	Multiple Disc	Live Axle	4	Pressed Steel	—	1,400	—	—
Itala	Itala Automobiles, Ltd.	80	6	—	L. T. Mag.	Multiple Disc	Live Axle	4	Pressed Steel	—	1,600	—	—

## STEAM CARS.

Name of Car.	Maker or Agent.	H. P. Maker's Rating.	No. of Cylinders.	Bore and Stroke.	Transmission.	Type of Frame.	Wheel- base.	Price of Chassis.	Price with Body.	Type of Body.
Stanley	W. Galloway & Co.	8-10	2	8×4	Direct Drive	Wood	6 6	—	180	4-Seated.
Stanley	W. Galloway & Co.	10-12	2	3×4	Direct Drive	Wood	7 6	—	225	4-Seated.
Stanley	W. Galloway & Co.	20	2	34×5	Direct Drive	Wood	8 4	—	375	Side Entry.
Turner-Miesse	Turner Motor Manufacturing Co.	10	3	2×3	Side Chains	Armoured Wood	7 10	385	430	Tonneau.
Turner-Miesse	Turner Motor Manufacturing Co.	10	3	2×3	Side Chains	Armoured Wood	8 4	400	450	Side Entry.
Turner-Miesse	Turner Motor Manufacturing Co.	10	3	2×3	Side Chains	Armoured Wood	9 0	450	600	Landulet.
Turner-Miesse	Turner Motor Manufacturing Co.	16	3	24×34	Side Chains	Armoured Wood	8 4	550	650	Side Entry.
Turner-Miesse	Turner Motor Manufacturing Co.	16	3	24×34	Side Chains	Armoured Wood	9 0	600	750	Landulet.
White	White Steam Cars	20	2	3×34	Cardan	Arm'd. Wood and Steel Fitch Plates	8 6	485	560	Side Entry.
White	White Steam Cars	30	2	3×44	Cardan	Arm'd. Wood and Steel Fitch Plates	9 7	675	875	Landulet or Limousine.
White	White Steam Cars	30	2	3×44	Cardan	Arm'd. Wood and Steel Fitch Plates	9 7	675	750	Side Entry.



# The Olympia Motor-Car Show.



THE Exhibition of the Society of Motor Manufacturers and Traders is now in progress at Olympia, Kensington, and judging from a preliminary inspection, promises to be of considerable interest. Many makers have hastened the completion of their 1907 models in order to gain the publicity associated with the Exhibition, while others will take advantage of the Agricultural Hall Show in the spring to bring their cars before the public for next year. In connection with our report of the present Exhibition the list of prices and the leading features of the cars for 1907 will be read with interest as affording a review of easy reference to most of the vehicles in the Show.

## The Iris Cars.

The *piece de resistance* of the exhibit of Messrs. LEGROS AND KNOWLES, LTD., is the chassis of the new Iris 40-h.p. six-cylinder car, which has been designed to meet the demand for a touring car having not only sufficient power to meet all requirements, but to be at the same time as easy to drive and control as one having a smaller power, while being much more flexible, making changing of gears unnecessary, either in traffic or on the open road, unless exceptionally steep hills are encountered.

rent distributor. The latter is fixed, the ignition advance being obtained by sliding the skew gear on a feather on the shaft by means of a lever on the dashboard. This arrangement enables the high tension wires to be completely enclosed in a protecting pipe. The crank shaft bearings are of such a size that in no case does the pressure due to thrust exceed 100 lbs. per square inch. The inlet pipe is in one with the cylinder casting, and is brought between each pair of cylinders; the carburettor gives a correct mixture at all speeds and loads of the engine, and is placed on the side of the engine opposite to the valves and exhaust pipe, thus conducing to accessibility and safety. The throttle and ignition are interconnected and controlled by a small hand lever on the steering wheel. High tension magneto ignition is employed, an auxiliary by means of a high-tension distributor and a single coil being fitted when required. The magneto is placed parallel with the engine on the carburettor side, and driven by helical wheels from the crank shaft. The pump circulating the cooling water is of the gear type, and is driven in a similar manner to the magneto, but on the opposite side of the motor. The pinions driving the cam shaft, magneto, and pump are all cut with helical teeth to ensure silence, and are totally enclosed and run in an oil bath. The flywheel is of the fan type, and, owing to the tightness of the undercasing, no other device is employed to induce air through the radiator. The latter is of the honeycomb type, the shape being the well-known Iris diamond. From the engine the drive is taken to the

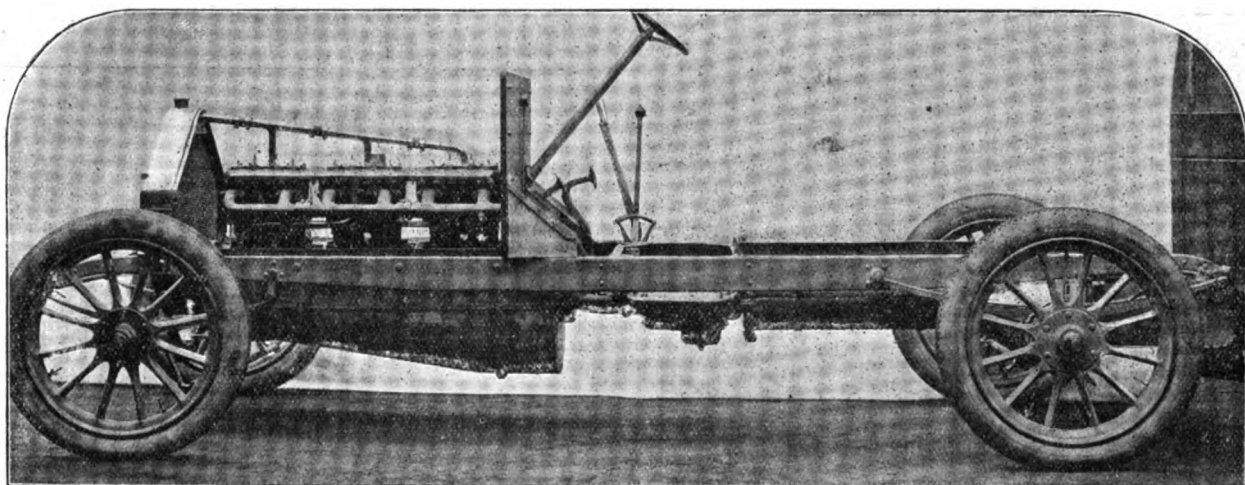


Fig. 1.—Chassis of Iris 40-h.p. Six-cylinder Car.

The engine is of the vertical type, the bore and stroke being respectively 4½ in. by 5½ in. The cylinders are cast in three pairs, and the interchangeable inlet and exhaust valves are placed on one side of the engine, so that they are worked from one cam shaft. The latter is arranged to slide longitudinally by means of a small lever under the radiator, in order to bring into play half-compression cams to facilitate starting; it is returned to its normal position by releasing the lever, when the longitudinal thrust, caused by the helical wheels by which it is driven, automatically causes it to move endways until arrested by a ball thrust race on which the end pressure is normally taken. The cam shaft runs in plain bushes driven into the aluminium crank chamber. The bearings are of exceptionally large diameter to allow the cam shaft to be entered from the end, and to prevent, as far as possible, the slightest wear. The crank chamber is of aluminium, and is in two parts. The main bearings are carried by the top half of the crank chamber, so that the lower part can be removed without disturbing the rest of the engine. The ordinary practice has been departed from in the construction of the lower half, which, in addition to forming an oil well of exceptional size, holding over three gallons of oil, is continued on either side to the frame, thus making the whole engine casing air and dust tight. Forced lubrication has been adopted throughout, the oil being supplied to the bearings through holes cast in the top half of the engine casing, and from thence by tubes in the crank shaft to the big ends and up to the gudgeon pins by means of pipes fixed in the connecting rods. The oil is forced by means of a gear pump submerged in the oil in the bottom half of the crank case and actuated by a vertical shaft driven by skew gears off the cam shaft. The oil pump, which can be readily removed, has a spring-loaded relief valve arranged with it, enabling the pressure of oil, usually 6 lbs. to 10 lbs. per square inch, to be varied at will, and avoiding fluctuations of pressure due to the varying revolutions of the engine. The vertical shaft carries on its upper end the auxiliary high tension cur-

gear-box by means of a multiple disc clutch running in oil. A sliding universal joint is provided between the clutch and gear-box to allow for any slight twistings that might occur, due to the inequality of the road, and for the removal of the clutch without disturbing either the gear-box or the engine. The gear-box is suspended from the frame at three points, and can be easily removed from the chassis. It is adapted to give three speeds forward and reverse, the third speed being a direct drive. All the shafts run in ball bearings; the gears are operated on the two-sleeve "gate" principle, with a single lever, a positive movement for each change of speed being provided, as well as a lock in the sliding rod, which renders it impossible for two sets of gear to get in mesh at the same time. From the gear-box cardan shaft and bevel gear convey the power to the rear live axle, the design of the latter being such that it is impossible for it to sag at the centre. The road wheels are mounted on self-lubricating ball bearings, direct upon the ends of the axle casing, close up to the springs. The differential gear and the bevel wheels are carried in an aluminium case, forming the centre of the axle, in such a way that they may be bodily removed in a few minutes without disturbing any other part of the axle or the wheels. The ratio of the bevel gears can be readily changed, thus enabling the gear of the car to be adapted to the conditions under which it is to be used. The cardan shaft is connected up to the main driving shaft in the gear-box by means of a universal joint, and is enclosed in a steel tube bolted rigidly to the axle casing at its rear end, and at the upper end rides on a ball bearing on the cardan shaft. By this method of construction it acts as a torque rod, and prevents the tendency of the axle casing to revolve. The car is fitted with three powerful metal-to-metal brakes; that operated by the foot is attached to the main driving shaft close up to the rear end of the gear-box. The hand brakes, which are operated by a pull-up lever within easy reach of the driver, act direct upon the hubs of the back wheels, and are fully compensated. The front axle is of H section steel.

The steering pivots are of a new design, and are entirely supported in ball bearings. The vertical pins do not move, and are held tight in the cones by nuts, which also hold the ball bearings in place. The steering joints are of the universal type, and have pins, the heads of which are screwed to take "Stauffer"-type grease cups. The springs are of the semi-elliptic type, and all pins and shackles are lubricated in a similar manner to the above. The rear springs are of great length to ensure freedom of vibration from road or shock. Owing to the flexibility of the engine, speeds of from three to sixty miles an hour can be obtained on the top gear by means of the combined throttle and ignition lever on the steering wheel, thus avoiding to a great extent the changing of the gear. A 60-h.p. six-cylinder Iris car on similar lines, but with cylinders 5 in. bore by 5½ in. stroke, is also being built. The next car on the stand is a fine specimen of the closed touring carriage in the shape of a limousine fitted to the well-known 35-h.p. Iris chassis. The body has seating accommodation for seven persons in all, being arranged for three people in the back seat, two comfortable folding seats, and the usual two places on the front seat. The third vehicle is a neat and compact landaulet fitted to the 25-h.p. Iris chassis, and is designed for town work. Both the last-named cars are fitted with four-cylinder engines, and are of the live axle type. Various improvements and modifications have been made in them, high-tension magneto ignition being fitted as a standard. The foot and hand brakes now act on separate drums, and the cardan shaft is now provided with a single universal joint, which latter is entirely enclosed. We may add that the cars are throughout of British construction, and will well repay careful inspection.

#### The Metallurgique Cars.

Prominent among the display of cars on the stand of Metallurgique cars is the 24-28-h.p. model (Fig. 2), which since its victory in the Coupe de Liedekerke, when it averaged a speed of forty-nine miles an

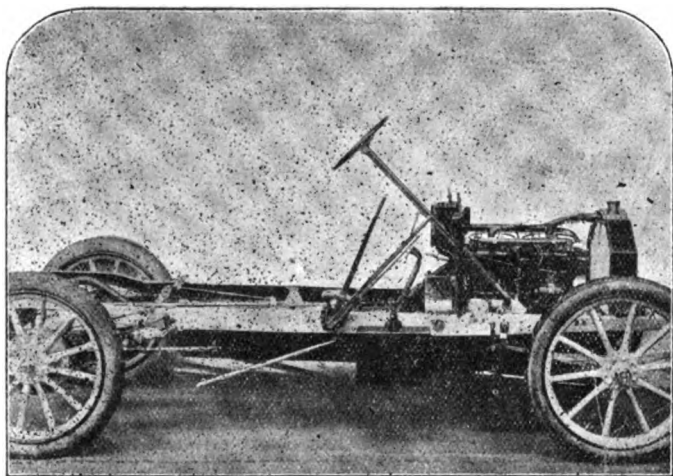


Fig. 2.—Chassis of Metallurgique 24-28-h.p. Car.

hour for five and a half hours at a stretch, has attracted considerable attention. A feature of the engine (Fig. 3), which comprises four cylinders, 102 mm. bore by 115 mm. stroke, is that the crank shaft is *desaxé*; that is to say, the cylinders are not in a perpendicular line with the crank shaft, an arrangement which is claimed to reduce the friction between the cylinders and their pistons. The cam shaft is also placed eccentric to the valves to prevent side friction to the valve tappets and seats, and, what is equally important, a quicker opening of the valves themselves. The valves of each cylinder are held by long and elastic springs, and can be disconnected by simply removing a small cotter and cap. The pinions driving the magneto, the water-circulating pump, and the half-time shaft are neatly enclosed in an aluminium casing, which forms part of the crank chamber. The crank shaft runs on special bronze bearings, and attached to one end is a flywheel nearly 24 in. in diameter, which acts also as a fan. The Metallurgique automatic carburettor, which is claimed to furnish a suitably-proportioned mixture at any engine speed, is controlled by a centrifugal governor, and also by a lever on the steering wheel. In addition to this a pedal is provided, by means of which the governor can be cut out of action and the engine accelerated up to its full power. Two systems of high tension ignition—accumulators and magneto—are fitted. The cylinder-cooling water is circulated by a powerful gear-driven pump actuated through a spiral spring, so that should the water congeal in the pump during cold weather the spring will be the first to break, and no further damage can be done. From the motor the power is transmitted to the gear-box by a metal-to-metal expanding clutch, which, as will be seen from Fig. 4, resembles in principle an internally expanding brake, the two wide semi-circular brake-shoes being forced apart so that they press against the inner walls of the flywheel boss. The gear-box is adopted to give three forward speeds and a reverse, with direct drive on top,

controlled by a single lever working in a "gate." The gear wheels are made of a special chrome nickel steel, and are hardened by a new process rendering them practically unwearable. Especial attention has been paid to the gear-box, also the engine crank chamber, in order to make them oil-tight, and to prevent stones or dirt entering to any of the working parts a readily detachable shield is fitted underneath the engine

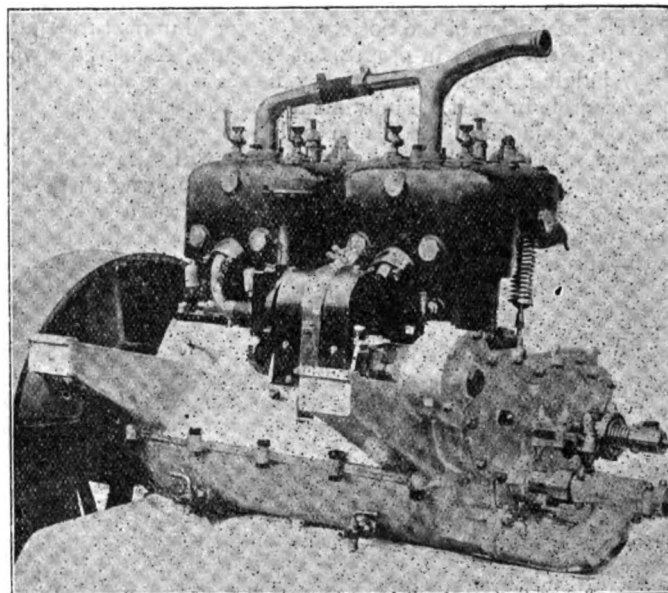


Fig. 3.—The Metallurgique 24-28-h.p. Motor.

and gear-box. From the latter to the back axle the power is transmitted by a cardan shaft and bevel gear through a patent spring drive. The hand brakes are of the internal expanding pattern, and act on the back wheels, while the foot brake works on a drum on the driving shaft. The steering gear is of the worm and sector type, and is so arranged that any wear can easily be taken up. To facilitate steering and to save wear and tear on the tyres the front wheels are attached to the axle in such a way as to cause all the weight to fall exactly on the centre of the tread of the tyre. The springs are very long, and the frame is raised at the back so as to allow them full play. Ball bearings are used throughout, except on the engine. The chassis is sufficiently large to allow of comfortable and roomy limousine bodies with a wide side entrance being fitted. The Metallurgique cars are being made in a wide

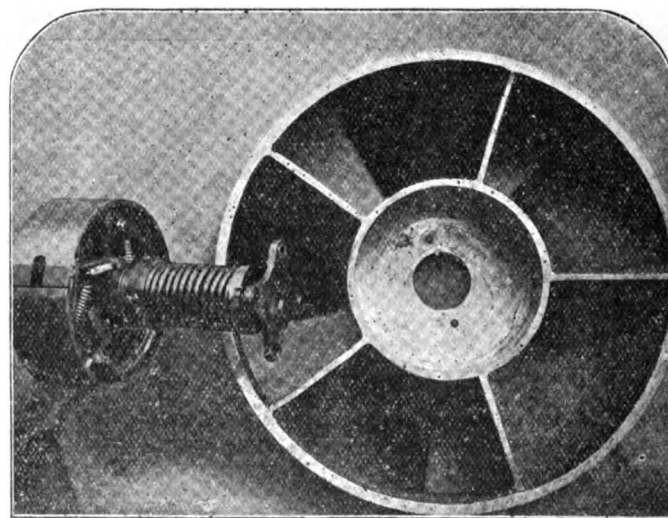


Fig. 4.—The Metallurgique Expanding Clutch.

range of sizes, extending from 10-12-h.p. two-cylinder to 60-h.p. four-cylinder, in all of which the main features outlined above are to be found.

#### The Star Cars.

The exhibit of the STAR ENGINEERING COMPANY is one of much interest, not merely because of the new 24-h.p. six-cylinder car that is on view, but also because of the improvements embodied in the older

models. Dealing first with the "six," this is throughout on modern lines. The cylinders, which are cast in pairs, are  $3\frac{1}{2}$  in. bore by  $4\frac{1}{2}$  in. stroke. The valves are all on the one side, the inlet valves being underneath in a similar position to the exhaust valves. The two-to-one gear wheels are all enclosed. The engine is fitted with magneto ignition only. The carburettor is automatic; the lubrication is also automatic, and worked by a small plunger pump operated

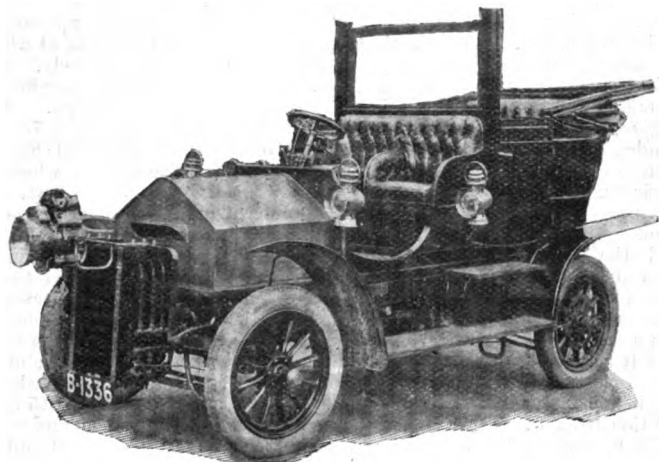


Fig. 5.—The 16-h.p. Turner-Miesse Landaulet built for Alderman G. T. Brown, J.P., of Chorley, Lancs. The vehicle is the first of the kind turned out by Turner's Motor Manufacturing Company, Ltd., and its owner is extremely pleased with its running.

by an eccentric on the cam shaft; the supply of oil is drawn through a filter from a reservoir underneath the crank chamber, the pump forcing it through all the bearings, whence it returns to the reservoir. A supply tank for supplying the reservoir is fitted on the side of the frame. The gear is of the firm's usual type, giving three speeds and a reverse, with a direct drive on the top speed, the shafts in the gear-box being fitted with Hoffmann ball bearings. The top portion of the gear-box can be removed without disturbing any other portion or the gear shafts, or taking the box from the frame. The transmission from the differential shaft to the road wheels is by side chains on to wheels, formed solid with the large internal brake drums on the rear wheels. The frame is of pressed steel of deep section. The wheel base is not excessive, having regard to the six cylinders, and the body space behind the dashboard is 7 ft. 6 in. The throttle and ignition levers are fitted on the centre of the steering wheel, and there is also a foot accelerator. The cooling is by a gear-driven pump and a radiator of the honeycomb type. The next car is a standard 18-h.p. "Star" of the Tourist Trophy type, fitted with a special Windham detachable body. The engine comprises four cylinders, 4 in. bore by 5 in. stroke, fitted with magneto ignition. Four speeds forward and a reverse, with direct drive on the fourth, are provided, the change-speed lever working in a "gate." The gear-box is fitted with ball bearings, and is built on the same lines as that of the six-cylinder referred to above. The wheel base of the car is 9 ft. 6 in. A 14-h.p. car of the same type as supplied to the A.C.G.B.I. this year is also on view. It is fitted with a handsome landaulet body. The engine has four cylinders of the firm's usual type, the gear-box giving three speeds and a reverse, with direct drive on top speed and chain transmission to the rear road wheels. The wheel base is 10 ft., which enables the back portion of the body to be furnished with a good wide door. A medium-powered car is seen in a new 14-h.p. four-cylinder chassis fitted with an engine of the latest design, having the valves all on one side, actuated by a single shaft. The vehicle is, except as regards the number of cylinders, identical in design to the "six." The wheel base is 8 ft. 6 in., and the road wheels are shod with 810 mm. by 90 mm. tyres. Motorists of moderate means looking for a four-cylinder car within their limits will be interested in the chassis of the 10-h.p. car. The cylinders are 3 in. bore by  $4\frac{1}{2}$  in. stroke, the vehicle being fitted with mechanical lubrication, three speeds and reverse, with direct drive on top speed. A departure from the Star Company's usual practice is found in a live axle, which is used in place of side chains. To meet the demands of motorists who prefer live-axle cars, the makers have decided to supply their 7-h.p., 10-h.p., and 14-h.p. vehicles with live axles when desired. In the design adopted ball bearings are used throughout, and the weight of the car is not carried on the driving shaft, but upon the axle casing. The frame, which is of pressed steel, is supported on long springs, ample length behind the dashboard being available for a roomy and comfortable body. The 7-h.p. Little Star cars are also to be seen at the stand. Among the changes which have been made in this popular model are a honeycomb radiator in place of the usual gilled type, an H section stamped steel front axle instead of the tubular one of last year, push pedals for the clutch and brake. The vehicles have a wheel base of 6 ft. 9 in., the usual three speeds and reverse with direct drive on top speed, and transmission by chains to the road wheels. Altogether the 1907 models of the

Star Company will be found thoroughly up to date, and their relatively low price and sound construction should fully maintain their popularity.

#### The Turner (Miesse Patents) Steam Cars.

The Turner (Miesse patents) steam cars are again kept well to the front by TURNER'S MOTOR MANUFACTURING COMPANY, LTD. The name "Miesse" has led some people to imagine that the cars are of foreign construction. It may therefore be advisable to mention that the Turner steam cars are built entirely at the company's works in Wolverhampton. The vehicles are now so well known that it is unnecessary to describe them at length. We may, however, state that they are fitted with a three-cylinder single-acting engine, its great feature being that there are no glands or packing to require attention. The control is extremely simple, one pedal and a lever being all the driver has to attend to during the time the car is running. The one lever governs the supply of water to the generator, and therefore regulates the speed; the single pedal instantly cuts off the steam, and when depressed still further puts a double-acting brake on the crank shaft. The advantage of this system is that the driver cannot carelessly put on his brake before cutting off the power. The generator, which is of the "flash" type, is made in four sections, so that the bottom section can be replaced at a trifling cost when necessary. The burner fitted in these cars uses ordinary paraffin as fuel. The cars exhibited embody a number of improvements. A new burner regulator is now fitted, by means of which the flame can be turned up and down as in a gas stove, so that the car can be kept waiting about and yet be ready to start at a moment's notice. A feed-water heater is also provided, which utilises the exhaust steam to heat up the water on its way to the generator. This effects the two-fold purpose of cooling the exhaust steam before it enters the condenser, and of heating up the water on its way to the generator. The makers claim that this improves the running of the car fully twenty per cent.

#### The Maudslay Cars.

For the 1907 season the MAUDSLAY MOTOR COMPANY, LTD., are confining their energies to two types of cars, i.e., 20-30-h.p. and 35-45-h.p., each being fitted with four-cylinder engines. The vehicles on view include a 20-30-h.p. chassis fitted with popular type of extended landaulet body capable of seating five persons inside, neatly constructed folding seats being fitted at the back of the driver's seat, and a 35-45-h.p. side entrance omnibus, which is really an extended limousine. The body work of the cars is of the usual high-class finish associated with the Maudslay firm, and is constructed by Messrs. McNaught and Co., of Worcester. With regard to the general design of the chassis, the special features are much the same as last year. The hinged cam shaft and the situation of the valves in the tops of the cylinders immediately over the tops of the pistons are retained in the motor as in last year's models. The 35-45-h.p. cars have ball bearings throughout, the 20-30-h.p. having plain bearings in the road wheels and a few other parts. The frame of the vehicle is still a distinctive feature of the Maudslay cars, as the rectangular steel tube frame, with a subsidiary one of the same material braced to the upper frame by a fitch plate, is still employed, the firm informing us that it has proved far more rigid than the ordinary pressed steel frame. A new design of carburettor has been introduced, which gives exceptionally quiet running, and enables the engine to be throttled down to below 200 revolutions per minute when the car is standing. The Bassé-Michel

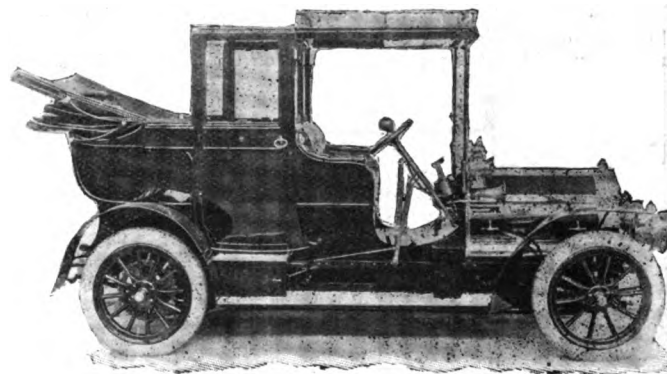


Fig. 6.—The Maudslay 20-30-h.p. Extended Landaulet.

system of dual ignition has been adopted as a standard fitting. A feature which was adopted by the Maudslay Company last year, and which has proved very popular, is having the direct drive on the third speed, and using the fourth indirect speed for fast travelling on flat and open country roads.

#### The Talbot Cars.

THE CLEMENT-TALBOT COMPANY occupy a large stand with five cars, four of which are London-built and one a Parisian model, all having four-cylinder engines. The former comprise a 12-16-h.p., with standard side entrance body, a 15-h.p. chassis, and two 20-h.p.'s—one with a standard side entrance body, and the other with a limousine landaulet. All are fitted with four-cylinder engines. The Paris model 10-14-h.p. is an



entirely new design. The 15-h.p. chassis represents the latest production of the North Kensington Works, and is quite a new model for the 1907 season. The engine has its four cylinders separately cast, with the interchangeable valves set on opposite sides. The bore is 90 mm. and the stroke 117 mm., the normal speed being 1,100 revolutions per minute. Other features of the engine are, the lower half of the base chamber is removable without disturbing the crankshaft bearings, and

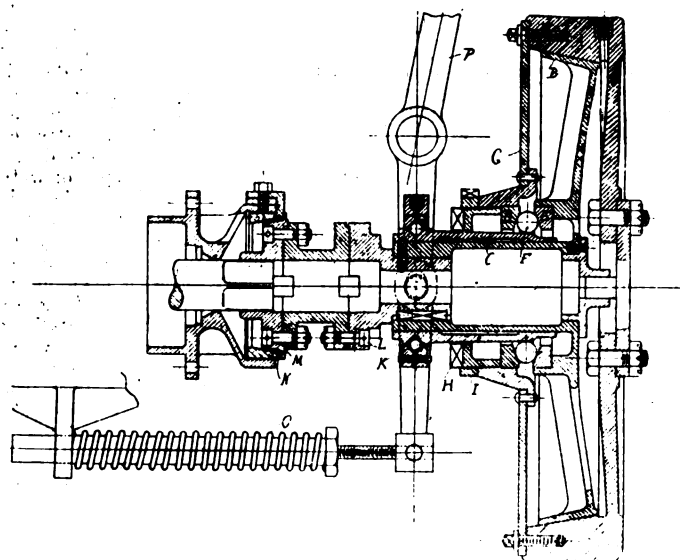


Fig. 7.—Section of Climax Clutch.

presents the largest possible facilities for adjustment and inspection of engine gear. All the distributing pinions are enclosed in the crank chamber. The pump and magneto are gear-driven, and are carried on the motor itself. The carburettor is a new and improved form of the float feed spray type, with adjustable spring-controlled automatic air feed and an auxiliary air inlet, hand-controlled on the inlet pipe to compensate for atmospheric variations. Two systems of high tension ignition—magneto and accumulators—are fitted, working through a common high-tension distributor and duplicate plugs. An interesting departure is the adoption of an automatic control for the ignition, which serves to give a correct firing point at all engine speeds; this is sympathetic with the engine control by the throttle lever fitted to a ratchet quadrant on the steering wheel. As regards the lubrication of the engine, the oil is pressure-fed direct through sight feeds on the dashboard to the principal bearings, an auxiliary hand pump being provided for emergency purposes. The clutch is of the leather-faced cone type, buffer springs being provided. The gear-box, the shafts of which run on ball bearings, is adapted to give four forward speeds, and a reverse is controlled by a lever working in a "gate." The cardan shaft, which is provided with a single universal joint, runs on ball bearings inside a long sleeve, which takes the place of the usual torsion rod. The final drive is through a ball-bearing differential gear to a live axle, which has only the driving strain, the weight of the car being carried on the axle casing, on which

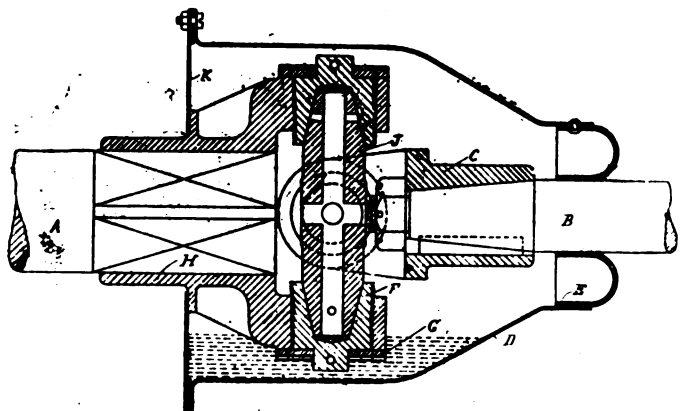


Fig. 8.—Section of Climax Adjustable Universal Joint.

the rear road wheels run on ball bearings. The front axle is of T section steel, and the brakes are as usually fitted to Talbot cars. The pressed steel frame is supported on five long flat springs, the engine and gear-box being carried on a sub-frame. The 12-16-h.p. model is similar to that which has performed so consistently during the last season in the hill-

climbing and speed trials all over the country, several improvements in the fitting of the bodies being, however, introduced. The 20-h.p. car is also similar in detail to the 1906 model, save that a leather-faced cone clutch displaces the multiple disc, while the four-speed change gear is now operated by a lever working in a "gate." Five-spring suspension is also adopted, and every bearing on the car save the crankshaft runs on balls.

#### The Climax Cars.

For the coming season CLIMAX MOTORS, LTD., Coventry, are building two sizes of cars—a 20-28-h.p. six-cylinder with White and Poppe engine and a 16-h.p. four-cylinder with Aster motor, the chassis of both of which are adapted to receive any type of open or closed carriage body. The Climax vehicles are worthy of close inspection, as quite a number of interesting features will be found incorporated in the design. The engine, clutch, and gear-box are carried on a sub-frame, which is suspended at three points. The clutch is of the cone type, but having metal-to-metal engaging surfaces running in oil. The device, which is made under Dixon's patents, has recently undergone a severe test, and has proved itself very efficient and capable of giving a smooth engagement. Provision is made for readily adjusting the conical rings and the spring, but the makers inform us that once the clutch has run for a few hundred miles and the cones have bedded themselves one to the other, adjustment becomes practically unnecessary. Referring to Fig. 7, which gives a sectional view of the new clutch, A represents the fly wheel of the motor with an internal cone surface, and B the male portion of the clutch C is a hardened steel sliding cone operated by the pedal P and the spring O. D and E are hardened steel conical rings, forming a V-shaped groove, which is fitted with anti-friction balls F. To engage the clutch the cone C is pushed under the balls F, causing them to rise and wedge themselves between D and E.

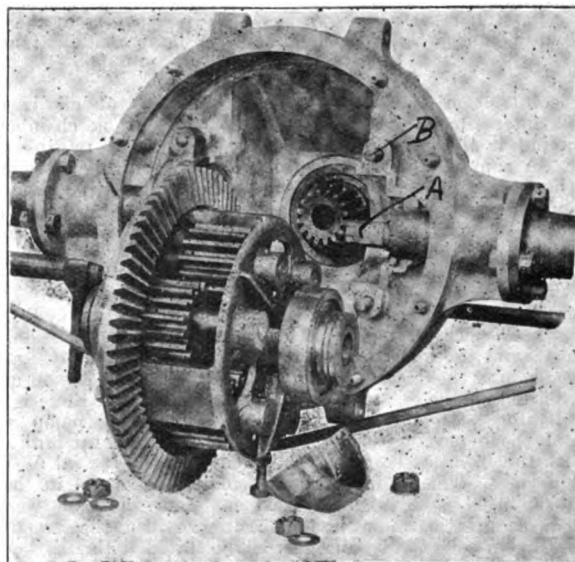


Fig. 9.—The Bevel and Differential Gear on Climax Car shown detached.

As D is supported by the steel plate G bolted up to the flywheel, the ring T forces the gripping cone B against the flywheel. The plate G, as will be seen, encloses all the parts, and enables the clutch to be run in oil. The cone surfaces are inclined 10 deg. from the axis, and running in oil ensures perfect slipping when the pressure on the cone C is slightly relieved by the pedal. The plate G, which is of suitable thickness to allow of a slight bulging under pressure, thus adding to the flexibility of the clutch, supports the whole of the pressure necessary to cause the two cone surfaces to grip, the end thrust being thus self-contained, the only thrust on the engine crankshaft being the small pressure on the cone C. The latter is free to revolve, thus offering no resistance to the perfect rolling of the balls F. Adjustment of the cone is effected by means of the screwed bush H, which pushes the ring D into the correct position, and is fixed in place by means of the locking ring I. A bearing is provided at K, taking the thrust on the cone C. To disengage the clutch the cone C is withdrawn from beneath the balls F, and coming in contact with the transmission coupling L, the male portion B is positively pulled out of action. Further movement of the cone C to the rear pushes into action the clutch stop, which consists of two small adjustable friction cones fixed to the gear-box. The simple means of adjusting the clutch stop is so well shown in the illustration that further description is unnecessary. The Climax Company inform us that they have been appointed sole licensees of the invention, and that they are prepared to supply motor manufacturers with this type of clutch, or to grant sub-licenses. The change-speed gear control is of simple construction; all the advantages of the gate principle are retained, but the controlling



lever moves along a single slot. Any forward speed may be operated without passing through an intermediate gear, and the company claim that it is absolutely impossible, either by intention or design, to engage two gears at the same time. The change-speed gear itself is of the usual sliding pinion pattern, giving four speeds forward and one reverse, the direct drive being on the third speed. The shafts run on ball bearings. The transmission is by a cardan shaft and bevel gear to a rear live axle. Fig. 8 gives a sectional view of the improved universal joint used on the cardan shaft, the feature of the arrangement, which is due to Mr. J. Wilson, the works manager of the company, being the provision of means of adjustment so that any wear may be readily taken up. Referring to the illustration, A is the continuation of the gear-box shaft, on which is mounted the usual jaw piece H in such a way that it is free to slide longitudinally. Both of its bosses are provided with screw-threaded holes, into which fit hardened steel internally-coned bushes. These when screwed down into the arms engage with a central hardened steel piece J, which has four coned ends, the plane of two being at right angles to the plane of the other pair. The other jaw piece C is secured in the usual way to the cardan shaft B. Thus to take up any wear on the coned ends of the central piece J it is only necessary to screw up the bushes F, the latter being fixed in position by the locking plate G. Another interesting feature of the new joint is that it is entirely enclosed and runs in oil. Abutting against a flange on the jaw piece H is an aluminium plate K, to which is bolted a spun aluminium shield D. The pump plunger washers E prevent the escape of the oil. Oil ways are provided in the joints and cones, so that the oil readily finds its way to the different bearing surfaces. The rear live axle is also of special unique design; its chief advantage is its great accessibility. In accordance with the latest practice, the road wheels are carried on the sleeves, and are driven by means of stars attached to the different shafts. When the hub caps are removed these stars and

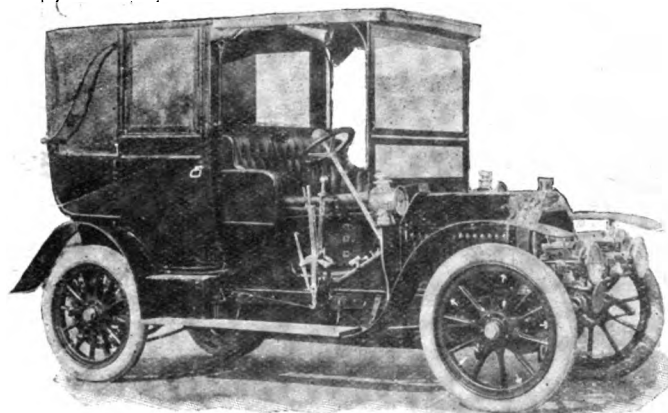


Fig. 10.—The 20-25-h.p. Brotherhood Car recently built to the order of Miss Hawker, of Plymouth. As illustrating the extreme simplicity of control it may be mentioned that Miss Hawker's vehicle is being attended to and driven by her coachman, who until a few weeks ago had had absolutely no experience with a motor-car.

differential shafts, the inner ends of which are square in section, as shown at A in Fig. 9, may be taken out with difficulty, and without interfering with the road wheels in any way. When the circular inspection door on the rear of the live axle is removed the whole of the differential gear is exposed. Furthermore, by the removal of four other nuts and the two caps which they hold in position on bolts (one of which is seen at D, Fig. 9, the whole of the differential gear may be removed, and also the bevel driving pinions. Thus the whole of the working parts may be taken down and reassembled without dismantling any other part of the car or the road wheels, springs, &c. Both the foot and hand brakes operate on drums attached to the hubs of the rear road wheels. The hand brake is of the internally expanding type, and a differential device is fitted, ensuring both halves of the expanding members operating with equal force. The foot brakes engage with the outer periphery of the drums through the medium of a brake band, operated by a toggle arrangement. Instead of the ordinary shackle, the springs which support the frame on the axles are furnished with slippers which slide after the manner commonly seen in locomotive practice.

#### The Brotherhood Cars.

A chassis and two complete cars of the Brotherhood 20-25-h.p. type form the exhibit of the SHEFFIELD SIMPLEX MOTOR WORKS, LTD., formerly known as Brotherhood Crocker Motors, Ltd. During the past season the vehicles have proved so satisfactory that no material alterations have been introduced in the latest models. Special attention has been devoted to accessibility, reducing the work of adjusting and replacing any of the parts to a simple and easy matter. The automatically advanced and retarded ignition, carburation, lubrication, &c., are all retained. The control of the engine by means of a pedal or foot rest with a side motion remains a feature of the design, this enabling the finest graduation of engine speed to be obtained, and also permitting the motor to be used as a powerful brake. The springs on which the

chassis is supported are of great length, and are so made that the surfaces of the plates can be lubricated at any time without the necessity of taking the springs apart. This obviates the formation of rust between the spring plates, the presence of which greatly reduces their flexibility. Of the two complete cars on view, one is fitted with a Roi des Belges side entrance body, with Cape hood and glass screen. It is by Messrs. Thrupp and Maberley. It has accommodation for two persons on the front and two on the rear seat, and is fitted on a chassis having a wheel base of 9 ft. 3 in., which allows for large side entrance doors. The Cape hood is of an improved type by Messrs. Mulliner and Co., being constructed so that it can be utilised as three independent hoods—viz., as an ordinary Cape hood extending over all the seats, as a Victoria hood over the rear seat only, and as a single hood to cover the front seat. The second vehicle is fitted with side entrance tonneau phaeton body by Mulliner, of Northampton, with canopy, having glass screen rising from dashboard, and also a curved glass screen at the rear of both front and back seats.

#### Rivals to the Horn.

A feature of the comprehensive display made by MESSRS. A. W. GAMAGE, LIMITED, is the number of whistles which they are introducing for use on motor-cars. One is the new "Excelsior" motor

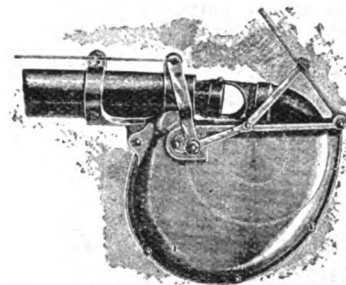


Fig. 11.—The Paris Express Whistle.

whistle, which can be easily fixed to the exhaust pipe of the car, being blown by the exhaust gas. There is also Le Ton Yam whistle which, like that already mentioned, is fitted to the end of the exhaust pipe. This is done by means of a bronze collar, the whistle being connected by a flexible cable with a foot or finger lever at the side of the driver. We illustrate in Fig. 11. the "Paris Express" whistle actuated by the exhaust gases. After action it closes automatically in an aluminium case, thus being protected from dust and mud. Many other useful novelties

will be found on this stand, including a collapsible waterproof pail, which will be invaluable to business men who drive themselves, as well as on cars engaged in touring. The "Holborn" speaking tube, by means of which the passenger in a closed vehicle may communicate with the driver, is on view, as well as the "Southall" tyre gauge previously illustrated and described in our columns.

#### Vulcanising Plant.

Messrs. HARVEY FROST AND CO., LTD., exhibit their H.F. "Car" vulcaniser for the repair of motor covers and tubes by the Harvey Frost vulcanising process. The new auxiliary appliance, to which we referred on page 794 of our last issue, is shown. This is a portable simple appliance for use with the present "Car" vulcaniser, to which it can be adapted without any alteration whatever, enabling efficient and lasting repairs to be made to weakened, decayed, broken, or burst fabric in the foundation of the tyre cover, in addition to the repair of defects in surface rubber. To present and future users of the H.F. "Car" vulcaniser this new garage vulcaniser will be of considerable interest. Another new H.F. appliance is the H.F. jointless tube joiner, which, in conjunction with the Harvey Frost process, enables motor tubes to be joined with "jointless joints," paradoxical though it may seem, there being no definite line of union between the two united materials, but a perfectly homogeneous amalgamation, flush and frictionless, achieved by the actual process employed in the making of the tube itself. Other appliances exhibited are a new tube vulcaniser, the H.F. "Standard" A and B vulcanisers, and the large "Re-treader" plant, the latter for trade use only. The H.F. vulcanising materials are also displayed.

#### Non-skids and Tyre Levers.

The points of the Pullman band have become familiar to motorists, both at exhibitions and on the road, and their stand will be visited by many anxious to see the latest developments in non-skids. The metal

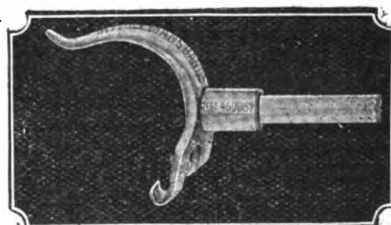


Fig. 12.

surface that comes in contact with the road is now made of hard steel instead of the mild steel that has been employed. That side of the metal surface which comes next to the tyre is perfectly smooth, thus saving the wear that frequently takes place. An interesting special feature of the productions of Messrs. R. AND J. PULLMAN, LTD., is that the leather is made by the firm themselves at their works at Godalming. The bands can be supplied with circular or hexagonal studs. The excellent tyre lever shown at the stand has previously been described in our columns, but we herewith illustrate the No. 2 pattern which has been introduced to facilitate the removal and insertion of valves and security bolts.

(To be continued.)

## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
27-33, Charing Cross Road, W.C.]

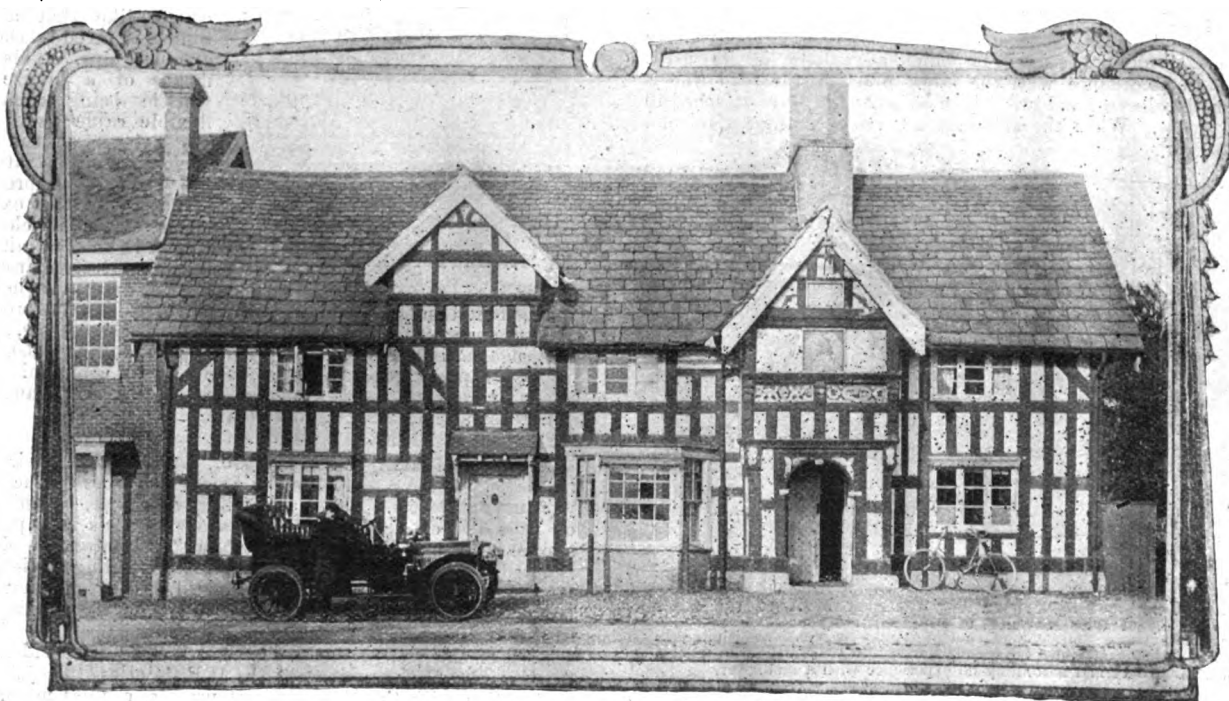
### THE TENTH ANNIVERSARY—AND AFTER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It really seems almost incredible that so much could have been done in the short space of ten years, that the automobile industry could have reached such great proportions, or that in this time so many cars would be running as to threaten to shortly altogether supersede the horse for the purposes of traction. There is probably no parallel in the history of any industry or any movement for so great a stride forward in so short a time. And how many men foresaw this? "I remember, I remember," at the Stanley Show of 1894, when I exhibited an automobile engine which weighed only 80 lbs., and ran at 600 revolutions per minute—the first engine sold for the purpose of propelling a car—certainly in this country—how many of the men who are now pro-

objections and man's prior record, I will venture to say—odd as it may seem at present—that the air is the most suitable medium, not only of communication, but also of travel and transport. It is certainly the medium offering the least friction and presenting the fewest restrictions. There are no boundaries, as on land, compelling one to turn at right angles and to take a zigzag course, nor is one limited to the surface as at sea. Why cannot the men—and they are now numerous—who are interested in this great problem, combine to solve it? Why should we lag behind, when first America, and now France, are going ahead in this matter? I propose the formation of an experimenting association, to be called The Aerial Association, to which there shall be only a small annual subscription (say 10s. 6d.) so as to obtain as large a membership as possible. The whole of the funds of the association should be devoted to the solution of the problem of flight by the heavier-than-air system. If the funds should permit, I should suggest experimenting with the best design offered the association on the three known lines, viz., the aeroplane, direct lift, and wing-flapping. If my own design of direct lift and aeroplane should be found to be of no use, I should be the first to bury it in oblivion, and to strenuously assist in making some better design a success. If the association should solve the problem and make some machine successful or partially so, then shares in the successful invention should be at once issued to every member in proportion to his subscriptions.

I hope that the formation of the association may have your



The Bear's Head, Brereton, Cheshire. This fine old inn is situated on the main road from Holmes Chapel to the south. It is in the black and white style so much seen in Cheshire. (Mr. H. Wade. Photo by)

minent in automobilism, and others smiled when I expatiated on the certainty of horseless carriages coming into wide and general use and on the great changes in locomotion which would be seen in ten years' time, and how that smile broadened and deepened! The only sales at that time were to French engineers. One engine was sold to the Peugeot firm. The motor exhibited was a four-stroke engine, not a two-stroke, as I have heard asserted. The two-stroke engine was fitted to a Coventry Machinist tricycle in 1892. The four-stroke motor was not unlike the single-cylinder engine of the present day. And as to the future? There can be no doubt that the motor will continue to be improved month by month and year by year, until the objections are gradually removed. Noise and odour will be eliminated, except in old vehicles or those out of repair, and in spite of the rapid increase that will continually take place in the numbers of cars, breakdowns will less frequently occur. This ever-progressive growth and improvement in automobiles will continue until the horse for tractive purposes will be obsolete.

The future of the motor-car is unquestionably assured. But the future, nevertheless, is not with the automobile. It is with the aerial machine. With the same confidence in the future with which I made the first oil engine in 1887, I now predict the early and general adoption of the aerial machine. With the like confidence I can say that I believe that I could now (and could have done at any time during the last three years) design and construct a successful aerial machine—a design and construction on sound engineering lines—a machine the essential characteristic of which is stability. It is in this particular that the aeroplane used alone is uncertain and dangerous. In spite of all the difficulties and

expressed or tacit approval, and may I add that I shall be glad to hear from every person interested in this great subject.—Yours truly,

J. D. ROOTS.

### THE QUESTION OF SPEED.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the question of speed, will you allow me to answer "W. J. W., A 1299?" This gentleman thinks we are taxed and licensed quite enough; so do I, and that most cordially, but if the French principles were adopted here we should really be in a much better position. We should buy our car, and with it get the maker's statement as to capabilities, &c., which we should hand in to the police, in exchange for which we should receive our "permis de circulation" and numbers. We should then make an appointment suitable to both parties; and on that date we should be examined, and the result of that examination would be that we should, if capable, receive our "permis de conduire," or driving licence, then "right away." How much more sensible this is than the absurd arrangement in force in England of going into a police-station, filling in a form, planking down five shillings, and receiving a driving licence: nobody knows whether the licensee is capable of conducting a wheelbarrow, let alone an automobile. It is simply a contrivance for obtaining the automobile public's money. In the French method, you carry with you two small cardboard licences, each measuring within six inches square; whereas if you obtain a Coventry driving licence this sheet alone is of foolscap size; other towns and counties may not be quite so large; Worcester county,

for instance, is not so large, but of other licensing boroughs and counties I know nothing. Which is the largest bulk to carry, French or English licences, I think it unnecessary to state.

As to twenty miles per hour being fixed as a limit, I cannot but reiterate, that in my opinion it is absurd, all the while under the proviso that a capable driver has charge.—Yours truly,

ALAN A. L. HICKMAN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I quite agree with "W. J. W." on the speed question. It has for some time been a pet theory of mine, that before any motor vehicle is allowed to run on the roads of England, it should have its engine so governed that the car cannot exceed twenty miles per hour, and that the penalty for any after interference with this should be so severe as to make it impossible. The advantages we should gain would be many: the makers would turn their attention to giving us still more flexible engines, the gear-box would go, solid or semi-solid tyres would be more general, less dust would be raised, tyre bills would be lower, public prejudice would die, police traps be abolished, and many other advantages will occur to anyone who will think over the matter with a fair and open mind.

I am as enthusiastic about motoring as anyone; I started with a 3½-h.p. Bollée, and have owned and have driven a number of types since, all over England. The one I own now is capable of speeds up to forty-five miles per hour, but it pleases me best to let it purr along at about twenty, making little noise, raising hardly any dust, and causing little annoyance to anyone; if we had all done the same there would not be the present strong feeling against us.

I find in the opinion of many there is no "sport" in driving at twenty miles per hour when double that can be done just as easily. Well, all I can say is, the King's highway is not the place for sport, that should be kept for the race track.

The great B. P. think we motorists are a selfish lot and quite careless for the comfort of others, and one can hardly blame them, after reading some of the letters on this speed question by some of us. Save us from our friends is the cry of many besides.—Yours truly,

D 2783.

## ROAD SIGNS AND LEVEL CROSSINGS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With regard to Mr. Wright's suggestion as to road signs, on page 797, instead of the sign he suggests, I would offer the following as an improvement:—

BRIGHTON	ahead
Redhill	left
Crawley	right

The reverse side of the sign could be similarly utilised. At present the signs are devised in a most annoying way.—Yours truly,

ARMANI.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I would be glad of an opportunity to say a few words on the subject of the dangers of level crossings with railway companies at night.

I have two particular level crossings in my mind when I mention this subject: the one over the L.N.W.R. Co. Northampton-Peterborough line on the Northampton and Bedford road by the Paper Mills, near Northampton; it is called the Bedford Crossing. The other is the crossing at Wareham Station, Dorset, on the Bournemouth-Weymouth road over the L.S.W.R. main line, London to Weymouth. Now, both these crossings are approached at right angle curves at very nearly right angles. Supposing a man is approaching either of these crossings at night; he is unfamiliar with the road, and he is going at a fair speed; he comes round the curve, and the red lamp of the crossing is actually in his face, too late for his brakes to take any appreciable effect, if indeed he has time to apply them; probably he will strike the gates, and then he is indeed lucky if he gets off with a smashed front to his car, and the gates are strong enough to prevent him getting actually on to or overlapping the four-foot. The Northampton crossing I refer to is particularly bad in this respect, as it is scarcely a car's length between the curve and the gates. I suggest that either the road authorities for the district, or the railway company, should be compelled to put up a distant signal, a repeater of the crossing lamp, except that it should show a purple light when "on," instead of red, so that the automobilist should know that it was a distant signal informing him to reduce speed as the crossing signal is on; it should show a green light when "off," so that the automobilist should be made aware that he was approaching a crossing, but that the road was clear as he passed the distant; he would then know that he should keep an extra sharp lookout in case the gateman was actually in the process of shutting the gates and putting the "distant" "on." A better plan still would be to arrange an interlocking system that the gates could not be shut without

the "distant" first being placed "on." This distant signal should be placed about 500 yards in advance of the crossing to be protected.

Of course a simpler but less effective plan would be to place an illuminated sign, "Level Crossing: Motorists Beware:" at the same distance; this, however, to my mind, would not have the same effect upon a driver as it would to see a signal "on" against him.—Yours truly,

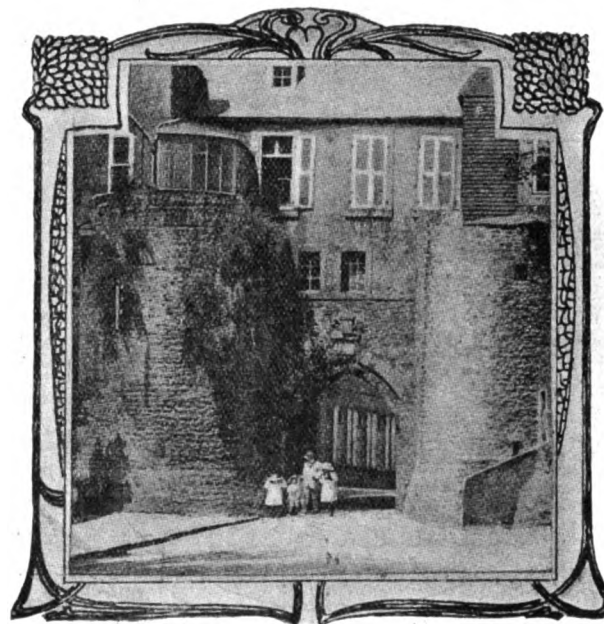
A. L. H.

## FOUR v. SIX CYLINDERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Some time ago I entered into a very interesting discussion in your columns with Mr. S. F. Edge, in regard to the merits and demerits of six-cylinder motors. I pointed out that, in my opinion, the six-cylinder motor possessed no features of advantage which were not possessed by a four-cylinder engine, equally well made; while at the same time, in the six-cylinder, many disadvantages were in evidence. The result of the Town Carriage competition recently finished bears my previous statements out to the very letter. Leaving out of the question the electric and steam vehicles, and making the comparison between the petrol-driven cars in the competition for cars costing over £600, what do we find? Fifteen petrol-driven vehicles competed, fourteen four-cylinder, and one six-cylinder, and let us take the judges' awards under the various headings.

(a) General design of complete car. The six-cylinder is placed last on the list, as I assume the judges were of the opinion that the ungainly and abnormal long bonnet, necessary in connection with a



(Tourin, France. LaPorteGayole, Boulogne-sur-Mer.

six-cylinder engine, and projecting out over the front wheels, could not be considered as either elegant or handsome. (b) General appearance and finish of body work. This obviously calls for no comment. (c) Absence of smell and smoke. The six-cylinder takes second place to a four-cylinder car. (d) Absence of leakage of lubricant. The six-cylinder ties with eight other four-cylinder cars. (e) Absence of noise—stationary and running. On this heading we have always been assured that a six-cylinder always scores over a four, and yet the six-cylinder car only tied for second place with a four-cylinder car, another four-cylinder car being placed first. (f) Absence of vibration—stationary or running. Here the six-cylinder gains the award over the four-cylinder by one point. (g) Smoothness of running. No less than nine four-cylinder cars are placed on an equality with the six-cylinder. (h) Ease of cleaning. Seven four-cylinder cars are in front of the six-cylinder. (i) Ease of access for repair. The six-cylinder car is placed second, and I would congratulate the makers on their wisdom in making due preparation under this heading. (k) Ease of starting and smooth action of clutch. The judges on this point were satisfied that nine of the fourteen four-cylinder cars were as good, if not better, than the six-cylinder car. (l) Ease of stopping and changing speed. Ten four-cylinder cars are here announced as being equal to the six-cylinder. (m) Ease of manoeuvring. Here we have a splendid comparison as to the great disadvantages of the six-cylinder car for work in town. The abnormally long wheel base and ungainly proportions of the six-cylinder car in comparison with the handiness of the four-cylinder cars compelled the judges to place twelve of the fourteen four-cylinder cars in front of it. What better argument could be given in favour of a

four-cylinder car for use in town? (n) Comfort of passengers, and (o) comfort of driver, call for no comment, as they do not affect the comparison.

Here, then, is the whole case summed up from results obtained in an official competition, run under the auspices of the Automobile Club and judged by independent judges. Captain Deasy's trial of a four-cylinder car against a six proved some time ago the fallacy of the idea that with a four-cylinder car it was necessary to change speed oftener than with a six-cylinder, and now I think Mr. Edge has proved, through entering a six-cylinder car in the first competition in which the various points set out above have been carefully considered, that so far from a six-cylinder car having advantages over a four-cylinder, it is, on the contrary, not as good—at least as six-cylinder cars are made at the present day.—Yours truly,

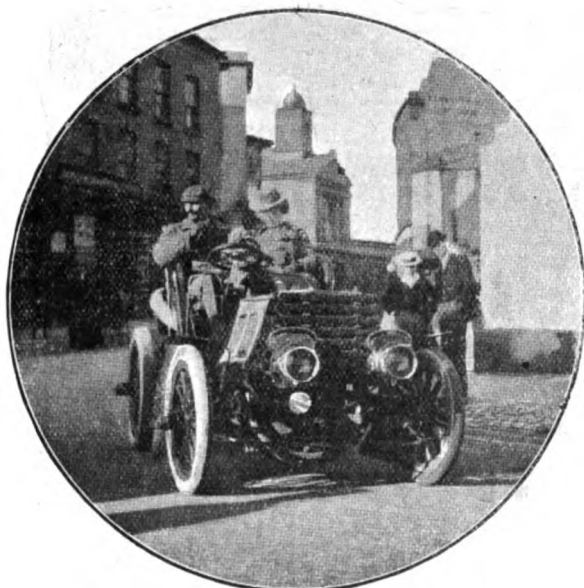
CHAS. JARROTT.

### DIFFICULTY IN STARTING ENGINES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—“C. M.” in the *M.C.J.* of the 3rd inst., offers an explanation which, though it may occur occasionally is, I believe, a very frequent occurrence with the majority of users of De Dion Bouton cars as the trouble almost invariably arises through ignorance of the correct method of adjusting the contact breaker. Anyone who has difficulty in starting a single-cylinder De Dion car should write to the London agents for a copy of their instructions. I am sure if they will follow the same they will have no further difficulty in the matter.—Yours truly,

H. W. H.



Mr. S. F. Edge on the first 16-h.p. Napier, 1901.

### REPAIRING A HONEYCOMB RADIATOR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if any reader of the *M.C.J.* could inform me as to the proper way to repair a honeycomb radiator? I have a car in which the radiator is of this type, being built of a multitude of small tubes, and it has sprung a leak that I find myself unable to repair. In using a soldering iron and solder to close the holes, the effect is to loosen all the tubes adjacent to the leak, by melting the solder away from them. I am afraid to attempt any further experiments with the radiator for fear I may spoil it altogether; I suppose, however, there must be some way of effecting a satisfactory repair, and it is with this view that I venture to invite the assistance of brother motorists.—Yours truly,

W. J. JOHNSON.

### MOTOR-BUSES AND THE HOSPITALS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am anxious to tender the thanks of all persons interested in this institution to the managers of the six motor-omnibus companies which, till quite recently, used King William Street as a short cut to and from the Strand and Charing Cross Road, W.C.

Having personally pointed out to their representatives, who visited some of the wards and other premises last week, how detrimental to the recovery of our inmates were the unavoidable noise and vibration connected with motors of all sorts, I had the pleasure to receive an assurance that, if after taking counsel together the competing companies found themselves in unanimity, their omnibuses would for the future take some alternative route. Unanimity has prevailed, and now a

sympathetic feeling on the part of the following firms has secured an invaluable boon to many sufferers.

The firms alluded to are:—The London Motor (Vanguard) Company, Ltd., the Associated Omnibus Company, Ltd., the London General Omnibus Company, Ltd., Mr. Henry Turner, 205, Camberwell Road, S.E., and Mr. C. S. Burtwell, 14, Harper Street, New Kent Road, S.E. To these I may add the Pioneer Company, which adopted another route long ago.

Thanking you for your courtesy in finding space for this letter,—Yours truly,

KILMOREY, Chairman.

Charing Cross Hospital, London, W.C.

### THE COURTESY OF MOTORISTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I had an instance on Sunday week of a further benefit from the Automobile Association. Owing to the makers sending me out from Birmingham with run down accumulators I was stranded on the road miles from any village, and a fellow motorist very kindly offered to get me assistance if he could, and met Mr. Soley, the local road agent of the Automobile Association, some seven or eight miles further on. Although it was pouring in torrents and getting dark, Mr. Soley most kindly came back on his car the whole eight miles to offer me the loan of one of his accumulators, which enabled me to get up to London without further trouble. I feel I cannot allow such an instance to pass without noting it, and would like to thank Mr. Soley again through your columns, if possible.—Yours truly,

R. H. H.

### A PECULIAR IGNITION TROUBLE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the letter of Mr. W. Ramsbottom appearing in the *M.C.J.* of the 3rd inst., it was my misfortune recently to experience a similar phenomenon on my own car. Mysterious mis-firing occurred while the car was running, but with the bonnet raised the firing was perfect. After considerable investigation I discovered the cause, namely, that when the bonnet was lowered one side of it came very close to the sparking plugs, and that occasionally the spark would jump from the end of the sparking (i.e., where the wire terminals were screwed on) to the side of the bonnet, causing a mis-fire in the engine whenever the above-mentioned misconduct occurred. The fault was particularly noticeable when the car was running over rough roads, owing to there being a little lateral movement on the bonnet. I had the side-panel of the bonnet slightly altered, and my troubles ceased.—Yours truly,

M. S. 222.

### POLICE REGULATIONS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It is all very well for the motor-bus manufacturers to cry out about the police regulations and say that their trade will suffer, but they do not appear to have had any consideration for the owners of property, the depreciation of which they have helped to cause.

Of course it depends on the point of view. For instance, an owner of house property with no financial interest in motor-buses feels that the roads were formed and houses built long before motors came on the scene. His property is let and he depends upon the income for his living. Then a company is formed and the motor-buses start running. What is the result? Occupiers and owners have to suffer, rents go down and the rates are affected. The bus company, which virtually pays no rates and has no expensive upkeep of a track (like a tramway), is allowed to trade for the benefit of its shareholders and the bus manufacturers. It is no justification for them to say that, owing to the police regulations (which the public are only too grateful are going to be put into operation at last), “labour will suffer.” Consider the other trades already adversely affected by the motor industry.—Yours truly,

H. HARRIS.

### VALVE POSITION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was much interested in Mr. Anderson's letter on the above subject in the *M.C.J.* of the 13th inst., and venture to give you my views on the matter. Americans seek freedom from worry as to where best to place valves in their favourite two-cycle system by doing without any, and by letting the piston do extra duties in closing and disclosing suitable ports for the admission of vapour and expulsion of exhaust gases. This practice is simple and cheap, and, I may add, inefficient. Simple and cheap, because the parts to manufacture and look after are reduced to an absolute minimum; and inefficient, because the lack of proper scavenging and compression militates against a powerful working stroke. I do not say that they are necessarily wasteful as regards fuel, power for power; but, bulk for bulk and weight for weight, they do not compare favourably with valve-equipped engines, in spite of the claims of their partisans.

Yankees are past-masters in the production of catalogues, and I have often been amused by the nice “working pictures,” supposed to show the action of these two-cycle motors. A sectional view is produced of the cylinder, for instance, wherein a series of arrows indicate the ingress and egress of the gases; and the funny part of the sketch



consists in the contortions of the arrows hurrying round impossible corners and baffle plates in what must be an incredibly short space of time; whilst, on the other hand, the frantic efforts of the last little exhaust arrow to huddle up close to its companions, and keep as far away from the advancing host of induction arrows, almost makes me weep. At the same time, I cannot help wondering why the two bodies of arrows keep so carefully apart from each other, considering that what I presume is intended to represent a more or less perfect vacuum is indicated by a blank space between them. Another fault I have to find with valveless engines is their want of flexibility. It is true that their speed within certain narrow limits may be varied when running light, and within still smaller limits with a very small load on; but, once put them to work in earnest, and they will be found about as elastic as a veteran 'bus horse, as regards variation of pace at which they will pull.

But where the Americans have plumped for simplicity, other brains have struck out in quite a contrary direction. One idea, heralded in some few years ago now with a great spluttering of the ink horn, consisted in cramming three little induction valves in the space usually occupied by one. The theoretical advantages claimed for this depended on the larger combined area of the circumferences of the three valves, as against the area of one large valve within whose circumference they could lie. The obvious practical disadvantages, however, have apparently led to the abandonment of the invention.

And now we come to another complication, the merits of which will certainly not go unchallenged, for it is by no means obsolete, and its adherents number some of the best engine designers of the day. I allude to the practice of using two camshafts with their attendant extra gear pinions, bearings and valve pockets on either side of the combustion chamber. That extra weight, friction and expense are involved cannot reasonably be denied, and it remains to be seen how the opposed arrangement of valves can compensate for all this. Before touching on the question of counter advantages, however, I must in fairness state that neither the extra weight, friction, nor expense are by any means large matters, and that we may concede that a fairly small show of gain, either in efficiency as to working or as to benefit in disposal of parts, should be held as reasonable ground for the complication alluded to.

Briefly, then, the claims for the "double-siders" may be stated as follows:—As to efficiency, an advantage is alleged to be gained by the disposal of the inlet and outlet parts on opposite sides of the combustion chamber. For it is argued that a sweeping or cross scavenging action is set up, in consequence of the momentum of the gases tending in one direction. The high velocity at which the mixture is sucked up one pipe and its consumed products expelled down another forms practically one continuous flow; and as, further, in a well-timed engine there is alleged to be a partial vacuum at the moment of closing the exhaust valve, caused by the force with which the burnt gases have been expelled, it is submitted that any depression thus obtained helps the progress of the incoming charge to sweep across the piston. That there is something in this idea I believe; but, on the other hand, we must not forget that the inlet valve is shut during three strokes of the piston, which should give the mixture ample time to stop and, as it were, rebound, so that in reality the action is pulsating and not continuous. Again, as to any vacuum at end of the exhaust stroke, if it exists in one method it exists in the other, and there is perfect facility during the suction stroke, if the valve and portway are large enough, for a cylinder to get its fill of explosive gas. And, further, we must not forget that having the valves side by side does away with the objectionable feature of double pockets, which are unavoidable with opposed valves. For this reason the ideal position for valves would be in the cylinder head, which, of course, abolishes pockets entirely, were it not that this involves the complication of up-stairs cam-shafts, with all the encumbrances thereby implied.

We now come to the claims of the double-siders as to the advantages of location of such parts as induction pipes and carburettor and exhaust branches, and here I think all who have fitted up engines will agree that if we can avoid crowding everything on one side we gain something worth consideration, and that the opposed valves arrangement must score a point. Of course, with adjacent valves we can carry the carburettor over the other side or anywhere we like by means of a longer pipe, but there still remains the disadvantage of having to do so, and the juxtaposition of the flanges and branches from the contiguous parts of the exhaust and inlet valves to contend with.—Yours truly

A. E. S. CRAIG.

#### AN INTERESTING QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice a paragraph in the *M.C.J.* of the 13th ult. stating that Colonel Fox's car overturned owing to the off wheels rising from the ground when turning a corner. On mentioning this to a friend he said that the near side wheels should have risen when the vehicle turned the corner. Could any readers of the *M.C.J.* enlighten me on this point, as opinions seem to differ?—Yours truly,

CHAS. A. GUTTERIDGE.

A DUBLIN correspondent suggests that those who advertise situations vacant should reply to those applicants who enclose stamped addressed envelopes.

## CLUBS AND ASSOCIATIONS.

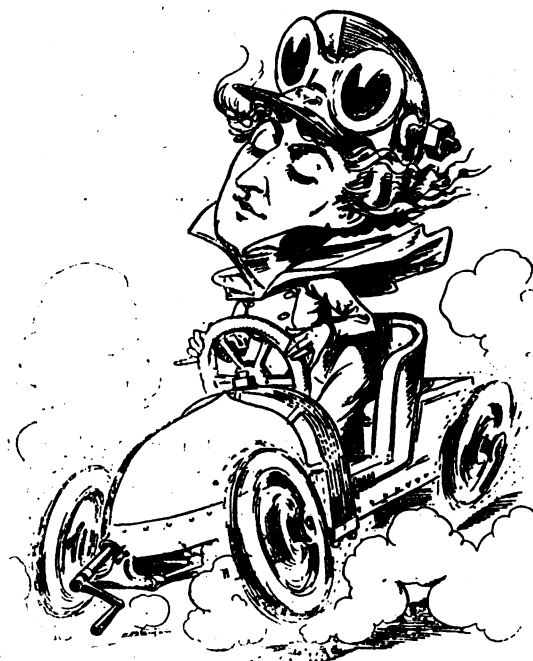
### MANCHESTER.

THE Manchester Automobile Club held their first soiree and reunion of members during the winter recess on Wednesday of last week, at the Midland Hotel. About 150 members and friends were received by the President, Mr. J. A. Morris, and Mrs. Morris. The small concert hall was converted into a cafe chantant for the time being, and a most enjoyable evening was spent. The committee are arranging a house dinner and smoking concert for Tuesday even ng. December 11th.

THE Yorkshire Automobile Club inaugurated their winter session with a successful smoking concert at the Hotel Metropole, Leeds, on the 9th inst. The chairman of the club, Mr. E. H. Hepper, occupied the chair, and during the intervals in the musical programme called attention to the various gatherings which would be held in the ensuing winter.

THE annual dinner of the Motor Yacht Club will take place at the Savoy Restaurant, London, on the 20th inst.

THE Clyde Branch of the British Motor Boat Club is growing very



From a Caricature

Madame du Gast.

(in "Le Chauffeur.")

rapidly. Mr. Percy Lowcock, one of the founders, has had to retire from the hon. secretaryship owing to pressure of business, and his post has been taken up by Mr. P. W. Dunlop.

THE members of the Notts. Automobile Club gathered in strong force at the Black Boy Hotel, when the winter session was inaugurated in the usual way by a supper and smoking concert. Mr. A. Barlow occupied the chair, supported by Messrs. G. H. Kirk, A. Metheringham, J.P., Booth Granger (hon. secretary), M. Ross-Browne, B. W. Winter Dr. A. Barron Goss, Dr. R. G. Hogarth, H. Bircumshaw, and others.

### A PARSON'S LOST TEMPER.

THE Rev. A. Langdale-Smith was summoned at Bullingdon for assaulting W. J. Adcock, chauffeur, at Forest Hill on October 30th. Adcock was driving towards Oxford with Lord Vernon. They overtook a trap, and as the car passed the occupant slashed him with the whip across the face. The trap was in the middle of the road, and the car was slowed up well on the inside, and the horn blown. Defendant said he was allowing the car a good half of the road. He admitted that he lost his temper, and struck out with his whip, but it was under provocation. The pony was frightened by the sound of the horn, and became very restive. Fined 10s. and 8s. costs. Defendant: I hope the gentleman will accept my very sincere apologies.

## CASES UNDER THE MOTOR-CAR ACT.

### SECTION 1.—RECKLESS DRIVING.

Described as chauffeur to Sir Clifton Robinson, William Liddington, of Hammersmith, answered a summons at Kingston-on-Thames Police Court on the 8th inst., for driving a motor-car to the danger of the public at Surbiton. Mr. W. G. Gritten, a barrister, stated that he was cycling with Mr. A. Langden, K.C., along the Ewell road towards Surbiton when the motor-car, driven by the defendant, dashed by at a furious pace, nearly brushing against the witness's right arm. His friend took the number of the car, which appeared to be of a racing type, and then called and reported the case to the police on public grounds. Mr. Langden, K.C., said that when he heard the car coming up behind he knew it was going furiously, and he at once decided to take its number. If anyone had been riding in the middle of the road at the time he would assuredly have lost his life. The defendant said that his speed did not exceed more than fifteen miles an hour, his car was of 135-h.p., and seated two persons. The chairman said that in his opinion this was about the worst case that they had ever heard. (Addressing the defendant): In our opinion you are not a fit and proper person to have charge of a motor-car, and the public are not safe with a man like you on the road. You will have to pay a fine of £10 and £1 costs, and your licence will be endorsed and suspended for three months. The magistrates declined to hold over the endorsement of the defendant's licence for one day in order that he might drive the motor-car home.

In Edinburgh Sheriff Court Hans F. Kufek, of Glasgow, was charged with having driven a motor-car recklessly or negligently on the South Bridge, Edinburgh, whereby Alexander Cook was knocked down and had his nose and cheekbone fractured. The accused pleaded not guilty. Accused in his evidence said he saw Cook about fifty yards off, and sounded his horn twice. Cook then looked round, and witness swerved to the left, but on seeing Cook retrace his steps he swerved to the right. But for Cook losing his head the accident would not have occurred. His Lordship, in finding the charge proven, said he was satisfied that the car had been driven recklessly. Whatever the distance was at which the injured man was seen the real point was that the car reached him in too short a period, and was thus driven too fast. He had no doubt Kufek did all he could to avoid Cook. The maximum penalty was £20, but in this case he would limit the fine to one of £5.

Sir Clifton Robinson, Chairman of the London United Electric Tramway Company, appeared at West London Police Court on Monday to answer a summons for driving a motor-car along Holland Park Avenue in a dangerous manner. Mr. Hanson, for the defence, said that the motor-car was a Mercedes racing car, capable of going at the rate of 100 miles an hour at top speed, and was 135 horse power. The maximum speed at which the motor-car could go on its lowest speed throttled down and not accelerated was fifteen miles an hour, while the minimum speed of the second speed was about forty miles an hour, so that it could not go at the rate of twenty-seven miles an hour, as alleged by the police. The defendant gave evidence to this effect, and he was confirmed by Mr. J. E. Hutton, who stated that if a man attempted to drive such a motor-car beyond the maximum pace of fifteen miles an hour on the first speed he would ruin the motor-car. The magistrate said he was not satisfied that the motor car was going at the rate suggested by the police or in a manner dangerous to the public, and dismissed the summons.

### SECTION 2.—REGISTRATION.

Mr. Theodore Ridge, of Clement's Inn, Strand, appeared before Mr. Fenwick at Bow Street Police Court on Saturday to a summons charging him with driving an unregistered motor-car on a public highway. Mr. R. J. Drake, who defended, said the car in question had been manufactured by the Pull-car Company, of Preston, and it was claimed for it that, owing to its novel construction, it would not skid. A syndicate, of which the defendant was the director, proposed to put 500 of these cars on the streets of London to be used as cabs, but before they did so they desired to put the car to a thorough test. For that purpose it had been driven about 4,000 miles along the most crowded and most greasy streets in London. No one but members of the syndicate and their friends had used the car, except on one occasion when an intending purchaser tried it. The car bore the general identification mark of the manufacturers, and he contended that that was quite sufficient while it was being used for trial purposes only. The defendant gave evidence in support of this statement. He said the car had been submitted to the Scotland Yard authorities on two occasions, and they raised no question as to the general identification mark.

Mr. Fenwick said that what constituted a trial in a case of this kind was a question of fact and also a question of degree. There must, of course, be a limit to the period during which a car could be said to be on trial, but although this car had been driven for some weeks he regarded it as a bona-fide trial, and the summons would be dismissed.

### SECTION 3.—THE SPEED LIMIT.

At the Worthing Petty Sessions, on Wednesday of last week, Mr. Edward Manville was summoned for driving a motor-car at a speed beyond the legal limit, on the Findon main road. Mr. W. P. Cogan prosecuted, and Mr. Staplee Firth defended. P.S. Payne deposed to timing the car over a measured quarter of a mile. The distance was covered in 35 sec., representing 25 miles 1,257 yards an hour. The car

was stopped by signal, and defendant said "Surely you won't summon me for five miles?" Witness replied, "It's nearly six." In cross-examination, Mr. Staplee Firth referred to a collision which followed the stopping of Mr. Manville's car, in obedience to a signal, and as a result of which, the witness admitted, a motor-cyclist who was riding close behind was thrown senseless on to the side of the road. Witness could not see, from his position behind the hedge, the motor-cyclist at the rear of the car. Defendant, giving evidence on his own behalf, said he was a consulting engineer, and had travelled thousands of miles by motor-car in England and Europe. He was a frequent visitor to the South Coast, and especially Brighton and Worthing. After he had pulled up in response to the police signal, he felt something crash into the back of the car. He told the sergeant that he had no right to deliberately stop the car and thus cause an accident. He was confident from his speedometer that the speed of his car never exceeded twenty miles an hour. The Bench retired, and, after some few minutes' consultation, the Chairman said they considered there was a doubt, and that defendant was entitled to the benefit. The case would be dismissed, and no order made as to costs. A great deal had been made of the unfortunate accident. It had been clearly proved by the evidence that no blame attached to Sergeant Payne, as he could not possibly have seen the motor-bicycle behind the motor-car.

At Snaith, George H. Reynolds, chauffeur to Mr. Stanley Wilson, M.P., was summoned for driving a motor-car at twenty-nine miles an hour on August 17th on the Selby and Doncaster road at Eggborough. For the defence, the defendant said that within twenty-four hours he was told three times of the trap. His employer and himself were journeying from London to Hull, and they were told at the Doncaster Motor Garage, and by a man working on the Eggborough railway crossing, which is less than half a mile distant from the trap. He knew its exact position, having passed through it on six previous occasions. There was a speedometer on the car. Throughout the journey through Eggborough this instrument indicated a speed of seventeen and eighteen miles an hour. It had been proved to be accurate both before and since the incident. Mr. H. Wray, of Hull, said that Mr. Wilson was most desirous to come to the court to testify on oath to the extreme care and caution with which the defendant had always driven him, but he regretted that he was kept away on important business in London. Defendant, who had two previous convictions, was fined £3. Three other defendants were fined £1 each.

At the Greenwich Police Court a speed of 36 miles 510 yards an hour was alleged against Henry Ray Anderson, of Sainsbury Road, Gipsy Hill, Upper Norwood, summoned before Mr. Baggallay for exceeding the speed limit. The defendant said the offence was committed unwittingly. He did not think he was doing more than twenty miles an hour. Mr. Baggallay.—If you cannot judge better than that after driving for three years you ought not to have a licence. This is a bad case. Pay £5 and costs.

## THE HORSE-POWER RATING OF PETROL MOTORS.

WE have received the following communication from the Automobile Club of Great Britain and Ireland:—

There appears to be a general desire that the A.C.G.B.I. should officially issue a simple formula which shall serve as a rating for internal combustion engines such as those in common use on self-propelled vehicles—that is to say, engines of the ordinary single-piston four-cycle type using petroleum spirit as fuel. This rating is required so that the public may arrive at the approximate power of any given engine in comparison with others. There is, obviously, only one accurate way of determining the effective h.p. of any particular engine, and that is to try it on the brake. For the purpose, however, of a general rating formula, an approximation will suffice; indeed, it is the only thing possible, owing to the many variable factors which affect the power developed by any engine.

In a formula for rating purposes it is desirable to eliminate, as far as possible, the various factors which affect the h.p. Horse power is a matter of foot-pounds per unit of time, and resolves itself, in a motor-car engine, into pressure on, and the linear velocity of the piston. The linear velocity of the piston is the product of the stroke and the number of revolutions. It being assumed that all makers aim at supplying the most effective mixture from their carburetors, the maximum pressure on the piston depends on the ratio of the compression space to the volume swept by the piston. This ratio varies but little in most types of modern motor-car engines. The high limit of compression is reached when pre-ignition of the charge occurs, and the low limit need not be considered; but, as a matter of fact, most designers aim at about the same degree of compression, and, if this be admitted to be the case, then this factor may be eliminated from the formula.

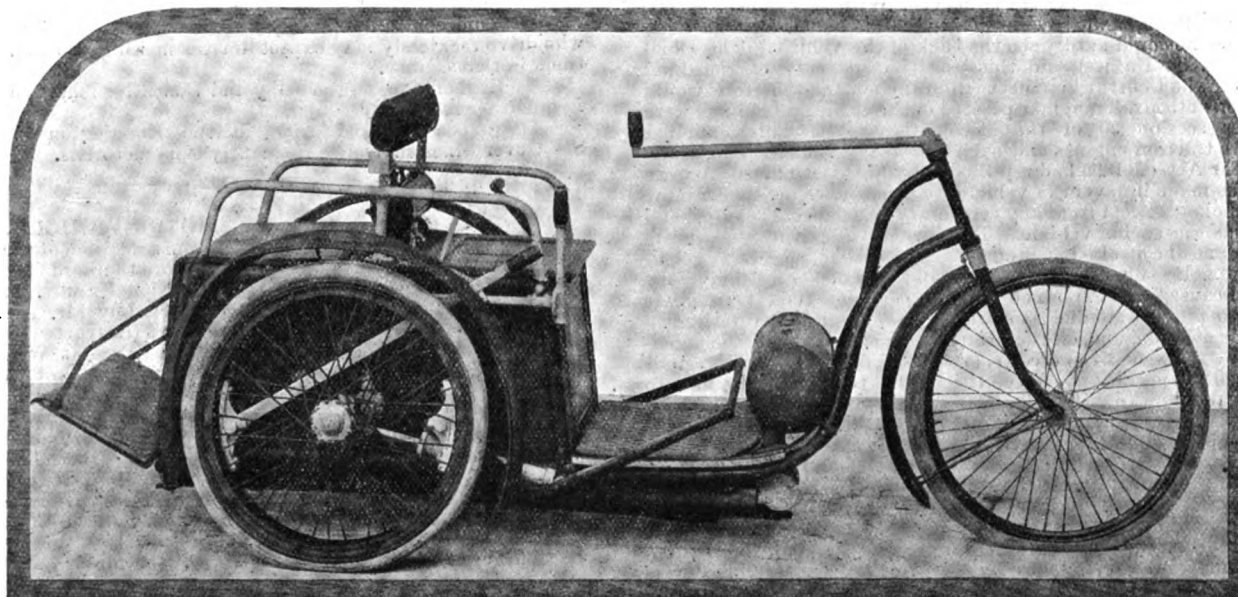
The maximum linear velocity which can be prudently and economically employed is fairly well established at the present time, and it can safely be said that the best constructors are working approximately to the same figures. For the purpose of the "A.C. Rating Formula" the linear velocity of the piston is taken as a constant and the formula correspondingly simplified. There remains, therefore, as a basis for the rating formula, the area of the piston only, and this is proportional to the square of its diameter ( $D^2$ ): so the formula resolves itself into  $\frac{D^2 \times N}{X}$  where N is the number of cylinders: D the diameter of the piston in inches, and X a constant. The numerical value of this constant depends solely upon the allowance which it is

determined to make for the variable factors already referred to. If this allowance be small, so that the result obtained shall approximate to the maximum horse-power obtainable from any given engines, two would not appear too small a figure. If two be taken, then the h.p. of a four-cylinder engine of four-inch bore would be rated at thirty-two, which is approximately the h.p. which could be obtained as a maximum from such an engine; if three be taken, then 21-1-3-h.p. is obtained, which is a low figure for the result which such an engine should give on the brake. A constant giving a result mid-way between the maximum and minimum limits which may be expected from engines of the highest or commonest designs respectively has therefore been adopted, and 2.5 will be found reasonable and sufficiently accurate for all comparative purposes.

The Club has therefore decided to adopt as the "A.A. Rating Formula"  $\frac{D^2 \times N}{2.5}$  or 2.5 of D<sup>2</sup> N. This formula is for a "rating" only, and is not to be considered as an accurate or scientific calculation of actual horse-power. The Council of the Society of Motor Manufacturers and Traders have recommended the members of the Society to adopt the formula for their catalogues.

### THE FLORIDA RACE MEETING.

As already announced in the *M.C.J.*, the annual race meeting on the Ormond-Daytona Beach, Florida, is to be held from the 22nd to the 27th January next. From a copy of the programme which has been furnished



In our issue of the 27th October last we gave an illustration of the first Wolseley motor-vehicle, built in 1895-96. The above illustration depicts the second experimental machine; it was constructed in 1897, and was fitted with a 3-h.p. horizontal engine, having two cylinders 2½ in. bore by 4 in. stroke, and tube ignition; the power from the engine to the gear-box was transmitted by belts. Two sets of shoe brakes, operated by foot and hand levers, acted on rims bolted to the rear road wheels.

us by Mr. S. F. Edge, we learn that the open-to-all events comprise a mile race with flying start for the Dewar World's Championship trophy; a flying mile for petrol cars; two miles "Two miles-a-minute," flying start; five miles International World Championship record race; ten miles, standing start; ten miles handicap; fifty kilometre record race, flying start; sixty miles, open to all American entries in the 1906 Vanderbilt Cup race; 100 miles Minneapolis International World's Championship.

The touring car events will be:—One mile American Championship "mile-a-minute," cars to carry at least four passengers, flying start; five miles, £300 or less, cars designed for four or more passengers, standing start; five miles, cars between £300 and £600, for four or more passengers, standing start; five miles, cars between £600 and £1,000, for four or more passengers, standing start; five miles, cars over £1,000, to carry four or more passengers, standing start; ten mile handicap; thirty mile, all classes, American championship, first three to represent the United States in the International Touring Car Championships.

The following events will be confined to amateurs, the owners to drive:—One mile, all classes of petrol cars, standing start; five miles touring cars all classes, standing start; five miles, all classes, standing start; ten miles, all classes, standing start; ten miles cars of 50-h.p. or less, best average of three races, standing start. There will also be a thirty mile open race for all classes of foreign touring cars; the first three to compete in a thirty miles International touring car championship. Facilities will be provided for record trials by all classes of cars entered in the races at the following distances: one kilometre, one mile, five miles, ten miles.

### STRIKE OF MOTOR-BUSMEN.

ON Friday of last week some of the employees at four of the garages of the London General Omnibus Company struck work. The dispute originated in a proposal to establish for the drivers a system of grading. Up to the present the wages of a driver have been fixed at 7s. for an eleven hours' day. Under the new scale it is proposed to pay men in the three grades to be established 8½d., 8d., and 7½d. per hour respectively.

On the part of the men it was urged that the proposed system of grading placed the men at the mercy of the officials. Moreover a twelve months' agreement was required by the company.

At a meeting of men the following demands were formulated:—One grade of driver, at 7s. per day of nine hours, with a Sunday of 13½ hours, at 10s. 6d.; any agreement as to terms to be made with the union. No deductions of pay for accidents. Half-pay per hour for overtime when men are left stranded on roads, beyond usual time. More time for each journey, to obviate exceeding of the speed limit. Half-hour daily for meal.

The trouble began at the garage at Cricklewood, and extended to those at Mortlake and Acton until nearly one hundred and fifty omnibuses were affected and by Monday the following routes were affected:—Cricklewood to Elephant, Cricklewood to Victoria, Finchley to Oxford Circus, Barnes to Liverpool Street, Child's Hill to Victoria.

During Tuesday the directors met a deputation of the men, who told the board that they would not accept the journey system, and insisted upon being paid 5s. a day instead of 3s. 6d. whilst the cars are

being laid by in garage. They also asked that they might be allowed half an hour at some point of the road or between the journeys during which time they might get a square meal. The men's arguments were listened to with attention by the board, who promised that they would give the matter their careful consideration and let the men know the result.

Out of a total of 154 buses, 50 were running on Tuesday.

### MOTORIST v. MOTORIST.

In the Berwickshire Sheriff Court at Duns, Mr. Charles H. Benton Knutsford, Cheshire, has been charged with wilfully preventing hindering, and interrupting the free passage of a motor-car on the public road between Lander and Earlston. The evidence for the prosecution went to show that in the dark accused, while driving his motor-car, was overtaken by a car belonging to Mr. C. B. Balfour, M.P., travelling from Edinburgh to Newton Don. The chauffeur of the Newton Don car signalled that he wanted to pass, but accused persistently prevented a passage by keeping his on the centre of the road and swerving from side to side. A herd of cattle having been met, Mr. Benton's car suddenly stopped, and the Newton Don car, unable to draw up in time, ran into it and a slight collision took place. The evidence for the defence was to the effect that the front car was at full legal speed, and that the condition of the road made it dangerous to attempt to allow another car to pass. Sheriff Dundas found the charge proved, and fined accused 21s. An appeal to the High Court of Justiciary was intimated.

## PUBLIC MOTOR SERVICES.

THE Richmond Corporation have made representations to the Home Secretary and the Chief Commissioner of Metropolitan Police on the subject of the nuisance caused by motor-omnibuses plying between London and Richmond on Sundays. Residents of Barnes and Mortlake are signing a petition to the Surrey County Council in similar terms.

In view of the agitation in and about Manchester against motor-buses, the trial of a Ryknield motor-omnibus last week attracted much interest. A party of members of local governing authorities was taken from Manchester to Lower Peover, through Alderley Edge, returning by way of Knutsford, when all who had participated in the run concurred in the opinion that the bus had passed the experimental stage, and that the general comfort of the passengers far exceeded the most sanguine anticipations.

THE Southport Company Housekeepers' Association have adopted a resolution protesting against motor-cars being allowed to ply for hire on the Promenade.

THE Highways Committee of the London County Council has reported that three motor-vehicles have collided with the parapet of Waterloo Bridge since October last; and, in consequence, they suggest that the attention of the Local Government Board and the Commissioner of the Metropolitan Police should be called to the control of motor-bus traffic over Thames bridges.

At the Hove Borough Bench, on Monday, Charles Ayling, of Brighton, was summoned for "using a certain locomotive upon the highway called Church Road, Hove, on November 2nd, which did not consume so far as practicable its own smoke." P. C. Brown stated that he saw the defendant driving a motor-bus along Ventnor Villas, which was emitting a large quantity of smoke. He spoke to the defendant, who said, "I can't help it, I have just brought her out of dock." Witness watched the bus along Church Road, and saw it continue to emit smoke in such quantities that he could hardly see the back of the vehicle. The Chief Constable (Mr. T. Davies) said this was the first case of the kind brought before the Court, whose decision in the matter therefore would be very important. Mr. Trangmar pointed out that the proceedings were taken under section 30 of the Locomotives Act, which applied principally to traction engines and such like heavy vehicles, and which the Motor Car Act of 1896 had repealed. By this last named Act an exception was made in favour of vehicles so constructed as to consume their own smoke "except from any temporary or accidental cause," and the motor-bus was such a vehicle. The bus in question was on its first journey and the smoke had stopped before the bus had got to Castle Square. He submitted that the smoke was due to a "temporary or accidental cause," and explained that the company took very great precautions to prevent undue smoking. The magistrates retired to consider their decision, and, on their return, the Mayor said the defendant must pay a fine of £1 and costs, or seven days. Mr. Trangmar said he wished to appeal, and asked the Bench to increase the fine to £2 ls. to enable him to do so. To this the magistrates agreed.

AN extraordinary general meeting of the Manchester District Motor Omnibus Company (Limited) was held at Cannon Street Hotel, London, on Tuesday, for the purpose of considering a resolution for the voluntary winding up of the company and the appointment of Mr. E. I. Husey, of 58, Coleman Street, E.C., as liquidator. This service was started in July last and ran for five or six weeks, when an extension of the route was decided upon. Then a local outcry arose and a deputation waited upon a committee of the Manchester Corporation. A resolution was passed recommending the Watch Committee not to grant any further licences, and that those already granted should be allowed to lapse. That decision had, to all intents and purposes, closed the Manchester district to companies running motor-omnibuses. There was little else to do, and considering that their licences would lapse in about fourteen days' time, they at once withdrew the service and began to cut down expenses. The directors had discussed the position with many of the larger shareholders, and had decided to wind up the company and go into voluntary liquidation, thereby saving as much money as possible. There were a certain number of buses which belonged to the company, and these would have to be sold for what they would fetch. He concluded by moving a resolution in favour of the voluntary winding up of the company, which was seconded and adopted.

## NEW COMPANIES REGISTERED.

LONDON MOTOR-CAR COMPANY.—Capital, £5,000. To take over the goodwill and connection of Mr. J. R. Fawcner in the business of an engineer, motor-car expert, &c. 1, Cathedral Mansions, Vauxhall Bridge Road, S. W.

ALL-BRITISH CHASSIS BUS COMPANY.—Capital, £100. Public issue. Messrs. W. Tattersall and B. M. Goode.

LAYSTALL MOTOR ENGINEERING WORKS.—Capital, £2,000. To acquire the business carried on by Messrs. F. T. Bersey and S. O. Eade at 27 and 29, Laystall Street, Rosebery Avenue, London, E.C.

DURAX DUSTLESS ROADS.—Capital, £50,000. To adopt an agreement with the Granite Patents, Limited. First directors, Messrs. G. Briggs, H. Edmunds, H. J. Grace, F. M. Manuells, W. M. Roscoe, P. A. Shaw, A. H. Wheeler, and J. G. Simpkin.

MOTOR TYRE AND RUBBER MANUFACTURING COMPANY.—Capital £60,000. To acquire the business carried on by the Empress

Manufacturing Company, Ltd., at 7A, Upper St. Martin's Lane, W.C., and at Hythe Works, Willesden, as the Motor Tyre Manufacturing Company. Address, Hythe Works, Hythe Road, Willesden, N.W.

## ROAD REPORT.

CHESHIRE.—At the last meeting of the Cheshire County Council, Alderman Sandbach (chairman of the Main Roads Committee) declared that a stretch of the main road from Manchester to Chester in the Knutsford district had been seriously damaged by dust-laying experiments. When wet weather came the road broke up and became perfectly rotten. The county surveyor estimated that it would cost about £500 to remake the road. Chloride of calcium had so far proved the most satisfactory dust-layer.

## MOTOR-CAR ACCIDENTS.

DR. WALDO, the coroner for the City, has just held his first inquest on the victim of automobile traffic in London. The jury returned a verdict of "Accidental death" and attached no blame to the driver of the motor-omnibus.

ON Tuesday evening a motor-car belonging to Mr. G. H. Robertson, of Plas Newydd, Llangollen, while going along the Wrexham Road, near Chester, ran over a man lying on the roadside, inflicting such serious injuries to his head that he died shortly afterwards at Chester Infirmary.

## POLICE TRAPS.

THE chief constable of Shropshire has issued a warning that motorists who drive recklessly may expect drastic measures to be taken against them in that county.

AT Eggborough, on the Selby and Doncaster road, is a police trap in frequent operation.

THERE is a measured furlong in the Kennington Road, London, S.E., over which the police frequently time motorists.

## LOCOMOTIVE OR MOTOR-VEHICLE.

THE appeal of Garrett v. Lingley from a decision of the magistrates at Woodbridge, Suffolk, recently came before the Lord Chief Justice and Justices Lindley and Darling as a Divisional Court. Mr. Leslie de Gruyther and Mr. Ernest Charles (instructed by Mr. Arthur Hunter) appeared for the appellant and Mr. Stewart (instructed by Mr. Wood) for the respondent, the superintendent of police at Woodbridge. Mr. Charles stated that on May 22nd last the appellant was driving a motor tractor owned by Messrs. Geo. Powdrill and Son, of Luton, through Woodbridge when he was stopped by a police-constable and subsequently summoned under Section 9 of the Locomotives Act, 1898, for using a "Locomotive" not duly licensed. On the hearing of the summons the motor licence issued by the Bedford County Council was produced by the owner of the tractor, and it was in evidence that the car had been constructed to work under the heavy Motor Car Act. It was contended that the tractor was a motor-car within the meaning of the Locomotives on Highways Act, 1896, and the Motor Car Act, 1903, and therefore was not subject to the provisions of the Locomotives Act, 1898. It was also urged that the registration as a heavy motor-car was sufficient evidence to exclude the application of the provisions of the Locomotive Act, 1898, and that the occasional emission of smoke deposed to by the prosecution was not relevant to the particular charge. The Bench, however, convicted the defendant and inflicted a fine 10s. and 15s. 6d. costs.

After hearing counsel for the respondent the Lord Chief Justice delivered judgment, stating that there was no evidence upon which the magistrates could come to the conclusion that the tractor in question was not constructed in the manner required by the Locomotives on Highways Act, 1896, and the Motor Car Act, 1903. His Lordship stated that the certificate of registration issued under the provisions of the Motor Car (Registration and Licensing) Order, 1903, was not in itself conclusive evidence of proper construction, but such registration did raise a prima facie case which in the present instance had not been rebutted. The conviction would be quashed and the appeal allowed with costs.

## TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.



# THE Motor-Car Journal.

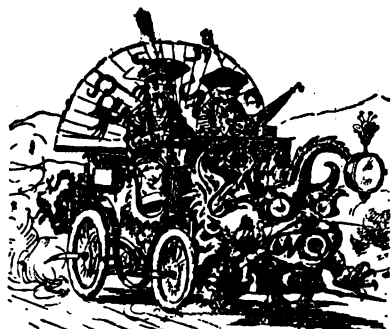
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## COMMENTS.



LIKE the dragon that preys upon all obstacles in its way, the desire to bring everything into a common ownership seems to invade all shades of thought, and now Mr. J. C. Wedgwood, M.P., has been suggesting that the manufacture of motor-cars should be undertaken by the Government. The proposal is not intended to utilise the knowledge of cars possessed by such men as Major Holden and Major Lloyd in the common interest, nor has it any association with the leakage from the Army to the motor trade that has taken place of late; but it is made on the sympathetic basis of finding work for the labourers and others who have been, and are being, discharged from Woolwich Arsenal. Hence the question addressed by Mr. Wedgwood to the Secretary of War on Monday, asking him to consult with the Postmaster-General as to the manufacture of bicycles and motor-cars at the Arsenal for the use of His Majesty's postal service. Mr. Haldane gave a common-sense and decisive reply. The question, so far as it related to bicycles, had been considered and dismissed. And then, added the War Minister, "the arguments against the manufacture of bicycles at the Arsenal apply to a greater extent to motor-cars"—a proposition that will be appreciated by all who are cognisant of the subject. Still the young M.P. kept to his point, giving instances where ordnance works had taken up "side lines," until Mr. Haldane was forced to closure the discussion by remarking upon the financial difficulties that had frequently attended such experiments. Far better is it that the public services of the country should have a wide range from which to select vehicles for the particular requirements of each Department than that they should waste the taxpayers' money in the endeavour to establish an official type in the assembling of which red tape and other unnecessary accessories would probably play a part. Mr. Haldane's firmness in at once dismissing the matter will be acknowledged in many other circles besides those associated with the motor-car.

### A Show Question.

MANY exhibitors at the Show have been chagrined at the restricted areas of their stands, and also at the manner in which they have been induced to take space. They hoped for adequate representation of their interest; but when we consider large firms with extensive selections of accessories have been cut down to most meagre displays, there need be no surprise felt at their sense of disappointment. This, however, is not shared by those exhibitors who wisely retained their freedom of trade and who declined to be bound to show only in one place. They have now the advantage of the publicity gained at Olympia to attract the public to their stands at the Agricultural Hall Show at the beginning of the next selling season. With regard to that Exhibition many new models are assured, several makers of cars having been unable to get their vehicles ready before the spring.

Hence an important factor in the continued success of what was the pioneer of the motor trade exhibitions, and which is still recognised as the inauguration of the actual selling season of the year.

### No Taxation by h.p.

AMID the plethora of after-dinner speeches to which all associated with Motorism have been compelled to listen during recent days there has been a danger of some really important pronouncements being lost. One at least deserves more than a passing word, viz., the declaration of Mr. Walter Runciman, the Parliamentary Secretary of the Local Government Board, to the effect that there will be no taxation by horse-power—a view subsequently approved by Major Cole on behalf of the provincial motorists, and referred to by the Hon. Arthur Stanley on the following day as of great importance. It is very satisfactory to know that the officials of the responsible Department have rejected this method, which, had it been seriously regarded, might have wrought considerable mischief to the industry. At a time when the production of high-powered cars seems to be the great desire of makers, the idea of the imposition of a tax by horse-power cannot have a good effect, and Mr. Runciman deserves the thanks of all engaged in the industry for the statement he made—apparently with full recognition of his responsibility in the matter.

### The Position of the Industry.

WITH reference to the present prosperity of the automobile industry some interesting figures were given by the Hon. Arthur Stanley, M.P., at the luncheon which inaugurated the show now in progress at Olympia. He calculated that the British production of motor-cars during the past nine months had totalled three millions sterling, while the imports of vehicles had exceeded that sum by half a million. Mr. S. Straker, in voicing the sentiments of the Society of Motor Manufacturers and Traders, pointed out that they had been in negotiation with many Government Departments during the year, and that there was generally a disposition among those in official positions to regard the automobile industry as one of the institutions of the country—a very different attitude to the original prejudice with which it was assailed.

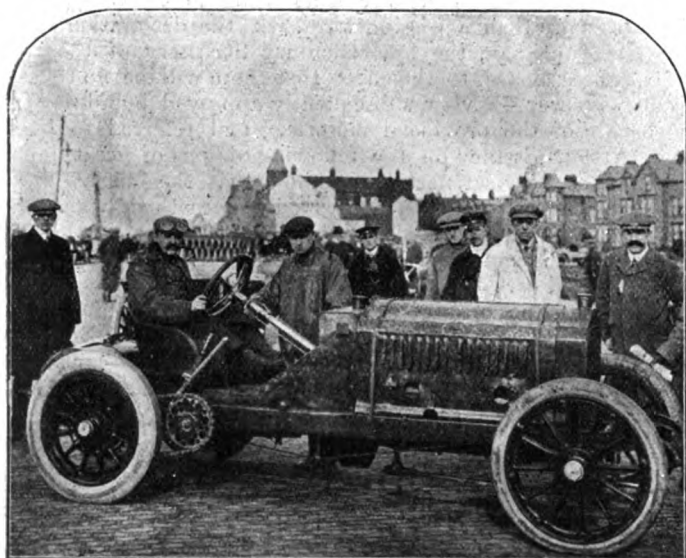
### A Scottish View of English Methods.

THE interest aroused by the legal decision in the case of *Bastable v. Little*, recently chronicled in our columns, is by no means confined to the English side of the Border. A Scottish reader calls our attention to a leading article upon the judgment in the "Glasgow Herald," which explains that "it is a little difficult for the Scottish motorist to appreciate the importance of the case; and it is still harder for the Scottish non-motorist or anti-motorist to understand the degree of interest that is aroused by the judgment, because on this side of the Border the motor-trap is a most uncommon object of the roadside." The many technicalities of the matter are cogently discussed, and then our contemporary goes on to say, with

intelligent appreciation of the position:—"It is not that the Scottish driver, on the open road, is guided by an unctuous rectitude to which his English brother is a stranger. Police traps are rare in Scotland, because we do not believe that the force is maintained for the manufacture of technical offences, nor do we regard motorists who exceed the limit, without endangering or inconveniencing other road users, as outlaws to be bled freely for the relief of local rates. But in the south motor-trapping is a sport pursued in many districts with energy and zeal. In some localities, such as the notorious borough of Andover, it is not so much a sport as an important local industry."

#### An Australian Trial.

LAST week the Dunlop Reliability Motor Contest was held over 1,000 miles of the best roads in Victoria, six days being allowed for the trial. There were four classes, viz., A, for single-cylinder cars; B, for multi-cylinder cars with a total piston displacement of not more than 130 cubic inches—equivalent approximately to 13-h.p. at 1,000 revolutions; C, for multi-cylinder cars with a piston displacement ranging from 131 to 200 cubic inches; and Class D, for cars with a total piston displacement of over 200 cubic inches—approximately over



Gabriel on the 120-h.p. De Dietrich Racer he drove at Blackpool.

20-h.p. at 1,000 revolutions. The formula used for determining the total piston displacement was as follows:—

$$\frac{\text{Bore in inches (square)}}{4} \times \frac{22}{7} \times \frac{\text{Stroke (in inches)}}{1} \times \frac{\text{Number of Cylinders}}{1} = \text{total piston displacement.}$$

The event was won by a 12-h.p. Darracq, fitted with Continental tyres.

#### The Police and Public Services.

UNQUESTIONABLY the streets of London are quieter than they were a few months ago, and it is apparent that the absence of many of the motor-buses that were then plying on the roads is partially responsible for the comparative calm that is now our lot. Many designers and makers naturally desirous of getting their vehicles into early service hurried things forward only to find the public carriage department at Scotland Yard prepared to reject them altogether. A few hundred vehicles are now awaiting police sanction, and the amount of capital thus lying idle is a serious drain on the firms whose enterprise led them into this branch of motorism. Fortunately the police authorities have been accessible, and have, to a great extent, taken the makers

into their confidence by the circulation of draft regulations for criticism before finally taking a decided stand. The revised Regulations were issued last week—their publication synchronising with the public utterances of Sir E. R. Henry, the Commissioner of Police, on the subject. At the conference between the public and the motor-bus interests in January, regulations with regard to structural details were settled on fairly unanimous terms, but the provision as to "undue noise" left occasion for contention; and, as has been proved in practice, has been the cause of difference ever since.

#### A Standard of Noise.

THERE is, as yet, no standard of noise and Sir E. R. Henry is now trying to secure such a desideratum. As he told the Society of Motor Manufacturers and Traders last week, he is in consultation with a scientist who is devoting his abilities to solving this problem, and who is in communication with Lord Rayleigh. Hitherto they had been compelled to judge noise by the effect that it produced upon the auditory senses of those whose business it was to give a decision. A noise might produce upon one man an irritating effect that it would not produce upon another. They had taken that into account, and had arranged that the omnibuses should be tested by several officers. When the vehicle was brought up it was tested by the Superintendent of the Public Carriage Department, and his decision would be reviewed by a committee of three, two of whom were in no way connected with the Public Carriage Department. When an omnibus, already licensed, became a nuisance, owing to over use or want of care, they did not order it off the streets at once, but got a report from the officer who had visited and watched the place where it ran. They did not accept his report until it had been tested by another officer, and when those reports agreed as to the defects of the omnibus, they issued precautionary notices requiring the owner to remedy the defects, under the penalty of his omnibus being forbidden to ply until it came up for re-inspection.

#### Ladies and the Cars.

LADIES' days at Exhibitions are always a popular feature of such displays providing the opportunity for a little relaxation from the ordinary hours of business. And that organised by the Ladies' Automobile Club on Thursday was no exception. The ladies are as keen motorists as the men, and although they may lack the mechanical knowledge, and the practical acquaintance with the disagreeable details of breakdowns, they take a real interest in most things that appertain to automobilism. They appreciate the social side of club life as developed in the country; they had their place at the anniversary dinner last week, and their influence is the reason of many of the little fitments to be seen on modern cars. Of course they look first at the upholstery and coachwork of cars, but a great number want to see much more than that, and their motor catechism is becoming more and more extensive.

#### Llandudno Speed Limit Refused.

THE Motor Union and the A.C.G.B.I. have been successful in their opposition to a proposal to establish a reduced speed limit for motor-cars on certain streets in Llandudno. The County Council of Carnarvon applied to the Local Government Board for an order to reduce the speed to ten miles an hour, and a local inquiry was duly held, at which the Secretary of the Motor Union attended, and opposed the application on behalf of the Union, the A.C.G.B.I., and the North Wales Automobile Club. The Motor Union have now received a letter from the Local Government Board, in which they state:—"That having regard to the circumstances of the case, and after consideration of the report of their inspector, the Board have informed the County Council of Carnarvon that they do not feel able to comply with their application, at any rate to its present extent. Upon this both the motorists of Wales and the non-motorists of Llandudno are to be congratulated."

### A Chance for Local Bodies.

INSPIRED by the offer of substantial prizes of £100 and smaller sums, the townships of the County of York, in Canada, are setting their roads in order. The Toronto Automobile Club has devised this scheme of prizes in order to induce the local authorities to improve their roads. The awards will be paid to the authority which secures the best improvement of one mile of road, regard being paid to the drainage, serviceable width, finish of surface, smoothness, and permanency of construction. The idea is that the prizes obtained shall be devoted to further improvements, so that the Canadian automobilists are doing a really useful work; and, it is satisfactory to learn, the authorities are accepting the challenge in the most public-spirited way.

### The Loss of a Livelihood.

WE do not extenuate the offence which has caused a chauffeur to be deprived of his licence to drive a motor-car; and also prevented him from obtaining a renewal for four months after the expiration of the licence now suspended. The case is briefly mentioned on another page, and seems to have been a bad one; but the matter is of general interest, for it is

up a petition against the suggestion, and quickly got sixty signatures. Then a meeting was held, and a dozen motorists, recognising the value of unity in preserving their interests, established the Harrogate Club, of which Dr. Ozanne is the president, while other good workers for the cause have been Dr. Holroyd, Mr. Birtwistle, and Mr. King. Local organisations like that at Harrogate are doing really great service to the automobile movement throughout the country.

### The Development of the East.

IN the development of eastern countries the motor-car will play a useful part, and anything tending towards its encouragement deserves consideration. Hence the interest of the meeting of the East Indian Association the other day, when Mr. Parveez, a Parsee citizen of Bombay, gave his views as to the possibilities of developing Indo-British trade with Persia. He attributed the non-expansion of British trade with Persia mainly to the absence of good communications, and suggested that a much more feasible project than an extension of the Queata-Nushki line to Seistan would be a motor-car service. In association with an English gentleman he had applied to the Indian Government for a motor-car concession to cover this route, but they were met with a flat refusal. Russia, on the

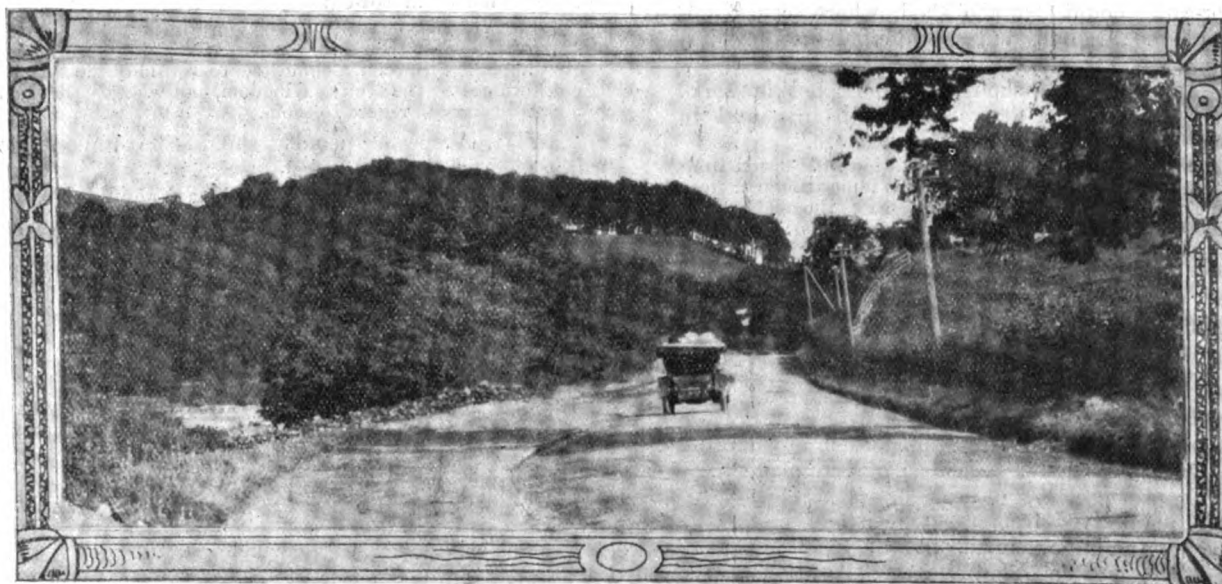


Photo by]

A Pretty View on the Carlisle Road, near Hawick.

[Mrs. J. S. Turnbull.

almost the first time that a Bench has seen fit to extend the punishment beyond the period of suspension. Hence its interest both to those who drive cars and to those who pay the drivers. Of course, the magistrates have the power—under Section IV.; but it may well prove that its exercise may prove a far worse punishment than the imposition of a fine. For the licence is often regarded as a factor in a man's character when seeking a situation, and if a few endorsements tell heavily against him the prolonged period during which he cannot obtain a renewal will wreck him altogether.

### The Harrogate Club.

ELSEWHERE we refer to the annual gathering of the Harrogate and District A.C., the members of which are able to live on terms of amity with the police authorities, while the Corporation has so far recognised their existence by encouraging local experiments with regard to the laying of dust. Although only two years of age, the organisation has now fifty members in the town. Its origin was interesting. Just prior to its inception there were rumours of the desire of certain people to secure an eight miles per hour speed limit for the town, so far as motor-cars were concerned. Dr. Ozanne drew

other hand, in addition to making good roads in the north, had obtained concessions from the Persian Government for motor-car services on them. In such sparsely-populated tracts as lay along the Nushki-Seistan route the motor speed limit need not be over moderate to ensure the public safety, while the value of the motor-car was undoubted.

THE Burlington Carriage Company, Ltd., have recently supplied a 40-h.p. Delaunay-Belleville car, with limousine body, to Sir Max Waechter, who has ordered another car, a 20-h.p. of the same make, for town use.

THE partnership hitherto existing between Messrs. Huntley Walker and Warwick Wright has been terminated, and henceforth the style of the firm will be Huntley Walker, Ltd. Mr. Victor Miller, late of the Fiat Motors, Ltd., will be the manager.

THE business of the Duryea Motor Company, Coventry, has been recently purchased by Mr. Henry Sturmeay, who is now engaged in reorganising the works and the cars. In addition to the well-known three-cylinder models, a four-cylinder car with vertical engine and cardan shaft drive is being introduced, as well as a light 8-h.p. car for the Colonial markets, working with ordinary kerosene, and fitted with either a van or two-seated body.

## THE NATIONAL CONFERENCE.

**L**AST week we referred to the importance of the deliberations of the National Conference of Motorists, convened by the Motor Union at the Hotel Great Central, Marylebone, on the 14th inst., and to the adoption of twenty-four important resolutions, not only endorsing the conclusions of the Royal Commission, but setting forth the authoritative views of the motoring community with regard to the line upon which they desire legislation to proceed. The most remarkable feature of the great convention was the unanimity with which the ideas of the Legislation Committee of the A.C.G.B.I. found acceptance. All felt that they so fully comprehended the scope of the whole matter that discussion was really unnecessary, and, while a few minor criticisms were made, the tenour of the recommendations was regarded as accurately stating the position.

Below we give the recommendations of the Royal Commission as endorsed or supported by the Conference, with the resolution of the meeting where any difference of view was presented set out in smaller type.

I. Any General Motor Car Act should deal with traction engines as well as motor-cars.

Recommendation adopted, provided all classes of traffic be regulated by one Statute.

II. The present general speed limit of 20 miles an hour for light motor-cars should be abolished, where caution is required a 12-mile speed limit may be adopted by the local authorities.

III. These 12-mile limits should be indicated in small towns and rural districts by danger signal boards, and in London and large towns by notices in the "Gazette."

(a) The recommendation for the abolition of a speed limit of twenty miles an hour welcomed, but the imposition of a fresh speed limit of twelve miles an hour regarded as illogical.

(b) No speed limit shall be imposed without the consent of the Local Government Board.

(c) The suggested method for advertising limits is most inadequate.

IV. The speed limit of heavy motor-cars weighing from two to three tons and having non-resilient tyres should be reduced to five miles an hour.

Further experience of the working of the present regulations should be obtained.

V. The duty of a motorist as to stopping when any damage or accident has occurred should be enlarged and made more explicit.

VI. The revenue derived from the taxation of motor-cars should be devoted to the improvement of roads.

A Central Department should direct the allocation of the monies raised by such taxation to the different local authorities.

VII. Some additional power and facilities should be given to local authorities for obtaining the removal of obstructions to the public view on rural highways in certain cases.

VIII. Certain suggestions should be considered with regard to the amendment of the law as to extraordinary damage by traffic on highways.

The law as to extraordinary damage by traffic on highways should be consolidated and simplified.

IX. Annual registration of motor-cars with a small yearly fee should be enforced. A registration card should always be carried on the car.

No objection offered to the annual registration of cars, providing that the fees for registration and re-registration be fixed at five shillings and one shilling respectively.

That the present right of any owner to register his car with any registering authority that he chooses be allowed to continue.

X. Identification plates, of a slightly larger size than those at present used, should be supplied by the local authority only, and should bear their mark.

This recommendation would be vexatious in operation.

XI. The registering authority should have the power of weighing any car.

The definition of the weight of a car, laden or unladen, should be amended.

The definition of weight proposed is not a practicable one, and would operate harshly against commercial vehicles.

XII. Further facilities should be arranged for enabling members of the general public to ascertain the name and address of the owner of any motor-car.

That this Conference is of opinion that any legislation of this kind should be extended so as to enable the name and address of any user of the highway to be ascertained.

XIII. Owners of motor-cars should be liable to penalty if on summary conviction they are shown to have abetted their drivers in committing certain offences connected with the driving of a motor-car, and the duties of owners as to giving information leading to the identification of their drivers should be enlarged.

No objection offered.

XIV. The procedure with regard to the issue, renewal, inspection and production of driving licences should be simplified and slightly amended.

XV. More specific regulations should be made as to the position and illumination of identification marks.

This recommendation is in many cases impracticable.

XVI. The law as to manufacturers' marks should be simplified, with a view of securing greater freedom for the motor-car industry.

XVII. The provisions of the Locomotives Act, 1898, in regard to the closing of bridges to locomotives, should be applied to heavy motor-cars.

Having regard to the very unsatisfactory condition of many of the bridges in this country, the Government be invited to appoint a Special Committee to consider the question of the bridges of the United Kingdom, and what further legislation is necessary in regard to them.

XVIII. A special penalty should be imposed for being drunk when in charge of a motor-car.

XIX. The endorsement of licences should be at the discretion of the Court, except for the more serious offences. The holder of an endorsed licence should be entitled to obtain a clean licence after two years during which he has held a licence without further endorsement.

XX. A right of appeal should lie when endorsement or a fine of over 20s. has been imposed.

There should be a right of appeal in all convictions in connection with the use or ownership of a motor-car.

XX. The emission of smoke or visible vapour on a public highway in such a quantity as to cause annoyance or danger, and the causing of excessive noise or vibration not of a momentary description, should be an offence.

That this recommendation be approved, with the substitution of "a nuisance" for "annoyance."

XXII. Two lamps should be carried on the right and left front respectively of all motor-cars other than motor-cycles.

That all legislation as to lighting should be extended to all classes of road vehicles, and should be incapable of being superseded or of being added to by any bye-law.

XXIII. The taxes upon motor-cars should be increased, and should be raised by means of a consolidated scale of duties.

That the organised motorists represented at this Conference are prepared to consider any reasonable suggestions for additional taxation, provided that the revenue so derived is devoted to the improvement of roads under the supervision of a Central Department, as recommended by the Commission (see No. VI.).

XXIV. Trade motor-cars should pay one-half the taxes charged on pleasure motor-cars.

Motor trade vehicles should be treated exactly on the same terms as those drawn by horses, and differential treatment be accorded to cars used by doctors.

The following additional resolutions were passed dealing with matters not specifically referred to in the Commission's summary of their recommendations:—

### PRODUCTION OF DRIVING LICENCES AND REGISTRATION CARDS.

That a reasonable time shall be allowed for the production of driving licences and registration cards.

### LICENSING OF PUBLIC SERVICE VEHICLES.

That the refusal of a local authority in the provinces to license motor vehicles for public services or the imposition by such authority of impracticable conditions shall be subject to an appeal to the Local Government Board.



## A THREE-WEEKS' MOTORING TOUR IN BRITTANY.

BY G. C. ASHTON-JONSON.

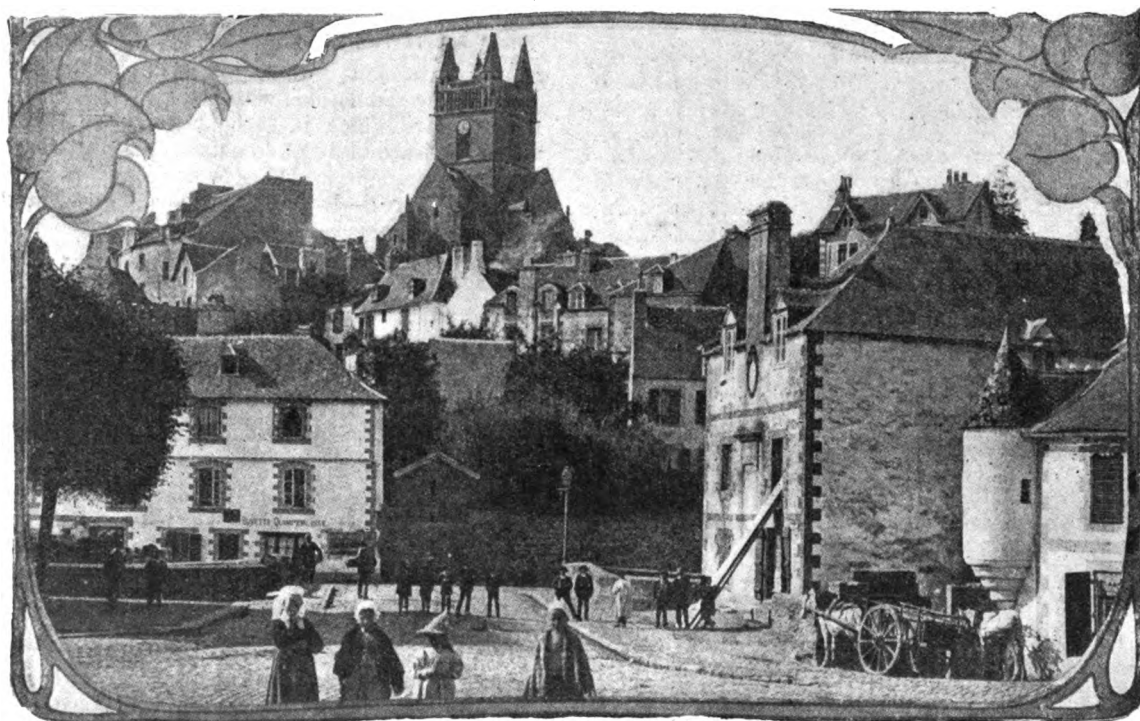
FOR anyone wanting a short motor holiday, Brittany is "indicated," as the doctors say. For one thing, no time is lost in getting there, for although Havre—the best port of arrival—is in Normandy, a day's run will take one to Brittany, *via* Caen, Avranches, Mont St. Michel and Dinan. The hotels are unpretentious but clean and comfortable, the roads for the most part excellent, the scenery interesting and full of variety, and the people friendly and charming. In other parts of France the scenery may be finer, and the towns more interesting, as in the Auvergne, the Pyrenees, Savoy or Provence, but it takes longer to get there. The ideal short holiday should be like ancient Gaul, divided into three parts; a week to get to some place where there is a really good hotel in delightful surroundings and a pleasant centre for short excursions, a week there, and a week for the return journey by a different route.

Such a resting-place as I describe is to be found in Quim-

perlé, in the south of Brittany. This little town is one of the most loveable places in France. Two small rivers full of trout run together there, and, forming a tidal estuary, flow into the sea seven miles away, passing through a lovely forest and by a picturesquely situated old chateau, the Abbaye de St. Meurice. The forest is called La Forêt de Clohars-Carnoët, and several roads and glades run through it, offering many attractive spots for picnics. On the coast is a dear little sandy "plage," Le Pouldu, where the shore is broken up into little sandy bays so surrounded by high rocks that each forms a more or less private bathing place, and as such they are often used. "Tre," "Pol," and "Pen" figure almost as largely in Breton place-names as they do in Cornwall, and the language shows striking affinity to Welsh; so much so that when the Welsh Bards visited St. Brieuc, in the north of Brittany, this year, it was stated that the Bretons could understand the Welsh language of the visitors. Quimperlé itself is very picturesquely situated in a valley with part of the town climbing up the steep side of a high hill, at the top of which is an interesting old church. The streets are full of old houses, and where these

overhang the rivers the views are as picturesque, though different in colouring, as at Nuremberg, on the Pegnitz. The prevailing colour of the houses is a silvery French grey, toning with exquisite effect into the green of the creepers and trees, while bright dashes of colour occur here and there from awnings or flowers in the windows.

The Hotel du Lion d'Or is itself part of an old abbey and enjoys the reputation of having been haunted at one time by the ghost of one of the abbots. The rest of the building, including the cloisters, is now occupied by the Prefecture of Police. Adjoining this fine old building is a curious circular church in the style of architecture associated with the Templars. The hotel, which is kept in a generous old-fashioned French style, is one of the most comfortable of its kind. The proprietor personally sees to the comfort of his guests, and the servants contrive to infuse into the service the same friendly anxiety for one's enjoyment of the excellent food provided as is displayed by the Dragoman on the Nile dahabeeah. The service is indeed quite a feature of this hotel, the waiting being performed by four little Breton maids, all sisters, in their very picturesque national costume and dainty caps, who by their refinement and merry talk added a distinct charm to a sojourn in this excellent hotel.



The Place National, Quimperlé, Brittany.

perlé, in the south of Brittany. This little town is one of the most loveable places in France. Two small rivers full of trout run together there, and, forming a tidal estuary, flow into the sea seven miles away, passing through a lovely forest and by a picturesquely situated old chateau, the Abbaye de St. Meurice. The forest is called La Forêt de Clohars-Carnoët, and several roads and glades run through it, offering many attractive spots for picnics. On the coast is a dear little sandy "plage," Le Pouldu, where the shore is broken up into little sandy bays so surrounded by high rocks that each forms a more or less private bathing place, and as such they are often used. "Tre," "Pol," and "Pen" figure almost as largely in Breton place-names as they do in Cornwall, and the language shows striking affinity to Welsh; so much so that when the Welsh Bards visited St. Brieuc, in the north of Brittany, this year, it was stated that the Bretons could understand the Welsh language of the visitors. Quimperlé itself is very picturesquely situated in a valley with part of the town climbing up the steep side of a high hill, at the top of which is an interesting old church. The streets are full of old houses, and where these

As a centre for short excursions—short, that is, from the motorist's point of view—Quimperlé is unrivalled. Pont-Aven, the favourite haunt of artists, is only ten miles off. From there is easily reached a peculiar little bathing place called Port Manech, where there is a *succursale* of the well-known Hotel Julia at Pont-Aven. This establishment is only one storey high and built round a small octagon-shaped courtyard with the bedroom doors all opening into it. It stands on the edge of a cliff with the waters of the Bay of Biscay round it on three sides. Lying a little back on one side is the mouth of the river Aven, and here there is a picturesque little harbour with a miniature fleet of fishing-boats and an attractive and unsophisticated little "plage." Concarneau and Douarnenez, the headquarters of the sardine fishery, are within easy motor runs, the former, with its "Ville Close," a little mediæval fortified town on an island in the harbour, being well worth a visit. Quimper, too, with its fine cathedral, should not be forgotten. Indeed, the lover of ecclesiastical architecture, Norman and Gothic, will find Brittany a mine of wealth and interest.

(To be concluded.)

## CONTINENTAL NOTES.

## The Tyre-Inflating Apparatus Competition.

As already announced, the Touring Committee of the A.C.F. will hold a competition of tyre-inflating devices during the course of the Paris Salon, commencing on December 17th. The rules provide that apparatus in which gas is compressed by other means than those provided on the automobile shall not be eligible. The jury, in making the awards, will have regard to the safety of the apparatus and its ease of adaptation and use, and the trials will be made on 880 mm. by 120 mm. tyres. Entries for the contest will be received at the A.C.F. until December 15th.

## Non-Skid Devices in Paris.

A rumour is current in Paris that the Prefecture of Police will shortly issue a regulation requiring all motor-cars in Paris to have at least one anti-skidding tyre, in order to reduce the danger to the public attendant on the skidding tendencies of automobiles, especially in bad weather.



Photo by) Touring in France—A Wayside Incident.  
(Mr. A. M. Wasnage.)

## The 1907 A.C.F. Grand Prix Race.

At the meeting of the Sporting Committee of the A.C.F. last week the general lines of the 1907 Grand Prix Race were decided upon; it is to be over a distance of 800 kilometres, to be run off in a single day. Manufacturers may each enter three cars, the entry fee up to the 1st February next being £200 per vehicle. There will be no limit to the weight of the competing machines, the race being a combination of speed and fuel consumption. It has been decided, instead of restricting competitors to the use of petrol, to allow them to choose their own fuel, the proposed allowance of 240 litres for the 800 kilometres, or 9.47 miles to the gallon, being still retained. The drivers will be at liberty to decide whether they shall take in all the fuel allowed at once, or in two or more instalments. As regards tyres, a free choice is allowed, with the condition that all four wheels of the car must be shod with tyres of one firm's manufacture. Where non-skids are employed the make of the latter will be recognised, and not that of the outer cover.

## An Example to be Followed.

The Automobile Club du Centre de la France is to be congratulated on the new departure it has just made. The headquarters of the club are in Bourges, and near the Octroi depots at the various entrances to the old town they have fixed up the following notice:—

## BOURGES—AUTOMOBILE-CLUB DU CENTRE

## TOURISTES:

Visitez:

La cathédrale  
L'hôtel de Jacques Cœur  
L'hôtel Cujas (musée)  
La rue Mirebeau  
L'hôtel Lallemant

MM. les automobilistes sont priés d'aller  
lentement dans les rues de la ville.

The idea is an excellent one and can be commended to other provincial automobile clubs.

## The 1907 International Touring Car Race in Germany.

The German International Automobile Club has issued the preliminary regulations with regard to the International race for touring cars which is to be held in the Taunus in June next, over a distance of 500 kilometres. The event will be open for cars the cylinder capacity of which is not more than eight litres; other rules are:—1. Minimum wheel base 6½ ft. 2. The minimum weight, including body and tyres, but without fuel, water, oil or spare parts, 1,175 kilogram. 3. The use of detachable rims will be allowed, and, 4. Each car must carry two persons. Firms may enter a maximum of three cars each, the entry fee up to the 31st December next being £150 per machine. Full particulars of the race can be obtained from the Kaiserliche Automobil Club, 16, Leipziger Platz, Berlin, W. 9.

## The Reliability Trials of Heavy Vehicles for Military Purposes.

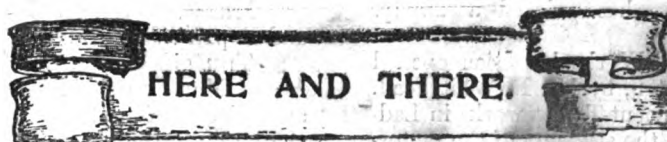
The reliability trial of heavy vehicles for military purposes, organised by the A.C.F., commenced on Saturday with the weighing in of the vehicles. The competition, which will extend until December 5th, consists of a run to Marseilles and back, which will be made in sixteen daily stages of from 40 to 128 kilometres. The vehicles are divided into three classes as follows:—1, for loads from 1 to 1½ ton; 2, for loads over 1½ ton; and 3, passenger vehicles capable of carrying more than fifteen persons. Twenty-two entries were received, and of these the following nineteen started:—Three Darracq-Serpellet steamers, a Peugeot, two Cohendets, two Turgans, a D'Espine Achard, two Lacoste and Battmanns, a Janvier six-wheel lorry, a Mors, two De Dions, two Oriens, a Berliet, and a Delaugère. The first day's run, on Monday last, was from Paris to Sens, 103 kilometres, Avallon, 107 kilometres, being the destination on Tuesday.

## Miscellaneous Items.

The President of the French Republic has consented to officially open the Paris Salon on the 7th prox.—Lancia, the well-known racer, is reported to have left the Fiat Company, with the object of commencing the construction of motor-cars on his own account.—A trial of industrial motor vehicles is to be held in Brussels during the course of the Belgian Salon, from the 12th to the 27th January next.—A new monthly journal, known as "Le Poids Lourd," has just made its appearance in Paris. It deals with commercial motor-vehicles, and is the first paper of its kind in France.—The Competitions Committee of the A.C.F. is reported to be considering a project to establish a large motor racing track in the Clermont Ferrand district.—Forty-one entries have been received for the reliability trials of 1907 models, which will start in Paris on Sunday next.

THE Mayfair Motor Company, Ltd., has removed from Shaftesbury Avenue, W.C., to new premises at 22, Mortimer Street, London, W.

PORTABLE ACCUMULATORS, LTD., have amalgamated with the British Ever-Ready Electric Company, Ltd., of Emerald Street, Theobalds Road, W.C., where all motor accessories made by the former firm may be obtained.



A WANDSWORTH carriage builder has just attributed his appearance in the local bankruptcy court to the advent of the motor-car.

THE Taunton Rural District Council is circularising similar

bodies throughout the country with a view to arousing their opposition to the proposal to nationalise the roads and abolish the speed limit.

MESSRS. NEILSON BROS. have a conveniently arranged garage at Kirkcaldy.

MESSRS. HILL AND BROWN have opened a garage at the Harbour Engineering Works, Perth.

MR. A. R. GARNETT has removed from Shaftesbury Avenue, W.C., to new premises at 181, Piccadilly, W.

MESSRS. WEST, LTD., are opening a depot at 85, Shaftesbury Avenue, London, W.C., for the sale of West cars.

£504 has been handed to Blackpool charities as a result of the recent races organised there by the Blackpool and Fylde A.C.

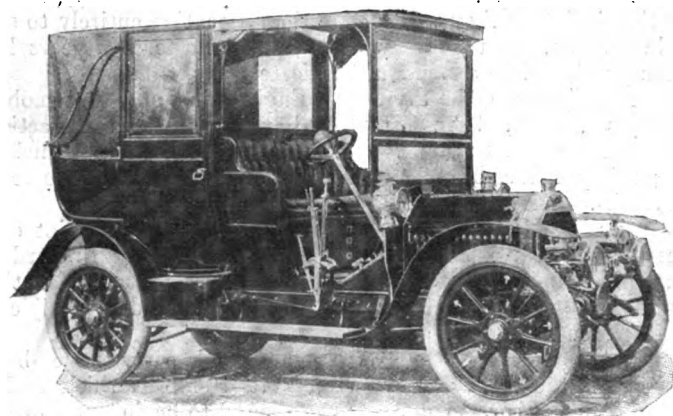
FRIDAY of next week will be the last day for receiving entries for the Commercial Vehicle trials of the A.C.G.B.I., which take place in February or March of next year.

THE Highways Protection League has met with a rebuff from the Llandaff District Council, which has described its programme as "full of fads," and ordered it to lie on the table.

THE L.C.C., at their meeting on Tuesday, accepted a suggestion made by Sir J. W. Bonn, M.P., that the Highways Committee report upon the general effect of the motor-omnibuses upon the traffic of London.

We learn that Mr. J. Sydney Arter has joined the Heron Motor Company, Birmingham, and that the business will in future be carried on as a private limited company under the joint management of Messrs. J. J. Horne and J. S. Arter.

MR. CATHCART WASON resumed his Parliamentary questioning on Monday, when he was informed by Mr. Gladstone that in the case of motor prosecutions it was in no case necessary for the police to prove the exact speed at which a car was travelling.



The 20-25-h.p. Brotherhood Car recently built to the order of Miss Hawker, of Plymouth.

As illustrating the extreme simplicity of control it may be mentioned that Miss Hawker's vehicle is being attended to and driven by her coachman, who until a few weeks ago had had absolutely no experience with a motor-car.

AMONG the novelties at Olympia, according to some of the daily newspapers, is the "White-Siddley car for the Queen."

THE Sirdar Rubber Company, Ltd., have received another repeat order from the War Office for Royal Sirdar buffer tyres.

A SET of the "De Fornier-Mayer" tyre protectors is in course of construction for use on the steam fire engine of the London Fire Brigade.

MR. WARWICK WRIGHT has, we learn, joined the firm of Messrs. Ernest Arnott and Holloway, Ltd., taking with him the concession for the four-cylinder Minerva cars.

IN connection with the ten years' anniversary of motoring, Messrs. Jarrott and Letts have issued an interesting booklet, containing a short history of the Dietrich firm.

MR. PETER REID'S garage in Prince's Street, Perth, is on the main road to Edinburgh, and is well equipped for the supply of accessories to motorists passing through the Fair City.

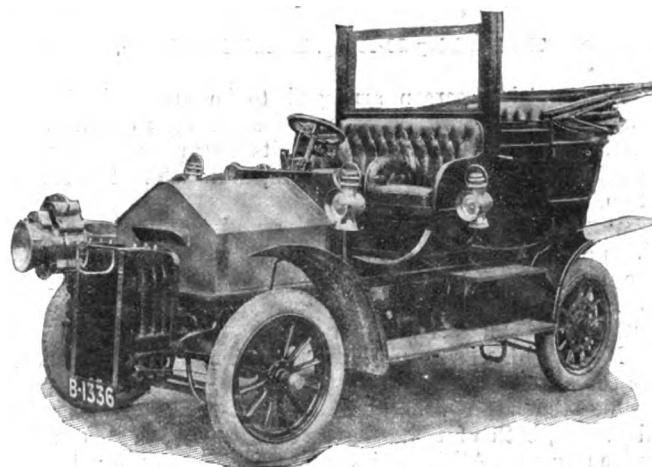
THE resolution passed by the A.C.G.B.I. last year, relating to the publication of speeds made at hill climbs, &c., has being rescinded, there being now no necessity to withhold these from the public.

MESSRS. JARROTT AND LETTS, LTD., inform us that in an agreement recently entered into by them with Messrs. Crossley Bros., Ltd., they have been appointed sole representatives for the whole of the output of Crossley cars.

MR. A. ROBERTS, of the "Roberts" Non-Skid Motor Tyre Tread Manufacturing Company, Gripwell Works, Birmingham, has an improved tyre gauge which has satisfied many of the motorists who have seen it at the Charterhouse Hotel, Charterhouse Square, E.C., during the week.

MESSRS. BOULT, TAYLOR AND CO., LTD., who have acquired the agency for the Nacke pleasure and commercial vehicles, made by Messrs. E. Nacke, of Coswig, Saxony, have just opened a depot at 12, Upper St. Martin's Lane, London, W.C., where free garage is now available and a large stock of accessories is kept.

ON Tuesday last the Enfield Autocar Company, Ltd., entertained its agents and friends to dinner at Frascati's Restaurant, London, W. Mr. Albert Fadie presided, and a most pleasant evening was spent. From the enthusiasm shown it is evident that the new Enfield car, under the guidance of Mr. E. H. Lancaster, will soon be one of the most popular in the country.



The 16-h.p. Turner-Miesse Landaulet built for Alderman G. T. Brown, J.P., of Chorley, Lancs. The vehicle is the first of the kind turned out by Turner's Motor Manufacturing Company, Ltd., and its owner is extremely pleased with its running.

DURING the past week the chassis of the new 40-h.p. Weigel car has been on view at the Hotel Great Central, Marylebone Road, N.W., where on Monday Weigel Motors, Ltd., entertained a number of their agents and friends to lunch. The new vehicle, of which some particulars have already been given in the M.C.J., attracted considerable notice, while the display of component parts, which formed part of the luncheon table decorations, show that no pains have been spared to turn out a car of the highest grade.

SIR PHILIP WATERLOW, Bart., has ordered a 28-h.p. Daimler chassis with 10½ ft. wheelbase.

THE Pembroke Motor Garage and Works has been opened in the Portsmouth Road, Thames Ditton, by Mr. R. Whitehead.

AN educational visit to the Clement-Talbot works in Ladbroke Grove was recently enjoyed by the students of the motor-car classes at the Regent Street (London) Polytechnic.

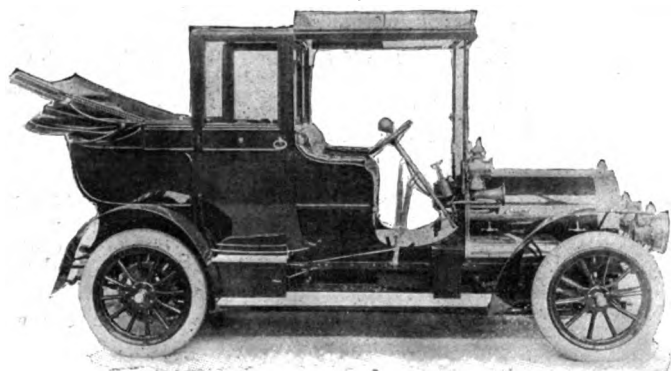
MR. J. KEYS, who has catered for the wants of motorists at the George Hotel, Buckden, has removed to the Turk's Head Hotel, Newport, Lincoln, where he will continue to give them special attention.

EXTENSIVE use is being made of motor-lorries by the Midland Railway in connection with the working of goods traffic in North Wilts. Goods depots have been established at Bradford-on-Avon and at Trowbridge.

MESSRS. RENNIE AND PROSSER, Ltd., of Glasgow, have issued an attractive booklet entitled, "What Panhard owners say?" and consisting of testimonials from those residents of the northern territory to whom they have sold these cars.

THE capital of the Motor Union Insurance Company, Ltd., having been largely over-subscribed, the directors went to allotment on Monday. There was a large number of applications for small allotments coming from all parts of the country.

MR. J. A. RYLEY, of 23½, Martineau Street, Birmingham, is very busy with "Vita" plugs, "Eclair" coils, and the "Amac" motor specialities. With regard to the "Eclair" coils he has not known, for the past three years, a single case of breakdown.



The Maudslayi 20-30-h.p. Extended Landulet.

A NEW glass screen arranged to be attached above the dashboard of a motor-car has just been brought out by Mr. A. Rivett, of High Road, Leytonstone, its feature being that it can be raised or lowered to any position, even while the car is in motion.

WE learn that Messrs. Gauthier and Co. have secured the British agency for the Sizaire-Naudin car, which took the first place in the recent reliability trial for voiturettes in France. A new 11-h.p. model is being introduced, for which Messrs. Gauthier are open to arrange for agencies throughout the country.

MESSRS. JAMES AND BROWNE, LTD., inform us that they have come to an agreement with the Lacre Motor Car Company by which the latter firm takes the whole of the output of J. and B. cars, both of the pleasure and business type, during the next ten years. All inquiries with reference to the "J. and B." vehicles, either of the horizontal or vertical engine type, should therefore be made direct to the Lacre Company.

THE "Vultrye" vulcaniser, which is being placed on the market by the Motor Patents, Ltd., 110, Cannon Street, E.C., is a simple apparatus which is screwed to the bench or table with the box part projecting in such a position as to hold the tyre under repair. The tube surrounding the puncture is cleaned, the special solution spread over the cleaned surface; the prepared patch, which in itself contains the vulcanising chemicals, is then placed over the puncture, and the iron block is heated and placed in position. In fifteen minutes the repair is made, being an amalgamation with the original tube. Doubtless motorists generally will be interested in the new device.

MR. D. B. WRIGHT has opened the Botanic Gardens Garage and Repair Works, in Vinicombe Street, Glasgow.

THE gift of a steam roller to the Highway Board of the Isle of Man by the A.C.G.B.I. may be regarded as a token of appreciation of past favour, as well as a hope of further consideration in the future.

MESSRS. MOORE AND SPIERS, of 1, Fenchurch Street, E.C., have obtained the use of several private tracks at Alexandra Park, Bexhill, Bristol, Rochdale, &c., for their forthcoming motor-car auctions.

MESSRS. J. W. BROOKE AND CO., LTD., Lowestoft, inform us that in future they will confine their attention entirely to six-cylinder cars, and that the whole output for a term of years has been purchased by a London Syndicate.

AT Plymouth, the Plymouth Engineering and Automobile Company, Ltd., have established theoretical and practical classes for motor tuition, commencing with fifty pupils, including thirty non-commissioned officers and men from the local barracks.

MR. C. H. CORBETT, M.P., acknowledging the receipt of a resolution of the Cuckfield Rural District Council with regard to the speed limit, disagreed with their views. He regarded this legal restriction of speed as quite unnecessary and impossible of enforcement.

SIR STANLEY AND LADY BOIS and party have been touring in the north of Ceylon on a 12-16-h.p. Horbick and a 7-h.p. Peugeot car. The roads were found to be in good order, and the possibilities of motor touring in the island were fully demonstrated.

"It is unfortunate," says the "Local Government Officer," "that the fate of our roads arouses little interest in Parliament," and, continues our contemporary, "we rather think the solution will be found in a Central Highway Board responsible for all main roads." That is the view to which all authorities are coming.

THE City Motor Garage and Motor Manufacturing Company, of Millsands, Sheffield, have a well-equipped garage, and, in addition to manufacturing the "Paragon" mud and dust collector, are making a feature of their patent pneumatic collapsible motor tyres, the prices of which have lately been reduced.

IN place of their old premises in Long Acre, W.C., which were destroyed by fire, Messrs. Ducros Mercedes, Ltd., have had erected a new and commodious block on the same site which ranks amongst the finest motor-car showrooms and premises in the country, possessing the advantage of being built for the purposes to which they are applied.

THE Liverpool Motor House, Ltd., whose garage has hitherto been in Atherton Street, Liverpool, have found it necessary to remove to larger and more suitable premises. Their new establishment is to be in Peter's Lane. The repair department is under the control of Mr. P. F. Rigden, and the general management is in the hands of Mr. John Wilson.

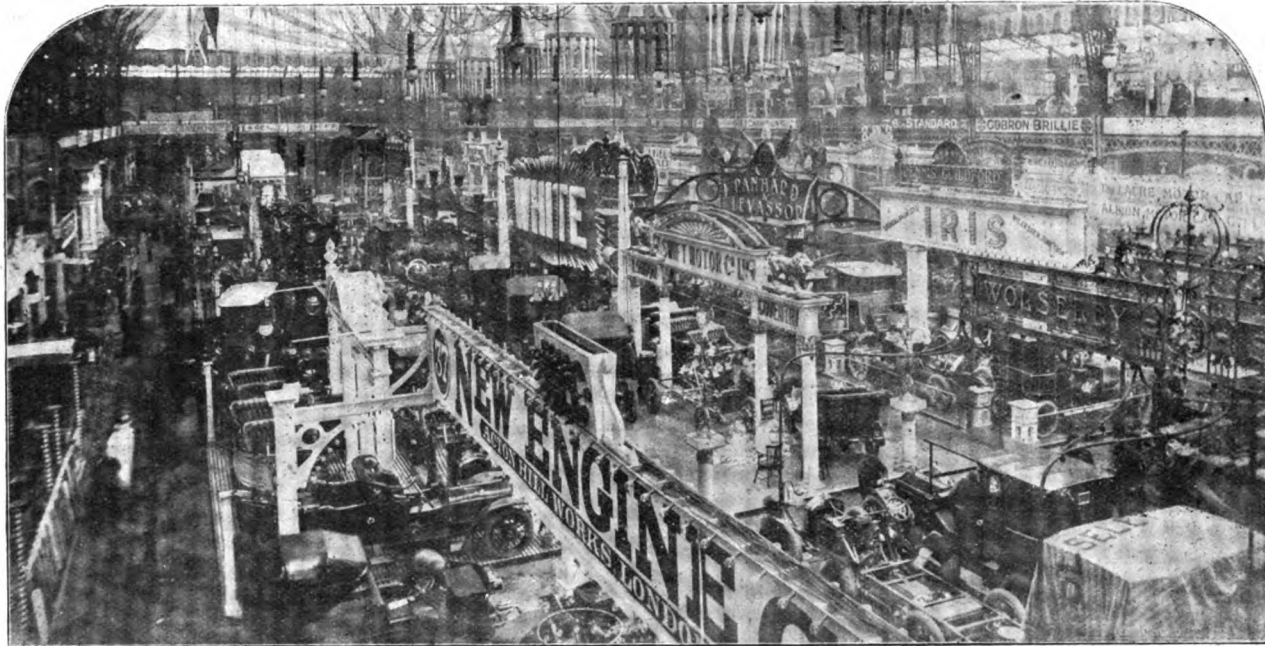
MESSRS. ALFRED RUSSELL AND CO., of Walsall, have issued a new list of their automobile lamps which should do much to extend a knowledge of their high-class specialities for motor-cars. The "Russell" self-contained headlights are now fitted with a patent concealed pivoted handle or carrier. This is instantly available for use when required, while when in the normal position there is no disfiguration of the contour and appearance of the lamp. The condensing lens is easily detachable for cleaning purposes, and the whole arrangement of the headlights is most simple, the lamp being equally satisfactory in its range of light. These headlights are self-contained, or can be had fitted with separate generator. The "Russell Sunlight" sidelight is another new model of the firm's production, which, if desired, can be fitted for electricity in addition to petroleum, the patent ventilating tube in the petroleum lamps providing a satisfactory method of conversion to and from an electric lamp. Messrs. A. Russell and Co.'s facilities of manufacture enable them to make a wide range of designs, and the high grade material employed is a security for the durability as well as the permanent good appearance of the lamps.



# The Olympia Motor-Car Show.



(Continued from page 823.)



General View of the Show.

## SOME TENDENCIES IN DESIGN.

**B**EFORE continuing our review of the exhibits at the Olympia Show, it may be of interest to briefly survey the general tendencies of the design of motor-cars, as exemplified in the cars that are now on view. The one great outstanding characteristic of the Exhibition is, of course, the rapid increase that has taken place in the number of six-cylinder cars. While there are still many who hold the opinion that four cylinders give all the advantages of the "six," with less complication, two firms at least—Napier and Brooke—have such confidence in the latter that they have resolved to entirely confine their attention in the 1907 season to six-cylinder vehicles. Another noteworthy and satisfactory feature is the steady growth in the number of British motor-car firms and the marked improvement in the vehicles being turned out in this country. By far the majority of the cars on view are of the petrol type, steam and electricity being represented by only two firms in each category. No radical change in the design of petrol motors is discernible, although we have been favoured with an opportunity of examining at the Show the drawings of a somewhat revolutionary type, in which, while working on the usual four cycle system, the employment of inlet and exhaust valves operated by cams, tappets, and springs, is entirely obviated. For the moment we are not at liberty to say anything of the new engine, but may add that one has already been constructed, and is said to be giving every satisfaction to its designer. The horizontal engine, although abandoned by the Wolseley Company, is still *en evidence*, and, in fact, would appear to be on the increase, they being shown by the New Engine Company, the Pilgrim's Way Motor Company, the Adams Manufacturing Company, Messrs. James and Browne, and the Anglo-American Motor Car Company. The principal practice is to cast the cylinders in pairs, although this is not universal, as some makers adhere to separately-cast cylinders, while, in one case, a six-cylinder engine is in two castings, and in three or four others the four cylinders are made in one block. Mechanically-operated inlet valves are now practically universal,

although whether it is better to place them side by side with the exhaust or to operate them off a separate cam shaft is still an open question with designers. As regards what may be termed engine subsidiaries, such as the water circulating pump and magneto, these are for the most part gear-driven and mounted directly on the motor. The design of carburettors with the view of rendering them automatic in action still affords engineers ample scope to display their ingenuity. In the case of ignition there is a tendency to fit two systems—accumulators and magneto—and it would seem, as regards the latter, that the high-tension type is gaining in popularity over the earlier low-tension magneto with make-and-break mechanism. The employment of an automatic governor is decreasing, foot and hand control of the engine being now largely relied upon, although there are a number of cars in which the clutch is so connected up with the throttle that as the former is withdrawn the speed of the motor is cut down. The fitting of metal shields below the engine and gear-box to protect the latter from dust and dirt is becoming more and more general, while with the object of rendering the 1907 petrol car even quieter than its 1906 prototype, several firms, in addition to using more efficient silencers, are now enclosing the valve stems and springs so as to deaden the slight noise made by the valve tappets as they strike the stems. The agitation against the emission of obnoxious smoke, owing to over-lubrication, has apparently caused motor engineers to devote special attention to this part of the automobile, the result being quite a number of ingenious and interesting mechanical lubricating devices. Clutches continue to show wide variety, and although the multiple disc and metal-to-metal type are growing in popularity, the leather-faced cone clutch is still far from being discarded. Ball bearings are being more generally adopted, while, prospects of patent litigation notwithstanding, the "gate" system of controlling the change-speed gear is quickly becoming universal. Direct drive on top speed is the more general practice, but a few instances are seen where the third speed is direct, the fourth being an indirect drive. As regards transmission, the tendency is still in favor of the cardan shaft and live axle for cars up to 30-h.p.,

while above that power the side chain drive is still the most popular. In connection with the latter it is satisfactory to find that more attention is being paid to the protection of the driving chains in the case of the chain-driven vehicles, the Sunbeam, Albion, and C. G. V. cars all being provided with gear cases. As regards the design of the cardan shaft and live axles there can be no question that considerable improvement has been effected. Manufacturers have recognised the weak points of this type of transmission, and, by dint of much thought, have evolved a combination which should give excellent results in practice. More attention is being paid to the suspension of the chassis, with the view of reducing the road shocks to the passengers; and not only are shock absorbers being freely employed, but a transverse spring at the rear supplements the usual four longitudinal ones in many cars. Looking at the vehicles from the body point of view, the tendency towards covered carriages continues a marked feature, and there can be no doubt that coachbuilders are now putting considerable energy into their department of automobile construction.

In concluding this necessarily cursory review we may draw attention to a feature which will no doubt result in a large addition to the ranks of automobilists. We refer to the reduction in prices which has been announced by many concerns. Although this is more noticeable in the high-powered cars than in those of more limited engine capacity, motorists of moderate means will find that their requirements have not by any means been overlooked.

#### The West Cars.

A new model of the West cars is seen at the stand of WEST, LTD., in a 20-22-h.p. chassis. The engine is one of the latest types of Astors, and is fitted with both high-tension magneto and accumulator ignition. The mixture is furnished by a White and Poppe automatic carburettor, in which the petrol supply is regulated in conjunction with the air. The clutch, of which we hope to give an illustration in a later issue, is of a new metal-to-metal expanding type, consisting of two shoes operated by two special cams, the latter having six inclined faces. A joint is provided between the clutch and the gear-box to allow for any want of alignment between the two parts. Three speeds and a reverse are provided, with direct drive on top speed, the power being transmitted through a cardan shaft to a live axle. The cardan shaft, which has a combined universal and telescopic joint at its forward end, is enclosed in a sleeve, which is mounted on ball bearings. The axle has only the driving strain to withstand, the power being imparted to the road wheels through dog clutches in the hubs. Ball bearings are used throughout, except on the engine, while the chassis in all the cars are

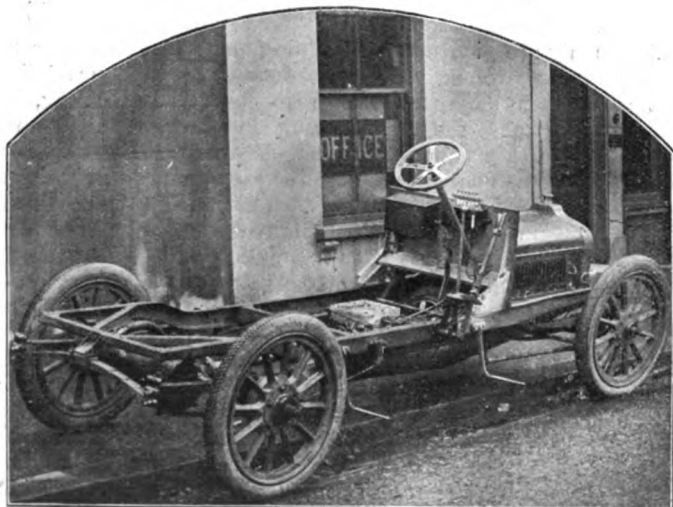


Fig. 13.—Chassis of the West 20-22-h.p. Car.

supported on five springs. For the 1907 season three sizes are being made—15-h.p., 16-20-h.p., and 20-22-h.p.—the exhibit comprising a 15-h.p. touring car to seat five and a 20-22-h.p. landaulet, both of which in view of their moderate price and sound construction, are worthy of notice. On the stand is also shown the 14-h.p. Academy car, built by Messrs. West, Ltd., for the Motor Academy, and which took part in the Tourist Trophy race.

#### The Mercedes Cars.

One of the finest stands in the Show is that of Messrs. DUCROS-MERCEDES, LTD., where are staged one of the 35-h.p. 1907 Mercedes chassis; a 35-h.p. car, with Roi des Belges body, painted and upholstered dark red, and fitted with double extension Cape cart hood, and folding wind screen; a 45-h.p. Mercedes, with limousine body, to seat in all seven persons; a 20-25-h.p. landaulet, painted and upholstered

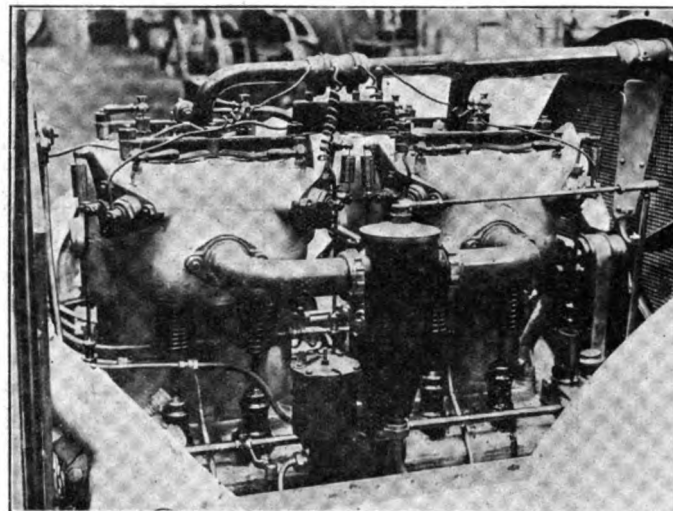


Fig. 14.—View of Carburettor Side of new Mercedes 35-h.p. Motor.

in dark blue; and a 35-h.p. Roi des Belges double phaeton, with detachable closed-in top. The 35-h.p. and 45-h.p. are new models, the cylinder dimensions of the former being 110 mm. by 140 mm., and of the latter 45-h.p., 120 mm. by 150 mm. The carburettor is quite a new design, and in the absence of illustrations can only be briefly referred to. The air supply is admitted and controlled automatically instead of mechanically, and an adjustable needle in the jet is provided for regulating the supply of petrol, and so more effective carburation, in that it tends to spray the spirit instead of sending a solid jet from a plain opening. No hot air inlet is fitted, the mixing chamber being, instead, provided with a hot water jacket. The throttle valve, which is independent of the automatic parts which tend to maintain a constant richness of mixture, or which are adjustable to suit atmospheric conditions, is coupled up to the governor, which latter is in turn controlled by an accelerator pedal and a lever on the steering-wheel. The engine, gear-box, clutch, and brakes are the same as last year, but an improved lubricator has been adopted. The latter is operated by an eccentric off one of the cam shafts, a separate pump forcing the oil down each of the eight sight feeds, a hand pump, by which a charge of oil can be given to the engine at any time, being also provided. A pedal for operating a cut-out on the exhaust pipe is also provided, as well as a switch on the dashboard, by means of which the magneto can be short-circuited, the cut-off valve for the petrol being thus dispensed with. The hand pump for obtaining the necessary air pressure for the petrol supply is no longer on the dashboard, but is placed horizontally between the floor-boards, the handle alone projecting out on the near side. The mud-protecting shield below the engine and gear-box is provided with louvre openings, as is also the engine bonnet. The openings are arranged that while no dust can find its way in, the rush of air may assist the fans in cooling the heated atmosphere inside the casing. More effective cooling has been aimed at, a belt-driven fan being now fitted behind the radiator, in addition to the flywheel fan. The Mercedes Company are also building a 70-h.p. six-cylinder model, but none of these are yet to be seen in this country.

#### The Brouhot Cars.

Three sizes of the Brouhot chain-driven cars are shown by the BROUHOT COMPANY OF GREAT BRITAIN, LTD., 12-16-h.p., 16-20-h.p., and 24-30-h.p. The 12-16-h.p. is a new model, the four-cylinder engine having the valves located on opposite sides of the cylinders, while on the others they are operated off a single cam shaft. By means of a lever placed on the dashboard, the lift of the inlet valves can be varied. The crank chamber is divided into compartments, so that each cylinder is efficiently lubricated. The carburettor, which is provided with a hot-water jacket, is of the automatic type, while the ignition is by low tension magneto. The smaller car has three forward speeds, while the larger ones have four; in all the control is by a single lever working in a "gate." The lubrication of the motor is controlled by a pump, which forces the oil from the tank through a sight-feed lubricator on the dashboard. The control is by two sectors on the steering wheel, one actuating the ignition and the other the quantity of mixture allowed to pass to the cylinders. A feature of the Brouhot cars is the accessibility of such parts as the contact maker, clutch, &c. Any type of body can be fitted to the chassis, the

complete cars on view, including a luxuriously finished 24-30-h.p. landaulet.

#### The Vinot Cars.

The new Vinot 35-50-h.p. six-cylinder model naturally attracts considerable attention to the stand of Messrs. T. J. HARMAN AND Co. The cylinders, which are cast in pairs, are 103 mm. bore by 130 mm. stroke; the valves are mechanically-actuated, and are located on opposite sides. The ignition is by high tension magneto, and the mixture furnished by

#### The De Dietrich Cars.

Prominent on the stand of Messrs. JARROTT AND LETTS, LTD., is a chassis of the latest type of 40-h.p. De Dietrich car, in which a number of changes and improvements have been made. The four cylinders, which are cast in two pairs, are 130 mm. bore by 160 mm. stroke. The valves are all located on one side, and operated off a single cam shaft. The mixture is furnished by an automatic carburettor, with hot water jacket, specially designed to secure economical and silent running.

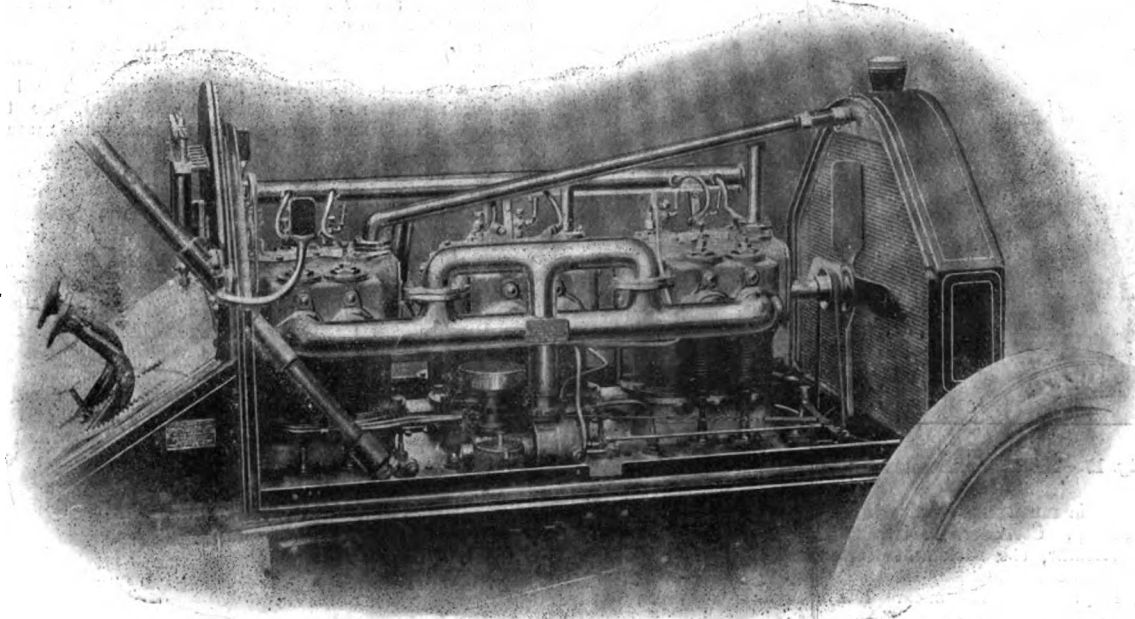


Fig. 15—The Vinot Six Cylinder Engine.

a Krebs automatic carburettor. A very neat arrangement of the admission pipes has been adopted, in order that each cylinder shall receive a full charge at each suction stroke of the motor. The engine is controlled by hand and foot levers, no automatic governor being fitted. The water circulating pump is fitted with a spring drive. The engine and gear-box are carried on a sub-frame, suspended from the main one, which is of pressed steel construction. The clutch is of the disc type, and the change-speed gear is actuated by a lever working in a vertical "gate" on the Vinot special system, the arrangement, however, having been improved. Four speeds forward and a reverse are provided, with direct drive on top speed to the differential shaft, and thence by side chains to the rear road wheels. The rear springs are of the three-quarter elliptical type, and the wheel-base is 10 ft. 4 in. The lubrication and brake system have all been carefully thought out,

The lubrication of the engine is automatically effected, a novel feature being the gauge and tap fitted in the crank case, which enables the oil level to be seen without it being necessary to open up the inspection doors. The ignition is by low tension magneto, the ignition plates being now placed at the side of the cylinders, instead of on top, as hitherto. To facilitate the starting of the engine, a special half-compression device, operated from the front of the car, is provided. The clutch, which is of the metal-to-metal expanding type, is connected by a universally-jointed shaft to the gear-box. The latter is adapted to give four speeds forward and a reverse, all being controlled by a single lever working in a special "gate" quadrant. The usual side chain transmission is retained, and ball bearings are fitted to all parts except the engine. For the 1907 season four sizes of De Dietrich car will be built—16-h.p., 24-h.p., 40-h.p. and 60-h.p.—all having four-cylinder engines and side chain transmission.

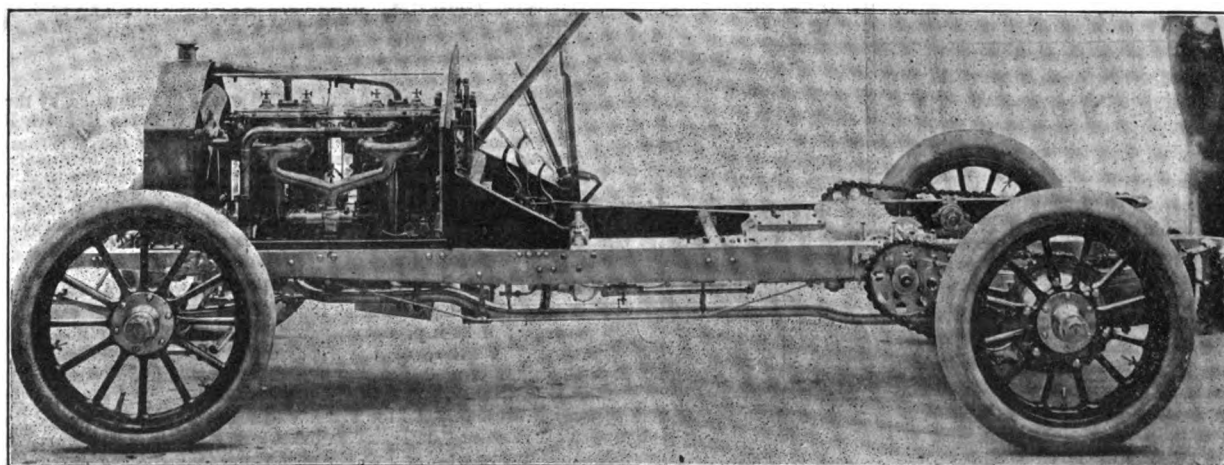


Fig. 16.—Chassis of 40-h.p. De Dietrich Car.

so that the new car should enjoy as excellent reputation as the Vinot four-cylinder vehicles, two examples of which—a 16-24-h.p. and a 24-32-h.p.—are on view. The first named is fitted with a handsome double phaeton, with hood and front glass to the rear seats. The cylinders are 95 by 130 mm., and the ignition by high tension magneto, the timing of which is fixed, so that the engine is controlled by a single lever. The clutch is of the Vinot self-centring leather-faced cone type. The 24-32-h.p. vehicle, which is on similar lines to the 16-24-h.p., is fitted with a double landaulet body, and is well designed for use as a town carriage.

The complete cars on view include a 16-h.p. landaulet by Kellners, of Paris. It is finished in green, with black mouldings and leather upholstery to match, and is a splendid example of a carriage for town work; and a 24-h.p. limousine body, also by Kellners. The latter is designed for town or country use, and has a striking appearance; in fact, it is one of the most highly-finished vehicles in the Show. Finally, reference must not be omitted to the 130-h.p. De Dietrich racing car on which Duray finished first in the Circuit des Ardennes, covering a distance of 375 miles in 5 hours 38 minutes, thus averaging 66½ miles an hour.



**The Humber Cars.**

Great as was the interest taken in the HUMBER exhibit last year, it is altogether eclipsed by the attention paid to the present display. Five cars are on view, two made at the firm's Beeston works and three at the Coventry factory. The two Beeston cars are fitted with

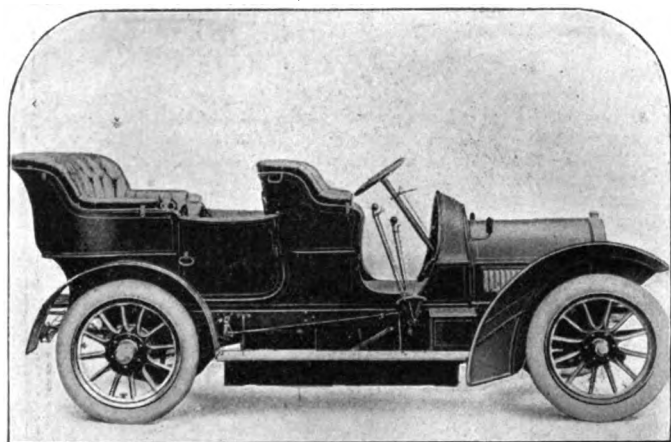


Fig. 17.—The 30-h.p. Beeston-Humber Car.

a new engine, which is much more powerful than that of last season, and is rated at 30-h.p. Considerable improvements have been made in the car; in particular, the back seats have been widened so that three passengers can be conveniently accommodated on same; a new transverse spring is placed at the back. The back axle has been re-designed. The road wheels run on ball bearings of large diameter, and ball thrust bearings taking the side thrust to the road wheels, mounted on the axle sleeve; there are thus no side strains on the shaft or differential. The driving shaft and the bevel pinion are also mounted on ball bearings, and ball thrust bearings are fitted on either side of the bevel wheel and behind the pinion. The front axle has also been re-designed, and is of H section steel instead of tubular as in the past. The engine comprises four separate cylinders, 110 mm. bore by 130 stroke, the normal speed being 900 revolutions per minute. Two systems of high tension ignition, magneto and accumulators, are provided. The clutch is of the leather-faced cone type, and the gear-box is adapted to give four speeds forward and a reverse, with direct drive on the fourth. The gear is designed so that the changes from one speed to another can be made without meshing the intermediate gear wheels. For example, a change can be made from the top to the lowest speed without interfering with either the second or third speed gear wheels. Both shafts run on ball bearings; the main shaft being fitted with an auxiliary bearing to prevent torsion.

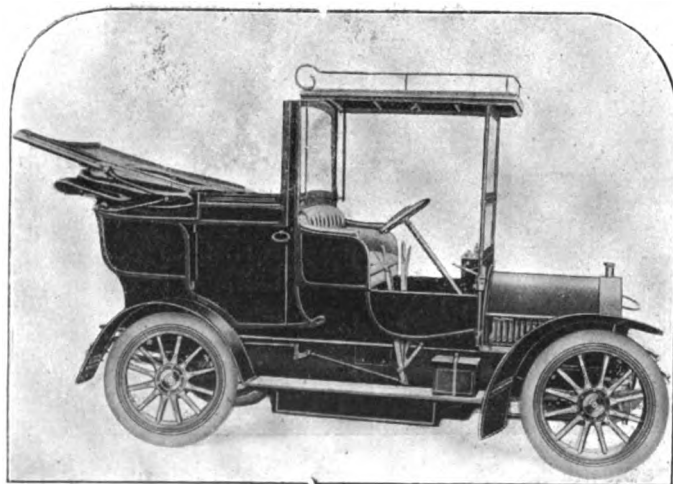


Fig. 18.—The 10-12-h.p. Coventry Humber Landulet.

double-acting, internally-expanding, metal-to-metal brake on the driving shaft is operated by a pedal, while a side lever brings into action brakes of similar construction acting within drums connected with the rear road wheels. One of the two cars is provided with the standard type of body, and the other a landulet to seat five passengers in addition to the driver. The Coventry cars include the well-known

10-12-h.p. vehicle, with tubular frame, on which, amongst various other improvements, appear the following: wider springs, fitted with anti-shock leaves; wider track, giving greater lock, thus enabling the car to be turned in a much smaller radius; steering heads fitted with ball bearings; front wheels on cage ball bearings as on the rear wheels, and improved steering. A handy little two-seater, specially built on the 10-12-h.p. chassis for the use of medical men, is also now being turned out. It is fitted with wind-screen and hood. In addition to this, a new model, closely resembling the above 10-12-h.p. car, but having a 15-h.p. engine, a pressed steel brake, and improved body, has been introduced. The cylinder dimensions are  $3\frac{1}{2}$  in. bore by  $4\frac{1}{2}$  in. stroke. Three speeds and a reverse are provided, and the transmission is by a cardan shaft to a live back axle. The latter is of a new design, radius rods having been discarded, the thrust being now taken by the frame springs. The road wheels are mounted on the outer sleeve, and run on ball bearings, the power being imparted to the wheels by means of cross-shaped pieces fixed to the ends of the live axle, meshing with slots in the end of the hubs. The Humber cars are among the most popular of British-built vehicles, and it is evident from an inspection of the models on view that no pains are being spared to maintain the position they have so rapidly gained.

**The Delaunay-Belleville Cars.**

A very imposing display of the Delaunay-Belleville cars is made by the BURLINGTON CARRIAGE COMPANY, LTD., the exhibit comprising a 40-h.p. highly-finished chassis, a 40-h.p. limousine, with Burlington cerise exterior, and colours harmonising on the under-carriage and wheels; a 28-h.p. limousine, with green exterior and under-carriage; a 28-h.p. detachable limousine, the special point of the body being the absolute uniformity of appearance when the top is removed; a 20-h.p.

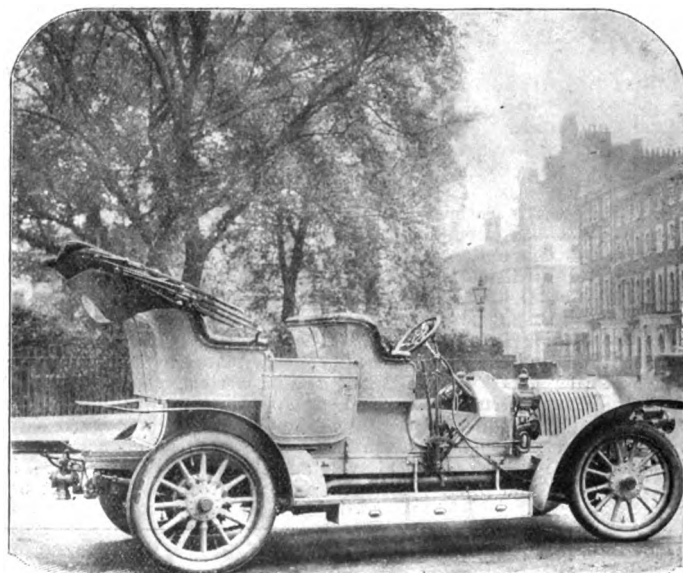


Fig. 19.—The 40-h.p. Delaunay-Belleville Car supplied by the Burlington Carriage Company, Ltd., to Lieut. Eyres Monsell, R.N. —

The vehicle is fitted with a Burlington touring body, the special features of which are the total absence of overhang the rear seats being well inside back wheels; the ample side entrance and neat shaping of doors; the Cape hood, which is fitted with side curtains, windscreen, &c.; the large size of rear tyres, 935 mm. by 135 mm.; and the ample room for luggage; a surface of 4 ft. by 5 ft. is available on the carrier at the rear, and, in addition to this, a large quantity of luggage can be attached to the side platforms, which are of extra width.

double landulet, specially constructed for town, touring, and general work; a 20-h.p. single landulet, fitted to a cardan shaft driven chassis; a 20-h.p. detachable top landulet—this is an especially noteworthy vehicle, as the landulet has the appearance essential to a town car, and, when the top is removed, is not distinguishable from a Roi des Belges open touring car; a 20-h.p. Roi des Belges seven-seater car, fully equipped for extended touring; and a 20-h.p. double landulet, with interior "de luxe" in drab. As regards the mechanical details, the 1907 models differ but slightly from those of the current year, a point which, in conjunction with the fact that the design is practically the same as the original of three years ago, is particularly noteworthy as illustrating the high degree of efficiency and reliability that has been achieved. The bore of the cylinders is somewhat larger than in the 1906 models, so that the power is greatly increased; the same gearing ratio is, however, used, the result being that the 1907 Delaunay-Belleville is to all intents and purposes a "top-speed" car. An additional air-inducing fan is incorporated in the flywheel, and extra louvres are formed in the casing under the chassis. The main oil tank, which supplies the base chamber, has been enlarged to double the former size, so that the refilling process is not of such frequent occurrence. The engine lubricating system is one of the special



features of these cars, and one which has contributed in no small measure to their success. To sum up briefly, the Delaunay-Belleville chassis rank among the leading types of the present day, the body-work, as fitted by the Burlington Company, being of an equally high order, the combination resulting in a vehicle which is rapidly becoming a favourite in Society motoring circles.

#### The Brasier Cars.

For the 1907 season Messrs. MANN AND OVERTON'S, LTD., inform us that the Brasier cars will be made in two sizes—18-26-h.p. and 28-42-h.p.—both having side-chain transmission. An example of the larger type is on view, and an inspection of it reveals the fact that this well-known make of car is likely to fully maintain its high reputation. A sub-frame of tubular construction is still employed to carry the engine and gear-box; the main frame is now narrowed in front to increase the lock of the steering-wheels. The four cylinders are cast in pairs, with the valves all arranged on one side; the dimensions of the 18-26-h.p. engine are 90 mm. bore by 120 mm. stroke, and of the 28-42-h.p., 112 mm. by 130 mm. The crank shaft is *desaxé*, that is to say, it is slightly out of line with the centre of the cylinders. Ignition is by low tension magneto, the operating shaft being located overhead with the strikers so arranged that each may be taken out independently of the others. The 28-42-h.p. car is fitted with a half-compression

"gate." Four hand brakes comprise the braking system. Two of these operate on steel drums on the differential shaft, one on each side of the differential. The other two are on drums attached to the hubs of the rear wheels, all being of the internal expanding variety. Ball bearings are used throughout, except on the engine. Mr. Burgess informs us that the Miesusset Company also build 7-9-h.p. two-cylinder, and 12-16-h.p. and 30-40-h.p. four-cylinder cars.

#### The Hotchkiss Cars.

For the 1907 season three sizes of Hotchkiss cars—20-30-h.p., 25-35-h.p., and 35-45-h.p.—are being turned out. The two former have four cylinders, and the latter six, and it is the chassis of this type which attracts most attention at the stand of the LONDON AND PARISIAN MOTOR COMPANY, LTD., the British agents. It is undoubtedly a fine piece of work, and well repays any time spent on its inspection. The pressed steel frame is raised at the rear to give clearance for the differential case, and narrowed at the front to give a wide lock to the steering wheel. The cylinders, which are cast in three pairs and have valves arranged on opposite sides, are 120 mm. bore by 120 mm. stroke. The crankshaft, as is usual in Hotchkiss cars, is mounted on ball bearings. Ignition is by gear-driven Eisemann high tension magneto. Special attention has been devoted to the question of engine lubrication, which is effected by an improved form of lubricator mounted on the dashboard.

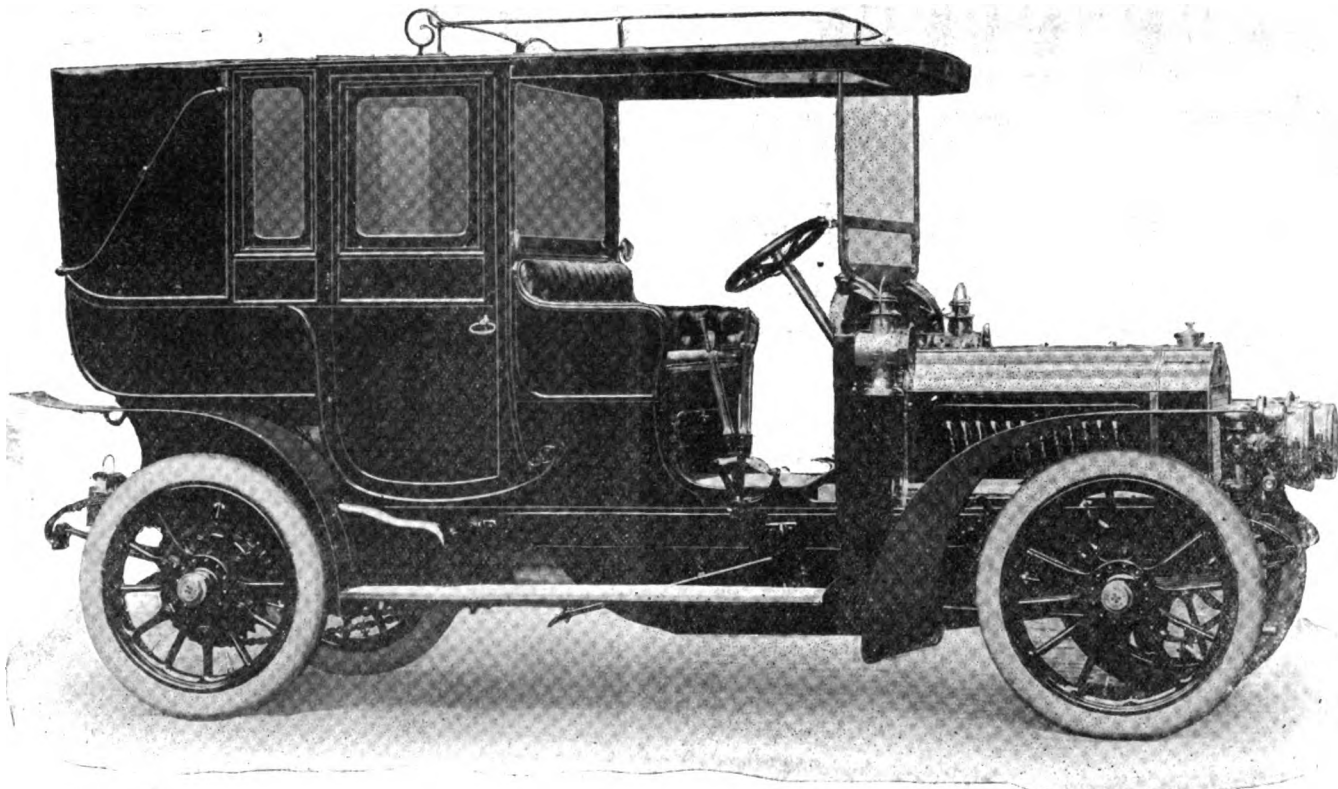


Fig. 20.—The Brasier 18-26-h.p. Landaulet.

device, operated from the front to facilitate starting of the engine. A new horizontal carburettor, with automatic supplementary air inlet, has been adopted, which, it is claimed, gives more power, greater flexibility, and increased economy of fuel. On the 18-26-h.p. model thermo-siphon water circulation is employed; the large model, however, has a centrifugal pump, and a radiator similar to those used on this year's racers. The leather-faced cone type of clutch is retained, a double-jointed shaft connecting it with the gear-box. The latter is adapted to give four speeds forward and a reverse, with single operating lever working in a "gate." On the top speed the drive is direct to the differential shaft. The steering-gear has been strengthened, and the steering column increased in diameter. Ball bearings are fitted to all parts except the engine. Each car is made in two lengths of chassis, so that any type of body may be fitted.

#### The Miesusset Car.

Quite a number of high-grade types of cars are now being built in Lyons, among which is the Miesusset, for which Mr. W. H. M. BURGESS has secured the British agency, and who is exhibiting a chassis of the 20-24-h.p. model. The vehicle follows the usual lines of chain-driven machines. The cylinders, which are cast in pairs, are 105 mm. bore by 130 mm. stroke, the valves being arranged on opposite sides. Dual ignition is provided, while the throttle on the automatic carburettor is controlled by both foot and hand levers. The clutch is of the leather-faced cone type, and the change-speed gear, giving four speeds forward and a reverse, is operated by a lever working in a

The admission piping is arranged in such a way that an equal distribution of gas to the six cylinders is obtained. The Hotchkiss distinctive type of honeycomb radiator with triangular tubes is retained. The clutch, which is of the leather-faced cone type, is mounted on an extension of the crankshaft. The gear-box, which is supported on cross members immediately behind the clutch, and is smaller in size than formerly, gives four speeds forward and a reverse, with direct drive on the high gear. The control is by a single lever working in a "gate" quadrant. From the gear-box the power is conveyed through a cardan shaft and bevel gear on to a live axle, the design being the result of several years' experience with this type of transmission. A chassis of the 25-35-h.p. Hotchkiss car is also on view; this possesses all the features of the "six," from which it differs only in the number of cylinders. The 20-30-h.p. model is represented by a three-quarter landaulet, an excellent example of the high-class bodies which are being fitted to the Hotchkiss cars.

#### The Rover Cars.

Six cars are shown by the ROVER COMPANY, LTD., ranging from 6 to 16-20-h.p. Generally speaking the 6-h.p. car follows the lines of the 1906 pattern, but is improved in many details, the most noticeable of which is the tulip-shaped body and upholstery. A side lever brake is now fitted to the 8-h.p. cars, two of which, equipped with four-seated bodies, are on view. The 16-20-h.p. are now provided with worm and segment steering, whilst the brakes have been much improved.

**The Daimler Cars.**

For the 1907 season the DAIMLER MOTOR CO., LTD., are again building four sizes of four-cylinder cars, 28-h.p., 30-h.p., 35-h.p., and 45-h.p., the first three being made in three lengths of chassis, and the latter in two lengths. With the exception of the 45-h.p. engine, which is a single casting, the four-cylinders are cast in two pairs, the bore and stroke of the different sizes being as follows:—28-h.p., 120 mm. by 150 mm.; 30-h.p., 130 mm. by 150 mm.; 35-h.p., 140 mm. by 150 mm.; and the 45-h.p., 150 mm. by 150 mm. The ignition is by accumulators and coil, provision being, however, made so that a magnet cap, if

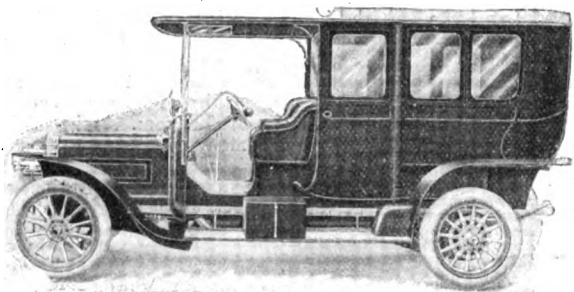


Fig. 21.—The Daimler 30 h.p. Limousine.

desired, be added with a minimum of trouble. A new feature is the position in which the plugs are placed; formerly they were carried above the valves, but they are now fixed into the water-cooled portion of the cylinders, and consequently troubles with breakages and electric "shorts" should be practically overcome. The throttle and ignition are controlled by a single lever on the steering wheel. The radiator, while of the same pattern as last year, is considerably larger, the circulating pump being also of greater capacity. Looking over the chassis generally, we note that the frame is now constructed of pressed steel with strong tubular cross members. It has been considerably lowered, thereby facilitating entrance to and exit from the carriage body; the engine itself has, however, been raised in the frame, so giving greater road clearance. A flexible joint has been introduced on the driving shaft at the rear of the clutch sleeve, in addition to the front of the gear case, so that any tendency of the clutch to get out of alignment, even on the roughest roads, is prevented. The clutch itself now slides to and fro on the end of the crank shaft, which has been prolonged in the rear of the fly-wheel. This arrangement secures the permanent and automatic alignment of the clutch, and in this connection it may be noted that the clutch pedal tension has been considerably reduced, rendering much less effort necessary to declutch on the part of the driver. The relative positions of the driving shaft and differential countershaft have been reversed: the latter is now placed below the frame. It is suspended by brackets, and the sprocket pinions at each extremity are thereby brought level with the road wheel centres. This arrangement not only secures great mechanical efficiency, but also permits of the attachment of a much more commodious side entrance body. The well-known Daimler design of gear-box is retained. Both

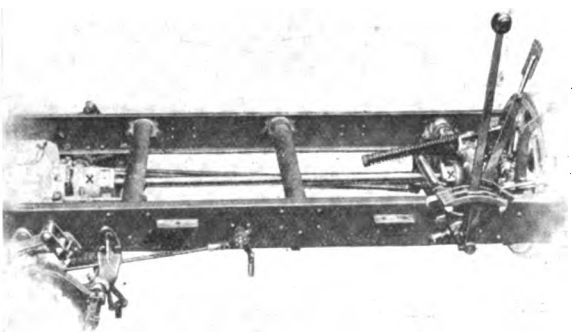


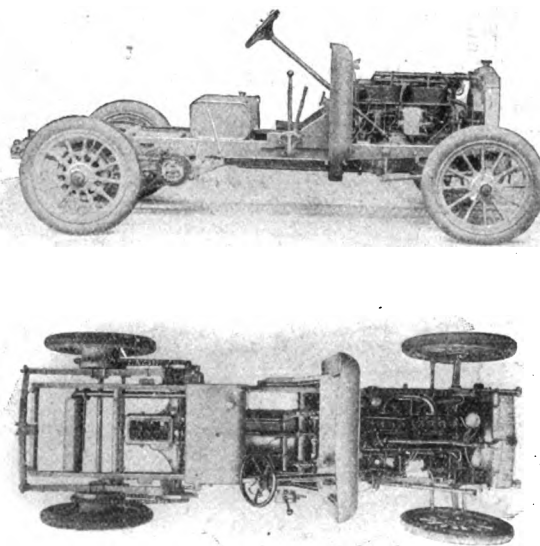
Fig. 22.—View of Portion of Daimler 1907 Chassis, showing Clutch Shaft with two Universal Joints marked X.

the width and diameter of the brake drums have been increased, resulting in an increased "life" and a sweeter and easier action. Considerable care has been devoted to the question of springing with a view of securing the maximum of comfort. The 9½ ft. wheelbase chassis is fitted with a transverse rear spring, which has been found to greatly improve the smoothness of running, in addition to minimising the "throw" of short wheelbase cars on rough roads. In the case of the 10½ ft. and 11½ ft. wheelbase chassis, it has been found advisable to attach very long side springs only. Special attention has been devoted to the question of producing a car which shall raise a little dust as

possible. As regards the particular exhibits on the Daimler stand, these comprise a 30-h.p. 10½ ft. wheelbase chassis, painted white; 30-h.p. 11½ ft. wheelbase car, fitted with a seven-seated side entrance limousine, specially designed and built to the order of His Highness the Nizam of Hyderabad, through the agency of The Bombay Motor-Car Co.; the vehicle is painted yellow, relieved with red lines; the exterior upholstery is in red Morocco leather, while the interior seats are upholstered in cloth. The vehicle is luxuriously fitted with armchairs, electric light, speaking tube, silk spring blinds, &c.; 28-h.p. 10½ ft. wheelbase car with a five-seated landaulet body, painted blue with black mouldings, relieved with blue lines, and a 30-h.p. 10½ ft. wheelbase vehicle, with a five to seven-seated side entrance limousine body. Finally, we may mention that while the cars have been considerably improved in details, a considerable reduction in the prices of the 1907 models has been effected.

**The Darracq 40-h.p. Six-cylinder Car.**

The great centre of attraction at the stand of Messrs. HUNTLEY WALKER AND Co. is the new 40-h.p. six-cylinder Darracq car, the output of which they have entirely secured. The main frame is of pressed steel, a subsidiary one being provided to carry the engine and gear-box. The six cylinders are cast in three pairs, and have the valves all operated off a single cam shaft. The bore is 100 mm. and the stroke 120 mm. The mixture is furnished by an automatic carburettor, with a neat arrangement of admission pipes. Ignition is by gear-driven, high-tension magneto, a reserve set by accumulators being also provided. The contact-maker is located on the dashboard, and is operated by a vertical spindle and bevel gear. The water circulation is maintained by a gear-driven pump and the large ribbed-tube radiator with air-inducing fan. The clutch, which is of the leather-faced cone type, is connected with the gear-box by a shaft having a universal joint to allow for any want of alignment between the two parts. Four speeds and a reverse



Figs. 23 and 24.—Elevation and Plan of Daimler 1907 Chassis.

are provided, the control being by means of a single lever working in a "gate" at the side of the driver, this being a radical departure in Darracq cars, all of which have hitherto had the change-speed lever mounted below the steering-wheel. On the top speed the drive is direct through the gear-box, the cardan shaft, and bevel gear to a well-supported live axle. Ball bearings are used throughout, except on the engines. The road wheels, which are 880 mm. diameter, are of a special artillery type, having steel hubs and rims, with wooden spokes. The usual trio of brakes are provided, these being of great power. The car is being built in two lengths, one having a wheel-base of 10 ft. and the other 10 ft. 8 in., to allow of roomy side-entrance bodies to be fitted. On the stand is also to be seen the 100-h.p. Darracq racer driven so successfully in recent events, notably at Blackpool, by Mr. Huntley Walker.

**The Seymour-Turner Car.**

A new British built petrol car is to be seen on the stand of Messrs. SEYMOUR, LTD. It is known as the Seymour-Turner, and is constructed by Turner's Motor Manufacturing Company, Ltd., of Wolverhampton, who have hitherto confined their attention to steam cars. The 20-25-h.p. engine comprises four separate cylinders, 4-in. bore by 5-in. stroke, with the valves all operated off a single cam shaft. Big inspection doors are provided in the crank-case, and the lower half of the latter can be detached without disturbing the bearings. Ignition is by high-tension magneto. The clutch is of the Hele-Shaw disc type, and the gear-box gives four speeds forward and a reverse, with direct drive on the top speed through a cardan shaft to the rear live axle. The change-speed gear is operated by a lever working in a "gate," with a locking arrangement.

At this stand is also to be seen the 50-h.p. Vulpes light racer which has been successfully driven in several recent contests by Barriaux. A 12-15-h.p. Vulpes car was also expected, but had not arrived at the time of our visit to the stand.

#### The C.C.C. Cars.

The CHASSIS CONSTRUCTION COMPANY, Taunton, display a range of cars representative of those they are making a speciality of building for trade customers. While at all times open to construct vehicles to any specification, those on view are built up of M. and B. components, and are provided with Ballot engines, both of which are already well known for their sound and reliable construction. The chassis range from a single-cylinder 8-h.p. to a 24-30-h.p. chain-driven car, fitted with a handsome side-entrance double phaeton, with canopy. The details of the engine are all on modern lines, two systems of high-tension ignition, magneto and accumulators, being fitted. The mixture is furnished by a new carburettor, known as the T. and M., the feature of which is that three spraying jets are provided, petrol being sucked through one, two, or all the nozzles in accordance with the air supply. Attention may also be drawn to a 12-16-h.p. four-cylinder landaulet, designed to meet the Metropolitan police regulations with regard to motor-cabs. At this stand, too, Messrs. Gauthier and Co. are showing an 8-h.p. Sizaire-Naudin voiturette, of which an illustrated description has already been given in the *M.C.J.*, and for which they have just secured the British agency.

#### The New Arrol-Johnston Cars.

Far from discontinuing the manufacture of cars with two-cylinder horizontal engines, as has been reported, the NEW ARROL-JOHNSTON CAR COMPANY, LTD., inform us that not only is there no intention of abandoning this model, but orders for at least 150 vehicles are at present going through their works. The type is re-presented at the Show by a 12-15-h.p. chassis, similar in all respects to that of the winning car in the 1905 Tourist Trophy race. The model is also further represented by a graceful-looking five-seated touring car with a side entrance body, fitted with a Cape cart hood, and by an 18-h.p. side entrance car, the latter the actual vehicle driven in this year's T.T. race by Mr. J. S. Napier. The mechanical details have proved so satisfactory

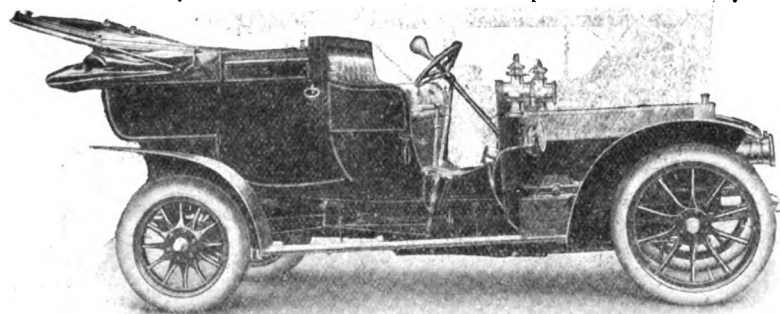


Fig. 25.—The New Arrol-Johnston 24-30-h.p. Landaulet.

that they have practically been unchanged, a remark which also applies to the 24-30-h.p. car, with four-cylinder vehicle engines (Fig. 26). Special attention may be drawn to the motor, which has detachable cylinder heads and spun copper water-jackets. The method of securing the inlet valve-boxes by gate-lugs cast upon them is also worthy of notice, as is also the simple trip-gear of the low-tension ignition, actuated by the inlet-valve tappet rods. The throttle drum of the carburettor is slotted not only to apportion the supply of air at all speeds, but also to cut the mixture supply off when running down hill, and to admit only air. Special attention has been devoted to the matter of lubrication, a pump forcing oil to all parts. The clutch is of the multiple-plate type, and the change-speed gear is operated by a lever working in a "gate" quadrant. Shock upon the transmission due to sudden or careless starting is prevented by a spring-drive device on the bevel-shaft of the live axle, all the gearing of which is most accessible. The braking arrangements have been well thought out, an internal expanding brake being fitted to a drum on the bevel-gear shaft surrounding the spring drive, and internal expanding brakes to the rear wheel hubs. Roller bearings are provided to all parts of the transmission, from clutch to driving-wheels, any thrust being taken by ball races. Lastly, a most interesting exhibit on the Arrol-Johnston stand is the Doolittle removable rim, the invention of Dr. Doolittle, president of the Toronto Automobile Club. With this rim, for which the New Arrol-Johnston Car Company have secured the manufacturing rights in the United Kingdom, the damaged tyre can be removed, cover and all, and a spare one fully inflated can be put on in thirty seconds. Without illustrations it is somewhat difficult to describe the new rim, so that a full notice of it must be reserved until a later issue.

#### The Pilain Cars.

Mr. A. PILAIN exhibits two Pilain cars, one of 18-24-h.p. and the other of 20-30-h.p. The special features of these vehicles comprise a direct drive, or third and fourth speeds, an atmospheric brake in connection with the carburettor, the system of transmission by which the back wheels do not get out of alignment through wear. The governing movement of the differential is made by means of a cardan

joint on the countershaft, which also carries the differential, and is attached to the driving wheels by two gears, protected by gear cases. The back wheels, which have ball bearings, being carried on a fixed axle.

#### The Enfield Cars.

The new models—15-h.p. and 25-h.p.—of the ENFIELD AUTOCAR COMPANY, LTD., are attracting considerable attention; as, however, a full description was given in the *M.C.J.* of the 3rd inst., it is only necessary to refer to the principal features. The engine of

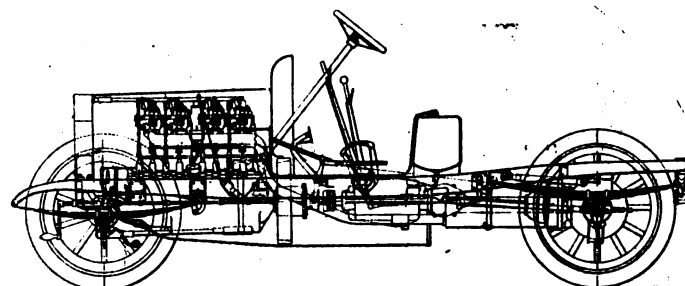


Fig. 26.—Elevation of chassis of the 24-30-h.p. New Arrol-Johnston Car.

the 15-h.p. car comprises four vertical cylinders, 95 mm. bore by 115 mm. stroke. A noteworthy point about the motor is the liberality of the water jackets and the general accessibility. The ignition is by accumulators and coil; the current being distributed to the plugs by a wipe contact. The two levers which control the throttle and the spark are situated above the steering wheel, and so arranged that they retain their respective positions irrespective of the wheel. The radiator is of special design; it is composed of corrugated films which have the appearance of a honeycomb type, but is claimed to be much stronger. The cellular or radiating portion is edged over so as to provide additional protection against leakage. The change-speed gear, which is operated by a lever working in a "gate," provides three speeds forward and reverse, with direct drive on top; a large inspection cover gives access to the gear-box, and, if necessary, the gear can be removed without difficulty, without disturbing other portions of the car. The transmission is through a cardan shaft and bevel gear to a live axle. The 25-h.p. model is generally on the same lines as the 15-h.p., the bore and stroke of the engine being 120 by 135 mm. respectively. The new models are not only moderate in price, but of sound construction, and ere this time next year we expect to see a good many of them on the road.

#### The Siddeley Cars.

The 1907 models of the Siddeley cars were so fully described and illustrated in the *M.C.J.* of the 10th inst. that it needs only be mentioned that the exhibit of the WOLSELEY TOOL AND MOTOR-CAR COMPANY, LTD., comprises examples of the 10-h.p. two-cylinder, fitted with double phaeton body, an 18-h.p. vehicle, a 30-h.p. live axle landaulet, with landaulet body by Hooper, this being a similar vehicle to that ordered by H.M. Queen Alexandra; a 40-h.p. with double landaulet body, canopy, and folding glass screen; the 15-h.p. limousine which won the gold medal

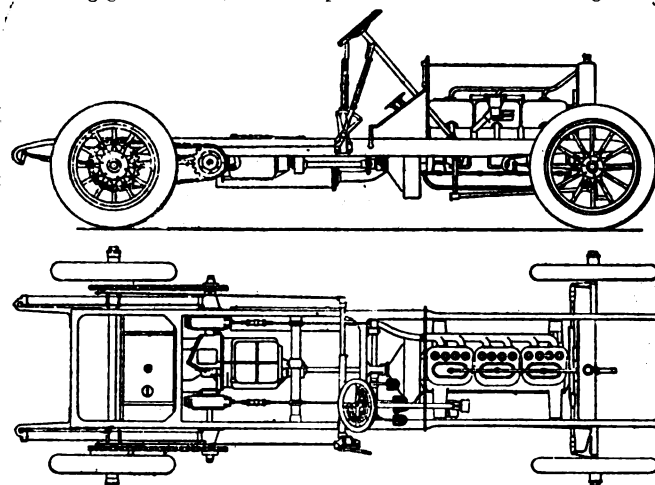


Fig. 27.—Elevation and plan of the Siddeley 45-h.p. Six-Cylinder Car.

in the recent Town Carriage Competition; and chassis of the new 30-h.p. four-cylinder and 45-h.p. six-cylinder vehicles. We give an elevation and plan of the latter in Fig. 27, and may mention that the six cylinders, which are 4½ in. bore by 5 in. stroke, are cast in two pairs. Dual ignition is fitted, and the clutch is of a new metal-to-metal design. The transmission is by side chains from the differential shaft, which carries two powerful foot brakes. Altogether the car is an excellent specimen of engineering, and reflects much credit on its designer.

**The Airex Car.**

Motorists on the look-out for a small car at a moderate price should be interested in the new vehicle known as the Airex (Fig. 28), which has just been introduced by the REX MOTOR MANUFACTURING COMPANY. Fitted with a side-entrance double phaeton on a pressed steel frame, it



Fig. 28.—The Airex 8-h.p. Car.

has accommodation for four passengers. The motive power is supplied by a 9-h.p. double-cylinder V-type engine, the bore and stroke being respectively  $3\frac{1}{4}$  in. by  $3\frac{1}{4}$  in. Ignition is by coil and accumulator, the contact-maker being located in front of the framed ribbed-tube radiator. The power is transmitted through a leather-faced cone clutch, a gear-box giving three speeds forward and reverse, cardan shaft, and bevel gear, to a well-designed live axle. On top speed the drive is direct, the square shaft in the gear-box engaging the cardan shaft by means of a claw with three projections, fitted with ball bearings. When on top speed, the secondary shaft remains stationary. On each side of the differential casing on the live axle is fitted a ball bearing, which can be adjusted from the outside by means of a screwed cup. The rear road wheels are also mounted on a ball bearing with a double row of balls. Altogether, the new car is of pleasing outline, and forms a notable addition to the list of moderately-priced cars.

**The Napier Cars.**

That Messrs. S. F. EDGE, LTD., have faith in the six-cylinder cars which they have so prominently kept to the front in recent

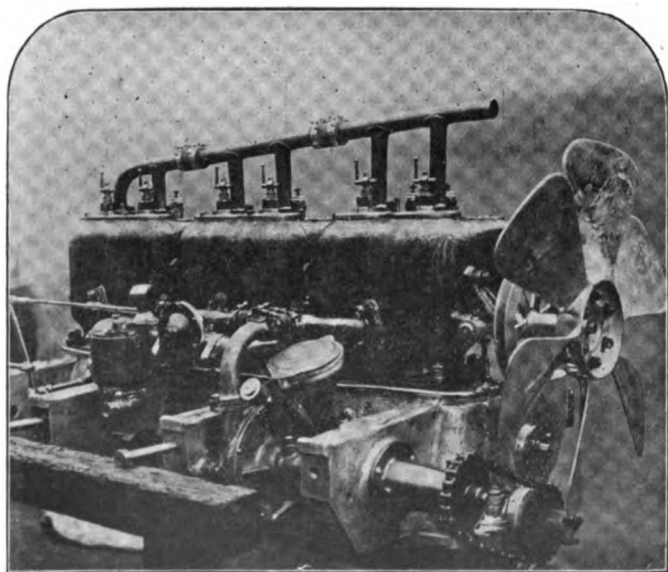


Fig. 29.—The Napier six-cylinder engine.

months is fully evidenced by the fact that their exhibit is entirely confined to this type of vehicle. The machines on view include a 40-h.p. chainless chassis, a 60-h.p. chainless Pullman limousine, and two 40-h.p. chain-driven cars. Briefly dealing with the features of the chassis, it

will be seen from the photograph of the engine reproduced in Fig. 29 that the six cylinders are cast in pairs, with the inlet and exhaust valves—which are interchangeable—on the same side, and actuated by one cam shaft. The cams are part of the solid shaft, and the whole valve-operating mechanism is entirely enclosed and protected from dust, and automatically lubricated. The ignition is by means of accumulators and coil, with synchronised high tension distribution. The single coil, with the contact-maker, is located on the dashboard, and is therefore easily accessible. The cylinder heads are provided for two sets of plugs, so that dual ignition—magneto and accumulator—can be provided if desired. The cooling water passes in at the bottom of each cylinder, and emerges at the top, so that the circulation, which is maintained by a pump, is also assisted by an arrangement of the pipes which possesses the advantage of the thermo-syphon system. In front of the engine there is a solid aluminium fan for drawing air through the radiator. As regards the lubrication of the engine, the oil is forced by means of a direct-driven pressure pump into the centre of each bearing under several pounds pressure, thus separating the shaft from the bearing by a thin film of oil. After the oil has done its duty, it falls into the base chamber, and after filtering into the pump-well is again pumped through the bearing. The result of this system is that very little oil is required, as it is used several times over, and that the engine cannot be over-lubricated, and, therefore, cannot emit smoke, the whole system being perfectly automatic. The clutch is of the metal-to-metal type, the faces being automatically oiled when withdrawn, which prevents any shock when it is inserted, and enables it to be slipped as much as required in traffic without fear of damage. The chassis is supported on five springs, the usual four longitudinals being supplemented by a transverse spring at the rear, while in addition "equalisers" are fitted to the springs, which eliminates all sudden jolts, thus greatly minimising the fatigue of travelling. The gear-box gives three speeds forward and reverse, with direct drive on top, without the use of any loose gear-

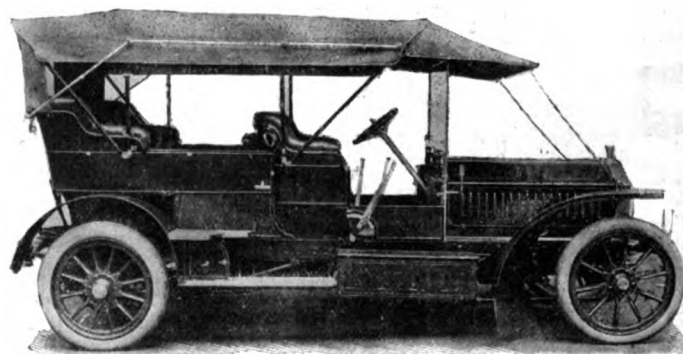


Fig. 30.—The Napier Six-Cylinder Touring Car, with Cape cart hood and folding glass screen.

wheels. Ball bearings, it may be added, are used throughout the chassis, except on the engine. Passing now to the actual cars on view, it may be stated that the 60-h.p. Pullman limousine has been built to the order of the Duke of Fife. It is mounted on a chassis having an extra long wheel base, viz., 11 ft. 6 $\frac{1}{2}$  in.; it is constructed to carry seven persons, the interior being fitted with comfortable seats for three passengers across the back of the car, and two large comfortable semi-revolving seats or armchairs. A canopy extension is provided over the driver's seat, with large glass wind shield, arranged to slide into the roof, and the roof of the rear portion of the carriage is arranged to carry luggage. The upholstery is on the most luxurious lines, and, together with the painting, is in the Duke of Fife's own colours. The 40-h.p. chassis is fitted with a double landaulet body of special design, arranged to carry five persons in the interior and two on the driver's seat. The upholstery of the interior is in drab cloth material, and the paintwork in a special selection of vertical stripes in dark green colours. Fig. 30 depicts the 40-h.p. chain-driven car, fitted with roomy side-entrance touring body, the seating accommodation of which is for seven persons. A waterproof Cape cart hood is provided, which, when folded down at the back, forms a dust screen, but when raised over the passengers, in conjunction with the folding glass wind shield, affords protection against the worst weather. A detachable and folding luggage grid is fitted at the back of the car, while accommodation for carrying spare tyres is provided at the side of the driver's seat. Space for tools is also arranged under both seats, and in a well underneath the tonneau floor, the car being specially fitted out for touring purposes. Needless to say, the Napier cars have been the object of much attention during the week, and fully repay any time spent on an inspection of their many interesting features, to but a few of which, owing to the pressure on our space, reference has been possible.

**The North British Car.**

A new car, known as the "North British," and made by the North British Motor Manufacturing Company, Ltd., is to be seen at



the stand of Mr. A. C. PENMAN. The vehicle is on the usual lines of cars with cardan shaft drive and live axle. The engine has four cylinders, 3½ in. bore by 4 in. stroke; they are cast in pairs, with all the valves arranged on opposite sides. The water circulation is on the thermo-siphon system, no pump being employed, while another feature of the motor is that the crank shaft is *desaxé*, or slightly out of line with the centre of the cylinders. Both hand and foot control of the throttle is provided, while the gear box is adapted to give three speeds forward and a reverse, with direct drive on top speed. The vehicle, which is fitted with a side entrance double phaeton body, appears to be of sound and reliable construction. Mr. Penman, who has achieved an excellent reputation as a motor body builder in Scotland, also displays a 24-h.p. Albion, fitted with a special landaulet body, and a 16-h.p. car of the same make, fitted up as a brougham, with a detachable top.

#### The Britannia Cars.

A new addition to the list of British-built cars is the Britannia, made by the BRITANNIA ENGINEERING COMPANY, LTD., of Colchester, an old-established firm of machine tool builders. The selling rights in the new vehicles have been secured by the Victoria Carriage Works, Ltd., who are exhibiting a polished chassis of the 18-24-h.p. model. No subsidiary frame is used, the engine and gear-box being bolted direct to the main pressed steel frame by means of side bolts. The four cylinders are cast in pairs, and the bore and stroke is respectively 104 mm. by 130 mm., and the normal speed 1,000 revolutions per minute. The valves are located on opposite sides, and are actuated by separate cam shafts, the driving gear of which is enclosed in the crank case. The water circulation is maintained by a gear-driven pump, which can be readily taken down. The radiator is of the honeycomb type, with air-inducing fan, the latter being supported on an eccentrically-

mechanism, the lubricating rack and switch being the only fittings. A special gun metal tray is provided to prevent the possibility of any oil dripping on the sloping footboard. A novel fitting is seen in the heel plates fixed on the sloping footboard, below the pedals, so that the driver may have a firm control of the latter. The frame is supported on five long springs, the shackles of which are fitted with lubricators. One of the complete cars on view is fitted with a removable top limousine body, and the other with a Roi des Belges double phaeton, both being the work of the Victoria Carriage Works, so that it is almost needless to say they are of a very high order. Altogether the new Britannia vehicles form a noteworthy addition to the list of British cars, and an inspection of the chassis on view can be recommended to all motorists. We understand that the Britannia Company are also building 12-16-h.p. four-cylinder and 24-40-h.p. six-cylinder cars on similar lines. The Victoria Carriage Works Ltd., also display a 25-30-h.p. Leon-Bollee car, with landaulet body.

#### The Rochet-Schneider Cars.

For the 1907 season four sizes of the well-known ROCHET-SCHNEIDER cars are being built—16-20-h.p., 20-24-h.p., 30-35-h.p., and 40-50-h.p. The first two have live axles and the others side chain drive, while all are being made in two lengths of wheel base. Messrs. DONNE AND WILLIAMS, LTD., the British concessionaires for these vehicles, exhibit a polished chassis of the 16-20-h.p. type, which is attracting considerable attention. The engines are all of the four-cylinder vertical type, cast in pairs. The valves, which are mechanically operated and interchangeable, are located on opposite sides. To facilitate starting the three larger sizes of motors are fitted with an independent half compression device. In the 16-18-h.p. model, Simms Bosch high tension magneto is used, while in the other types the magneto is of the low

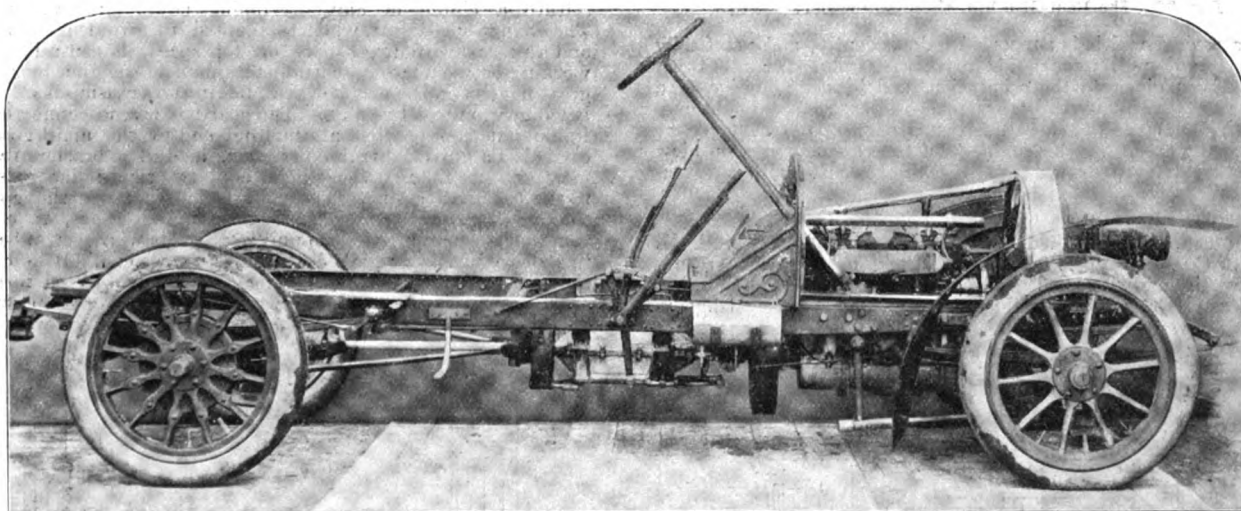


Fig. 31.—Chassis of the Britannia 18-24-h.p. Car.

mounted spindle, so that any slack in the driving belt may be readily taken up. The carburettor is of the automatic air-regulating variety. Two systems of ignition, high or low tension magneto and accumulators, are provided. In the chassis on view the ignition is by low tension magneto; the tappets, which are located on the inlet side are a special feature, as the whole operating mechanism is lubricated by the oil in the crank chamber. The spark itself can be seen and adjusted by simply removing a cap similar to one of the valve caps. Besides this, there is a passage only one quarter of an inch in diameter between the tappet chamber and the inlet valve, which renders it possible to run the engine with any quantity of lubricating oil without it affecting the ignition. Lubrication is effected by means of a tank fixed to the side of the chassis, kept under pressure by means of the exhaust, and a 4-drip sight feed rack on the dash conveys the oil to each pair of cylinders, the crank case, and the bearings in the gear-box. The ignition and throttle levers work on a sector above the steering wheel, which does not rotate with the latter. Between the main throttle, which is controlled from the steering column, and the inlet valves is a special butterfly valve, connected with the clutch pedal, so that when the clutch is withdrawn the speed of the engine is automatically cut down. The clutch is of the leather-faced cone type, fitted with flat expanding springs. A universal joint is provided between it and the gear-box, and the tension of the clutch spring can be adjusted by simply turning one split brass nut. The gear-box is provided with long bearings, and a cover practically as large as the whole of the case, thereby facilitating the inspection of the gears. Three speeds and a reverse are controlled by a single lever, working in a "gate" quadrant. The transmission from the gear-box is by a cardan shaft and bevel gear to a well-supported live axle. The cardan shaft is of solid steel with square ends, brazed solid to the universal joints. The back axle is fitted with Hoffman's ball bearings. The dashboard is clear of all

tan ion variety, with make and break tappets. The latter are fitted with mica insulators, detachable, so as to easily permit of their being cleaned without interfering with the timing. The cylinder dimensions of the different sizes are: 16-20-h.p., 100 mm. bore by 120 mm.; 20-24-h.p., 100 mm. by 140 mm.; 30-35-h.p., 120 mm. by 160 mm.; and 40-50-h.p., 140 mm. by 160 mm. The lubrication of the cylinders is effected by means of a gear-driven pump, which supplies a drip feed rack on the dashboard. The supply of oil is proportionate to the speed of the engine, and can be regulated as desired. The oil tank is placed under the bonnet, and serves to feed the pump which distributes the drip-feed. Except in the 16-20-h.p. model the petrol is pressure fed to the carburettor. The mixture is furnished by a new patent carburettor, which automatically regulates the carburation in accordance with the engine speed, and at the same time greatly reduces the consumption of petrol. The engine is controlled by means of two levers placed above the steering wheel, one operating the throttle and the other the ignition. To facilitate the location of irregular firing each cylinder can be cut out separately, and to minimise noise, the gear wheels actuating the cam shafts, magneto, and water-circulating pump are all enclosed in the same casting as the crank chamber, and run in oil. Governors are fitted to the three larger cars; the 16-20-h.p., which has been specially designed for town work, has a novel system of control; the clutch is so connected up with the throttle that when the former is withdrawn by pressing forward the pedal the speed of the engine is cut down; a further pressure on the pedal just before letting in the clutch accelerates the motor ready to take the drive. The 16-20-h.p. and 20-24-h.p. models are fitted with a leather-faced cone clutch of large diameter. The other types are provided with a metal-to-metal clutch, formed by a segment fitted in a metal case connected to the flywheel by means of studs provided with flexible rings. The 16-20-h.p. car has three forward speeds and a reverse, while the others have

four speeds, the control in all cases being by a single lever working in a "gate." The change-speed gear, which gives a direct drive on the top speed, is the same as fitted to the 1906 cars; the two gear shafts are in the same plane, and to avoid torsion of the sprockets in the chain-driven cars the two halves of the differential shaft are the same length. A feature of the live axle cars is that the cardan shaft is

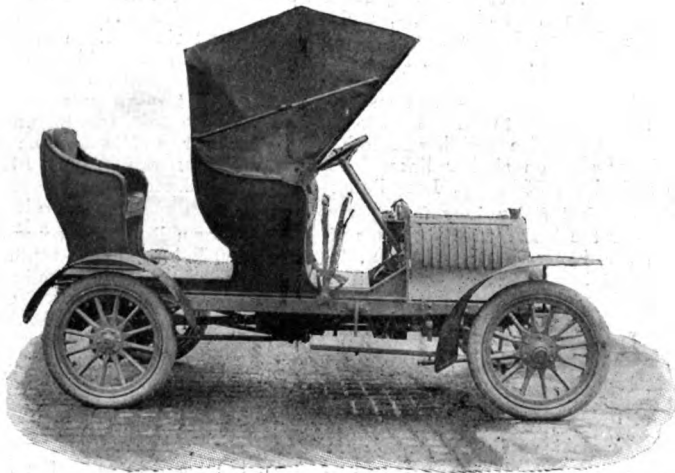


Fig. 32.—The Bental 9-h.p. three-seated Car.

enclosed in a casing, which is supported independently, and practically acts on the torque rod, two radius rods being also fitted. Great attention has been given to the suspension, and by the adoption of a system of three springs at the rear road shocks have been largely eliminated. We may add that ball bearings of the D.W.F. type are fitted throughout, except on the engine. Of the complete cars on view special attention may be drawn to a 40-50-h.p. model with a seven-seated Roi des Belges phaeton body.

#### The Bental Cars.

Built by the old-established engineering firm of Messrs. E. H. BENTALL AND CO., of Heybridge, Essex, the new Bental cars are not only a noteworthy addition to the list of British-built vehicles, but form, by reason of their novel design, one of the most interesting ex-

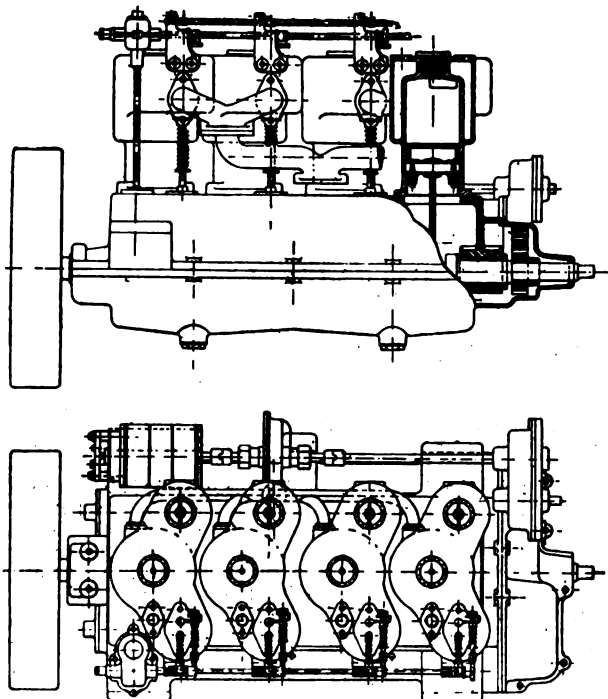


Fig. 33.—Part-sectional elevation and plan of Bental 16-h.p. engine.

hibits in the Show. Three sizes are being made, 9 and 11-h.p. two-cylinder and 16-h.p. four-cylinder. The following remarks, while based more particularly on the 16-h.p. type, may be taken as applying in general to the smaller models. As will be seen from Fig. 33 the cylinders are separately cast and are of a special curved shape, which enables the camshafts to be brought closely to the crankshaft and the gearing to be proportionately reduced in size, so diminishing the peripheral speed. The valves are mechanically operated and are placed on opposite sides of the cylinders. The

crankcase has a bottom cover which can be removed independently of any other part and enables the crankshaft, which is of the built-up type, connecting rods, and pistons to be withdrawn bodily from below without dismantling any other part. The ignition is by low tension magneto. Simple means are provided for regulating the spark in each cylinder, and also for taking up wear. The whole of the ignition mechanism on the top of the cylinders can be removed and does not require re-adjustment when replaced. By a special trip gear the break of the contact of the hammer with the plug is as rapid when the motor is turned by hand as when it is running fast, thus ensuring easy start-

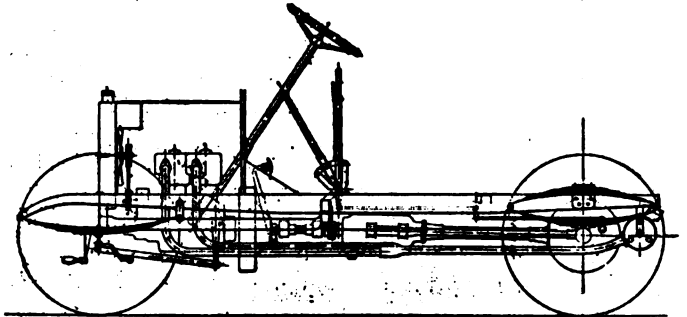


Fig. 34.—Elevation of Bental 29-h.p. Car, showing novel system of transmission.

ng. The clutch is of the internal cone type, running in oil. The contact surfaces are Woodite (wood fibre) to metal, which is claimed to constitute a clutch of ample gripping power and yet never fierce. The change-speed gear, which is adapted to give three speeds forward and a reverse with direct drive on top speed, is controlled by a lever working between two notched quadrants held together by springs. The great novelty in the car, however, lies in the transmission, which is by bevel gear on to a live axle. The gear-box has no connection with the frame but is supported at the front end by the main gearshaft being carried in a universal trunnion bearing held in a bracket from a cross-member. At the rear the support is by two rigid radius rods extending to the back axle casing. The shaft which connects the gear-box with the live axle cannot be termed a cardan in that it has, in contradistinction to the usual practice, no universal joints whatever, it being enclosed in a sleeve which is rigidly bolted up at each end. It is claimed that the new type of transmission, which has been subjected to a long trial ere being put on the market, secures the following important advantages:—It removes a source of trouble arising from rapid wear of universal

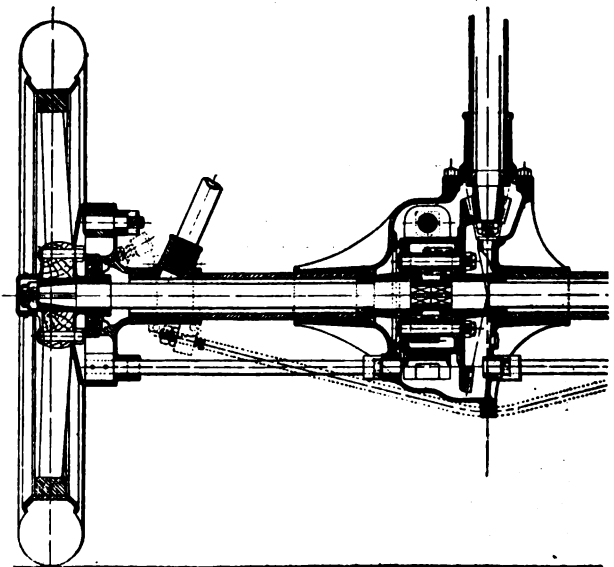


Fig. 35.—Sectional plan View of Live Axle on Bental Cars.

joints, and consequently reduces noise and vibration; it simplifies construction; reduces friction; ensures alignment; obviates necessity of torque and radius rods; and makes distortion of the cardan shaft impossible. There is no question that the departure is an interesting one, this being proved by the notice which has been given to it by engineering visitors to the Show. The weight of the car is carried by the axle sleeve, the axle proper conveying the power to the rear road wheels through its tapered ends, on which the hubs are keyed. Semi-elliptic springs are employed at the front of the pressed steel frame and double elliptic at the rear, while ball bearings are fitted throughout, except on the engine. The complete cars on view include a 9-h.p. with detachable brougham top and a phaeton with spider seat at the rear (Fig. 33). We may add that Messrs. James and Whittall are the selling agents for the new vehicles.

### The Regent Cars.

Three highly-finished examples of the 18-h.p. Regent cars are staged by the REGENT MOTOR COMPANY, one being fitted with a landaulet body and the others with standard touring bodies, with Cape cart hood and folding wind shield. Special attention has been paid in the landaulet to secure a perfectly noiseless vehicle. To this end all the windows have bevelled edges and are fitted in cloth slides, so that rattling is prevented. All the interior fittings are silver-plated and ivory, while the upholstery is of a fawn shade Bedford cord. The driver's seat has an extension top, and the folding head over the passengers has an automatic locking device so that it can be raised or lowered from the interior. As regards the details of the chassis, the frame is pressed steel, the side members being narrowed in front to afford ample steering lock. The engine is supported by the crank chamber brackets directly on main frame, and placed in front of the crank chamber is an independent gear-case, affording a dust and oil proof accommodation for the cam shaft, magneto and water pump driving gear. The four cylinders, which are 90 mm. bore, 120 mm. stroke, are cast in pairs, with the induction valve chambers on the right and the exhausts on the left. The two cam shafts are outside the crank chamber, and are held in position by detachable cover plates, making them readily accessible. Over each cam shaft are two independent cover plates, secured obliquely to the wall of the crank chamber, and carrying the guides for the valve tappet rods. The ignition is by low tension magneto, driven off the inlet valve cam shaft. The make and break plugs are mounted on ignition plates, bolted to the flanks of the induction valve chambers, and are operated by ignition tappet rods, actuated by cams on the induction camshaft. In order to vary the timing, movable rollers suitably supported in guides are connected by levers to a rocking shaft carried in brackets on the crank chamber. This shaft can be partially rotated by the ignition lever on the steering wheel, the levers being thereby rocked over, so as to cause the rollers on the lower ends of the ignition tappet rods to come into earlier or later contact with the ignition cams, and so vary the moment of breaking

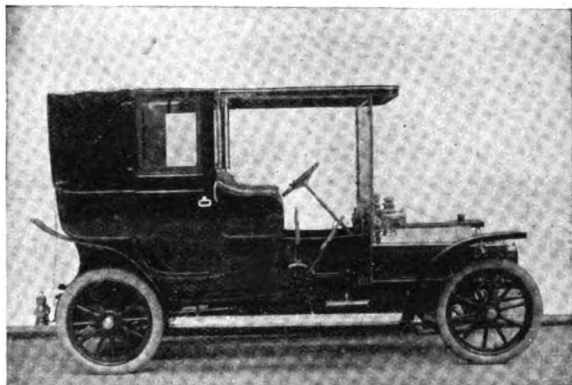


Fig. 36.—The Regent 18-h.p. Landaulet.

contact, and consequently of firing the charges. The carburettor is accessibly placed on the same side as the magneto, and has the regulation form of float-feed chamber, obtaining petrol from the rear tank under pressure. No automatic air valve is fitted to this apparatus, but the throttle valve is connected to an auxiliary valve, which allows the proportionate ingress of air as the throttle is opened. The throttle lever on the steering wheel is connected to the governor, the operation of which is thereby regulated as desired. The water circulation is maintained by a honeycomb radiator with fan, and a pump of the centrifugal variety. Large inspection doors are fitted in the crank chamber. A device which assists in rendering the engine exceedingly silent in operation is that which obviates any clearance between the valve tappets and valve stems, this being obtained by spiral springs on the tappets, which keep the latter continuously in contact with the valve stems. The drive passes from the engine to the change speed gear-box through an ordinary form of leather-faced cone clutch, to meet which on withdrawal a spring plunger brake is fitted. The clutch and clutch shaft can be easily dismounted and withdrawn by detaching the coupling provided. The gear-box is adapted to give three speeds forward and reverse, with direct drive on top speed. Both the primary and secondary shafts rotate on ball bearings. From the gear-box the power is transmitted by a cardan shaft and bevel gear to the live axle. The propeller shaft runs in a long casing, carried in the socket forming part of the differential gear-case. The differential gear-case is divided horizontally, the upper half being easily detachable, making the inspection of the driving wheel and the crown wheel a comparatively simple matter. The cars, we may add, have a wheel base of 9 ft. 3 in., and an over-all length of 12 ft. 9 in.

### The Jackson Cars.

One of the exhibits appealing particularly to the motorist of moderate means is that of Messrs. R. REYNOLD JACKSON AND Co., who have a range of the Jackson cars on view. They are all on modern lines, being fitted with pressed steel frames, push pedals, framed

ribbed-tube radiators, and transmission by cardan shaft and bevel gear on to live axle. The well-known Jackson dog-cart is supplied with De Dion 5-h.p. or 6-h.p. engines, three speeds and a reverse being provided on both models. The 64-h.p. phaeton is a neat machine, the rear seat, access to which is through a tilting front seat, being removable, rendering the car well adapted for commercial or station work, as a large amount of luggage can be carried. The 9-h.p.

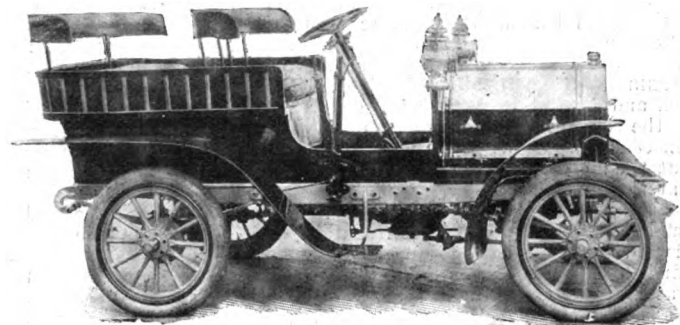


Fig. 37.—The Jackson 64-h.p. Phaeton.

vehicle can be supplied either with a De Dion single-cylinder or Gnome double-cylinder engine; it is built either as a two-seated or four-seated dog-cart, or as a standard side-entrance double phaeton. The latter is mounted on a longer chassis than usual, and a specially strong back axle. The ignition and throttle levers are also mounted above the steering wheel.

### Electrical Cars.

Only two firms are exhibiting electrically-operated vehicles, the ELECTROMOBILE COMPANY, LTD., and Mr. CARL OPPERMANN. The former concern is showing four types of carriages. The chassis is identical in each case. The motor is of a normal 8-h.p. at 1,500 revolutions; it is of the ironclad type, bi-polar and series wound, having two separate commutators each connected to its own armature windings. The transmission is through a duplicate train of double helical gearing direct to the differential, and thence to the hub of the rear wheels by live shafts, which revolve in an external tubular axle. Mr. Oppermann's new vehicle, which is designed for public service as a motor-cab, is constructed with an independent chassis. The springs are of ample length, and the body is so well hung that pneumatic tyres are only used on the hind wheels, whilst solids are used on the front. The motor, which runs at 1,000 revolutions per minute, is of 6-h.p.; it is of the four-pole type, with former wound armature and laminated field magnets, compressed copper commutator, and twin carbon brushes. The motor drives the intermediate shaft, which carries a differential gear, by means of a silent chain, the power thence being conveyed by side chains to the rear road wheels. All the chains run in dust-tight aluminium gear-cases. The controller is arranged to give four forward speeds. The battery consists of forty-four pasted-type cells, fitted into ebonite boxes carried in a strong teak tray, secured underneath the chassis, and designed so that it can be bodily removed when discharged and a new one put in its place in a few moments. The capacity of the battery is 150 ampere hours, sufficient to drive the vehicle, the total weight of which is 27 cwt., a distance of forty-five miles, although a run of sixty-two miles has been made on one charge. A number of these vehicles, fitted with taximeters, are shortly to be placed in service in London.

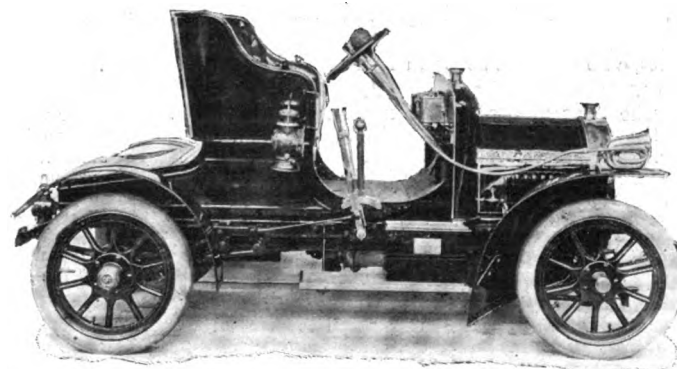


Fig. 38.—The Singer 7-h.p. Two-seated Car.

### The Singer Cars.

The new models of the Singer cars having been described and illustrated in the M.C.J., of the 10th inst., it need only be remarked that the SINGER COMPANY are exhibiting examples of their 7-h.p. double-cylinder (Fig. 38), 12-14-h.p. four-cylinder, and 20-22-h.p.

touring car, with Aster engine, and a three-cylinder, 10½-h.p. vehicle. Ball bearings are employed in the gear-box, main axle-wheels, and steering centres. The "gate" speed change gear system has been introduced, with automatic neutral position of lever, while another important feature is the sectionalised system of construction. The gear-boxes, foot levers, steering gear and engine, "gate" change mechanism, cardan shaft, back axle, &c., are all erected as distinct units, and can be easily and separately detached without disturbing any other parts.

#### The Isotta-Fraschini Cars.

The Isotta-Fraschini cars (Fig. 39) which made their debut at the Agricultural Hall Show in March last, have quickly gained a prominent position in the motoring world. They are of the highest class of Italian construction, as an inspection of Messrs. HALL CAPRIS AND Co.'s exhibit will show. Two sizes are exhibited, 28-35-h.p., and 50-65-h.p., both being fitted with side chain transmission. As the vehicles have already been fully described in the *M.C.J.*, it is unnecessary to deal with them at any length, but it may be mentioned that the motors have the valves operated off separate cam shafts, and that the ignition is by high tension magneto. The flywheel is adapted to act as a fan, while the clutch is of the multiple disc type. The usual brake on the differential shaft is supplemented by one on the forward end of the gear-box side shaft. An attraction on the stand is a 120-h.p. racer, one of a number the Isotta-Fraschini Company have built for next year's speed contests. The engine is of a special design, the inlet and exhaust valves, which open directly into the explosion chambers, being operated by an

compared with last year's pattern, it now having, similarly to the first Vulcan cars, a universal joint at each end, both the shaft and the joints being encased. The engine is provided with both foot and hand control, and the car, which has a wheel-base of 10 ft., is adapted to receive any type of carriage body. We may add that ball bearings are used to all parts, except the motor. The Vulcan 20-h.p. car is on similar lines to the foregoing, the main difference being in the engine, which comprises only four cylinders, of the same bore and stroke as that employed in the "six." It is well adapted to receive side entrance bodies, the landaulet on view forming an excellent town carriage. The 14-h.p. Vulcan differs in but few respects from the 20-h.p.; the cylinder dimensions are 3½ in. bore by 4½ in. stroke. The ignition is by accumulators, and the quadrant. A new model is seen in the 12-h.p. four-cylinder car, the price of which brings it within the range of many would-be motorists. It is on the usual Vulcan lines, the change-speed gear giving three speeds forward and a reverse, while the rear live axle runs on ball bearings. Altogether the exhibit shows that the Vulcan Company, while keeping the cost of their productions within moderate limits, intend to maintain them thoroughly up to date.

#### The Mayfair Cars.

Messrs. G. L. M. DORWALD AND Co., as agents of the Mayfair Motor Company, Ltd., display a trio of the Mayfair cars, of which a description was given in a recent issue of the *M.C.J.* These include a 6-h.p. two-seated car, fitted with a De Dion engine, a 15-h.p. four-cylinder car, and a 16-20-h.p. chassis. These are all on

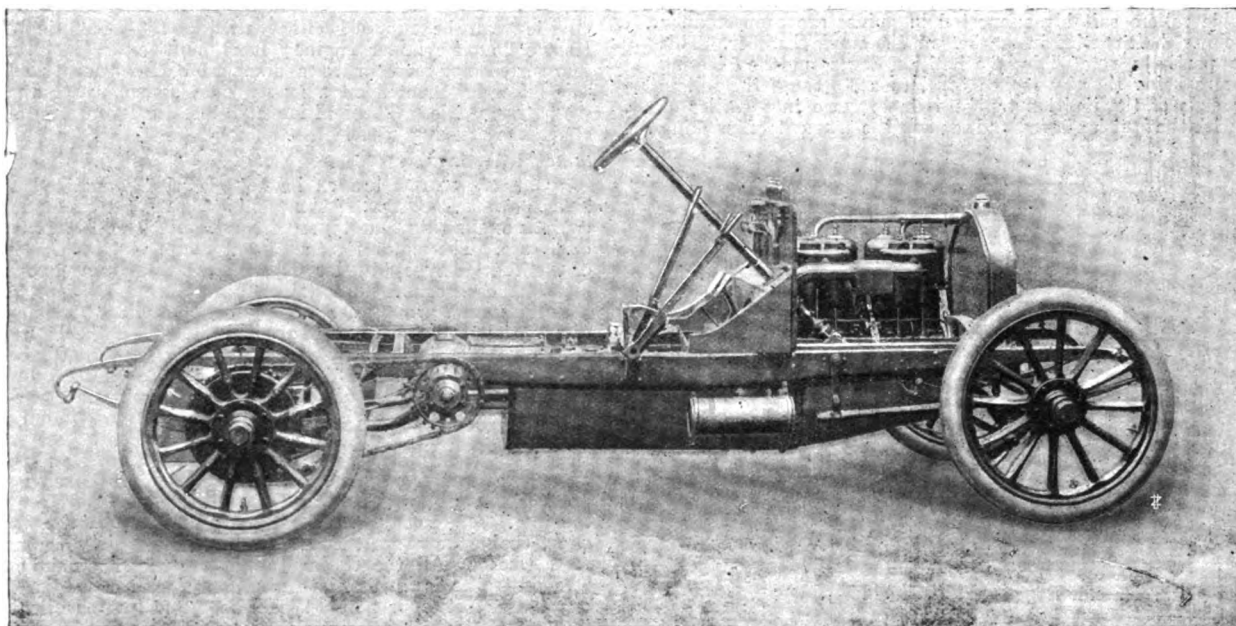


Fig. 39.—Chassis of Isotta-Fraschini 28-35 h.p. Car.

overhead cam-shaft. The latter is operated by bevel gear and a vertical spindle off the crankshaft, the mechanism being also arranged to drive the magneto, which is mounted on the dashboard in front of the driver. The complete cars on view include a 28-35-h.p. three-quarter landaulet and a 50-65-h.p. limousine. On a separate stand Messrs. Hall and Co., of Tonbridge, are showing four of these cars all provided with high-class bodies, a notable one being an 18-22-h.p. fitted up as a coupe.

#### The Vulcan Cars.

The VULCAN MOTOR COMPANY, LTD., Southport, the agents for whom are the London and Parisian Motor Company, Ltd., have an excellent display of moderately-priced cars, ranging from a 12-h.p. four-cylinder to a 30-h.p. six-cylinder. The latter is the company's latest production, and will well repay inspection. The engine has the cylinders cast in three pairs, the bore and stroke being 3½ in. by 4½ in. The valves are arranged on opposite sides, operated off separate cam shafts, and two systems of high tension ignition—magneto and accumulators, the latter having a synchronised high tension distributor. The clutch is of the leather-faced cone type, and the gear-box, which is controlled by a lever working in a "gate," is adapted to give three speeds forward and a reverse, with direct drive on top speed. The transmission is by a cardan shaft and bevel gear to a rear live axle. The latter has only the driving strain to withstand, the weight of the car being carried by the axle sleeve. The power is communicated to the hubs of the rear road wheels by dog clutches on the ends of the live shafts. The details of the vehicle are all on modern lines; for instance, a joint is provided between the clutch and gear-box to allow for any want of alignment between the two parts, and also to enable either to be dismantled without disturbing the other. The cardan shaft, too, has been altered, as

the standard lines of live-axle vehicles, and their moderate price, combined with sound construction, render them well suited for motorists of moderate means. The largest car is fitted with a four-cylinder engine, having a bore of 98 mm. by 130 mm. stroke. In addition to the usual four longitudinal springs, a transverse one is fitted at the rear, which greatly adds to the easy-riding qualities of the vehicle. Messrs. Dorwald also exhibit a 30-40-h.p. four-cylinder engine of their own design, and adapted to run on either petrol or paraffin, the special automatic change-over carburettor recently illustrated in these pages being fitted. The four cylinders are 5½-in. bore by 5½-in. stroke. The crank shaft is *desaxé*—that is to say, it is set slightly out of line with the centre of the cylinder, the advantage of this arrangement being that during the explosion stroke the connecting rods are practically vertical and parallel with the sides of the cylinder, thus reducing side thrust on the walls of the latter. The valves are located on opposite sides, the two cam shafts being operated not by the usual spur wheels, but by worm and worm wheels, which run in oil in the crank chamber. Special attention has been paid to the question of accessibility, while all the parts are made on the interchangeable system.

#### Messrs. J. Keele & Co.'s Exhibit.

Messrs. J. KEELE AND Co.'s exhibit is a varied one, comprising as it does examples of the latest types of Darracq, Spyker, and Enfield cars, the last named being the most recent additions to their list of agencies. The Darracq cars on view include a 20-28-h.p. Darracq of the new type, in which the change-speed lever works in a "gate" at the side of the driver; it is fitted with a roomy side-entrance double phaeton body. Another vehicle of the same make and power is equipped as a landaulet, the body being of English construction, as



is also that mounted on the 10-12-h.p. Darracq chassis, this being one of Messrs. Keele's specialities. The Spyker car on view is one of the 14-18-h.p. models, with double phaeton body. The new 15-h.p. Enfield car, of which a description was given in a recent issue of the *M.C.J.*, had not arrived at the time of our visit to the stand. The one expected is fitted with a landaulet body, and has doubtless put in an appearance ere these lines are published.

#### The Mitchell Landaulet.

The new concern, MITCHELL MOTORS, make their *début* with a landaulet representative of a number they shortly intend to put in

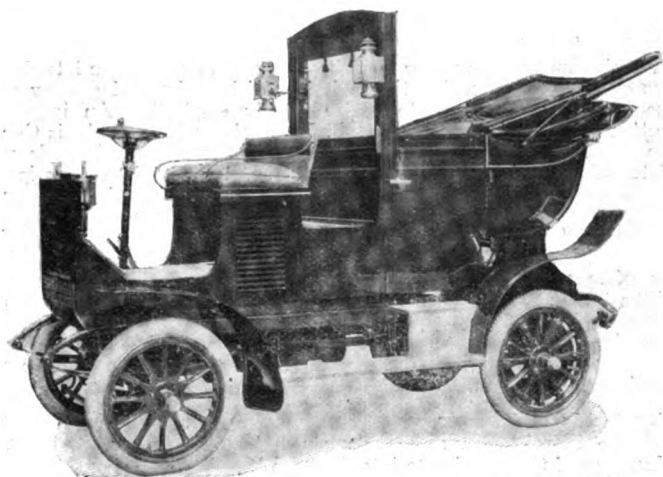


Fig. 40.—The Mitchell Landaulet, of which a number are shortly to be put in service as motor-cabs in London.

service as motor-cabs in London. The vehicle, of which a general view is given in Fig. 40, is of pleasing design, the engine being located under the driver's floor-board, the usual bonnet being thus dispensed with. At the same time special attention has been devoted to rendering all its parts accessible. The motor is a White and Poppe four-cylinder, developing 14-h.p. at 1,400 revolutions per minute; it is provided with accumulator ignition, and is controlled by levers on the steering column. The clutch is of the leather-faced cone type; the gear-box is of the Soames pattern, in which the gears are always in mesh. This has been adopted in view of the cabs being driven by ordinary cabmen, it being impos-

#### The Crossley Cars.

Special interest attaches to the Crossley car stand of Messrs. JARROTT and LETTS, LIMITED, for, although somewhat unfortunate in its location, it has on it the chassis of the latest 30-h.p. Crossley live axle car, noteworthy not only on account of the new design but because of the fact that it is entirely the production of Messrs. Crossley Bros., Limited, the well-known Manchester firm of gas engine builders. The engine, which has the four cylinders cast in pairs, has a bore of  $4\frac{1}{2}$  in. and a stroke of 6 in.; and, although rated at only 30-h.p., develops over 40-b.h.p. The interchangeable valves are of large diameter and mechanically operated, the inlets being on the right and the exhausts on

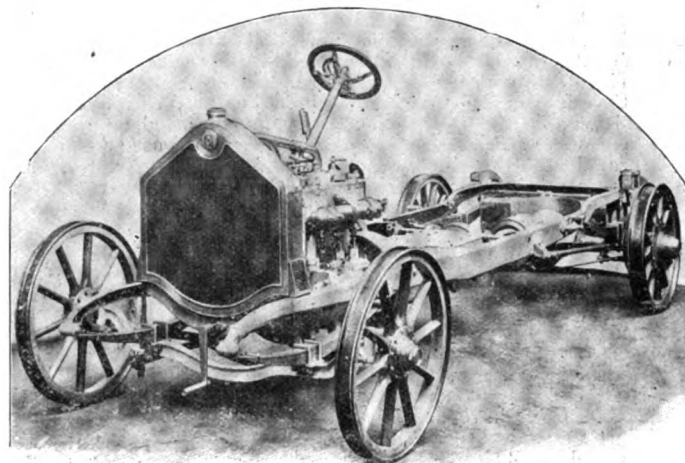


Fig. 41.—The new Crossley 30-h.p. live axle Car.

the left side. A simple half compression gear is fitted to make starting of the easiest nature. The cam shafts and timing wheels are enclosed in oil-tight cases. Taps are fitted in the crank chamber, which can be opened by a lever from the dashboard to regulate the proper height of oil. Plugs are also fitted to drain out the oil when required. The motor is lubricated by pressure through eight feeds on the dash, one sight being provided for each half of the crank chamber respectively, and a third one for the oil distributed to the pistons. Ignition is by low tension magneto, which can be advanced and retarded as required. The water circulation is maintained by a positively driven centrifugal pump and a large honeycomb radiator with fan. The Xenia carburettor is retained; this is automatic in its action, and when set by the

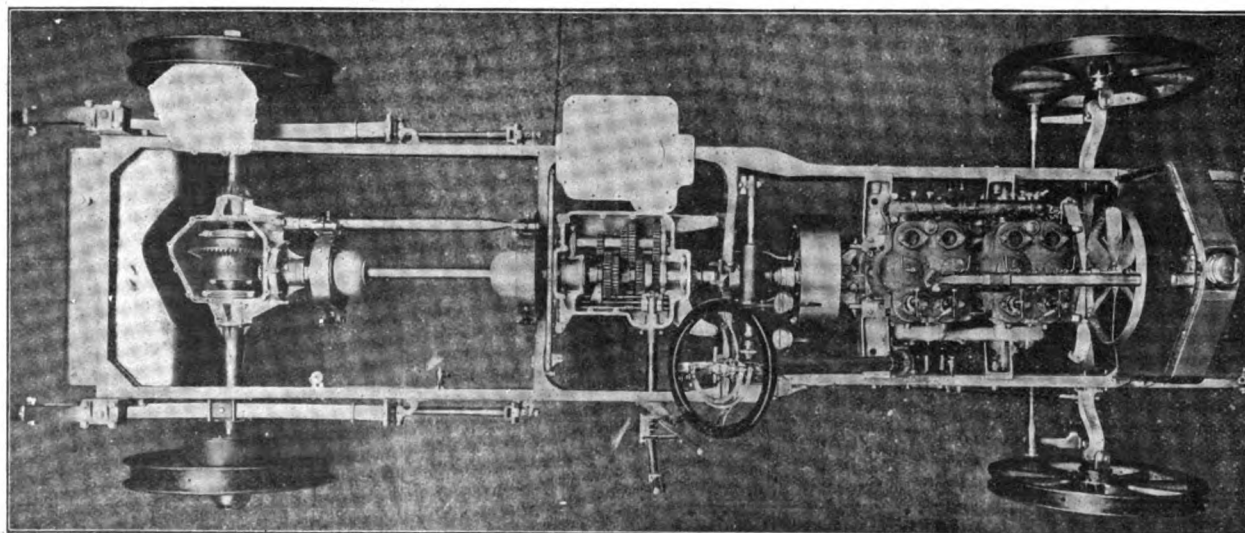


Fig. 42.—Plan of Chassis of the new Crossley 30-40-h.p. live axle Car.

sible to change gear without the clutch is first withdrawn. The change-speed lever itself is mounted on the top of the steering wheel, instead of at the side; it operates a selector bar in the gear-box, which controls clutches by means of which any pair of pinions can be made to transmit the power by dog clutches. On the top speed the drive is direct. The car exhibited is fitted with side-chain transmission, but a live axle model is also being made. The car has a wheel-base of 6 ft. 10 in., and is capable of turning within the circle prescribed by the Metropolitan police authorities.

makers is correct for the proper mixture at all speeds. The petrol supply to the carburettor is by pressure from a tank carried at the rear end of the chassis. The clutch is of the expanding metal-to-metal type as formerly used on Crossley cars, but with certain modifications in the way of facilitating adjustment. The shaft between the clutch and the gear-box is fitted with universal joints. The change-speed gear gives four forward speeds and one reverse with direct drive on top, all operated by one lever working through a "gate." The gear-box is of a new type, having only one horizontal joint—that for the top cover; the gear,

shafts can be withdrawn and replaced in position at the ends by removing a circular flange; the latter contains a stuffing-box and gland, which can be tightened up on the felt packing as required. The selector or operating gear all lies in the bottom of the gear-box, and is not disturbed when the gear wheels are taken out. From the gear-box the transmission is by a cardan shaft, universally jointed at both ends, and bevel gear to a rear live axle; the latter is of exceptional strength, the road wheels are carried on the outer casing, within which revolve the two parts of the live axle, which communicate the drive to the road wheels through star clutches in the hubs. The live shafts may be withdrawn by removing the hub caps and a small clip, so that the whole of the differential can be taken out by removing the cover of the outer casing and two clips inside. This can be done without removing either road wheel, spring, or any connections. Ball thrusts are fitted to both the differential wheels on the driving shafts and the inner differential box. The steering gear is of the worm and segment type, and is so fitted that it can be raised or lowered as may be required. The control levers for the throttle and ignition are fitted on the top of but do not turn with the steering wheel; a foot accelerator is also provided. The silencer is of effective pattern, and is made so that it can be readily taken to pieces for cleaning purposes. The braking system is unusually powerful; one pedal controls the clutch, a second the clutch and a contracting brake on the rear end of the cardan shaft, and a third a similar brake behind the gear-box. In addition a hand lever actuates compensated internal expanding brakes working in drums attached to the rear road wheels. All the brakes are fitted with a simple means of adjustment which does not require the use of any spanner or tools. The car has a wheel base of 10 ft. 3½ in., and a track of 4 ft. 8 in. Although not exhibited, a chain-driven model on similar lines to the live axle car, except as regards transmission, is made, so that purchasers may have their choice of drive. In addition to the chassis a 40-h.p. car with double landaulet body to carry six persons and a 40-h.p. Roi des Belges double-phaeton are also on view. Altogether the new Crossley cars fully uphold the reputation of their builders and form a noteworthy addition to the growing list of British-built automobiles.

#### Wind Shields.

A very complete range of brass work—fittings and the like—for use in motor-car production is shown by Messrs. LOWE, BEVAN AND CO., whose specialities in wind shields may always be regarded as cer-

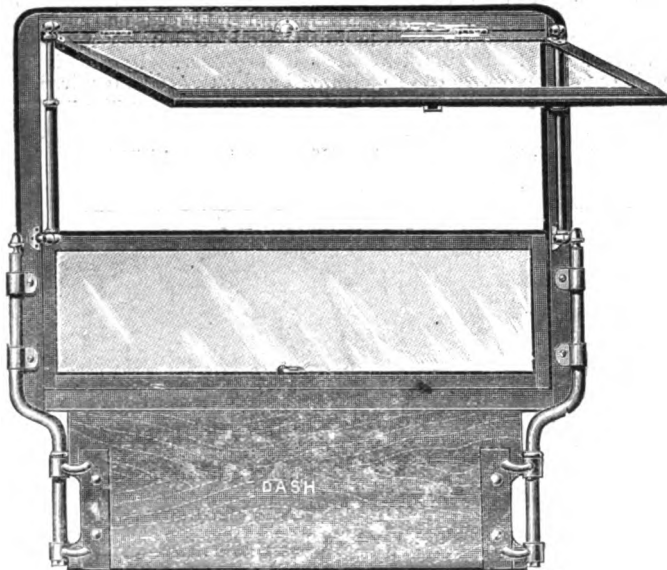


Fig. 43.—The "Pioneer" Wind Shield.

tain to include some good ideas. The Simplex wind shield, which we noted last year as embodying many points of convenience, and capable of being folded down without interfering with the line of vision, has been improved, and instead of being secured by a screw is now locked by a lever, which thus simplifies the operation—a point of advantage in motoring, especially in bad weather. The "Pioneer" wind shield, illustrated in Fig. 43, is another excellent device. Often does the glass become blurred by rain with consequent discomfort to the driver, but in the "Pioneer" the window can be sloped at such an angle that the rain is kept from the driver, and an unobstructed view still given of the road ahead. The shield is automatic in action, and can be easily regulated by a lever. In Cape cart hoods Messrs. Lowe, Bevan have several good designs, characterised by simplicity of adjustment, with consequent ease of detachment. Instead of the usual screws, etc., they are fixed by a lever, which secures their instantaneous displacement, and thus facilitates bringing them into service during stormy times. Many other excellent motor fittings are also on view, including folding seats, luggage carriers, brackets, inside fittings for covered cars, and all the many devices required by motor-car body makers.

#### Touring Conveniences.

Messrs. J. B. BROOKS AND CO., LTD., are responsible for many effective improvements in motorists' tool kits and similar accessories for the storage of luggage, &c. Their circular bags to fit within the spare tyres, and so economise the available space, have been improved upon since their introduction a few seasons ago, and now have separate compartments, with two independent lids, giving access to the interior, thus rendering them more useful for carrying repair outfits, overalls, wraps, &c., and the score and more little things to add to the comfort of motorists. A new patent tyre wrapper is also shown, which fits the tyre without wrinkling, and excludes dust and damp. The tool and spares cabinet, previously described in the *M.C.J.*, is another attractive feature of the display. This is adapted for use on the footboard, along which, on opening, the trays extend, the front panel acting as a strut for their support. In motor tool kits a new feature has been introduced, two or three flaps keeping the tools in position, thus doing away with the loops for each separate device usually employed. An important section of the business of Messrs. J. B. Brooks and Co., Ltd., is that of the provision of touring requisites, and here the selection is made complete and indicative of ingenuity in design. The "Tourist Necessaire" is the counterpart of the dressing-case, providing a convenient receptacle for clock, maps, cigar-case, flask, brushes, and other necessary articles for which little provision is generally made. Luncheon and tea outfits, kit bags, &c., are comprehended within this section of the exhibit. No reference to the display would, however, be complete without mention of the tyres and bands. The latter envelope the walls of the tyre and can be vulcanised on to any covers. An important feature of their construction is the patent stud, with hardened steel inset head, which secures a hard wear-resisting surface, while providing an efficient preventive of skidding.

#### Non-Skids and Tyres.

The SAMSON LEATHER TREADS AND TYRE COMPANY, LTD., take advantage of the occasion to introduce the Wilkinson Duplex tyre, which has a lining of rubber vulcanised to the inner surface of the casing, thus leaving the canvas body embedded in rubber and sealed between two resilient bodies. The resiliency set up by the running of the tyre is jointly absorbed by the inner resilient section supporting the canvas casing. In addition to this acquisition of resiliency, retardation of the spread of moisture following a puncture is secured by the vulcanising of the rubber to the inner face of the casing. The Wilkinson "Duplex" tyre is made with either a round or square tread. At the stand will also be seen the Samson tread. The fact that this has been used in many recent speed competitions with remarkable success is naturally made much of by the makers, who recall the fact that the 200-h.p. Darracq car on which Mr. A. L. Guinness lowered the flying kilometre record at Dourdan had Samson non-skids fitted to the tyres on the driving wheels. The features of the device are well known, the chief points being that the band does not cover the whole of the rubber, so that the tyre does not lose its elasticity. A band of leather forming the actual tread is fastened to the leather cover by projecting rivets in rows of from two to five, according to the width of tread required. Between the tread and the pneumatic tyre is an extra strip of leather, which is vulcanised to the cover, thus affording protection from the ends of the rivets. The treads can be fixed to old or new covers, and the Samson type is certainly one of note.

#### Fire Extinguishers.

The new type of petrol fire extinguisher to be seen on some of the cars on the ground floor is the main exhibit at the stand of the VOLO COMPANY, LTD., in the gallery. This is the "New Era" extinguisher, adapted to the purpose of the touring and pleasure car. It is on identically the same principle as that applied in the case of motor-buses, several hundreds of which are now fitted with the appliance. The cylinder is made of rolled copper, tinned on the inside to prevent corrosion, and the device has been tested to a pressure of 350 lb. to the square inch. A stream of fire extinguishing chemicals can be thrown a distance of 40 to 50 ft., extinguishing inflammable materials that cannot be extinguished by water. The idea has also been incorporated in a new form of appliance for motor-boats.

#### The Autoclipse Lamp.

The "Autoclipse" motor lamps are shown by Messrs. GEORGE W. HOUK, LTD., of 7, Snow Hill, E.C., and the demonstrations of their merits are gaining them many advocates at the Show. In this lamp is a combination of the bright and diffused light necessary when travelling on country roads with a self-eclipsing mechanism that cuts off the reflecting power of the lamp and thus brings it within the compass of an adequate light for towns. This is no haphazard arrangement but a thoroughly well-devised effect based on a scientific system, so that either description of light can be obtained at will. Discs are used to prevent the long-distance rays being thrown into the reflector, and it is only necessary to interpose these between the burner and reflector to secure their complete elimination. The Autoclipse lamps are made in several sizes, ranging from Model A, with its projective power of 700 ft., to Model D, which is admirably adapted for small cars, and will project its light 480 ft. These lamps are all of good appearance, and their workmanship vies with the sound principles of design upon which they are based. Messrs. HOUK, LTD., also show a new speedometer, reference to which will be made on a later occasion.

(To be continued.)

## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
87-88, Charing Cross Road, W.C.]

### FOREIGN-BUILT CARS IN ENGLAND.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—That England should eventually become the great manufacturing country of the world for the building of motor-cars is, I think, the wish of every Englishman, but I cannot see that this end will be attained any the quicker by endeavouring to persuade ourselves that we are now at the top and by being misled as to the true state of affairs. As the latest example I would like to quote from the speech of Mr. Manville to the Daimler shareholders at the meeting of the 8th inst., in which he stated that England's prosperity in the automobile world betokened the falling off by manufacturers in other countries. To quote Mr. Manville's words in addressing his shareholders :—"They should,

### INDUSTRIAL ALCOHOL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—At the lecture which was delivered recently at the Institution of Automobile Engineers, on "The Combustion of Hydro-Carbons," Professor Bone referred very encouragingly to the prospects of the early substitution of alcohol as a fuel for motor-cars.

This being a point upon which a good many present were greatly interested, a communication was addressed to Professor Bone on this subject, who supplemented his remarks as follows :—

"Motorists are quite right about the importance of the thorough investigation of alcohol as a fuel for internal combustion engines, and I feel convinced that it will soon come to the front by force of circumstances. On general grounds, as well as on the results of my own observations, I believe it will prove a good and economical fuel. The question is doubtless quite ripe for investigation."

So convinced is the professor of the future of alcohol, that probably very little pressure would persuade him to take up the subject in a systematic way, if he could be assured of proper support.

In order to realise in the near future the ideal of a home-produced fuel, there is no doubt motorists will have to rely a good deal, in the first instance, upon the investigations of chemists, and doubtless i



The French Reliability Trial of Heavy Vehicles for Military Purposes. (See page 836.)

in the first place, recollect that this country (i.e. England) is, of all Europe, the best market for automobiles, and that, as the trade with the continent is already visibly decreasing, a similar shrinkage in the profits of foreign automobile companies may be apprehended."

As showing how inaccurate and misleading this statement is, I beg to set out below the figures given at the meeting of the French Chambre Syndicale on the 5th inst. The figures refer to cars only and do not include parts. The value of chassis exported during the first nine months of each year was :—

1904	...	55,000,000 francs.
1905	...	75,000,000 "
1906	...	103,000,000 "

These figures refer to French exports alone, and do not include those from Italy, which, as is well known, amount to a very considerable sum and are enormous compared with the exports from that country two years ago; and there is certainly a very great increase in German exports. What useful purpose is served the British industry in making statements which are not accurate in fact? The true fact is that the demand for automobiles is increasing enormously, but so far from England alone prospering, all the manufacturers—at home and abroad—are benefiting thereby.—Yours truly,

CHARLES JARROTT.

motor manufacturers determined to support the valuable work which has been done by Dr. Ormandy and Professor Bone, so much interest would be created amongst the scientific body of chemists generally, that very much valuable data would be available at an early date.—Yours truly,

RADFORD COOKE.

### VALVE POSITION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I see that Mr. A. E. S. Craig refers to the alleged vacuum in the cylinder of the four-stroke engine as generally used on motor vehicles immediately the exhaust valve closes. I do not think that this is generally maintained now unless perhaps when the engine is very much throttled down. Under ordinary circumstances there is a considerable pressure in the cylinder when the exhaust stroke is completed, and, in fact, I have found a pressure of as much as two atmospheres then. I have experimented a good deal with exhaust valves and ports with a view to getting a perfect exhaust, and learnt enough in consequence to see how very crude our present system is. I hope Mr. Craig will not mind if I venture to disagree with his remarks to the effect that the flow of the gas along the induction pipe is not ultimately interfered with by the shutting of the inlet valve owing to its having

the three strokes of the piston, during which it recovers from its state of agitation. I have carried out some highly interesting experiments showing that at high speeds there is a great disturbance owing to this cause, and I maintain that we do not and never can have a compression of four atmospheres in these engines under the present conditions.—Yours truly,

A. J. MCKINNEY.

#### FOUR v. SIX CYLINDERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am surprised to see my old friend Mr. Charles Jarrott writing on the respective merits of six v. four cylinders, and I do not propose to argue the matter with him. The fact that seventy-eight of the leading manufacturers of the world have copied the six-cylinder principle is quite sufficient for me, and, with all due deference to Mr. Jarrott's opinion, I think the six-cylinder type will become absolutely universal for all powerful cars, and I only wish, for Mr. Jarrott's own sake, that he had appreciated this previously, so that he might not have to bolster up powerful four-cylinder cars, which I could understand if he was interested in a tyre factory and wished to use up as many tyres as possible.

Mr. Jarrott has previously given me advice that good motor-cars cannot be manufactured in Great Britain, and on this point I think he is hopelessly wrong. He has also previously written and said that powerful cars cannot be satisfactorily built with a live axle, and on this point I consider he is utterly and hopelessly wrong, as for the last two years nearly every important big road race has been won upon cars fitted with a live axle and direct drive as introduced by Mr. Napier in 1902. My opinion of Mr. Jarrott as a prophet is not nearly so good as my



A French Motor-Bus Service.—A Snapshot at Honfleur.

opinion is of him as a sharp business man, who is doing his best to hold up the powerful four-cylinder trade in its declining years. My best advice to him is to hurry up and change and do not waste time in trying to decry the six-cylinder principle, which is now an assured success. A visit to the Napier works at Acton would no doubt somewhat surprise him, where he could see some 1,200 people engaged in making Napier six-cylinder motor-cars.—Yours truly,

S. F. EDGE.

#### BRITISH CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Truly the ways of advertisers are passing strange. I have seen Worthington's motor beer bottle—a clever idea; but why a foreign chassis to help to swell the sale of British beer?

I, personally, have had an Argyll, and have now a Wolseley and 36-h.p. Daimler, and as regards value for price and reliability I would not exchange them for any other. Surely Mr. Alec Govan's reminder that every car built here in this country keeps three men and families for a year should influence wealthy firms, especially one that sells such an essentially English article as Worthington's pale ale, to buy an English car.—Yours truly,

O. 80.

#### PREFERENTIAL TAXATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—There must have been some very special pleading at the meeting of motorists last week when a resolution was adopted in favour of differential treatment of the cars of medical men. Why they should be so favoured I cannot see, for the advantage of the automobile is already great to this body of men.

By the use of the motor-car the doctor will either be able to see more patients, and thus increase his revenue, or he will have more leisure, which should be welcomed in these days of much hurry and

scurry. Why, then, should the medical profession seek to avoid the payment of taxes which should, if they are to be equitable and just, fall upon all alike? I trust this spirit of suggesting different treatment for different classes of men will soon be eradicated. Should it develop to any degree, it can only disturb the harmony of the present position and divide motorists into camps.—Yours truly,

TAX, AND BE TAXED.

#### COVERED BODIES FOR MOTOR-CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I see in the Commemoration Number of the *M.C.J.* that you have shown some of the old type of cars. I should like to call to your notice that I was the first to design a motor brougham body with the side entrance. I registered it as far back as 1897, and I was paid royalty on it. The first one was made by Messrs. Offord and Sons, to whom I was and am now manager. I fitted it on an old 7-h.p. Panhard chassis, which I had to lengthen 14 in. to get the wheel base. When completed it was sent over to Paris to be copied.—Yours truly,

W. T. CROFT.

#### PLUG TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Lately the spark in my plugs has commenced to jump over the porcelain to the lower part of the plug. This more often occurs when the engine is running slowly. I should be obliged if you or any reader of the *M.C.J.* could tell me the cause.—Yours truly,

PLUG.

[The cause of the trouble is that the resistance of the gap between the sparking points has become greater, and the resistance between the metallic parts at each end of the porcelain has become less through moisture or some similar cause. Consequently the current is able to pass across either path with the same facility, and does so intermittently according to the actual conditions at the moment. As this occurs more often when running slowly, it shows that the insulation across the porcelain is so poor that the spark takes that route directly the resistance between the sparking points is increased by reduction of heat in the cylinders. To remedy this change the plugs, more especially at this time of the year, when connections are likely to become damp.]

#### SPEED INDICATORS AND THEIR OPERATING MECHANISM.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a combined speed indicator and distance recorder on my car, which is driven by an enclosed flexible shaft from gears fitted to one of the front-wheel hubs, the indicator being located on the dashboard. Several times within the past year the gears have given out through tooth breakage, distortion and wear. I should be glad if any users of these indicators would state whether they have had the same experience with the gears as I have and the steps they have taken to overcome the difficulty.—Yours truly,

BROWN.

#### OVERHEATING TROUBLE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should feel greatly obliged if any readers of the *M.C.J.* could give me any reason for the overheating of my car, a 9-h.p. Clement. The water boils after a few miles. The connections are all clear and new, the water tank clean, the circulation in the radiator pipes quite clear, and the pump acts. I should be very grateful for any hints as to how to keep the water cool. Would an induction valve on the induction pipe be of any use? There is not sufficient room for a fan.—Yours truly,

E. B.

[This seems to be another of the many troubles that may be remedied by dismantling the cylinders and clearing out the carbon deposit in the heads, the cause of which has been given many times. We doubt whether an induction valve would be of any great advantage.]

WE have been asked for the name of the publisher of a summary of the Motor Car Act of 1903, with the various Local Government Board regulations, by Captain Wright.

MESSRS. FRISWELL (1906), LTD., write to say that the advertisements now appearing in certain papers relative to Friswell, Ltd., have reference only to any creditors of that concern who may not have sent in their accounts to the company before its purchase by themselves. The announcement has no reference to Friswell (1903), Ltd.

"E. B." writes:—"I shall be glad if any of your readers will inform me who are the firms in England or United States who manufacture epicyclic or crypto gears, three speeds and reverse."

GLASS SCREENS.—"D. L." writes:—"Can any reader of the *M.C.J.* inform me what is the best preparation to use on 'Glass Screens' in a drizzly rain, as I find it very misleading? I have tried some solutions, but not met with any success."

MR. C. HAYES, 3, Villas Road, Plumstead, S.E., would be pleased to hear from any reader finding a large Milnes-Daimler wheel cap, which was lost between Woolwich and Islington on the evening of the 19th inst.



## THE MOTOR UNION.

## TENTH ANNIVERSARY OF THE 1896 ACT.

ON Wednesday of last week the Motor Union held an important dinner at the Hotel Great Central, Marylebone, when the Hon. A. Stanley, M.P., presided over a large attendance, which included the representatives of most of the provincial clubs affiliated with the Union as well as many public men, including Major Atcherley, chief constable of Shropshire, Col. Bosworth, of the Automobile Association, Sir Alexander Bruce, Sir A. Conan Doyle, Mr. H. W. Porter, M.P., Mr. E. G. Hemmerde, M.P., Sir A. Henderson, Bart., Sir E. R. Henry, Chief Commissioner of the Metropolitan Police, Professor Herkomer, R.A., Mr. Ballin Hinde, treasurer of the Motor Union, Major-General Hutchinson, Major F. L. Lloyd, Lord Montagu, Sir Henry Norman, M.P., Mr. C. D. Rose, M.P., Mr. W. Runciman, M.P., Earl Russell, and Mr. Rees Jeffreys (secretary).

The Chairman gave the toast of "The King and the Royal Family," and then Mr. E. G. Hemmerde, M.P., proposed "Motorism and the Motor Union of Great Britain and Ireland." He might, he said, a week before, have come to them and urged them not to break the law, but something had happened which would prevent his doing so. He might be charged with obstructing the police, if he were one of a society that urged them not to break the law. That was how he read Mr. Justice Darling's dictum. The minister might tell his flock not to break the law, but if he was a member of a missionary society banded together to prevent people from breaking the law, then Mr. Justice Darling would suggest that he might well come within the meshes of the law by defrauding the police of their lawful prey. One thing he had noticed about the Motor Union, that there were many members of it who had the courage to fight out to the end cases which ought to be fought out for the benefit of the movement in which they were interested. They had to face the same prejudice as every new instrument of progress had since the world began. Yesterday it was bicycles, to-day it was motorists.

The Hon. Arthur Stanley, M.P., responded. He said he need not say anything about the past of motoring, when they saw that three speakers on the toast list were pioneers of the movement. Of the efforts of Mr. Roger Wallace, the Club's first chairman, in the early days of motoring, it was impossible to speak too warmly. Then they had Mr. Claude Johnson, the first secretary of the Club, and last, but not least, they had Lord Montagu. As for the future, that was very well pictured on the front page of the programme, for which they were indebted to Professor Herkomer. He thought it would be difficult for anyone who had not followed it closely to realise the amount of work that had to be displayed by a body such as the Motor Union. He wanted to emphasise especially the unanimity and absolute harmony with which this great body, which had many divergent interests, had worked. He believed that this was due to one sole cause, which was that they were working with a single eye for the advancement of motoring, not only for the motor industry, but for the convenience and social well-being of the people of this country.

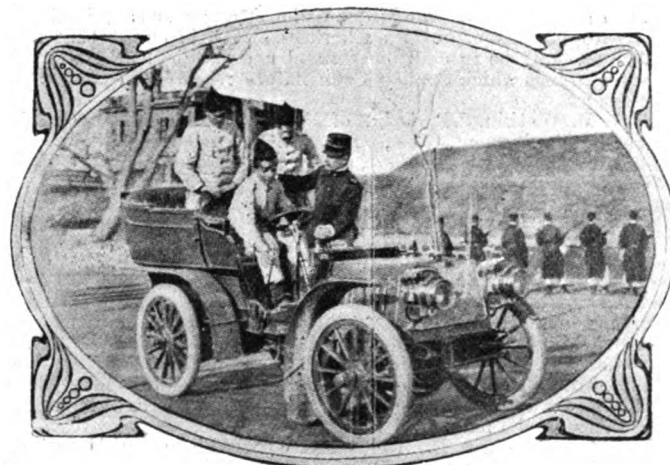
Sir A. Conan Doyle proposed the toast of "The Public Authorities of the United Kingdom." There was one thing about that toast that struck his eye the moment he looked at it in print, and that was that upon this occasion the police had got to respond to him. Legislators had to hold the scales between the fanatic on the one side and the fanatic on the other side, and to strike the balance. Looking back and remembering how they had started from the red flag stage, how they had reached the twelve-mile stage, and how they had developed into the twenty-mile stage, and knew they were on the threshold of a further development, he thought that they had a very great deal for which they might thank their legislators. The spirit of our law was to preserve the lives of the citizens. Where there was no danger there was no protection, and there was no danger where no man was in sight upon a country road with no crossings. Yet that was where the police in many cases chose to lay their traps. It was an insult to common sense to pretend that they would acquiesce in such a state of things, or that they would recognise it as other than a technical infringement of a law, which might bring profit to those who enforced it. He was sure that this was a passing phase. As a Surrey man, he would be glad to see the millennium arrive, when the Surrey police would climb out of that modest seclusion in which they had hitherto dwelt, would come out from behind the ditches and hedges, and would again resume that great duty for which they were qualified. In that very county within the last eighteen months there had been two murders, the perpetrators of which were now walking about unarrested.

Mr. Walter Runciman, M.P., Parliamentary Secretary to the Local Government Board, replying for the Houses of Parliament, said that he was grateful to Sir Arthur Conan Doyle for treating the Legislature more kindly than he had treated the police. He had a hundred or more suggestions which he could read to them. It had been suggested that cars should have a clearance of not less than 18 in. to prevent danger to people under the cars, which was a position, he understood, sometimes occupied by the general public and sometimes by motorists themselves. Innumerable suggestions had reached them as to emergency brakes. It had been suggested that all motor-cars should be fitted with cow-catchers. Lastly, it was urged that all horn-

blowing should be moderated on Sundays outside places of worship, and that all vehicular traffic should pass these holy places at walking pace. All sorts of conditions and punishments had been planned out by their correspondents, varying from hanging, drawing, and quartering anybody who drove a motor-car to the imprisonment of the car itself, should it unfortunately break the regulations. The Local Government Board had also to deal with the extremely difficult problem of the taxation of motor-cars. So far as they had gone on the latter subject, they had decided that they could not create a good and just scale of taxation on a horse-power basis. On the subject of taxation, he would only add that if they would provide the Local Government Board with a sensible scheme, he would be very glad to name the amount of the tax.

Sir Edward Henry congratulated the Motor Union upon the progress which automobilism had made in this country. It was a matter for great gratification that the large increase in the number of cars had not been accompanied by an increase in the number of instances in which the police had felt constrained to intervene, in order to secure observance of the law. There had not only been no proportionate increase, but, so far as he knew, no increase at all. That was not due to any cessation of vigilance on the part of the executive, but to the wider dissemination amongst motorists themselves of the feeling that he who drove a car should drive it with due regard to the safety, the convenience, and even to what he might deem the unreasonable prejudices of those whom he might encounter on the road.

Mr. G. L. Gomme, Clerk to the London County Council, responding for that body, said he would like to say this for the L.C.C., that at a time in the early days, when all sorts of ideas were in the air as to the limit of speed, the Council declined to put that limit on. Looking at the financial aspect of motoring, he was not sure whether they were not landing themselves in a considerable difficulty, because, if they were to attach the whole of the moneys which resulted from car taxation to the upkeep of the road, were not they in the danger



Instructing Italian Soldiers in the Art of Motor Driving.

of making that taxation the sole fund from which they could get the upkeep of the road?

Mr. W. J. Taylor, M.I.C.E., Hants, County Surveyor and President of the County Surveyors' Society, responding for the Highway Authorities, reminded them that there were in England and Wales 1,900 separate and independent road authorities, which had at least 1,900 different ways of attempting to do the same thing.

Mr. C. H. Dodd, vice-chairman of the Union, proposed the toast of "The A.C.G.B.I. and the affiliated clubs." Mr. C. D. Rose, M.P., responding. Major J. A. Cole, J.P., Chairman of the Lincolnshire A.C., responding also to the toast, said those who had come from distant parts of the country must have heard with great satisfaction the declaration of Mr. Runciman that they need not fear horse-power taxation in the future, and he thought they ought to try to avoid mares' nests or horse-power nests.

Mr. Claude Johnson, in proposing the toast of "The Pioneers of the Movement," expressed the great debt of gratitude they owed to those who pushed forward the movement in its early days. Mr. Roger Wallace, K.C., responded.

Lord Montagu of Beaulieu had great pleasure in proposing the toast of the most popular man in the room. The excellent work their Chairman had done in connection with the Automobile Club, the Motor Union, and the general movement, entitled him to be ranked amongst one of the best leaders they had ever had. The Chairman thanked them for the many kindnesses they had done him, and the almost excessive warmth of their greeting, especially as the toast had led to the almost unprecedented scene of the Chief Commissioner of Police indulging in what he could only describe as a disorderly proceeding. He knew that in the reception they had given to the toast they would include those sitting on the Union Committee, and the Chairmen of the Committees, and their able and energetic secretary, Mr. Rees Jeffreys.

## CLUBS AND ASSOCIATIONS.

### THE MOTOR UNION.

THE November meeting of the General Committee of the Motor Union was held at the Hotel Great Central, Marylebone, on the 15th inst.

The Hon. Arthur Stanley, M.P., presided, and there was a large attendance of delegates from all parts of the country. Altogether thirty-five provincial clubs were represented, in addition to representatives from the A.C.G.B.I. and of the individual members.

Among the business occupying the attention of the committee were a number of applications for legal assistance from members, and it was resolved in the case of two members—Captain Farrer and Captain Arthur—to make contributions from the "Defence Fund" towards the costs of appeals against the convictions of the magistrates, which convictions, in the opinion of the committee, were against the weight of evidence. Grants were given in other cases, and altogether twenty-five applications were dealt with.

It was also resolved to vote the sum of twenty guineas to the Motor Van, Wagon and Omnibus Users' Association for the purpose of testing the legality of certain notices which had been placed upon a large number of bridges in Cambridgeshire by the Great Eastern Railway Company, closing the bridges to heavy motor traffic.

It was also resolved that signs and notices indicating special circumstances, and bearing the name of the Motor Union, are desirable, the signs to be applied by the Motor Union at a price, on application, to any private persons or local authorities. It is intended that these special signs shall be in addition to, and not in substitution for, the ordinary warnings which County Councils are required to erect under the Act.

Sir A. M. Watkin, J.P., D.L., of Folkestone, Mr. T. D. Grimk-Drayton, J.P., of Newent, Glos., and Mr. N. A. Heywood, of Wickham Market, were elected life members, and it was reported that the Union now included eighty-two clubs, and that its aggregate membership was upwards of 14,000.

### HARROGATE.

At the annual dinner of the Harrogate and District Automobile Club the president (Dr. Ozanne) was in the chair, and the attendance also included the Mayor (Alderman James Chippindale), Mr. Chas. Jarrott (London), Mr. E. H. Hepper (chairman of Yorkshire Automobile Club), Mr. C. P. Wilson (secretary of Yorkshire Automobile Club), Supt. Keel, Dr. Holroyd (hon. treasurer of the H. and D. A.C.), Colonel Pierce, and a number of local motorists.

After the loyal toasts Dr. Holroyd gave the "Pioneers of Motoring," to which Mr. C. Jarrott replied. The latter said that automobilism was a great gift and privilege and enabled them to view the land they loved so much. He had been called a pioneer, but it was no great honour ten years ago, for they were often looked upon as a greasy sort of lunatic travelling on a sort of infernal machine that might blow up at any moment. Of course by some they were looked upon as a sort of brave individual. In those days motoring was not such an enjoyable experience as some might imagine at the present time.

Mr. A. Gask submitted the toast of "The Mayor and Corporation of Harrogate," and in doing so said it might perhaps come as a surprise to those members of the Corporation who were honouring them by their presence that evening to know that the members of the Harrogate and District Automobile Club were grateful and appreciated the services they had rendered to the town.

The Mayor, in responding, said that he was not particular how much he was criticised so long as he knew he was trying to do his duty honestly and fairly. He then referred to the trial of Akonia on the road on the occasion of the meeting of the Motor Union in Harrogate nearly two years ago. It was a success, had been used ever since, and motorists could now pass through Harrogate without disturbing the inhabitants and visitors as they used to do. Now it was a pleasure to live on the sides of main roads, where before it was almost miserable on account of dust blowing into their houses; so that the inhabitants of Harrogate had derived some benefit from the motorist "kicking up a dust."

Mr. T. S. Watney (Harrogate) proposed "The Motor Union and Affiliated Clubs," and referred at some length to the advantages of the Motor Union.

Mr. E. H. Hepper (Leeds, chairman of the Yorkshire Automobile Club), in response, remarked that the Motor Union had been of great benefit to Harrogate. With respect to the speed limit in certain streets in the town, Mr. Hepper said that no sane motorist would think of going more than ten or twelve miles an hour in those streets. If they got a speed limit throughout the town it would have been fatal to Harrogate. Respecting the dust nuisance, he was in a position to state that the reports of a number of surveyors in the West Riding were to the effect

that some form of tar macadam was the remedy, and the cost of that system was no more than the cost of the present method.

The toast of "The President" was enthusiastically received, and his retrospective response brought the speechmaking to a close.

LORD INVERCLYDE has been elected president, and Lord Angus Kennedy vice-president, of the British Motor Boat Club.

A PRESENTATION will be made to Mr. A. Birtwistle, hon. secretary by the committee of the North-East Lancashire A.C., at a special meeting and concert on the 27th inst.

THE Aero Club has removed from 110 to 166, Piccadilly, W.

PROFESSOR VIVIAN B. LEWES, of the Royal Naval College, Greenwich, has consented to read a paper before the members of the Motor Yacht Club after Christmas on "Chemical Problems of the Automobile Industry," having especial regard to the use of petrol *versus* alcohol in motor-boats.

### PUBLIC MOTOR VEHICLE REGULATIONS.

PROPRIETORS, before entering into contracts for new types of motor hackney carriages, would do well to send the drawings to New Scotland Yard for approval as to type, as well as study carefully the conditions for obtaining a certificate of fitness for motor hackney carriages which have just been promulgated under date November 15, 1906, and of which the following are of general interest:—

Hackney carriages propelled by mechanical means, and subject to the Light Locomotives Act (59 and 60 Vict., cap. 36) and Motor Car Act (3 Edw. VII., cap. 36) must comply with the requirements of those or any subsequent Acts, and of the Orders of the Local Government Board made in pursuance thereof.

The following measurements and requirements for a hackney carriage should be adhered to:—

Chassis, wheel-base.—Should be so proportioned that skidding or other improper movements shall be as far as possible avoided.

Chassis, springs.—The springs must be properly hung, of sufficient strength and flexibility to meet all purposes which may be required of them. Those springs carrying the load must be attached to, or bear upon, the back axle, as near to the wheels as possible, the distance between the outsides of the rear springs shall not be less than 40 in. The front springs must be as wide apart as possible, but not less than 26 in. from outside to outside.

Chassis, wheel track.—Centre of must not be less than 4 ft. 4 in., and in no case must the front be less than the rear.

Body, hansom pattern.—Inside, from the top of seat cushions to the roof at the lowest part, or, where the front window frames fold up toward the roof to the lowest part of the frame, must not be less than 40 in. The width must not be less than 40 in. From the back squab to the nearest point of door pillars must not be less than 26 in., and for knee space not less than 28 in.

Body, landaulet or brougham pattern.—Inside, from the top of seat cushions to the roof at the lowest part, must not be less than 40 in. Between the hinge pillars or shutting pillars the width must not be less than 40 in. The width of the door must not be less than 21 in.; where the carriage is provided with front and back seats the measurement between the front edges of cushions must not be less than 19 in.

There must be a handrail, commode rail, or other suitable means to assist passengers entering and alighting, and it must be properly and rigidly fixed.

The total overall length of the chassis and body must in no case exceed 13 ft., nor the extreme breadth be greater than 5 ft. 9 in.

Each carriage must be fitted with at least two independent brakes of sufficient strength so that either of them shall be capable of stopping and holding the carriage under all conditions. They must also, where necessary, be fitted with a compensating device.

Each car must be capable of being readily steered and able to turn on each lock, and proceed in a contrary direction within a roadway not more than 25 ft. wide from kerb to kerb.

The machinery should be so constructed that no undue noise or vibration is caused, and the maintenance of the carriage in this condition will be strictly enforced.

The machinery must be so constructed or placed that oil from the bearings shall not be allowed to drop on to the roadway. When trays are fixed to prevent this they must have suitable webs for retaining the oil when ascending or descending hills, or be otherwise suitably constructed with that object, and oil must be cleaned out frequently, and not allowed to accumulate from day to day.

Every vehicle must be provided with, and maintain in use at all times, an approved means of preventing or limiting side-slip.

Straps with holes must be placed on the window frames (where considered necessary), and metal or bone knobs must be fixed inside the carriage, to enable the windows to be partially closed.

Carriages, the floors of which are above 18 in. from the ground, must have suitable steps, and suitable commode rails for the convenience of passengers.

ON Monday the Home Secretary (Mr. Gladstone) who was accompanied by Mr. Herbert Samuel, M.P., the Under-Secretary, and Sir Edward Henry, the Commissioner of the Metropolitan Police, received a deputation on the subject of the licensing of motor-omnibuses.

Lord Montagu urged that more latitude should be given to 'buses ordered before the new regulations came into force.

Mr. Straker stated that over ninety motor-omnibuses made by his firm were awaiting licences, and over 150 were wholly or partially manufactured, all of which would have passed the necessary tests six months ago. Mr. Duff spoke as to his company having forty 'buses ready awaiting licences. Mr. Tilling appealed to the Home Secretary to consider the case of the smaller 'bus-owners who had embarked all their capital in the new vehicles.

In reply, Mr. Gladstone pointed out that Sir Edward Henry and the Home Office had to consider the public point of view. The great number of passengers already carried by motor-'buses was proof of their public utility. He quite recognised that the views put before him were legitimate, and the deputation might be assured that the interests of the manufacturers would continue to be considered as far as was consistent with duty to the public.

### NEW COMPANIES REGISTERED.

**CRAVEN AUTOMOBILE COMPANY.**—Capital, £5,000, to take over the business of automobile engineers and dealers carried on by Mr. W. C. Slingsby, at 20, High Street, Skipton, Yorkshire, as the Craven Auto-

## CASES UNDER THE MOTOR-CAR ACT.

### SECTIONS 1 and 2.—RECKLESS DRIVING AND REGISTRATION.

Mr. Wagstaffe and Mr. Robert Taig, a Dumbartonshire motor-car manufacturer, have been summoned at Birkdale for driving an unregistered car on October 30th and 31st. Superintendent Jervis said that Taig sometime ago sold a car to Mr. Parkes, of Birmingham, which was registered at Glasgow "G1,017." At Birmingham Mr. Parkes had it registered in his own name. Afterwards Taig sold another car to Mr. Wagstaffe and placed the number G 1,017 on this car, which was the same as on the car that went to Birmingham. This was on October 16th. For the defence Taig said that on October 16th he wrote to the registrar at Glasgow asking him to transfer the number. The letter never reached its destination. It was posted at a Welsh post-office. Taig was fined 20s. and costs and Wagstaffe 10s. and costs. The former was subsequently summoned for driving to the danger of the public on November 1st in Liverpool Road, Birkdale. A fine of 20s. and costs was imposed. A further case against Taig for not being able to produce his licence on this occasion was withdrawn on payment of costs.

### SECTION 9.—THE SPEED LIMIT.

Mr. Henry Richard Pope has been summoned at the Battle Petty Sessions to answer a charge of driving a motor-car at an illegal rate at Lunsford Cross, Ninfield, on July 8th. A letter was put in stating that



Motor Touring on the Continent.—At the Swiss-Italian Frontier at Pontesba.

mobile Company. First directors, Messrs. R. F. Roundell, W. C. Slingsby, H. Priestman, W. E. Slingsby, and J. L. Kidd. 20, High Street, Skipton, Yorkshire.

**MANCHESTER AUTO-CYCLE COMPANY.**—Capital, £1,500. First directors, Messrs. L. Stones and W. Stones. 65, Great Jackson Street, Hulme, Manchester.

**HILLS-MARTINI.**—Capital, £25,000, to adopt an agreement with Mr. A. C. Hills, for the acquisition of the benefit of an agency contract made between the Martini Automobile Company, Ltd., and the said A. C. Hills, and to act as sole agents in the United Kingdom and British Colonies and Dependencies (except Canada) for the motor-cars and chassis manufactured and sold by the said Martini Automobile Company, Ltd. The first directors are, Mr. A. C. Hills (managing director), Sir R. B. N. Gunter, Bart., Mr. R. M. Logan, and Mr. S. Cary. 13, Duke Street, Aldelphi, W.C.

**ARGYLLS, LIVERPOOL.**—Capital, £10,000. First directors, Messrs. H. J. Hamilton (chairman), A. Govan, and W. H. Buxton. 27, Leese Street, Liverpool.

**CALTHORPE MOTOR COMPANY.**—Capital, £5,000. To acquire the business of motor-car manufacturers carried on by G. W. Hands, Agnes Stamps, and T. R. Fletcher at 16, Barn Street, Birmingham, as the Calthorpe Motor Company. First directors, Messrs. G. W. Hands, T. R. Fletcher, and A. L. Stamps. Cherrywood Road, Bordesley Green, Birmingham.

defendant had had his licence suspended for another case, and was now in Turin. P.S. Waghorn spoke to timing defendant over a measured furlong, which he covered in sixteen seconds, equivalent to twenty-eight miles per hour. Witness gave a signal, and P.C. Duly stepped out of the hedge and stopped defendant, who was served with a written notice of the intended prosecution. P.S. Roberts, of Chichester, proved three recent convictions, defendant having been fined £20 at Beaconsfield Petty Sessions only two months ago, and had his licence suspended for twelve months. A fine of £20 and £2 6s. 6d. costs was imposed.

### SECTION 1.—RECKLESS DRIVING.

On Tuesday, at the Hove County Bench, Frederick Earle, chauffeur, of Hampstead, was summoned for driving a motor-car on the highway in a manner dangerous to the public at Patcham on September 30th. The prosecuting solicitor detailed the way in which the defendant had driven a motor-car and knocked down a cyclist who happened to be in his way. After hearing evidence the Bench decided to convict. Two previous convictions were reported and he was now fined £10 and £6 special costs. In addition, defendant's present licence would be suspended, and he would be deprived from obtaining another licence for four months after the expiration of the present licence.

A motor-car mishap, which occurred in Scotland in September of last year, near Dalwhinnie, on the road from Pitlochry to Kingussie, was the subject of an action heard in London on Tuesday, in which Mr.

Charles B. Iemay was plaintiff, and Mr. and Mrs. Edward Manville defendants. There were two ladies and a chauffeur in each car. Mrs. Manville was driving the one, her counsel stating that she had had great experience, and had taken part with success in the competitions for the Herkomer international trophy. It was alleged that Mrs. Manville drove so that her canopy caught the hood of plaintiff's car, with the result that the hinder part of the body was torn off the chassis. The jury found for the plaintiff, for whom judgment was accordingly given for £128 and costs.

### ROAD REPORTS.

**SOUTH-EAST LANCASHIRE.**—The motor-waggon traffic in South-east Lancashire has increased to such an extent, that several of the district councils are considering the question of applying to the County Council for increased grants for the maintenance of main roads. The Whitworth District Council state that, although only seven months of the financial year have gone, they have already spent on the roads more than has been allowed by the county authority, and the remainder will have to come out of the local rates.

**KNIGHTSBRIDGE.**—The Knightsbridge road has been undergoing repairs, as many visitors to the motor show in the vicinity have discovered.

**SIGNS IN ESSEX.**—A correspondent calls attention to the sign-posts on Essex roads as follows:—Suppose anyone not perfectly acquainted with the road wishes to get from Chelmsford to Harlow. After some enquiry in the town, he gets started off on the right road and continues for a mile or two, and then the trouble begins. He must stop at every turning and ask the way, for not a single sign-post will he see with "Harlow" on it till he is nearly at his journey's end. Then, on his return journey, at a turning a short distance from Harlow, a conspicuous post points one way to "Matching," the other way, at right angles, to "Ongar and Chelmsford." He naturally takes this, and will continue on for many miles, and just as he thinks he must be about half-way he is confronted with a post, "14 miles to Chelmsford." He has already come at least half that distance, and the two towns cannot be more than 17 miles apart.

**ABERDEEN.**—Road authorities throughout the country are watching with interest the action which the Aberdeen District Committee of the Aberdeen County Council is bringing against the Great North of Scotland Railway Company for damages to the road caused by the defendant company's motor-buses.

### ACCIDENT TO A MOTOR-CYCLIST.

At Wandsworth, an inquest has been held on the body of Oliver Gold Duncan, a dental surgeon, of 27, Eccleston Street, Fimlico, who was killed as the result of a collision in Wildcroft Road, Putney Heath. Deceased and a friend were riding motor-cycles over Putney Heath when a horse ridden by a young man named James Thornton, Wimbledon, came into collision with the machine ridden by the deceased. Both horseman and cyclist were thrown, the latter sustaining a fractured skull and dying in three minutes. Mr. Thomson was also injured, and is suffering from concussion of the brain. The jury returned a verdict that deceased died from the injuries caused by the collision, but that there was not sufficient evidence to show whether there was culpable negligence on the part of the rider of the horse.

### PUBLIC MOTOR SERVICES.

**DAMAGES** to the extent of £70 have been awarded in the City of London Court to Mr. Ralph S. Morrish against the London General Omnibus Company, from one of whose motor-buses plaintiff fell when it skidded in the Strand. The company intend to appeal. At Clerkenwell County Court Richard Ashton has obtained a verdict and judgment for £75 against the Motor Omnibus Company, Ltd., for injuries received through one of the defendant company's buses skidding and knocking him down as he walked along the footpath.

**THE Isle of Wight Express Company** intend to run a service of motor-cars between the Town Hall, Ryde and Oakfield every Saturday at cheap fares.

At the conference of the Motor Union held in London last week, the following resolution was adopted, on the motion of Dr. Hele-Shaw:—That the refusal of a local authority in the provinces to licence motor vehicles for public services or the imposition by such authority of impracticable conditions shall be subject to an appeal to the Local Government Board.

The strike of London motor busmen has come to an end.

### LIGHTS ON VEHICLES.

**THE Knutsford magistrates** have held that it is obligatory for there to be lights on both vehicles when one is being towed by another at night. On the night of Sunday, October 14, Mr. Geoffrey Boote, an Altrincham engineer, drove his motor-car into a dogcart that was tied behind a trap driven by William Green, of the Golden Lion, Knutsford. He was thrown out of the car, and one of his ribs was broken, and the

car was considerably damaged. He saw no light on either vehicle, but Green, in his defence to a summons for driving a trap without a light, was able to show that the first one carried a light. The magistrates said that one light would not do for the two vehicles, and imposed a fine of 5s. and ordered the defendant to pay 23s. 6d. costs.

### MOTOR-CAR TRACKS AS EVIDENCE.

A GRAPHIC description of a collision between a motor-car and a dray was given before Judge Moss at Llangollen on Monday, when Messrs. Drew, mineral water manufacturers, of Oswestry, sought to recover £18 from Mr. Smith, of Well Springs, Bradford, and Mr. Francis Horner, a solicitor, of Bradford, for injuries caused to a horse. The defendants counter-claimed for £14, damage to a motor-car. It was stated that the motor-car came round the corner on its wrong side and dashed into the dray, battering the lamps. Dr. Helme, who came upon the scene after the accident, described in detail the record left by the car-wheels and dray-wheels on the muddy road. These tracks, he said, showed beyond shadow of doubt to him that the motor was on its right side and the dray on the wrong side at the time of the collision. His Honour gave judgment for Messrs. Drew for £10, with costs.

### POLICE TRAPS.

ON Saturday, at the stand of the Automobile Association, a police trap in Holland Road, Kensington, was notified to visitors. The Association map indicating police traps, &c., is a subject of much interest.

**MR. HANS RENOLD**, the head of the Manchester chain-making firm which bears his name, has been presented by a number of his employees with his portrait in oils. The painting is by Mr. T. C. Dugdale, a Manchester artist, and the inscription on the frame records that the presentation is "to commemorate October 16th, 1906." Three years ago, when the business was converted into a private limited liability company, Mr. Renold distributed a number of shares amongst his employees, the only condition being that if during the ensuing three years any employee left the concern he should hand back his shares. The three years expired on October 16th, and the scrip was handed unconditionally to the fortunate holders; and it was to commemorate the occasion that the presentation was made.

Two new companies have been formed to handle the Argyll cars in the Liverpool and Manchester districts. In the former city Mr. H. James Hamilton has established Argylls (Liverpool), Ltd., who will occupy the premises in Leese Street lately tenanted by the Road Carrying Company. Argylls (Manchester), Ltd., has been formed by Mr. R. H. Carlisle and Mr. T. Hooydonk to handle these British cars in Cottonopolis. Extensive garage accommodation and repair shops will be established in Deansgate.

### TO CORRESPONDENTS.

*All communications intended for insertion in this Journal or relating to editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.*

*The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.*

*The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.*

*To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.*

*Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case; otherwise no liability will be accepted.*

*The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.*



# THE Motor-Car Journal.

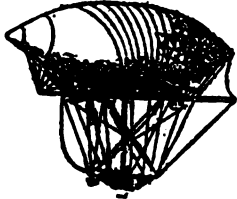
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## COMMENTS.



IF financial incentive be worth anything the battle of the airships is almost as good as won; for liberal patrons of aerial locomotion have been most generous in their offers of rewards to the successful air-voyager from London to Manchester. This outburst of interest has practically synchronised with the annual dinner of the Aero Club, which took place a few evenings ago at the Carlton Hotel, London, when the usual influential and fashionable gathering assembled to discourse of things that are not earthly. Mr. Roger Wallace, K.C., presided, and in responding to the toast of the Aero Club, proposed by Lord Northcliffe, observed that future developments would be in the sphere of the aeroplane, and it appeared to him that the secret lay in the question of materials. Lord Montagu's contribution to the interesting series of speeches was in optimistic vein. He did not believe that they should look for the solution of the problem merely in the decrease of weight. The question consisted in securing a more powerful machine than was now available. Already M. Santos Dumont had an engine which could, roughly, produce 1-h.p. for every 2 lb. of weight, but it was with the more powerful engine, rather than the lighter engine, that the future lay. Prizes to the aggregate value of over £17,000 now await the man who successfully negotiates the air.

### Business at the Show.

AMONG the many opinions expressed with regard to the recent show at Olympia, that of the accurate and observant correspondent of the "Morning Post" seems to have accorded well with the general experience when he wrote that "with the exception of half-a-dozen instances, the orders that have been booked have been somewhat of a disappointment to the exhibitors." Of course, those firms which, for one reason and another, had come prominently before the public just before the Show did well on the wave of publicity which would have carried them forward in any case. But those firms and agents who appeal to the buyers of cars are realising that the spring is, after all, the season when prospective motorists are most easy to convert into actual possessors of cars. Hence the general lack of orders and the meagre results that seem to have attended the presence of many firms not only on the ground floor but in the Gallery as well.

### Laying Dust.

AFTER due consideration the Roads Improvement Association has undertaken the conduct of a tar spraying competition, which should excite the interest of local authorities throughout the country, as well as of motorists and other victims of dusty roads. The efficiency of the devices will be regarded from various points of view, one of which is that they should be capable of being worked by the ordinary road labourers without skilled attendance. Other things being equal, the advantage will be with the machine which can move most rapidly, which consumes the least tar, which requires no skilled attendance,

which can use the tar cold instead of hot, which requires refilling less frequently, and other similar points. The first prize will be an award of £100 and a gold medal, the second distinction consisting of a prize of 50 guineas and a silver medal. It is to be hoped that the competition will attract a large entry, and that it will prove the beginning of a great national movement to improve the surface of our highways.

### Anticipating Events.

As will be seen from our Club news on another page, the Midland Automobile Club has already provisionally fixed the date of their open hill-climbing competition at Shelsley Walsh, Worcestershire, for next season. It would be well if all the organisations that propose to arrange competitive events in 1907 would make similar haste in announcing the probable dates, so that the over-lapping which has occasionally occurred to mar the chances of success of meetings that would otherwise prove attractive may be avoided. An early decision with regard to the provincial meets of the Motor Union would prove of assistance to secretaries in making their fixtures, and, although the towns need not now be determined upon, the dates might be settled.

### Preferential Taxation.

ALTHOUGH the conference to which we made full reference last week decided in favour of a resolution to the effect that medical men should be taxed on a different basis to ordinary motorists, the Motor Union committee has declared its disapproval. Major Cole, of the Lincolnshire Club, brought the matter forward. He confessed that his sympathies were with the doctors, but the Motor Union should remain impartial, and not allow itself to recommend something which they knew would not be practicable. He considered this suggestion was impracticable, and he would be very sorry to see the report adopt a principle which they knew full well would not be carried out. Consequently he moved that the last words in the section as to differential treatment of cars used by doctors be not approved by the general committee. This was seconded and adopted. Having regard to the fact that the original resolution was only carried by a very small majority, probably this solution of the matter is the best course to take under the circumstances.

### Sabbath Motorists.

THE spiritual use of the motor-car is, as Lord Tomnoddy would say, "quite a new thing," and has not received the attention it merits. Bishops and dignitaries of the Church have made diocesan visits by means of the automobile; General Booth's accelerated missions are a feature of the religious world; and Nonconformist leaders of the type of the Revs. F. B. Meyer and Silvester Horne have fulfilled flying preaching appointments by car, while the Rev. R. J. Campbell regularly uses his automobile to reach the City Temple. The plans of a place of worship now being erected in a Sussex village includes a garage for the convenience of the wealthy

members of the congregation. All this, however, is small talk when compared with what has occurred at a meeting of the Sheffield and District Federation of Free Church Councils, when from the Rev. W. Marcus came the novel suggestion that town ministers should go out into the country by motor-car on Sunday afternoons to take services. They could preach from their own pulpits morning and night, and nevertheless give the village churches a fillip. Elaborating the idea, he pointed out how many people went motoring on Sundays, and he proposed the services of these should be obtained to take out two or three men, dropping them at pre-arranged places, and calling for them subsequently. At the furthest point of the journey the chauffeur should be induced to stay for the service, instead of going off for his own enjoyment.

#### Begin at Sheffield.

THERE are many possibilities in such a plan. First, it destroys the objection which ministers are said to hold to Sunday motoring, for it includes them as persons who would not demur to motoring on the Sabbath day. It would undoubtedly improve the health of many of the town ministers, and possibly enlarge their vision by giving them new views of



A Snapshot from Bredenköpf, Germany.—Bringing in the last of the Harvest.

the country; but probably the chauffeur might wish to have his selection of preacher instead of being consigned to the man at the point furthest from the town. These are, however, details; the main point is the suggestion has been made, and we should like to hear what the Sheffield Free Church Council and the Sheffield Automobile Club consider of the idea. Possibly, if they arranged a conference on the matter, some useful ideas for the information of other associations would be promulgated.

#### Across London.

THERE is an appreciable difference in the traffic of London just now as compared with that of, say, a couple of months ago, as those who are in the habit of using the motor-bus with any regularity well know. Some noisy vehicles have been taken from the road, and somewhat less noise is now heard in the City. And yet no fewer than three hundred separate routes now converge on the capital. Some of the motor-buses are opening up direct routes between places which were previously difficult of connection. Not so very long since,

in order to get from the Elephant and Castle to such a place as Cricklewood two changes had to be made, and an hour and a-half occupied on the journey. Now there is a motor-bus making a through journey in two-thirds the time. The same thing is happening everywhere in town.

#### Delivery Vans.

MANCHESTER is becoming quite an important centre of the automobile trade and several new motor-car establishments have recently taken, or are about to commence, their abode in the great Lancashire centre. One of these companies intends to adapt to the requirements of the city a plan which was tried with much success at Newcastle-on-Tyne some time ago. In order to encourage tradesmen to try commercial vehicles in their business it is proposed to hire out light delivery vans and commercial cars of a greater power. The rates will be inclusive of driver, and should the particular vehicle be subsequently purchased, an allowance of half the sum paid for hire will be made. This should prove attractive to tradesmen anxious to be well in line with the times, but who are fearful to take the plunge without preliminary knowledge. Recent months have proved the value of the motor vehicle in delivery work, and the Manchester experiment should convert many keen business men in that city.

#### The Delivery of Bread.

ON this subject of delivery by automobile we have heard an objection to the use of the motor-car by bakers and the like. This is, perhaps, one of the few trades where the present system will last longest. As a rule the baker goes on his journeys alone. While he is delivering the bread the horse stands patiently on the roadside, and then leisurely walks to the next house at which a call is to be made. In the case of the motor-car superseding the horse, the housewife would probably fancy she smelt petrol and oil and general mechanical abominations when her bread was handed in. And yet the baker could scarcely afford to send two persons with one cart. The many halts that are necessary in a prosperous round are also factors that may retard the progress of the car with the baker. But there are many other trades waiting the services of the automobile.

#### The Inflation of Tyres.

THAT motorists are paying more scientific regard to the care of their tyres than was formerly the case is apparent from the number of tyre gauges that have lately been introduced with a view of guiding them towards the correct inflation. A tyre that is maintained at a correct inflation will last considerably longer than one allowed to run insufficiently inflated, and in their catalogues the makers of tyres are now giving useful advice on this subject. The minimum pressures which one leading firm recommends are as follows:—60 lbs. for 3 in. tyres, 70 lbs. for 3½ in., 80 lbs. for 4 in., and 90 lbs. for 4½ in. and 5 in. tyres. Where non-skids are employed the tyres should be inflated to a slightly higher pressure than plain covers.

#### Technical Education.

MOTOR-CAR education has extended to the provinces, and at Manchester, Bradford, Coventry and other centres of engineering, facilities for instruction in motor-car work are now provided. In addition, some firms in the industry have provided means of instruction for their drivers and work-people, while the scheme of examination in driving and also in mechanical proficiency prepared by the A.C.G.B.I. has been recognised by the Commissioner of Metropolitan Police and has also received the approval of the Royal Commission. It is well that already the demand for full knowledge of the technical aspect of the automobile is being recognised by the educational experts of the country, and that

laboratory research work can now be carried out in the leading institutions of the country. Such development cannot fail to have a good effect on the progressive advance of the British industry.

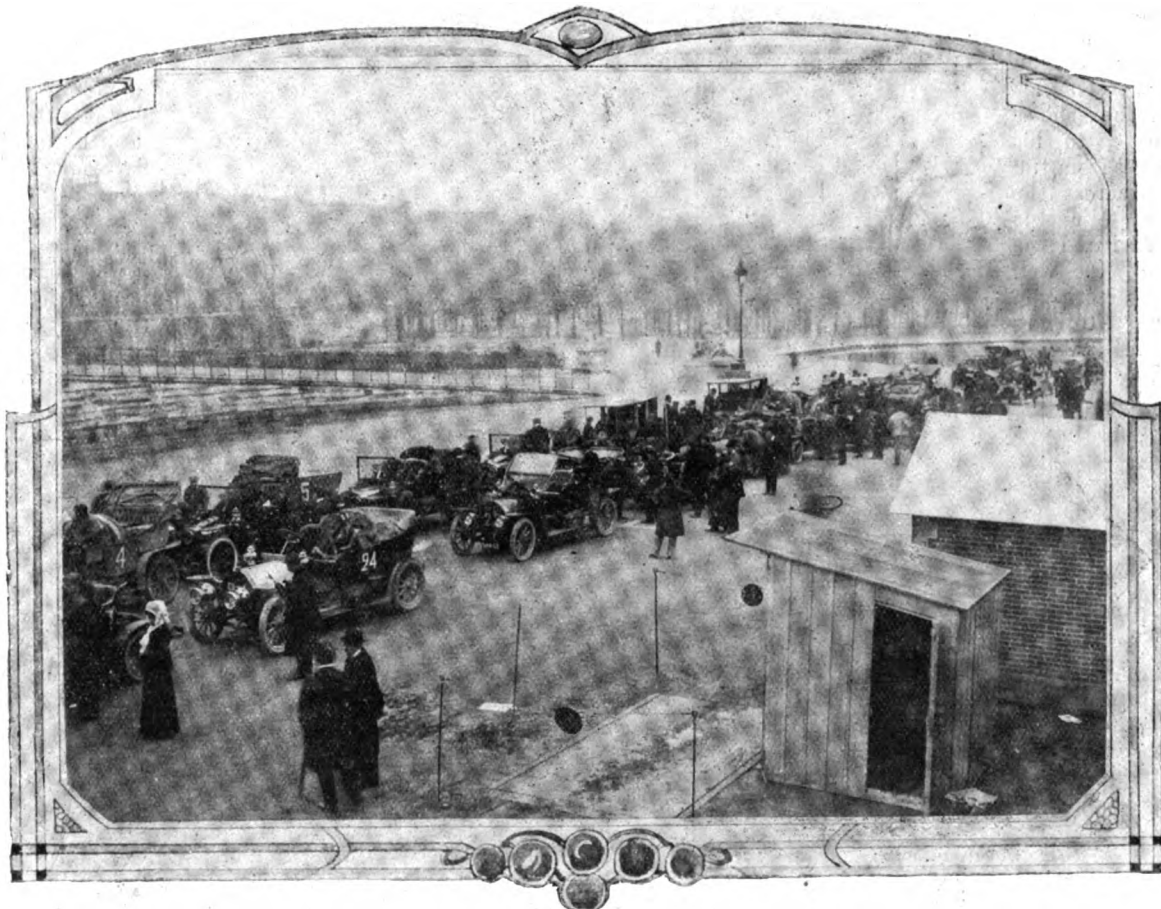
#### Signs on the Road.

BERKSHIRE deserves credit for the good work lately done by its County Council in having notice boards put at the entrance to its villages, indicating to users of the highway where they are.

The way in which this work is done by the Post Office authorities is not uniformly satisfactory, and on the suggestion of the Blackpool A.C. the Signs and Notices Committee of the Motor Union is providing boards for erection in special localities. This new committee is setting to work in a very businesslike way, and promises to prove a useful adjunct to the many other organisations already in the field, or, we suppose we should write, on the road. In our last issue

running cars leave behind in their locality; and they are not always encouraged as they deserve to be. Hence the note of harmony that prevailed on the occasion of the Argyll reunion was a pleasant interlude in a heavy week. Mr. W. A. Smith, from the chair, was able to strike a note of confidence with regard to the future; Mr. A. Govan to justify his development of the system of specialised production on a gigantic scale, and Messrs. Parker Thomas, of Cardiff, and George Owen (Stirling) to emphasise the great future before the motor-car movement in Wales and Scotland respectively, as well as in England, where it is well apparent, and where, as Mr. Massac Buist said, conduct is, after all, the most important factor in the education of public opinion with regard to the problems, as well as the dust, raised by the motor-car.

MOTORISTS generally are fairly familiar with trunks associated with the name of Mr. Louis Vuitton, at whose London establishment, 149, New Bond Street, W., may be seen a wide



General View of the Start of the French Reliability Trials of 1907 Models from Paris.

reference was made to similar energy being displayed by a club in France, and the way in which it is distinguishing the villages in that country might well be considered in this.

#### The Argyll Reunion.

THE Motor Union is not entirely out of the wood with regard to its insurance scheme, and the automobile agents throughout the country must not be expected—however much they recognise their obligation to the Union—to become

active advocates of its claims. That was indicated to Mr. Rees Jeffreys by one of the speakers at the Argyll dinner last week, when the heads of the Argyll Company and the secretary of the Motor Union enlogised the good work done by the agents in remote districts. Their task is often difficult and hazardous; they have to mediate between the maker and the user; they incur the odium, as well as the dust, that fast

range of specimens. The trunks are perfectly dust and watertight, while being light and neat in appearance, and being supplied in any colours to match the upholstery of the car to which they are to be fitted is a great point in their favour. They are supplied with the necessary straps for fixing safely to the car, and many of the types are provided with rubber bars to prevent the roof of the car being scratched. The fittings of some of the trunks are ingenious to a high degree, everything being adapted not only to utilise the available space to the best advantage, but care is taken that each compartment is really suited for the particular garments or articles for which it is designed. The Vuitton trunks and bags for automobiles are certainly calculated to add to the comfort of those who tour. A "Sac Chauffeur" has also been introduced for carrying spare motor tyres and utilising the inner space. This is covered with a waterproof material with expanding sides, and the lid can be raised to suit the height of the contents carried in the box.

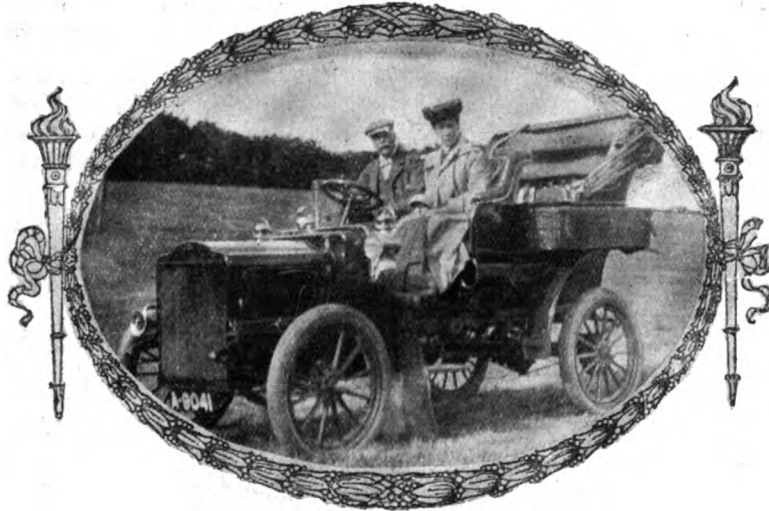
# A Three-Weeks' Tour in Brittany.

By G. C. ASHTON-JONSON. (Concluded from page 835.)

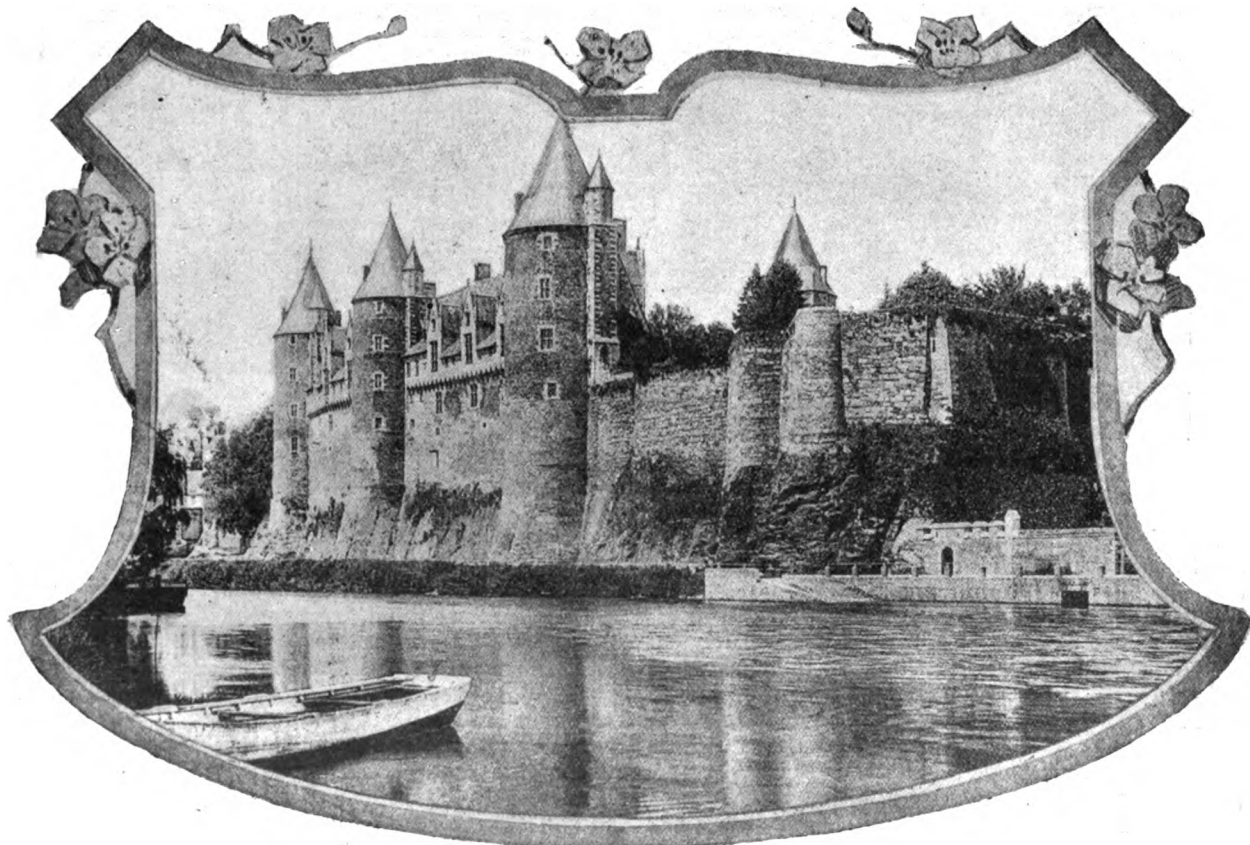
FROM Havre we ran through Honfleur to the ferry on the Seine at Quillebeuf, the first place where this fine river can be crossed. Thence to Caen by Pont Audemer and Pont L'Eveque is an easy run. At this old capital of Normandy the churches of the Abbaye aux Hommes and the Abbaye aux Dames, with the fine parish church of St. Pierre, form a rich treat. Bayeux, with its magnificent cathedral, was the next point of interest, and via St. Lô we arrived at Avranches. The Hotel de France here is owned by a proprietor who takes a great interest in his garden, which he shows with much pride to his guests. The view from the public gardens across the bay to Mont St. Michel is superb. We revisited the famous "Mount," too well known to need description here, and our next stopping place was Dinan. After a run to Dinard and the neighbouring "plages," we struck right across the heart of Brittany through the district known as

the peasant women often exhibited unreasoning fear, scrambling out of their carts with unheeding speed, their terror, however, being unaccompanied by anything like resentment. Everywhere, indeed, the people seemed to regard the automobile with amused cordiality, the children often shouting out "Vive l'Auto" after us and waving us on. This attitude of the people, combined with the total absence of the futile speed limit and the fatuous police traps in vogue still in England, is one of the reasons, in addition to the excellent cooking and moderate prices of the hotels, that make motor touring in France so attractive and so satisfactory in every way.

Our return journey lay through Hennebont, a picturesque town on a small river, with memories of the English occupation of the country, and so *via* Baud, where there is a fine old church, and Calvary, to Josselin, the seat of the Duc de Rohan. The Duc is a model



Mr. and Mrs. C. Ashton Jonson on their 15-h.p. White Steam Car.



The Chateau de Josselin, Brittany.

the Montagnes Noires, high and hilly country, but neither black nor mountainous. Here the natives evidently did not see many motor-cars, for, although the horses never seemed to mind us,

of an up-to-date French nobleman, for he represents the district in the Assembly and is the Mayor of the little town. Moreover, he very hospitably allows visitors to see the



historical old castle and the beautiful gardens at any time, even when the family is in residence. The Castle is one of the most beautiful buildings in France, finely situated on the bank of a river. The architecture is of different periods—the fortified towers dating from the Middle Ages, whilst the inner side of the Castle is a gem of the later Gothic period. The town is full of quaint bits, and the church is exceptionally fine.

Thence to Nantes is a short day's run through fine open country. Nantes itself is, however, not a particularly attractive city, though commercially important and thriving. The Cathedral is very beautiful, and the ancient Castle stands picturesquely on the river, but we were glad to get on to Angers. Here the Hotel du Cheval-Blanc was one of the best we struck. The proprietor is watchful for his guests' comfort, and a testimony to his merit as an employer is afforded by the fact that dinner was served to us by an old waiter who had been forty-three years in his service, and had won the decoration awarded by the Government for thirty years spent in the same situation. At Angers the Castle is of the greatest interest, while in the Maison de Pincé there is a Renaissance house dating from 1539, in perfect preservation, that can compare with the Maison de Jacques Cœur at Bourges. The Cathedral at Le Mans is perhaps the finest on the route so far, being only surpassed, if then, by the famous Cathedral and the Abbaye de St. Ouen at Rouen. From the latter city we ran to Havre, visiting on our way the lovely ruins of the Abbeys of Jumièges and St. Wandrille.

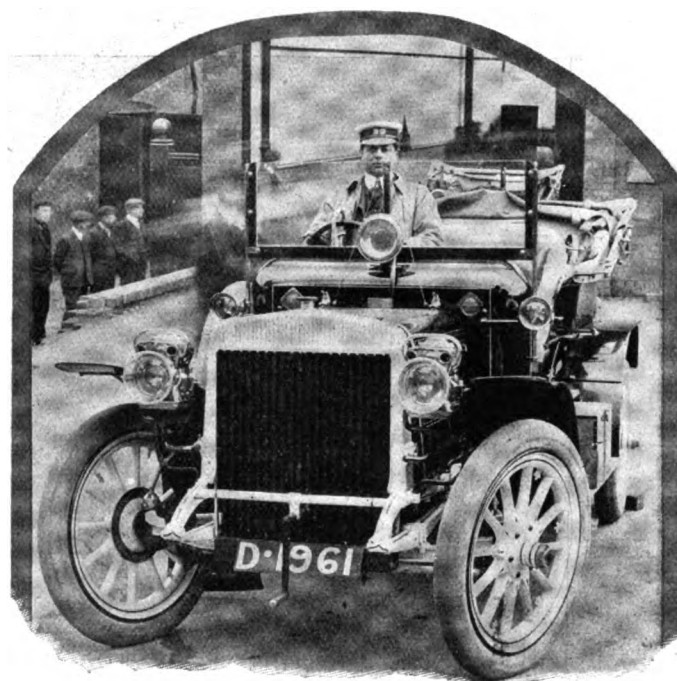
Envious detractors are never tired of saying "motorists see nothing," the wish being doubtless father to the thought. As a matter of fact, motorists nowadays are the people who see everything, and those who have not a motor-car see comparatively next to nothing. In old days, i.e., a few years ago, when the traditional position of the motorist was on his back under the car, the envious gibe may have had some truth, but we did 1,100 miles on our 15-h.p. White steam car without a single mechanical road-stop. A tribute to the silence of the car was the fact that we frequently heard it described as "la voiture électrique." We had the misfortune to have five punctures, but on each occasion the cause was a long nail that would have gone through any tyre. We had no tyre-troubles caused by undue strain from the car or over-heating. Our car, which had done 10,000 miles last year, went better than ever, and carried two of us in front, with our man and a fair amount of luggage in the tonneau, with the greatest comfort. On the straight roads we often touched forty miles an hour on the level, and once the speedometer indicated forty-five, which was very near the limit of its registering powers. The price of petrol in France is twice as high as in England, which caused us to regret that we could not purchase the lower grade spirit that we use successfully in England at 7½d. per gallon.

The boats on the Southampton—Havre route are comfortable, provided one can secure a deck cabin, otherwise it is not to be recommended, except for the admirable way in which cars are handled at Southampton. It seems a point of honour with the companies that manage cross-channel boats—for all routes are alike in this—to see how closely they can approximate the food on board to that obtainable presumably at a cabman's shelter or third-rate coffee stall. Filthy coffee, made seemingly with one of the "coffee extracts," condensed milk, stewed tea, made apparently with water from the boilers, bread, at once stale but damp, sour and tough, and spread with margarine like butter, is the only fare procurable; a striking contrast to the fragrant coffee and appetising rolls and butter of the invariable French breakfast. Verily there are some things that they manage better in France, and many are the holidays that we hope to have in that beautiful and friendly country.

LIEUTENANT WINDHAM, R.N., has compiled an interesting book of 300 Motor Wrinkles for his brother motorists. These have been gained by years of experience in the driving of nearly all the leading types of English and foreign cars, and will doubtless be of service to the motorist in rendering first aid to his car. Messrs. Iliffe and Sons, Ltd., are the publishers.

## ARE WATER-COOLED BRAKES DESIRABLE?

FOR some time past the employment of water-cooled brakes upon heavy high-powered touring cars has not been uncommon. The intent of such cooling provisions as applied to metallic braking surfaces is to keep the temperature of the frictional surfaces below that at which lubrication ceases to be effective and at which rapid cutting of the metal takes place. A portion of the cylinder cooling water may be circulated through channels in the brake shoes, or, if the braking surfaces operate in an oil bath, may be jacketed with the circulating water. It is undeniable that in the descent of long hills ordinary metal-to-metal brakes may become, through use, so hot as to cut and wear so seriously as to call for extensive subsequent adjustment, if, indeed, they do not fail to hold before level ground is reached. Under such exceptional conditions the water-cooled brake may prove of great value. It is, however, remarks an American contemporary, a question, as it so often is in automobile practice, "whether the game is worth the candle," or, in other words, whether the result attained warrants the expense and complication involved.



Mr. Philip Dawson on his 45-h.p. Daimler Car.

By the employment of brakes having the largest allowable frictional surfaces and good heat conductive facilities, by the use of materials which will not cut or abrade one another unduly, except under extreme abnormal conditions, and the design of each of the two alternative braking systems of such power that either will control the vehicle under any condition—thus allowing of the alternate use of each and the simultaneous cooling of the other—the need for artificially-cooled brakes, with their attendant water connections, may be minimised. In cases in which exigencies of design limit the sizes of braking surfaces to dangerously small dimensions, water cooling may doubtless be adopted with advantage, but it is somewhat questionable whether it should be resorted to unless the resources of designing have been exhausted in an attempt to provide adequate surfaces capable of keeping sufficiently cool naturally. It may be remarked that the diameters of brake drums are generally not closely limited by any constructional condition, and that drums of large diameter are mechanically advantageous rather than otherwise, on account of the fact that the braking torque required to absorb a certain amount of energy decreases with the diameter of the drum, and all stresses upon the mechanism decrease with it.

## CONTINENTAL NOTES.

### The 1907 International Race in Germany.

The regulations with regard to the international race which is to be held on the Taunus circuit in Germany in June next are at present under consideration. It is proposed to restrict the engines to a cylinder capacity of 8 litres, the wheel base of the cars to 9 ft. 9 in., and the maximum weight of the machines with bodies to 1,175 kilogs.

### The French Reliability Trial of 1907 Models.

The reliability trial of 1907 models, organised by the French Automobile Club, commenced on Sunday last. The cars are divided into four classes, as follows:—1. Vehicles with single-cylinder engines, of a maximum bore of 105 mm., and carrying a load of 3.3 kilog. per square centimetre of piston area; 2. Two-cylinder cars, maximum bore 120 mm.; 3. Four-cylinder cars, maximum bore 105 mm.; and 4. Four-cylinders, maximum bore 130 mm. Forty-one entries were received, and of these the following thirty-seven were duly weighed in on Saturday: a Herold, two Unics, a Chenard and Walcker, three Clement-Bayards, a Couverchel, a De Chevre, two Westinghouses,

### The 1907 Grand Prix Race.

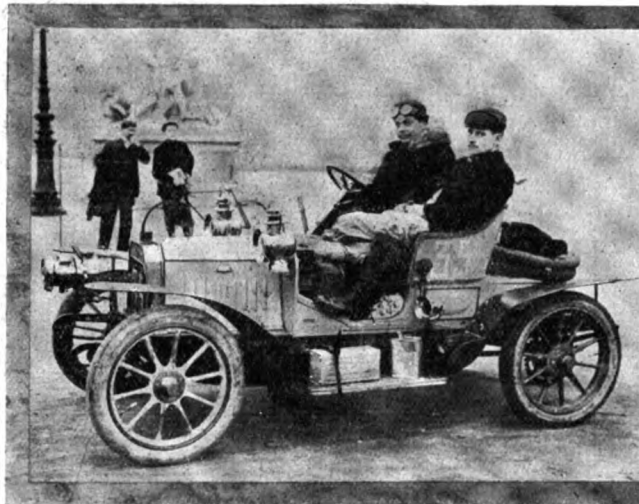
The Committee of the A.C.F. has accepted the proposals of the Sporting Commission with regard to the 1907 Grand Prix. These have already been outlined in the *M.C.J.*, but it may be recalled that the principal alteration is the abandonment of the 1,000 kilog. weight limit in favour of a restriction in fuel consumption.

### Another Reliability Trial.

The Autocycle Club of France has decided to hold, from the 18th to 20th May next year, a reliability trial for touring motor-bicycles, tri-cars and voiturettes. The competition comprises a run from Paris to Ostend and back, and a series of speed trials.

### The Stopping Power of Motor-Cars.

A series of trials were carried out on Sunday last in the Bismarckstrasse, Berlin, to test the distance in which motor-cars could be brought to a standstill as compared with horse vehicles. The experiments were organised by the Automobile Technical Society in view of the Bill about to be laid before the Reichstag regarding the responsibilities of motor-car owners and drivers. The result of the tests easily demonstrated the superiority of



Guippon, the well-known racing motor cyclist, at the wheel of the Lion-Peugeot Voiturette.



Gaudermann on the Clement-Bayard!

### THE FRENCH RELIABILITY TRIALS OF 1907 MODELS.

three Decauvilles, a Miesuset, a Martin-Lethimonnier an E.G.A., a Lucia, three De Dions, a Fouillaron, an Opel, a Lacoste, a Battmann, a Boyer, two Bolides, two Aleyons, three Lion-Peugeots, a Legros, a Darracq, a Prunel, and two Martinis. The competition consists of a run from Paris to Monte Carlo and back, the journey being made in eight daily stages ranging from 200 to 331 kilometres. At the end of the outward trip the competing vehicles will be on exhibition for three days in Monte Carlo. The first day's run was to Dijon, 311 kilometres, when the two Bolides met with accidents which put them out of the competition; the Miesuset being also *hors de combat* as the result of a skid. Lyons was reached on Monday and Marseilles on Tuesday.

### The Emission of Smoke and Over-Lubrication.

The activity of the police with regard to cars emitting blue smoke as a result of over-lubrication has brought about a marked improvement, the frequent fines having caused drivers to pay more attention to their engines. An important decision was given at one of the Paris police courts recently, when over 100 owners were summoned for allowing their cars to emit too much smoke, the magistrate deciding that it was the driver, and not the owner, who was responsible for the infraction of the law.

motor-cars. For example, in the trial between a motor-cab and an ordinary horse cab, the former stopped within six yards, the horse drawn vehicle taking thirty yards. In several similar tests the horse cabs lessened the distance, but the automobile always won.

### The Coupe d'Auvergne.

As a result of the success of the reliability trial for touring cars held last season, the Auvergne and Centre Automobile Clubs have decided to repeat the event in August next year. There will be five daily runs extending from 162 to 211 kilometres, while the programme will also include a series of speed trials at Bourges.

### Miscellaneous Items.

It is reported that the De Dion Co. are building several 60-h.p. eight-cylinder cars for competition in the touring car race on the Taunus circuit in Germany next year.—The reliability trial of heavy vehicles for military purposes organised by the A.C.F. is still in progress. Of the nineteen cars which left Paris early last week, fifteen safely reached Avignon on Sunday last.

HAVING already two steam rollers, the Highways Board of the Isle of Man finds itself unable to accept the offer of the A.C.G.B.I. to provide another.

MESSRS. ASTER, LTD., have lately issued a separate price list of spare parts for each size of the well-known Aster engines. Every part is given a distinct number, so that duplicates can be obtained rapidly and with a minimum of trouble.

MESSRS. BEEBE, COURTNEY AND SCOTT, of Shoreham, have built a motor-boat, fitted with a 15-h.p. Brooke motor, for Mr. Harry Preston, of the Royal York Hotel, Brighton.

THE East Westmorland Rural District Council have passed a resolution in favour of a speed limit of twenty miles an hour, after rejecting a motion for a maximum limit of fifteen miles per hour.

THE Victoria Street Garage, of 94, Victoria Street, S.W., have issued a tariff of their charges for letting cars on hire and of fees for their classes for instruction in mechanism, running repairs and driving.

RATEPAYERS in Cannon Place, Brighton, have been complaining of the noise made by motor-cars standing in their vicinity, and the matter has been referred by the Town Council to the Chief Constable.

THE Bowden patent wire mechanism is now being made in numerous sizes or diameters and in five different grades of finish, the material and price of each varying in order to adapt it for the many different purposes it is intended to serve.

BOUGHTON, although only a little place near Faversham, has an excellent motor-car repair establishment—thanks to the enterprise of Messrs. G. Lossell and Co. Being on the main road for Ramsgate from London, they have often been able to assist motorists in trouble.

THE Liverpool Motor House, Ltd., have secured a large building in Peter's Lane, Church Street, Liverpool, which they are having fitted up as a first-class garage, in which all the motorist may require will be found in the way of good accommodation, day and night.

THE Adams Manufacturing Company, of London and Bedford, offer a prize of £2,000 to the person who shall succeed in flying from London to Manchester in one day, with two stoppages en route to pick up petrol, provided the flight be accomplished with a British-made flying machine propelled by a British-built Antoinette motor.

THE 4,000 mile trial of the 25-h.p. Straker-Squire C.S.B. car, under the official observation of the A.C.G.B.I., has been completed. The various daily runs have been consistently uniform and without incident, while the Continental tyres fitted to the wheels of the car were not even pumped up after the start of the trial.

THE Continental Tyre Co., Ltd., have again laid motorists under a debt of obligation by the publication of their handbook "How to Treat and Repair Pneumatic Tyres." The work extends to one hundred pages, is fully illustrated, and deals with most of the hazards that are encountered on the road, with suggestive hints as to getting over defects in tubes and tyres, according to the most approved methods.

MR. L. SOUTHWOOD JONES, of Risca, Mon., who purchased a 7-h.p. Star car in February last, writes that he has driven it about 5,000 miles, and has found it most satisfactory. In a tour to the North of Scotland in September last he ran the car 490 miles in four consecutive days without an involuntary stop, and the whole tour of 1,300 miles was done on an average of over thirty-seven miles to the gallon.

M. KRAYN, of Berlin, has sent us a copy of the Automobil Technischer Kalender for 1907 that he has just issued. The work is on the usual thorough lines of this class of German publications, and includes a description of the components of the modern motor-car. Ignition, clutches, springs, steering gear, carburettors, and transmission systems, are all fully dealt with, the Kalender altogether forming an excellent reference book for motor-car designers.

## HERE AND THERE.

A CORRESPONDENT suggests the use of the words "convex" and "concave" instead of "male" and "female" to describe the two portions of a friction clutch.

It is announced that with the beginning of next season

Barnum and Bailey's world-famed "Greatest Show on Earth" will abandon railway travel and take to the highway in automobiles.

THE British Automobile Commercial Syndicate have lately supplied a 45-h.p. Mercedes car, with double landalet body by Rothschild, to the Marquis of Anglesey.

ENTRIES for the A.C.G.B.I. competition of devices to prevent the side-slip and skidding of motor-buses close on the last day of the present year. The test will include a road endurance trial of about 1,000 miles.

ON Wednesday last week Messrs. A. Darracq and Co., Ltd., entertained their agents and friends to dinner at the Trocadero Restaurant, London, W. Business was entirely tabooed, and, under the chairmanship of Mr. Rawlinson, a very pleasant evening was spent.

THE value of the motor-cars and parts exported from the United States during September last is returned at £61,551, as compared with only £38,899 in the corresponding month of 1905. Of the total Canada was responsible for £22,016, and England for £13,872.

A SIMPLE and efficient tyre gauge has been introduced by the Roberts Non-Skid Motor Tyre Tread Manufacturing Company, of the Gripwell Works, St. Mary's Row, Birmingham. This



provides a positive means of ascertaining the pressure inside the tyre, thus ensuring inflation to the correct pressure. The device is pictured in the accompanying illustration, and has the advantage that it need not be removed from the tyre until sufficient pressure has been obtained. The gauge is shut off during the process of inflation, and cannot be strained at every stroke of the pump. To read the pressure in the tyre only one movement is necessary, which cuts the pressure off from the pump and at the same time automatically raises the seat of the tyre valve, creating a clear passage from tyre to gauge, which registers the actual pressure inside the tube.

There are no taps or screws to manipulate and the gauge is entirely automatic in its action.

MR. F. WALTER, writing to the "Morning Post," says that the Royal Commission has wisely decided against the speed limit. "You might as well," he continues, "provide against gun accidents by forbidding the use of a cartridge which would shoot more than thirty yards. The idea that the moment speed limits are abolished we shall have people driving all over the place at forty miles an hour is absurd. The enormous majority of motorists drive as fast as they find safe under the circumstances, having regard to what is good manners to the occupants and drivers of other vehicles, and they always will."

"MOTOR Fashions for To-day" is the title of the Lacre Motor-Car Company's latest catalogue, which bears evidence of artistic taste and careful editing. In this many new designs in garments for ladies and gentlemen who motor are illustrated, a capital feature being the "Torrent-proof" material, which is a speciality of the concern. An interesting section, which we do not remember to have seen so fully represented elsewhere, is that devoted to children's motoring attire. The uncertainty of the English climate should lead to careful attention being given to this branch, and the Lacre Company deserve success for the skill with which they have designed and executed garments for youngsters. Aprons, muff's, gloves, gauntlets, boots, goggles, caps, &c., as well as clothing, are enumerated in this complete catalogue of the clothing department of the well-known Poland Street firm.

# The Olympia Motor-Car Show.

(Continued from page 852.)

## The Dennis Cars.

For the 1907 season Messrs. DENNIS BROS., LTD., will devote attention to three sizes of pleasure cars—14-h.p., 20-h.p., and 30-35-h.p.—all fitted with four-cylinder engines. Principal interest in their exhibit was centred on the polished chassis of the new 30-35-h.p. model, on which

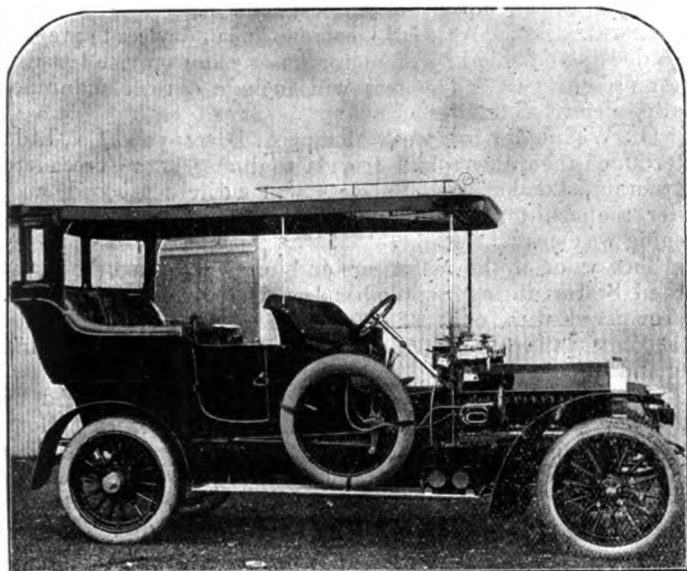


Fig. 44.—The Dennis 30-35-h.p. six-seated Phaeton.

a number of special features are incorporated. Needless to say, the Dennis system of transmission by a cardan shaft and worm gear on to a live axle is retained. The engine is a new design, comprising four separately cast cylinders, 120 mm. bore by 130 mm. stroke, with the valves arranged on opposite sides. The ignition is by high tension magneto, a reserve by coil and accumulators being also provided. Synchronous firing is obtained by means of a single cam contact maker mounted on a spindle which runs at a speed four times that of the crank shaft. Thus any wear which may take place cannot bring about any variation in the time of the explosion in one cylinder as compared with the others. Special attention has been paid to the engine lubrication to prevent the emission of smoke. The oil is circulated from a sump by a geared pump to all the bearings, and drained back to the crank case, which is especially constructed to retain a sufficient amount to lubricate in case of the pump failing, by splash feed, and automatically to regulate the amount, so as to avoid any possibility of over lubrication by an ingenious overflow arrangement which allows any excess to pass from the crank case back into the sump. The clutch is of the leather-faced cone type, much larger in diameter than Messrs. Dennis have hitherto employed. The change-speed gear is arranged to give three forward speeds and a reverse, with direct drive on top speed. The weight of the car is carried by the sleeve surrounding the live axle, which latter transmits its power to the rear road wheels through dog clutches. Ball bearings are used throughout, except on the engine, while the road wheels are of the staggered-spoke, or double artillery type. The front axle is of tubular construction, the pivots being mounted on ball bearings. The usual spring hangers at both front and rear are replaced by halves of inverted semi-elliptical springs. Throughout the car bears evidence of careful design and construction, so that the Dennis vehicles may be expected to fully maintain the high reputation they enjoy. The complete cars on view included a 20-h.p. Roi des Belges phaeton with canopy top, an exactly similar model to the one run under the Automobile Club's observation last March, when it established a record for reliability of 4,007 miles without an involuntary stop, a 24-30-h.p. double phaeton with canopy, and a 24-30-h.p. limousine landaulet, the body work of which, of Messrs. Dennis's own construction, is of a very high class.

## The Unic Car.

In addition to the Brasier cars, Messrs. MANN AND OVERTONS, LTD., were exhibiting a couple of the well-known "Unic" cars. These show no alteration from the 1906 models, and as they have been illustrated and described in the *M.C.J.*, it is only necessary to mention that the 10-12-h.p. two-cylinder car on view was the vehicle which won a

silver medal in the recent town carriage competition, and is representative of a large number of motor-cabs now in service in the Metropolis. The 14-20-h.p. model, which is on similar lines, except that it has four cylinders, is fitted with a luxurious detachable limousine body. Although not actually on the stand, Messrs. Mann and Overtons had running outside the show a new 10-14-h.p. Unic cab in which the four cylinders are in one casting, and the valves all located on one side. The ignition is by high-tension magneto and the change-speed gear adapted to give three speeds forward and a reverse, with direct drive on top through a cardan shaft and bevel gear to a rear live axle. Ball bearings are fitted both in the gear-box and to the axles. We hope to deal with the new vehicle more fully in a subsequent issue.

## The Scout Six-Cylinder Cars.

A prominent feature of the exhibit of Messrs. DEAN AND BURDEN BROTHERS, LTD., was the new Scout 25-h.p. six-cylinder car, a view of the motor of which is given in Fig. 45. The crank chamber is of aluminium cast in two parts only, with the division running horizontally. The bottom half of the chamber is merely an oil tray, and may be removed without in any way disturbing the crank shaft bearings. At the same time three inspection doors permit the big ends to be readily inspected. The crank shaft is turned up from a nickel steel forging, and special attention has been devoted to obtaining a perfect balance. The connecting rods are of H section stamped steel, accurately machined to a given weight. The crank pin end of each connecting rod bearing is fed with clean oil direct from the lubricator on the dashboard to the middle of the bearing by centrifugal force. The cylinders, which are 10 mm. bore by 115 mm. stroke, are bored and ground to gauge, so that they are interchangeable, as also are the pistons and piston rings, gudgeon pins, &c.; the cam shaft and cams are produced from the solid bar in one piece. Two systems of high tension ignition are provided. The contact maker for the coil ignition is mounted on a vertical spindle, driven off the cam shaft by spiral gears, and we note that a dial and pointer is fitted to the commutator shaft to indicate which cylinder should be firing when testing the coil. The magneto is of the high tension type; it is gear-driven, and is fitted on the opposite side to the valves in the centre of the motor. The nickel steel valves are interchangeable, and are all actuated off one cam shaft. The governor is connected directly to the piston throttle of the carburettor by means of a light steel rod. The inlet pipes are so arranged that each cylinder receives the same quality and quantity of gas from a single carburettor, which latter does not need pressure feed to maintain the supply of petrol in the float chamber. The fan revolves on ball bearings, and is driven by a steel spring belt off a pulley on the cam shaft. The clutch, which

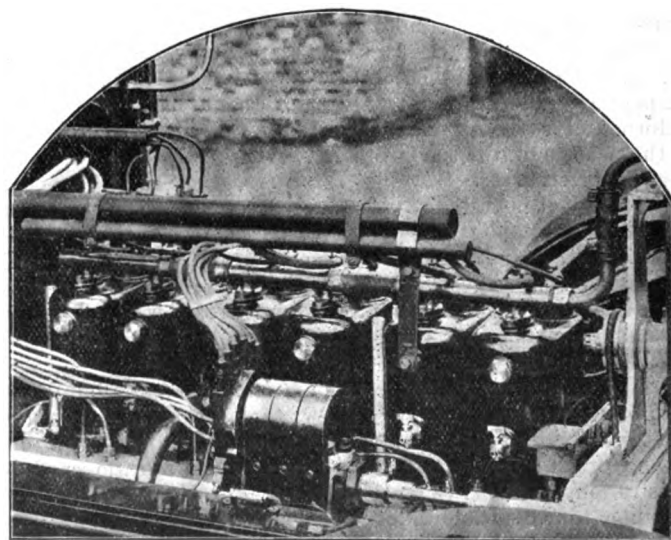


Fig. 45.—The Scout Six-Cylinder Engine.

is of the leather-faced cone type, is provided with three clutch springs externally adjusted by means of three hexagon nuts; it is mounted on an extension of the engine crank shaft, and is connected to the gear-box by a jointed shaft. The transmission is through a three speed gear-box and cardan shaft to a live axle. The frame of the car is of armoured wood. A useful feature is seen in the flywheel, which is



marked out with arrows indicating where each inlet and exhaust valve should open and close, as well as the point of firing of each cylinder. The motor can be run as slow as 180 revolutions per minute, and can be accelerated up to 1,800 revolutions per minute. The h.p. is 25 at 1,000 revolutions per minute. Messrs. Dean and Burden were also showing the 17-20-h.p. Scout T.T. 1906 car, which finished ninth in the Tourist Trophy race of 1906; and a 17-20-h.p. four-cylinder Scout with 'andaulet body.

#### The Junior Car.

Still another addition to the list of Italian built cars was seen in the 24-h.p. Junior chassis (Fig. 46), exhibited by JUNIOR, LTD. The engine

The throttle and governor control is so devised that there are but few wearing parts. The control is by a single lever on the steering wheel and an accelerator pedal, the latter being connected up to the governor and ignition. High-tension magneto ignition is used on the six-cylinder chassis only, all the other models being equipped with low-tension magnetos. A half-compression device is fitted to facilitate the starting of the engine. The clutch, which is of an improved plate type, requires no exterior lubrication, the crankshaft being hollow, by means of which such little lubrication as is required is furnished by the engine. A feature of the gear-box is that it furnishes a direct drive on the third and fourth speeds, this being obtained by means of two bevels on the end of the gear shaft meshing with two crown wheels arranged one within

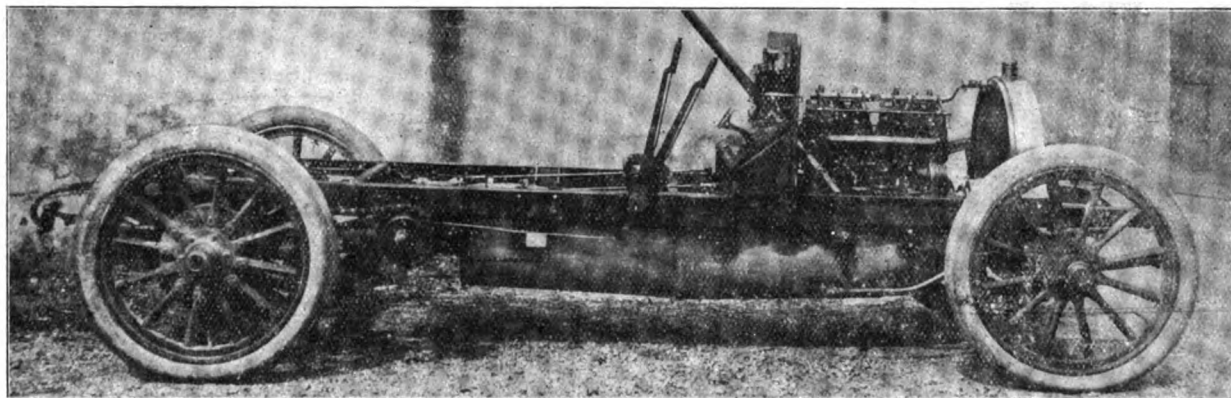


Fig. 46.—Chassis of Junior 24-h.p. Car.

has the four cylinders cast separately, and the valves on opposite sides. The ignition is by low-tension magneto ignition, the igniters being operated by horizontal cams mounted on vertical spindles. The carburettor has an inter-connection between the hand-operated auxiliary-air valve and the petrol jet. The clutch is of the multiple-disc type, and the gear-box, which is controlled by a lever working in a "gate," gives four forward speeds and a reverse, the final transmission being by side chains.

#### The Berliet Cars.

The new models of the Berliet cars shown by Messrs. W. WATSON AND Co., Liverpool, and Messrs. J. E. HUTTON, LTD., London, comprised a number of interesting points. Pride of place was given to the

the other on the differential shaft. Both the bevel pinions are free to run on the propeller shaft, one or other being engaged as required by means of a dog clutch. The gear-box and differential case are one casting, but are divided internally into two compartments. Another interesting exhibit was a 40-h.p. four-cylinder light chassis weighing only 16 cwt. Except as regards the ignition, which is by low tension magneto, the arrangement is on similar lines to "six," the ingenious gear-box giving a direct drive on the third as well as on the fourth speed. The complete cars on view included a 22-h.p. Berliet, fitted with special side entrance body by Salmons; it is provided with a new form of disappearing auxiliary seats, the latter being so arranged that when out of use they are completely hidden under the back seat and when required for

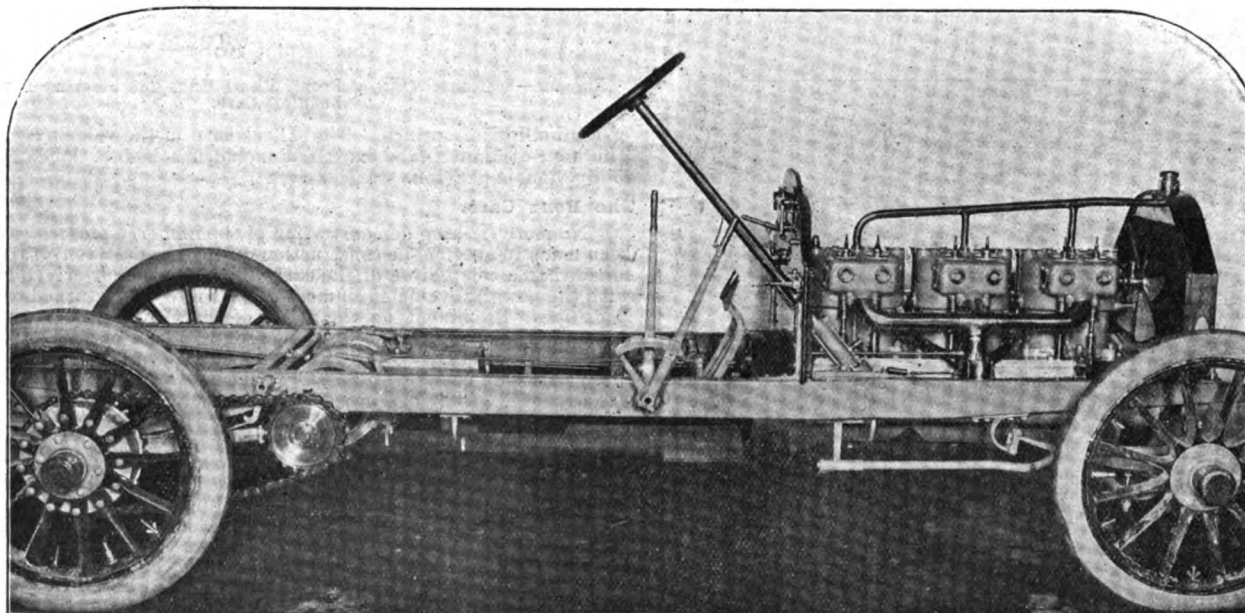


Fig. 47.—Chassis of Berliet 60-h.p. Six-Cylinder Car.

chassis of the new 60-h.p. six-cylinder vehicle, of which an illustration is given in Fig. 47. The cylinders, which are cast in pairs, are 120 mm. bore by 140 mm. stroke, the valves being located on opposite sides. The fly-wheel fan has been abandoned in favour of one behind the honeycomb radiator. The lubrication is by means of a rotary pump driven off one of the half-time shafts, this forcing the oil up to the dashboard, where it is controlled by means of three easily adjusted sight feeds, two of which go to the motor and the third to the gear-box.

use can be quickly opened out into comfortable arm chairs. The new 22-h.p. Berliet town carriage was also worthy of notice, the frame being of the dropped type to enable the passengers to mount directly from the pavement into the vehicle with ease. A 22-h.p. car, identical in every respect with the chassis used in the Tourist Trophy Race in the Isle of Man, and which obtained second place, was also shown. On a separate stand Messrs. Hutton were showing examples of the latest types of Mercedes and Panhard cars.

### The Cadillac Cars.

Interest at the stand of the ANGLO-AMERICAN MOTOR-CAR COMPANY, LTD., was centred on the chassis of the new Cadillac 26-30-h.p. car (Fig. 48), with four vertical cylinders, this being the first appearance of the vehicle at an exhibition in this country. There are quite a number of interesting features on the car, of which we hope to publish a fully-illustrated description in an early issue. For the present we must content ourselves by stating that the four cylinders are separately cast, and are fitted with copper water jackets. The governor is of an exceedingly novel design, while the change-speed gear is of the epicyclic

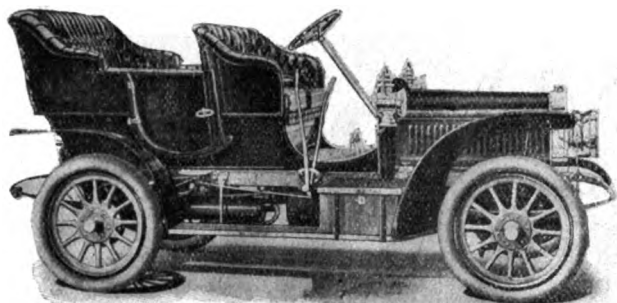


Fig. 48.—General View of the Cadillac 26-30-h.p. Four-Cylinder Car.

type, giving three forward speeds and a reverse, the final drive being by a cardan shaft on to a live axle. The well-known Cadillac 9-10-h.p. car, with horizontal single cylinder, is still retained, but has undergone slight improvements, more particularly as regards the lubricator. It is supplied both as a two-seater and with accommodation for four persons. The body of the latter car is of ingenious design. The rear seats are made to fold up, so as to resemble a sloping tool-box. It forms an excellent vehicle for doctors' use, and has already met with a favourable reception at the hands of motorists.

### The Swift Cars.

Two new models of Swift cars were to be seen at the stand of the SWIFT MOTOR COMPANY, LTD.—a 9-10-h.p. double-cylinder and a 12-h.p. four-cylinder. The first named is well adapted for motorists of moderate cylinder dimensions are 90 mm. diam. by 110 mm. stroke, and the ignition is by accumulators. The transmission is through a cardan shaft and bevel gear to a well-designed live axle. The change-speed gear is designed to give three speeds forward and a reverse, with direct drive on top. The car, which has a wheelbase of 6 ft. 10 in., is built both as a two-seater and four-seater, the entrance to the rear portion in the latter case being through a swinging front seat. The great centre of interest at this stand was the chassis of the new 16-20-h.p.

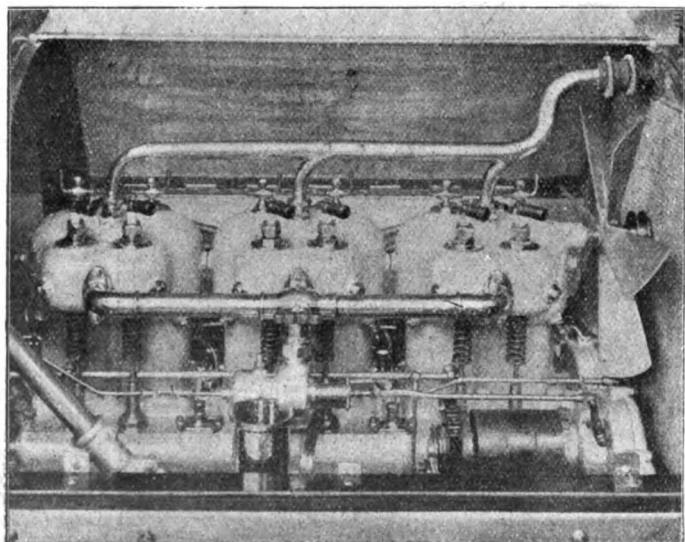


Fig. 49.—The Engine of Beaufort 30-h.p. Six-Cylinder Motor.

Swift car, the high quality of which well repaid inspection. Throughout the details are on modern lines; the cylinders, which are 90 mm. diam. by 110 mm. stroke, have the valves so arranged that they are operated off a single cam shaft. Ignition is by high tension magneto, with accumulators as a reserve. The clutch is of the multiple disc type, and the change-speed gear-box, which gives four speeds and a reverse, with the usual direct drive on the fourth, is operated by a lever working in a "gate." The live axle is well supported, and the brakes are of liberal proportion and compensated. Ball bearings are

used throughout, except on the engine. The wheel base of the chassis is 8 ft. 11 in., which permits of any type of side entrance body being fitted, several highly-finished ones being on view.

### The Beaufort Cars.

The leading exhibit at the stand of the BEAUFORT MOTOR CO., LTD., was the chassis of the new Beaufort 30-h.p. six-cylinder car, in which several interesting features are incorporated. The engine (Fig. 49) has the cylinders cast in pairs, with the valves arranged on opposite sides; the bore is 100 mm., and the stroke 130 mm. Two systems of high-tension ignition—magneto and accumulators—are provided. The pressure in the lubricating oil tank is maintained by a small air-pump operated off the rear exhaust valve tappet. The clutch, which is of the disc type, is connected with the gear-box by a jointed shaft. A single lever working in a "gate" controls the four forward speeds and the reverse, the final drive being by side chains. Two contracting brakes are fitted on the differential shaft, those on the rear wheels being of the internal expanding variety. Fig. 50 illustrates the improved form of steering pivots of the front road wheels. As will be seen, the ends of the axle are forked, and the weight of the chassis is supported on two balls at each end. These balls rest in cups formed beneath each arm of the fork, corresponding cups on the vertical spindle member, which is itself also forked, being employed to complete the joints. The arrangement not only enables the weight to be carried on two points, but also allows the centre of the steering pivots to be brought very close to the wheel hubs, so facilitating the steering. Ball bearings are used to all parts except the engine, while the rear dumb irons are replaced by halves

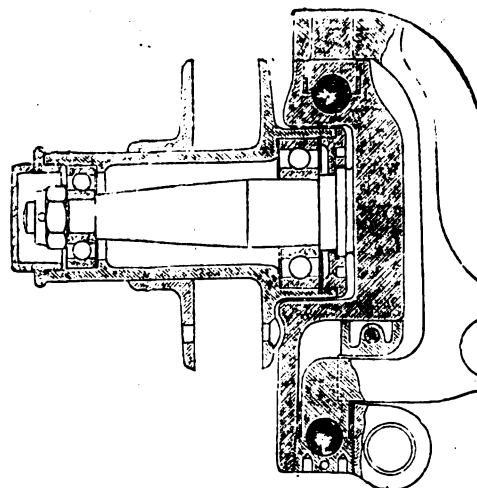


Fig. 50.—Sectional View of Front Wheel Hubs and Steering Pivots on Beaufort Cars.

of semi-elliptical springs. The wheel base of the vehicle is 11 ft. 6 in. The four-cylinder cars exhibited included a 20-h.p. landaulet and a 28-h.p. double phaeton.

### The Benz Cars.

No more striking demonstration of the immense progress which has been made in automobile construction during the past ten years can be found than a comparison of the early Benz 3½-h.p. belt-driven machines with the powerful vehicles on modern lines now being turned out by the Benz firm. Prominent on the stand of the CANNSTATT AUTOMOBILE SUPPLY ASSOCIATION, the British agents, was a chassis of the new 50-h.p. live axle car. All Benz cars over 28-h.p. have hitherto been fitted with side chain transmission, so that altogether the vehicle is a fine example of engineering. The four cylinders, which are cast in two pairs, are 130 mm. bore by 140 mm. stroke. The valves are located on opposite sides, and the ignition is by low tension magneto, with accumulators and coil as reserve. No governor is provided, the speed of the engine being regulated by hand and foot levers. The clutch, which is of the leather-faced cone variety, runs on the crank shaft, which is extended beyond the fly-wheel for the purpose. The transmission is through a four-speed gear-box controlled by a lever working in a special design of "gate." The cardan shaft, which has only one universal joint, is enclosed in a casing. The braking system is on unusually liberal lines. Not only are the drums of great width, but the usual hand brakes are supplemented by two operated by pedal, one being located on the forward end of the side shaft of the change-speed gear, and the other at the rear of the gear-box. The 18-h.p. Benz live axle car was represented by a landaulet, the body being by Hooper. But few alterations have been found necessary in this model for the coming season; the half-speed wheels are now enclosed in oil-tight cases to give silence, and the lubricating arrangements have been improved. Fig. 51 depicts the 40-h.p. Benz car double phaeton in touring trim; except that the transmission is by side chains the car follows the general design of the other vehicles. One of the 1907 35-h.p. Mercedes cars was also displayed. The principal changes in this vehicle for the coming season have already been dealt with in the M.C.J., but we may mention that the carbure-

rettor is of an entirely new design, the mixture being automatically regulated by the engine speed. The method of lubricating the engine has been improved, and a fan is now placed behind the radiator in addition to the vanes in the fly wheel.

#### The Zust and Mascot Cars.

Prominent upon the stand of the FARMAN AUTOMOBILE COMPANY, LTD., was a chassis of the Zust 28-h.p. car, for which they are the British agents. Like the majority of Italian built cars, the vehicle is of the high class of construction. The engine has four cylinders, 130 mm. bore by 140 mm. stroke; ignition is by low tension magneto, and the mixture furnished by a special form of automatic carburettor. The clutch is of

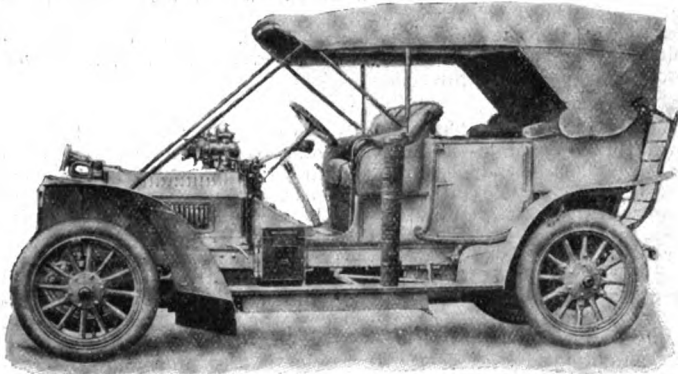


Fig. 51.—The Benz 40-h.p. Double Phaeton.

the metal disc type, and the feature of the gear-box is that each of the shafts is provided with a bevel pinion meshing with corresponding bevel wheels on the differential shaft. On the top speed the drive is direct through the main shaft and its corresponding bevel drive. For the lower speeds the power passes through the side shaft, and thence to the differential, which latter is connected with the rear road wheels by side chains. Duplicate brakes are fitted on the differential shaft, and a noticeable feature is the provision for easy adjustment. The Farman Company make a special feature of the Mascot live-axle cars, of which they showed five sizes; the 8-10-h.p. and 10-12-h.p. cars having two cylinders, and the 12-16-h.p., 20-22-h.p., and 24-30-h.p. each four cylinders, the engines being of the well-known Aster type. Comparatively few changes have been made in these cars. A new type of change-speed lever is now fitted, this being pivoted at the lower end, and arranged to rock instead of slide sideways when changing over from one speed to the other. The 20-22-h.p. car is provided with two systems of high-tension ignition. An I-section front axle is employed, and the steel frame is carried on five semi-elliptical springs. The 8-10-h.p. "Mascot" two-cylinder car with landaulet body exhibited represents the type of which a large number are about to be placed in service in London as motor-cabs. The petrol capacity is sufficient to carry the vehicle 150 miles, and the change-speed gear is adapted to give speeds of 4, 12, and 18 miles per hour. The cab is specially constructed with the engine under the driver's seat, so as to give a short wheel base and allow it to turn within the small space of 25 feet, as required by the Scotland Yard authorities.

#### The Itala Cars.

Relatively few changes have been made in the new models of the Itala cars, another of the high-grade products of Italian motor-car works. Interest at the stand of ITALIA AUTOMOBILES, LTD., was mainly centred on the chassis of the 40-h.p. car. The cylinders are cast in pairs, and have large expansion joints to the exhaust junctions. The ignition is by Simms-Bosch low-tension magneto. The clutch is of the metal disc type. Four speeds and reverse are provided, operated through a "gate" lever. The cardan joints have metal cup protectors, and ball bearings are fitted throughout. The foot brake between the clutch and the gear-box is no longer provided, but the pedal previously used to operate it has been retained, it being now coupled up to the brakes on the rear wheels, which are also operated by a side-lever. The water-cooled foot-brake behind the gear-box is of course still fitted. The steering-connections are all of the ball-and-socket type. The joints are adjustable, the cups in which the ball ends of the rods rest being so made that they can be tightened up by means of a pin-spanner. The 20-h.p. car was fitted with an Italian-built park phaeton body, which formed one of the most graceful vehicles in the Show.

#### The Panther Cars.

A car in which new and special features are embodied was seen in the 14-h.p. "Panther," exhibited by Messrs. F. M. RUSSELL AND CO., whose works are at Willesden. To begin with the frame, this is built up of steel sheeting and angle-iron, the whole being riveted together and cambered in the front so as to allow of a large steering lock. The engine comprises four separately cast cylinders with the valves arranged on opposite sides; it is supported on a tubular sub-frame in such a way that by loosening the clips and removing the radiator it can quickly be withdrawn from the frame. The exhaust is ingeniously made to draw a current of cold air through the circular ribbed-tube radiator; the

carburettor is also of special design, the usual throttle being replaced by a double automatic valve. The clutch is of the metal-to-metal type, and the gear-box is adapted to give three speeds forward and a reverse, with direct drive on top speed through a cardan shaft and bevel gear to a live axle. The road wheels are fitted with Turquand detachable rims.

#### The Fiat Cars.

For the coming season four sizes of the well known Fiat cars are being made, 14-16-h.p., 18-24-h.p., and 30-40-h.p. four-cylinder and 60-h.p. six-cylinder. The latter naturally attracted considerable attention at the stand of FIAT MOTORS, LTD., especially as it fully maintains the high standard attained by the makers. The cylinders, which are cast in pairs, are 125 mm. bore by 150 mm. stroke, are cast in pairs, and fitted with removable pressed steel covers, which allow easy inspection and cleaning of the water jacket. The valves are placed on opposite sides of the cylinders and are interchangeable. The ignition is by low tension magneto with automatic advance and retard. The feature of the carburettor is that the petrol and supplementary air ports are moved together by a single automatic movement, which not only assures a constant mixture, but also tends to reduce the petrol consumption to a minimum. In fact, the high efficiency to which the new carburettor has been brought is claimed to give increased brake horse power with less consumption of petrol than in former models. The throttle is controlled both by the governor and by a lever on the steering wheel, a foot accelerator being also provided. The radiator is attached to the frame by pivoted joints, so that it is not strained by travelling over bad roads. The arms of the flywheel are formed as vanes, to act as a fan. The familiar type of dredger lubricator has been replaced by one more positive in action, cams actuating small plungers forcing the oil to each bearing, in place of letting it reach its destination by gravity. The clutch and change-speed gear is on the usual Fiat lines, the final transmission being by side chains. Two water-cooled brakes, controlled by a single pedal, are provided, one being mounted on the differential shaft and the other on the forward end of the gear-box side shaft. The brakes on the rear-wheel hubs have been considerably improved; they are of the internal expanding type, operated by cam action, and can be readily renewed. A feature of the 60-h.p. six-cylinder and the 30-40-h.p.—the latter being, except as regards the number of cylinders, on similar lines to the more powerful car—is the new Fiat self-starting device. The arrangement is extremely neat; reference to Fig. 52 will show that fixed on the crank case, between the engine and the radiator, is a miniature water-cooled cylinder which is really an air-pump, the piston of which is worked by a ball eccentric off the crank shaft. It compresses air into an ordinary cylinder up to a pressure of 12 atmospheres. A lever on the dashboard operates a valve which admits the compressed air to a pipe communicating with a series of

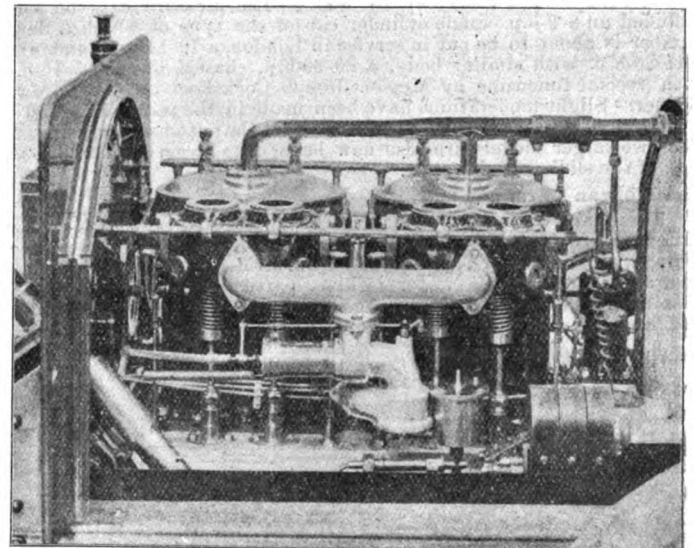


Fig. 52.—The Fiat 30-40-h.p. Motor. The air compressor in connection with the self-starting device is seen between the radiator and the engine.

supplementary inlet-valves arranged at the side of the exhaust valves. Simultaneously with opening the air-valve the same lever draws half-compression cams into action, so that the engine can start more easily. Once the engine is running on the carburetted charge, the supplementary inlets are automatically closed. The apparatus is fitted with an attachment to which a rubber tube can be fixed, which allows of the inflation of the tyres in a few seconds. The new 14-16-h.p. car, which had not arrived when we visited the stand, is fitted with cardan shaft transmission of exceedingly novel design. In the absence of drawings it is not possible to clearly describe the arrangement, but it may be mentioned that the differential is mounted behind the gear-box and not on the live axle as usual, the drive being conveyed to each half axle by concentric shafts and bevel gearing.



### The Brown Cars.

At the time we visited the stand of Messrs. BROWN BROTHERS, LTD., the chassis of the 40-h.p. six-cylinder Brown car, of which a description was given in a recent issue of the *M.C.J.*, had not arrived. Two of the standard 20-22-h.p. four-cylinder vehicles were, however, on view, one being fitted with a landaulet body and the other as a side entrance double phaeton. The construction is on the usual lines of live axle cars. The engine (Fig. 53), which has the cylinders cast in pairs, has a bore of

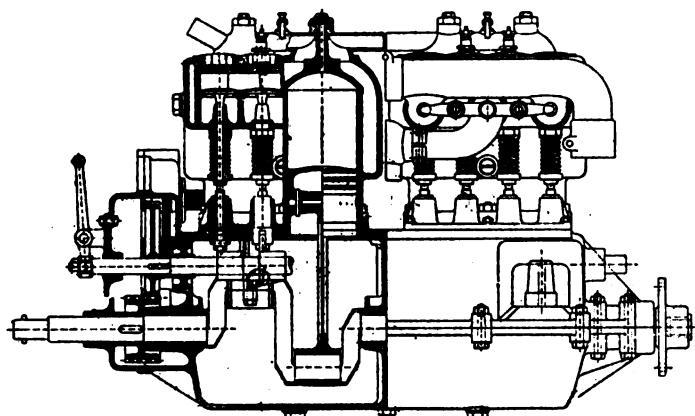


Fig. 53.—Sectional elevation of the Brown 20-22-h.p. motor.

100 mm. by 120 mm. stroke; a variable lift is provided in connection with the inlet valves, this being obtained by means of a sliding cam shaft. Two systems of high tension ignition—magneto and accumulators—are provided. The clutch is of the internal leather-faced cone type, the pedal operating it being so connected up to the variable lift device to the inlet valves that as the clutch is withdrawn the speed of the engine is automatically cut down. The gear-box, the shafts of which run on ball-bearings, gives three speeds forward and a reverse, with direct drive on top speed. Fig. 54, gives a sectional view of the live axle, which, as will be seen, runs on ball bearings. Altogether the Brown cars, without comprising any radical departure from what may be termed standard practice, are of sound and reliable construction.

### The Renault Cars.

Considerable interest was shown in the 105-h.p. racer shown by Messrs. RENAULT FRERES, and which was driven to victory in the Grand Prix contest this year by Sizé. The pleasure cars on view included an 8-9-h.p. single-cylinder cab of the type of which a large number is about to be put in service in London, a 10-14-h.p. landaulet, a 14-20-h.p. with similar body, a 20-30-h.p. chassis, and a 35-45-h.p. with special limousine by Messrs. Joseph Cockshoot and Co., of Manchester. Slight modifications have been made in the radiator, which is still located in front of the dashboard, and in the automatic carburettor. The two larger models are also now being fitted with a change-speed gear of the sliding pinion type.

### The Morgan Cars.

There are quite a number of special features in the 24-28-h.p. Morgan cars exhibited by Messrs. MORGAN and CO., LTD. The engine comprises four cylinders,  $4\frac{1}{2}$  in. bore by  $5\frac{1}{2}$  in. stroke. The cylinders are cast separately, with ample water jackets, particularly round the valve chambers. The valves are arranged on opposite sides of the engine, and are all interchangeable. There are two ignitions, magneto and

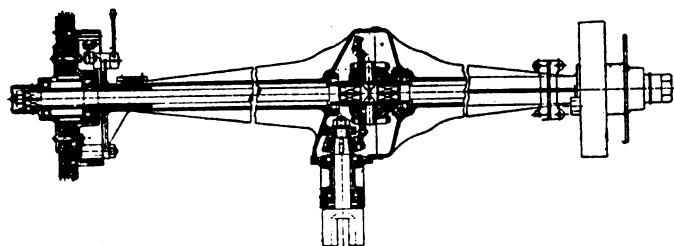


Fig. 54.—Sectional Plan of live axle on the Brown 20-22-h.p. Car.

accumulator, and both are advanced and retarded by a lever on the steering wheel. In addition to many other improvements, the engine is fitted with a variable lift, of simple design, also with a special carburettor. The main features of the latter are that no float-feed chamber or jet are employed. The petrol flows from a small auxiliary tank, in which it is maintained at a constant level from the main supply, straight into a large annular pipe, which also forms the main air inlet. Petrol and air descend together, and pass out into a chamber through specially-cut orifices, which impart to the mixture a rotary motion. The carburetted air is drawn up through the suction pipe, which is placed concentrically in the pipe forming the main air inlet.

An automatic valve, controlled by the suction of the engine, is fitted, in order to regulate the size of the orifice through which the petrol flows. Transmission is through a leather-faced cone clutch, four-speed gear-box with "gate" control, and thence by a cardan shaft and bevel gear to a rear live axle. The carriage bodies exhibited by this firm were worthy of special notice. One car was fitted with a limousine with a movable top and seating accommodation for seven persons, all facing forward. A second vehicle was provided with a patent landaulet body, which can quickly be converted into a perfect open carriage. The new Cromwell roller hood, invented by Major Samuel, who was also responsible for the design of the Cromwell wind screen shown with it, was also a feature of the exhibit. The hood is carried on a ratchet roller in a box stretched across the rear of the car. This box is large enough to contain the whole of the supports and curtains, so that everything can, if desired, be stowed away out of sight.

### The Germain Car.

The display of Capt. THEO MASUI was entirely confined to the well-known Germain chainless 14-h.p. cars, which have given such satisfaction in practice that the changes for next year are being confined to matters of detail. The leading feature of the car is, of course, the engine, which has four separate steel cylinders with brass water jackets. The inlet valves, which are operated off their own cam shaft, have a variable lift controlled from the steering wheel. The transmission is through a gear-box giving three speeds forward and a reverse, cardan shaft and bevel gear to a well-designed back axle. The complete cars on view were worthy of careful notice. Fig. 55 depicts the 14-h.p. landaulet with body by Van den Plas, of Brussels; it is painted blue, and is fitted with electric light inside. A neat tyre carrier is also provided. A well-

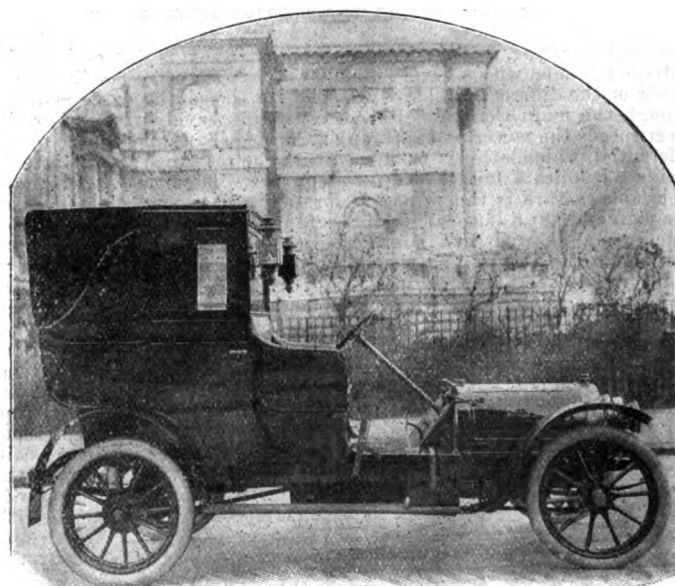


Fig. 55.—The Germain 14-22-h.p. Landaulet.

designed double phaeton with canopy, specially designed for service in India, was also shown, the usual front glass screen being replaced by one of wire gauze to prevent the passengers being annoyed by flies and mosquitoes.

### The Minerva Six-Cylinder Car.

The exhibit of Messrs. ERNEST ARNOTT and HOLLOWAY, LTD., was confined to a display of the new 40-h.p. Minerva six-cylinder cars, which, by reason of their excellent design and sound construction, attracted considerable notice. The cylinders are cast in pairs, with the valves arranged on opposite sides; the dimensions are—bore, 105 mm., and stroke 120 mm. The crank shaft is *desaxe*, that is to say, it is set slightly to one side of the centre of the cylinders. Dual ignition is provided—high tension magneto and coil and accumulators. The mixture is furnished by an automatic carburettor, and we noted that the inlet pipes are so arranged that the distance between the carburettor and each of the explosion chambers is practically the same, so that each get an equal charge. The speed of the engine is controlled by both hand and foot levers. A noteworthy feature of this large car is that the water circulation is on the thermo-syphon system, no pump being employed. The pipes are of large diameter, while the radiator, which is of framed ribbed tube type with fan, is of ample size. The clutch is of the leather-faced cone type, with cork insertions, and the gear-box, which is operated by a "gate" lever, gives three forward speeds and a reverse, with direct drive on top. The drive is by a cardan shaft and bevel gear to a live axle. The cardan shaft, which has a single universal joint, is entirely enclosed, while the rear axle, which has only the driving strain to withstand, and



does not carry the weight of the car, conveys the power to the hubs of the rear wheels through the squared ends. Except on the engines, ball bearings are employed throughout. The usual longitudinal springs are supplemented by a transverse one at the rear. The complete cars on view included a limousine and a landaulet, both having accommodation for seven persons.

#### The Westminster Car.

With the view of meeting the demand for a four-cylinder car at a moderate price, the Westminster Motor Works have recently introduced

these mesh with corresponding bevel pinions on the end of the gear shaft, either pair being made to drive by means of clutches. A special form of automatic carburettor is employed on these cars; it is so arranged that the petrol supply can be entirely cut off, and cold air admitted direct to the cylinders.

#### The "British" Cars.

Three types of the "British" cars were exhibited by the BRITISH MOTOR AND ENGINEERING CO., LTD., all being relatively low in price

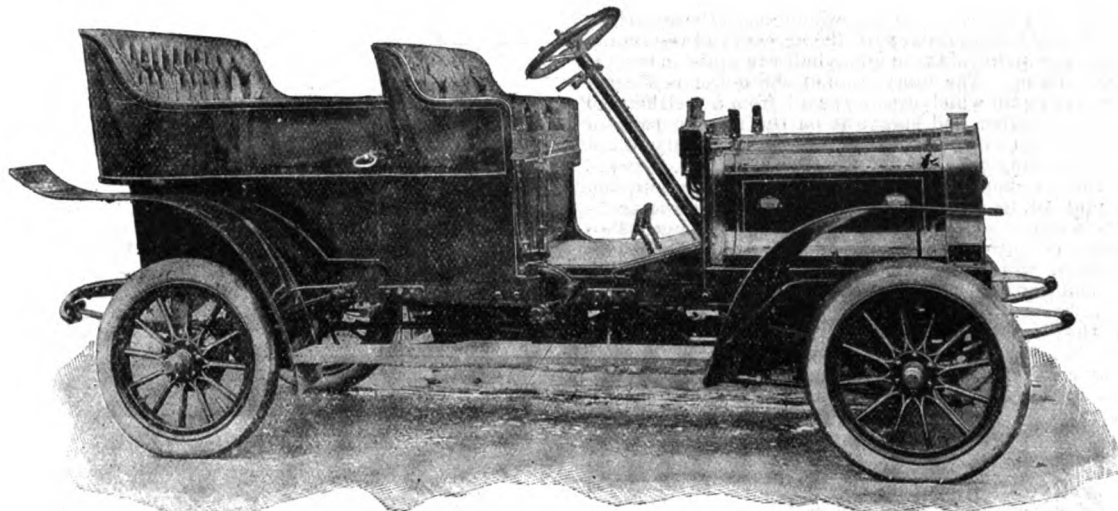


Fig. 56.—The Westminster 10-h.p. Four-cylinder Car.

the vehicle illustrated on Fig. 56, and one of which was exhibited on the stand of Messrs. F. M. RUSSELL and Co. The engine, which develops 10 h.p., has all the four cylinders in one casting; the bore is 76 mm. and the stroke 90 mm. Dual ignition is fitted—magneto and accumulators—and the mixture is furnished by a Longuemare carburettor. The transmission is through a leather-faced cone clutch to a gear-box giving three speeds forward and a reverse, with a direct drive on top speed. The final drive is by a cardan shaft and bevel gear to a live axle. The frame is provided with a transverse spring at the rear, in addition to the usual longitudinal ones. The usual foot and hand controlled brakes are

so that they should meet the requirements of a large clientele. The 7-h.p. two-seated vehicle, which has a wheel base of 6 ft. 8 in., is fitted with a 7-h.p. twin-cylinder engine having mechanically-operated valves with variable lifts to the inlets. Water circulation is by gear-driven pump. Three forward and reverse gears are provided, the top speed being direct to the live axle. A more powerful car was seen in a 14-h.p. vehicle (Fig. 57). This has a pressed steel frame, and has a Fafnir four-cylinder engine. Arrangements are, however, in hand to fit a motor of equal power, but of British manufacture. The clutch is of the leather-faced cone type; the gear-box, which gives three speeds

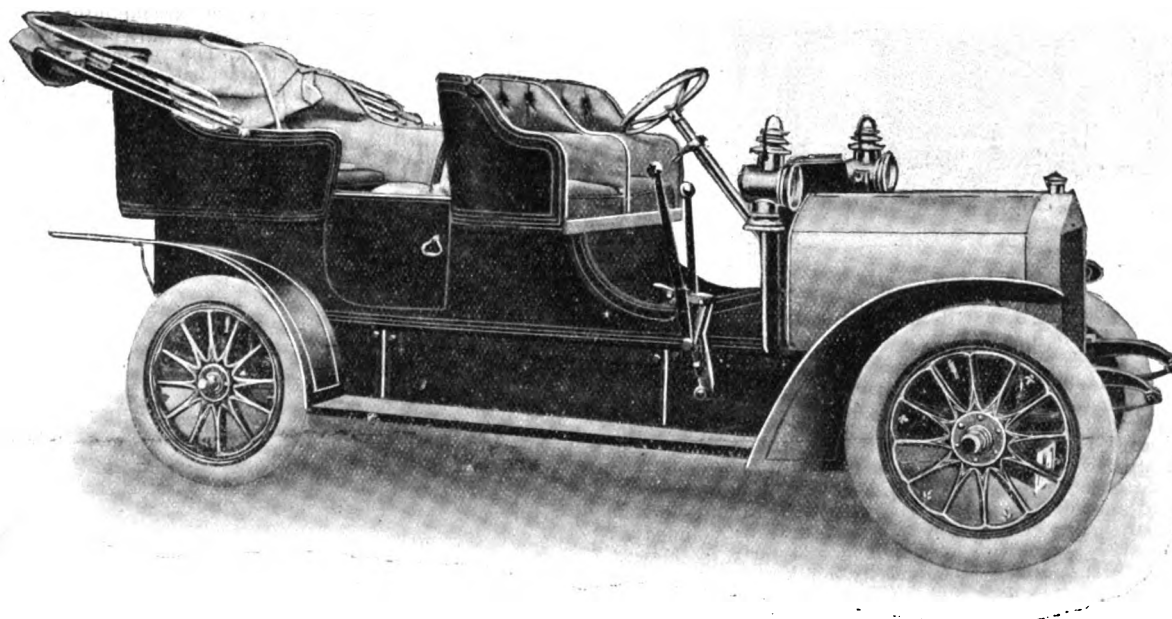


Fig. 57.—The British 14-h.p. Car.

provided, while the speed of the engine is regulated by means of levers on the steering wheel.

#### The De La Buire Cars.

Three sizes of the well-known De la Buire cars were shown by the HOLLINGDRAKE AUTOMOBILE COMPANY, LTD. A feature of the new 12-18 h.p. vehicle, which is of the live axle type, is that the four-cylinders are in one casting, with the valves arranged on opposite sides. The 15-20-h.p. car is chain driven, the change-speed gear being so arranged as to give a direct drive on the second and third speeds. This is obtained by means of two bevel wheels, concentric with each other;

and a reverse, is of special design, the pinions being always in mesh. One of the shafts is square, and has two sliding dog clutches upon it. These, upon being moved one way or the other, bring the three forward speeds and reverse into operation one at a time, as required. The changes are effected through the medium of a lever working in a "gate," in conjunction with which is a locking device, designed by Mr. A. E. S. Craig, which prevents the possibility of two speeds being in mesh at the same time. The lock is positive in action and works entirely without springs. A similar car, with landaulet body, by Vincent, of Reading, was also exhibited.

### The Spyker Cars.

Prominent on the stand of the BRITISH AUTOMOBILE COMMERCIAL SYNDICATE was a chassis of the latest type of 30-40-h.p. Spyker car, in which an effort has been made not only to render it free from dust-raising proclivities, but also of making it smokeless by preventing any chance of over-lubrication. The engine comprises four cylinders, 130 mm. bore by 130 mm. stroke, cast in two pairs, with the valves arranged on opposite sides. Large inspection doors are fitted to the base chamber. The circular honeycomb radiator is provided with an air-inducing fan mounted on a vertical pillar, fixed or screwed into the crank chamber; around the pillar is fitted a spring, which keeps the belt tight enough to drive the fan, and so does away with the necessity of tightening the belt. To facilitate the starting of the engine a half-compression lever is fitted in front of the radiator. The lubrication of the motor is effected by means of a cog wheel pump which draws the oil from a well formed at one end of the crank chamber and sprays it on the moving parts of the engine. Mr. Wellington informs us that it is only necessary to add half a pint of fresh lubricating oil daily for a run of 100 miles. At the end of each week the oil should be removed from the reservoir, and replaced with two pints of fresh, clean oil. The fittings on the dashboard are reduced to a simple switch and an oil-circulation gauge. Two systems of high tension ignition are provided—magneto and accumulators; the carburettor, which is of the automatic type, has been improved by the addition of a hand-controlled air inlet. The speed of the engine is controlled both by hand and foot levers. The clutch is of the leather-faced cone type, of large diameter. The gear-box is of new design, and gives three speeds forwards and one reverse, operated by a lever working in a "gate." The transmission is to a well-supported live axle through a cardan shaft and bevel gear; the weight of the car is carried on the axle-casing,

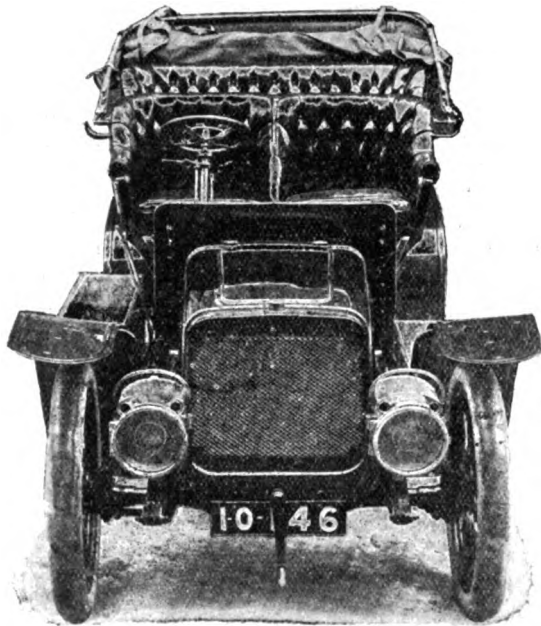


Fig. 58.—The Decauville 12-16-h.p. Car.

the live shafts within having only the driving strain to withstand, and transmitting the power to the hubs of the rear road wheels through the squared ends. A foot-brake is now also fitted in front as well as just behind the gear-box. These brakes are independent of one another, and both are operated by the same type of screw-nut mechanism that was formerly used for the single brake. Ball bearings are used throughout, and the usual four longitudinal springs are supplemented by a transverse one at the rear. Other Spyker cars on view included a 15-20-h.p. chassis, a 20-30-h.p. with special landaulet body by Meier, of Redhill, and a 20-30-h.p. double landaulet by the Victoria Carriage Works.

### The Wilkinson and Leander-Dixi Cars.

The WILKINSON SWORD COMPANY, LTD., who have lately taken up the construction of motor-cars, exhibited a 14-h.p. coupé, fitted with a four-cylinder engine, the power of which is transmitted through a special form of change-speed gear known as the Tacchi patent, and thence by cardan shaft and bevel gear to a live axle. The company have also taken up the agency for the Leander-Dixi cars, and exhibited a handsome 28-32-h.p. vehicle. This follows the standard lines of live-axle cars, the engine having the four cylinders cast in pairs, and the valves all actuated off a single cam shaft. The clutch is of the leather-faced cone type, and the change-speed gear is controlled by a lever working in a "gate."

### The Nagant-Hobson and Decauville Cars.

Interest at the stand of Messrs. H. M. HOBSON, LTD., was centred in the chassis of the new Nagant-Hobson 30-35-h.p. car (Fig. 59), which is built by the old-established engineering firm of Messrs. Nagant Freres, of Liege. The engine comprises four cylinders, 125 mm. bore by 140 mm. stroke, cast in two pairs, with the valves arranged on

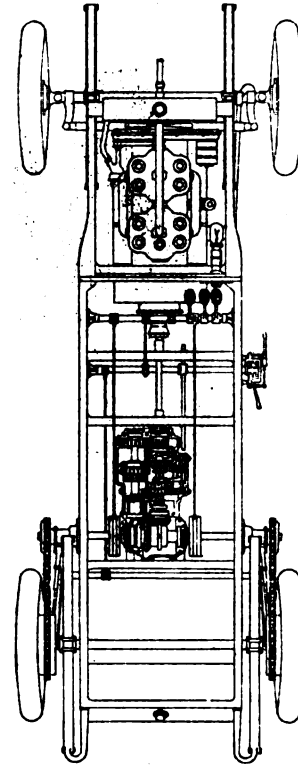


Fig. 59.—Plan of Chassis of Nagant-Hobson 30-35-h.p. Car.

opposite sides. The ignition is by low tension magneto, provision being also made so that coil and accumulators may be employed as a reserve. A half-compression device is provided to facilitate the starting of the engine. The clutch is of the disc type, a neat clutch stop being provided to facilitate changing gear. The change-speed gear is adapted to give four forward speeds and a reverse with "gate" control and direct drive on the top speed, the final transmission being by side chains. Two brakes are provided on the differential shaft in addition to the usual internal expanding ones on the rear road wheels. The frame is of pressed steel and the front axle

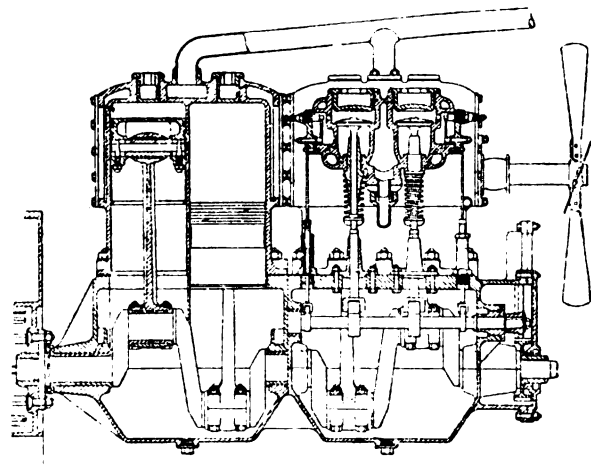


Fig. 60.—Sectional Elevation of Nagant-Hobson Engine.

of I section, ball bearings being fitted to the pivots; in fact, to all parts except the engine. Altogether, the new car forms a noteworthy addition to the growing list of Belgian-built vehicles. Messrs. Hobson also exhibited a Decauville 12-16-h.p. double phaeton, and a 16-20-h.p., with special landaulet body by Messrs. Laurie and Maier. As regards the mechanical details of these well-known vehicles, they show little or no change from last year's models.

**The Adams and Adams-Hewitt Cars.**

A company which has come rapidly to the front during the past year or so is the ADAMS MANUFACTURING COMPANY, whose stand throughout the Show was a continuous source of attraction to visitors. Since we illustrated the 9-10-h.p. Adams-Hewitt car in the *M.C.J.* several improvements have been introduced; it is now fitted with a more conventional bonnet, in the front of which the radiator is set. The frame, which is now of pressed steel, has been

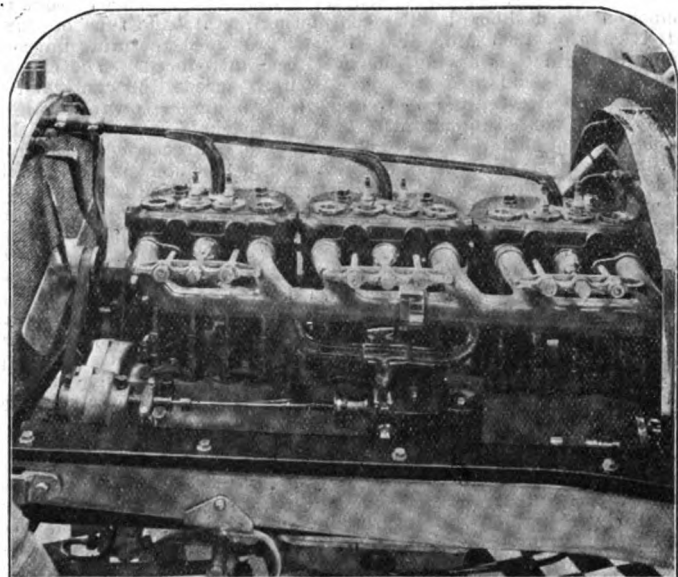


Fig. 61.—The Engine of the Star Six-Cylinder Car.  
(See *M.C.J.*, November 17th.)

lengthened, while the centre of gravity has been made slightly lower. The engine is of single cylinder horizontal type,  $4\frac{1}{2}$  in. bore by 6 in. stroke. The Adams standard automatic carburettor is employed to furnish the mixture, while the lubrication of the motor is effected by a positively driven pump. Two speeds forward and a reverse are provided by a change-speed mechanism which is of the epicyclic type, in which all the gears are always in mesh, and no teeth are cut on the external peripheries of the drums. The change of speed is effected by means of steel fibre-lined brakebands operating on the drums containing the pinions. The bands are controlled by three pedals, thus doing away with the necessity for side levers, and rendering the control so simple that it is

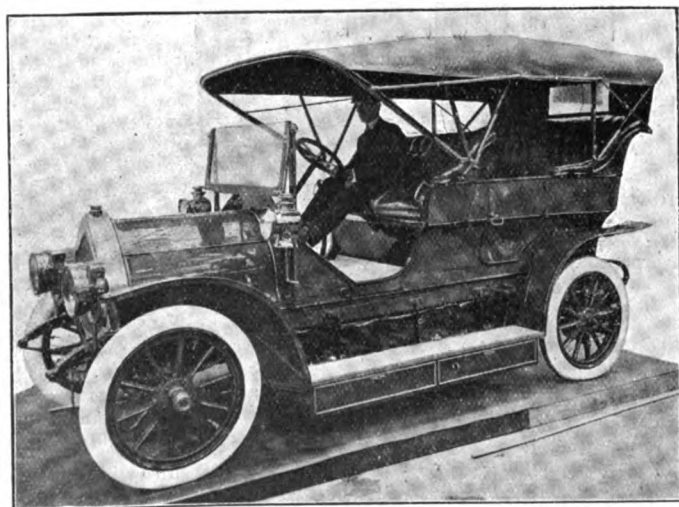
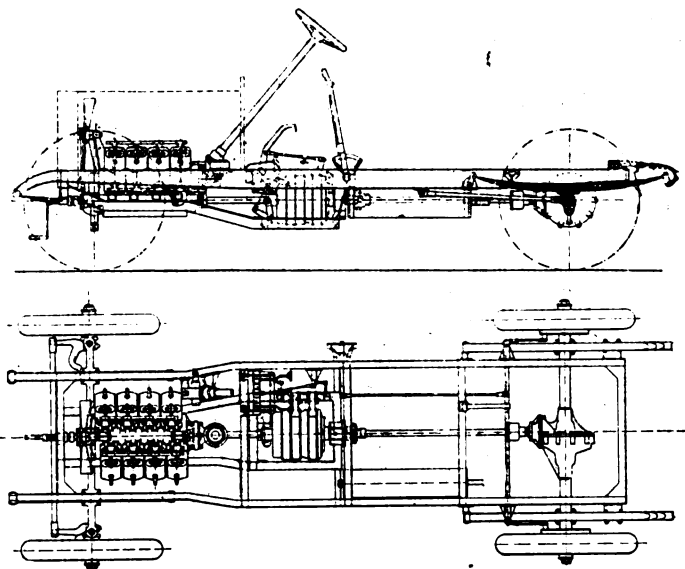


Fig. 62.—General view of the "Adams-Eight" Car.

possible for any person of average intelligence to learn to drive the car in one hour. The drive is transmitted to the rear wheels by means of a single roller chain of heavy type. Anti-friction conical roller bearings are used on both axles, the engine being fitted with ball bearings. The standard chassis is now being fitted with the following types of bodies: two-seater with movable seat at rear, which now faces forwards instead of in the opposite direction as on the 1906 cars; a mail phaeton, a four-seated side-entrance tonneau; a four-seated dog-cart; a traveller's sample car, and a 15 cwt. delivery van. A new type of car recently introduced

by this company is the Adams 12-14-h.p. the one exhibited being provided with a landaulet body. The engine comprises two vertical cylinders, 105 mm. bore by 115 mm. stroke. The valves are operated off one cam shaft, a leading feature being that all the details of the motor are self-contained. The water circulating pump, which is of the cog-wheel type, is operated by a combination spring and chain drive, provision for adjusting the latter being made. Two systems of ignition can be provided, accumulators and coil or high tension magneto, each system being controlled by its own lever at the steering wheel. The bonnet is of similar pattern to that used on the light car, and, of course, in this case encloses the engine. The change speed mechanism is adapted to give three speeds forward and a reverse; it is of the epicyclic type, and is identical with that on the 9-10-h.p. car except for the addition of an extra drum and band and another pair of wheels. So far as the operating gear is concerned, the number of pedals remains the same; there is, in addition, however, just behind the low speed pedal, at convenient range, a small heel pedal. The method of changing speed is as follows:—With the engine running, the low speed pedal is pressed forward to its full limit, so engaging the first speed. To change to the second speed, the pressure on the low speed pedal is released, and the heel pedal situated just behind it depressed, the low speed pedal then pressed forward still further, when it will drop into a catch and the second speed will be engaged. To get on to the high speed, the high speed pedal is pushed forward, the second speed being automatically released. A long cardan shaft connects the change-speed gear to the live axle. The chief centre of attraction at the stand was undoubtedly the chassis of the "Adams-Eight," the 35-40-h.p. car (Figs. 63 and 64). This is fitted with the Antoinette eight-cylinder engine, which is now being made by the firm at their Redford works. The separately cast cylinders are arranged



Figs. 63 and 64.—Elevation and Plan of the "Adams-Eight" Car.

in two sets of four at an angle of forty-five degrees; the dimensions are 105 mm. bore by 115 mm. stroke. The valves are all on the inside, and operated from a common cam-shaft, driven by fibre pinions at the rear end. The inlet and exhaust pipes are neatly arranged, the former being brought above the engine and the latter below, while a single dog and nut on each cylinder secures them to the valve chambers. Both high-tension magneto and accumulator ignition are provided. The radiator is of the framed rubbed-tube type and is of a distinctive shape. The mixture is supplied by an Adams patent carburettor, giving positive regulation of the mixture at all loads and speeds; and the lubrication is effected by means of a special plunger type pump, also operated by the cam shaft. The epicyclic type of change-speed gear with two forward speeds and a reverse is also employed on this car. The drive to the live axle is by a cardan shaft with universal joints at either end, that at the rear being enclosed. A duplex torque rod is provided, while radius rods are fitted at each side. Three brakes are fitted, and irreversible worm and wheel type steering with ball joint connections. Fig. 62 gives a view of the "Adams-Eight" car fitted with a side-entrance touring body with hood and front glass screen. The Adams Company are so satisfied with the reliability of their cars, owing to the protection afforded by the system of interlocked pedals, that they have decided to issue to purchasers a free repair bond, which guarantees free repairs for the first six months after purchase of an Adams car, and covers even undue wear caused by inexperienced driving.

The Southall tyre gauge made by Mr. H. W. SOUTHALL, of 7, Union Passage, Birmingham, was shown on several stands. This gauge registers the air in the tyre, while there is a cut off arrangement to isolate the pump and permit the air in the tyre to get into direct communication with the gauge, the economy of price being another important feature in its favour.

### The Darracq Cars.

MESSRS. A. DARRACQ AND COMPANY had, as usual, a varied exhibit, ranging from a new two-seater to a 20-28-h.p. vehicle, all having transmission by a cardan shaft and bevel gear to a live axle. A feature of the new 8-10-h.p. two-seater car is the frame, which is of special design, the sides being extended upwards to form part of the body (Fig. 65). The engine comprises two cylinders, 90 mm. bore by 120 mm. stroke. The valves are mechanically operated and the carburettor is provided with an extra automatic air inlet. Some alteration has been made in the radiator, the ribbed tubes of which are placed vertically instead of horizontally. The change-speed gear gives three speeds forward and a reverse, with direct drive on top, controlled by a lever on the steering column. A

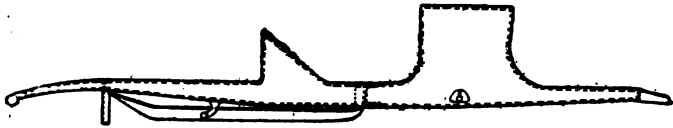


Fig. 65.—The New Pattern Steel Frame employed on the Darracq 8-10-h.p. Car.

10-12-h.p. double-phaeton was also exhibited; this vehicle, which is fitted with a twin-cylinder engine 100 mm. by 120 mm. stroke, shows but few changes as regards the mechanical details. The frame has, however, been slightly increased in width to allow more room in the body. Principal interest at this stand was centred in the chassis of the new 20-28-h.p. car, in which several departures from the usual Darracq practice are embodied. The four cylinders, which are cast in pairs, are 112 mm. bore by 120 mm. stroke, the valves being all operated off a single cam shaft. The ignition is by coil and accumulators, although the motor is so arranged that a low-tension magneto can be added if desired. The clutch is of the leather-faced cone type, four flat springs being introduced under the leather to ensure a better grip. A universally jointed shaft connects the clutch with the gear-box. The latter is adapted to give four speeds forward and a reverse, controlled by a lever working in a "gate," this being an entirely new feature in Darracq cars. The clutch pedal is so connected to the throttle that as the clutch is withdrawn the speed of the engine is automatically cut down, and it may be added that ball-bearings are fitted to all parts except the engine. A car of similar power, but fitted with only three speeds, controlled by a lever working in a quadrant of the Panhard type, is also being made. Other Darracq models for 1907 which will first be seen at the Paris Salon include 7-9-h.p. and 8-10-h.p. single-cylinder, and 16-18-h.p. four-cylinder cars. A continuous centre of attraction at the Darracq stand was Mr. Lee Guinness's 200-h.p. eight-cylinder racer, on which so many records have recently been established.

### De Dion and Gladiator Cars.

The EASTBOURNE MOTOR WORKS, Eastbourne, showed a couple of the latest types of De Dion cars, an 8-h.p. with side entrance double phaeton body, and a 15-h.p. coupé. Messrs. MANN AND EGERTON, Ipswich, were present with an 18-h.p. Siddeley double landaulet, a 14-h.p. Gladiator side entrance double phaeton, and an 8-h.p. two-seater car specially designed for doctor's use; the bodies of all three cars are of the firm's own construction.

### The Courier and Robinson and Hole Cars.

A feature of the Courier cars, exhibited by the EUSTON MOTOR COMPANY, LTD., was the chassis of a new 8-h.p. two-seater four-cylinder car, which, in view of its relatively low price, will no doubt attract the attention of motorists of moderate means. The frame is of pressed steel; the four cylinders are cast in one piece, the bore being 70 mm. and the stroke 76 mm. Two high tension ignitions—magneto and accumulators—are provided, while the water circulation is on the thermo-siphon system. The clutch is of the metal-to-metal expanding type, contained in the gear-box; the latter gives three speeds and reverse; the gears are always in mesh, and the top speed is direct drive through the cardan shaft to the rear live axle, which, like the gear-box shafts, runs on ball bearings. The other Courier cars on view included an 18-24-h.p. four-cylinder vehicle, with double landaulet body by Mulliner, and a 24-30-h.p. side entrance double phaeton. The latter is fitted with a four-cylinder engine 110 mm. bore by 130 mm. stroke, three speeds and reverse, and direct drive on top speed to the live axle. At this stand was also to be seen a 16-20-h.p. four-cylinder car, built by Messrs. Robinson and Hole, Ltd., of Thames Ditton, for whom the Euston Company are agents. The vehicle, which made its first appearance at the Agricultural Hall Show in March last, bears evidence of both careful design and construction. The engine comprises four cylinders, 90 mm. bore by 110 mm. stroke, cast in pairs. The mixture is furnished by a special form of carburettor, in which the air and petrol supply is proportionately regulated. The clutch is of the leather-faced cone type, and the three-speed gear-box, which has "gate" control, gives a direct drive on the top speed to the rear live axle. Ball bearings, it may be added, are used throughout, except on the engine.

### The Mors Cars.

The MORS CO. have at last met the growing demand for live-axle cars by bringing out two new models, 10-h.p. and 15-h.p., and the chassis of the latter exhibited by Messrs. Mors, Ltd., was, naturally the centre of great attraction at this firm's stand. The vehicles are specially designed for use as town carriages; a feature of the engine is that

the four cylinders are all in one casting, the bore and stroke of the 15-h.p. being 85 mm. by 100 mm. The valves are all mechanically operated off a single cam shaft. The ignition is by high-tension magneto, while the lubrication is maintained by pump. Two large inspection plates are fitted to the under side of the crank case. Lubrication is by gear-driven pump working off a vertical shaft. The water pump is driven by a cross shaft set in front of the crank case, a coupling being provided to admit of easy detachment. A fan is placed behind the ribbed tube radiator, which is carried on a spring-supported bushing. A supplementary water tank is placed inside the bonnet on the dashboard. The contracting metal band type of clutch fitted on the 1906 Mors cars is still retained, certain improvements in the details having, however, been introduced. The change-speed gear is adapted to give three speeds forward and a reverse, with direct drive on top speed. The single controlling lever works in a "gate" quadrant. The cardan shaft is provided with a special form of universal joint, and the torque rod is carried at the front end in a spring box. The frame, which is of pressed steel, is raised at the back to clear the differential casing; the rear suspension is by means of three-quarter elliptic springs. Of the Mors chain-driven cars the exhibit comprised a 28-h.p. four-cylinder chassis, a 28-h.p. limousine, and a 17-h.p. landaulet. The body of the latter vehicle, which was built by the Relyante Motor Works, is of noteworthy design, containing as it does what is practically a vanishing suite of furniture. There are four tables for serving lunch, as in a Pullman, also a couple of chair seats which can be changed into beds for invalids or for camping tours. These all fold up instantaneously when not required, leaving a large clear floor space in front of the inside main seat. Everything is arranged to work automatically, and there is nothing to fix or to get out of order. The Mors Company are also introducing a 50-h.p. six-cylinder model, which will make its debut at the Paris Salon. A new hydraulic clutch known as B.J. was also exhibited on the Mors stand by the Hydraulic Clutch Company, Ltd. The device is in effect a rotary pump circulating oil within itself. The casing forms the fly-wheel of the engine, while the blade wheel is connected to the shaft which conveys the power to the gear-box. The power is transmitted from one to the other part of the clutch in proportion to the amount the oil delivery is throttled; when the latter is entirely closed the casing and the blade-wheel revolve at practically the same speed. The clutch is not only noiseless but it enables the engine to take up the load without shock.

### The Simms-Welbeck Cars.

Two new models of the Simms-Welbeck cars were shown by the SIMMS MANUFACTURING COMPANY, LTD.—20-25-h.p. four-cylinder and 30-35-h.p. six-cylinder—both of which are excellent examples of the rapid development that has taken place in the construction of automobiles in this country. Each vehicle has a pressed steel wood-lined frame carried on five springs, a transverse one being fitted at the rear of the chassis. The engines are in both cases similar except as regards the number of cylinders, the bore and stroke of both being 105 mm. by 125 mm. The cylinders are cast in pairs, and all the valves are arranged on the same side. The ignition is by the well-known Simms-Bosch

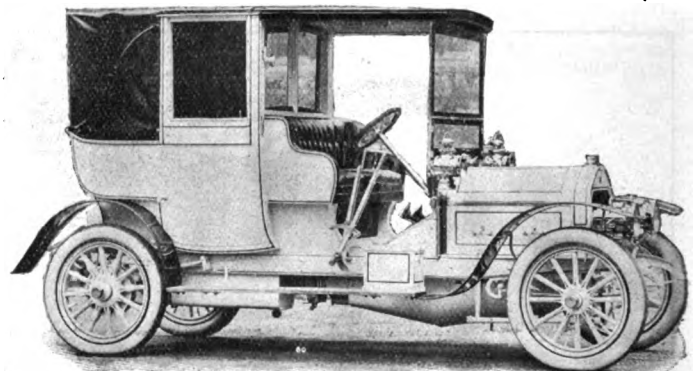


Fig. 66.—The Siddeley 30-h.p. Landaulet—a similar vehicle to the one the Wolseley Company are building for H.M. Queen Alexandra.  
(See page 845 last issue.)

high tension magneto. Special care has been given to simplicity and ease of control, one of the features of the new cars being the absence of unnecessary gear on the steering column and elsewhere, the speed of the engine being controlled by a pedal fitted with a neat form of adjustment. A feature of the carburettor is that the air inlet is correctly proportioned for all positions of the throttle, so that the action of the control pedal automatically gives the right quantity of air to ensure the best combustion. The water circulation is by means of a honeycomb radiator, pump, and a fan embodied in the engine flywheel. Lubrication is by pressure pump in conjunction with sight-feed lubricators. Attention may also be drawn to the large water and petrol filling holes provided to the radiator and fuel tank. A double universal joint is fitted on the shaft between the leather-faced cone clutch and the gear-box and is encased in a telescopic type of oil-tight cover which forms



an oil bath in which the joint runs. A three speed and reverse gear, operated on the "gate" principle, is provided, and transmits the power through an enclosed universal joint and propeller shaft to a live axle. The road wheels run on the casing surrounding the axle, the latter having dog clutches on its outer ends which engage with corresponding members in the hubs. All the bearings throughout the car, except those of the engine, are of the ball type. The complete cars on view comprised a highly-finished 30-35-h.p. six-cylinder limousine and a 20-25-h.p. landaulet, the latter being fitted with the Simms safety buffer.

#### The Speedwell Cars.

The new British built Speedwell cars which made their debut at the Show naturally attracted considerable attention. Three sizes are

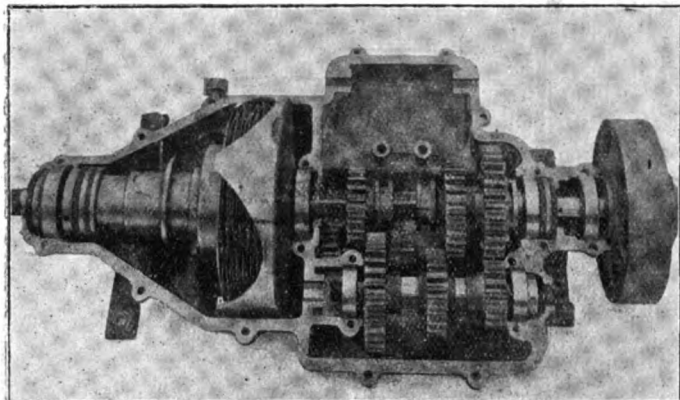


Fig. 67.—View of Clutch and Change Gear Box on Speedwell Cars.

being built, viz., 10-12-h.p. three-cylinder, 25-h.p. four-cylinder, and 40-h.p. six-cylinder, all being of the cardan shaft driven type. Except where specially mentioned the following particulars may be taken as applying to all the different models. The engines have the cylinders cast in pairs, with the interchangeable valves all operated off a single cam shaft. The dimensions of the cylinders are: 10-12-h.p. 98 mm. by 130 and 25-h.p. and 40-h.p. (six-cylinder) 100 mm. bore by 130 mm. stroke. The base chamber can be dismantled without interfering with the crank shaft or clutch, allowing a ready inspection of all the internal parts. Except on the 10-12-h.p. car dual high tension ignition is provided, magneto and accumulators. The speed of the engine is controlled by two small vertical levers projecting from centre of the steering wheel and operating through Autolocs. The silencer is also of a new type; it consists of a long narrow cylinder, three openings being provided at the engine end of same, through which air is drawn in with the exhaust, the arrangement being claimed not only to reduce the noise, but also the back pressure. The magneto and water circulating pump are gear-driven, and the radiator is of the honeycomb type. The fan belt is kept at an even tension by means of a spring on the pillar supporting the upper pulley. As will be seen from Fig. 67, the clutch, which in the two large cars is of the multiple disc type running in oil, is contained in the gear-box, and attached direct to the main driving shaft, increasing its strength and securing alignment between clutch and gear. The plates of the clutch are self-separating, they immediately ceasing to grip as soon as the pressure of the spring is released, enabling a change of speed to take place quickly and without noise. The separation of the plates is effected automatically by means of spring tongues formed on each alternate plate. The gear-box is adapted to give three speeds forward and a reverse, with direct drive on top speed, the control being by a small lever working in a special form of "gate" quadrant. Another novel feature of the Speedwell cars is found in the rear axle, which is built up of two members, claimed to combine all the advantages of the chainless drive with the safety and strength of the solid forged steel axle. It is so arranged that the weight of the car is entirely borne by the lower axle, which is made of forged steel, and runs across from one wheel to the other without any break or joint. The wheels run on the ends of this axle, and no weight is thrown on the driving mechanism. The differential is mounted on this solid axle, through the bosses of which pass the live shafts which transmit the power to the road wheels by means of dog clutches. The whole of the driving gear can be dismantled without interfering with the wheels or jacking up the car; the differential case is made in two halves, parting horizontally, making the inspection of the crown bevel driving pinion and differential gear an easy matter; further, the gearing can be lifted out by simply drawing out the two driving shafts on either side by removing the wheel hub caps. The inner ends of the shafts are square in section, and fit in corresponding square holes in the side bevel wheels of the differential. The rear dumb irons are replaced by halves of semi-elliptic springs, and a special feature, which we hope to illustrate later, is the double pivoted spring shackles, which is claimed to allow the springs greater action without strain than when secured in the ordinary way. The bottom leaf of the portion which displaces the dumb iron is set inwards at right angles and curled round

to form a bearing for one of the bolts of the shackles. The pivots of the front wheels are fixed within the hubs so that they thus come in line with the point of contact of the tyre and road. Ball bearings are employed to all parts except the engine. The complete cars on view comprised a 10-12-h.p. three-seater, a 10-12-h.p. side entrance car (Fig. 69), a 25-h.p. double phaeton with canopy, and a 40-h.p. six-cylinder three-quarter landaulet. A feature of the 25-h.p. car is a cupboard extending across the whole width of the back of the body, and, with the door, forming the rear panel of the coach work; this cupboard (Fig. 68) is sufficiently large to take a tyre or a Stepney spare wheel, besides having plenty of space for spare inner tubes. Altogether the new Speedwell cars reflect great credit on their designer and should take a prominent position in the growing list of British-built vehicles.

#### The Aster Engines and Chassis.

Messrs. ASTER, LTD., had a big display in the Gallery of the well-known Aster engines, which are being made in sizes from 8½-h.p. single-cylinder to 80-h.p. four-cylinder. Among the changes and improvements that have been made we note that the centrifugal governor has been discarded, the speed of the engine being now controlled by hand and foot levers connected up to the throttle. The 12-14-h.p. two-cylinder and 14-h.p., 20-22-h.p., and 24-30-h.p. four-cylinder models are fitted with high-tension magnetos manufactured at the company's English works at Wembley. The 40-h.p. motor engine specially constructed for omnibuses and heavy lorries was also displayed. This is considerably stronger and heavier than previous Aster motors, its weight being about 7½ cwt., the bore 130 mm. and the stroke 140 mm. The crank shaft is carried on three bearings. The lubrication is effected automatically and under pressure, a pump worked by the motor by means of gear wheels forcing the oil into the crank shaft and from there to all parts of the engine. The gears, which are encased and run in oil, are entirely of metal. Included in the Gallery display was also a varied collection of motor components and accessories, including the Aster and Oleo sparking plugs, steering gears, change-speed gears, magnetos, and the Champion friction clutch of Messrs. Durham, Churchill, and Co. On another stand Messrs. ASTER exhibited two examples of the chassis they build for the trade; one was of 20-22-h.p. and the other of 24-30-h.p., both having side-chain transmission and ball bearings throughout. The engine embodies all the usual Aster features, the ignition being by high-tension magneto, with an auxiliary coil and accumulator. The radiator is fan-cooled, and a neat spring adjustment is provided for keeping the belt at the right tension. The lubricator, which is mounted on the dashboard, is novel, inasmuch as a hot water circulation pipe is carried through it, ensuring the oil being maintained in a liquid condition even in the coldest weather. The countershaft has its fixed brackets bolted up to the frame members, so that the whole can

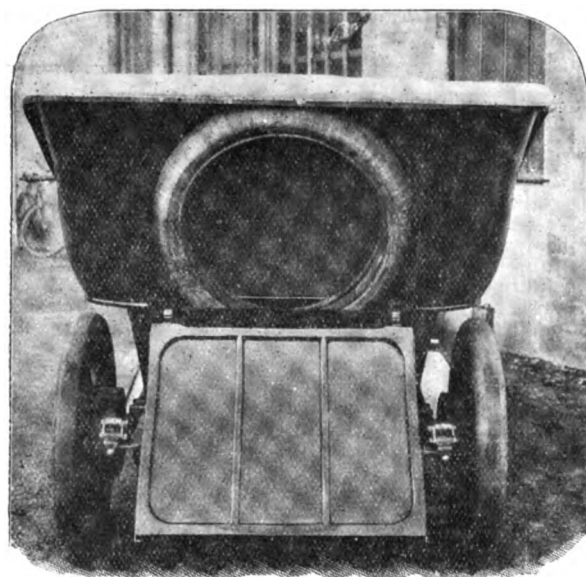


Fig. 69.—The ingenious Spare Tyre Cupboard fitted to the Speedwell Cars.

be dropped without trouble. The foot brake is ingeniously adjusted by a wedge action, which obviates the use of screw mechanism. The rear brakes are internally expanding, and the usual screw adjustable radius rods linked to the frame are fitted.

#### The Calthorpe Cars.

THE CALTHORPE MOTOR COMPANY, LTD., had on view a 12-14-h.p. four-cylinder light touring car, fitted with side entrance body. The engine is a White and Poppe, the bore and stroke being respectively 80 mm. by 90 mm. The gear-box, of normal standard type, is fitted with three forward speeds and reverse. The clutch is the well-known

Hele-Shaw metal-to-metal, running in oil. A Longuemare carburettor is fitted, and all control levers are worked from the top of the steering wheel. The other model shown by this firm was a 28-40-h.p. four-cylinder landaulet. The engine of this car is also a White and Poppe make, having a bore and stroke of 110 mm. by 120 mm. Both cars are of the live-axle type.

bearing between each cylinder. A noteworthy feature of the design is that the water circulation is on the thermo-syphon system, large diameter pipes being employed, but no pump. The honeycomb radiator, which is provided with a fan, is of a large size and is mounted on pivots in such a way that no strains are transmitted to it by any distortion of the frame due to bad roads.

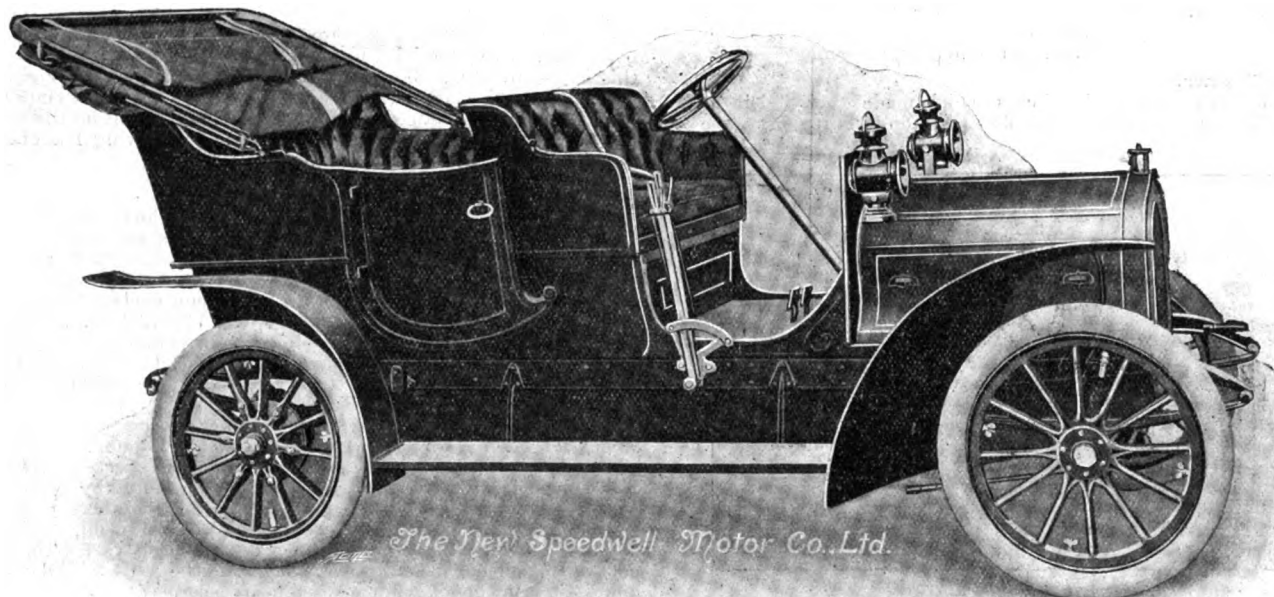


Fig. 69.—The Speedwell 1C-12-h.p. Side Entrance Double Phaeton.

#### The Belsize Cars.

One of the oldest firms in the trade in this country, BELSIZE MOTORS, LTD., had an exhibit which fully demonstrated the great progress this concern has made in the construction of automobiles. The great centre of interest was, of course, the chassis of the Belsize 60-h.p. six-cylinder car (Fig. 70), the design throughout being of a striking character. The cylinders are cast in three pairs, the bore and stroke being respectively 5 in. by 5 in.; the valves are all located in the cylinder

The high-tension ignition is in duplicate, magnet and accumulator, the latter having a single trembler coil and a synchronised high-tension distributor. The lubrication of the engine is effected by a dredger-type oiler on the dashboard. The clutch, which is of the Hele-Shaw disc type, is connected to the gear-box by a jointed shaft. Three speeds forward and a reverse are provided; on the top speed the drive is direct, the side shaft in the gear-box being out of operation. The transmission is by cardan shaft and bevel gear to a live axle, on the tapered ends of which the road wheels are keyed; the weight of the car

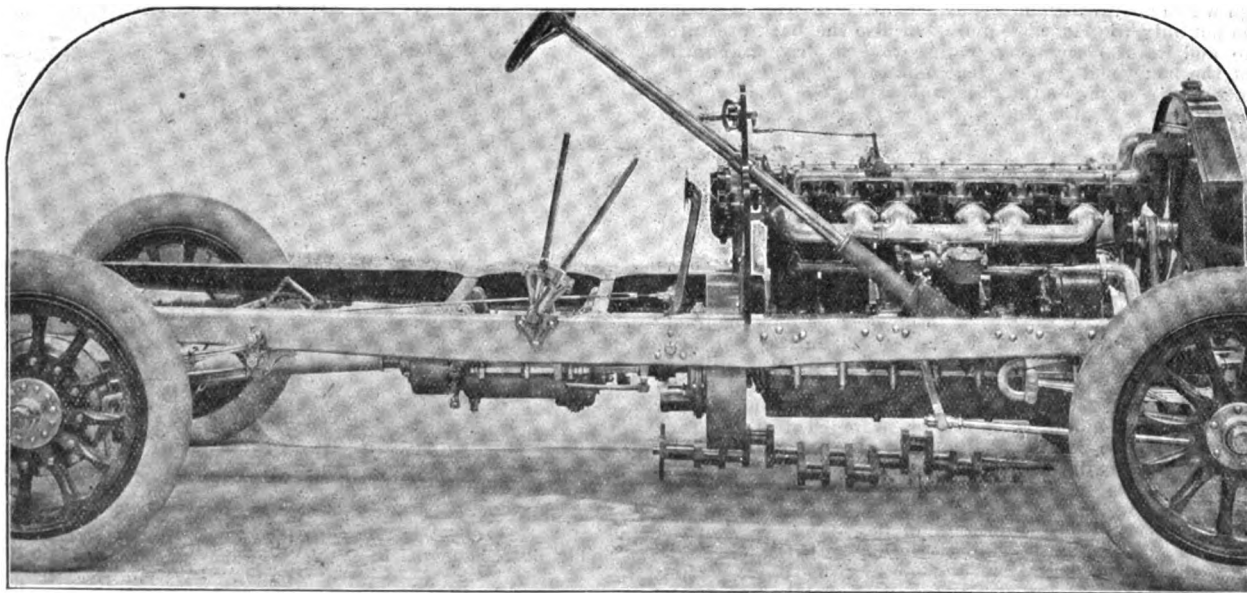


Fig. 70.—Chassis of the Belsize 60-h.p. Six-Cylinder Car.

heads and are directly operated off an overhead cam shaft. Both the inlets and exhaust valves are provided with two lifts, this being obtained by means of a sliding cam shaft, so as to bring a different profile of the cam over the valve tappets. This is controlled by a lever on the dashboard, and enables the speed of the engine to be regulated and also facilitates the starting operation by altering the lift of the exhaust valve and so lowering the compression. The crank shaft has a

being carried on the axle casing. The control of the brakes is the reverse of that usually adopted, the pedal being connected up to those acting on the drums connected with the rear road wheels, and a hand lever works the brake on the shaft at the rear of the gear-box. The Belsize Co. also exhibited a 30-h.p. six-cylinder limousine and a 20-h.p. four-cylinder double phaeton, a feature of the latter being the relatively low price at which it is offered.

**Motor-car Frames.**

Although not lending themselves to picturesqueness, the exhibits of Messrs. RUBERY, OWEN AND CO. were not without their attractions to motorists who are inclined to pay some regard to the materials of which their vehicles are constructed. The firm's hydraulic and pneumatic plant gives them special facilities for the production of pressed and rolled channel motor-car, van, omnibus, and wagon frames in mild or nickel steel. They showed some excellent mild steel forgings, as well as bolts and nuts, castellated nuts, &c., and generally demonstrated the excellence of their steelwork.

**Dunhill's Motorities.**

The space available for the display of the large range of motorities associated with the name of Messrs. ALFRED DUNHILL, LTD., scarcely seemed adequate for the very comprehensive selection of goods they can stage.

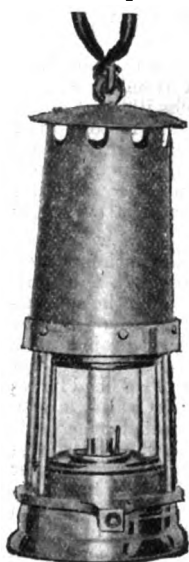


Fig. 71.

In leather garments alone they had a splendid selection, the examples of leather clothing for lady motorists being particularly noticeable. The new "Pluiette" veil and hood was exhibited for the first time and should secure comfort in wear as well as complete protection from rain. It is made of a gossamer-like material, thoroughly waterproof and dustproof, and fitted with a mica window. For gentlemen there were several exhibits embodying new ideas, a combined town and motoring overcoat being particularly attractive. This has a smart double-breasted front, and at the rear are two pleats which close when walking and open when the wearer is seated. Leather suits and liveries were also conspicuous on this stand. The accessory section was very complete. Here were lamps of varied designs, from the A.D.L. duplex lens headlight to small motor-cycle lamps. The A.D.L. lamp can be charged with water and carbide at the time the car is prepared for a run, and altogether it presents the necessary combination of effectiveness, simplicity and economy. A new dashboard fitting in the shape of a mirror with a universal joint and telescope adjustments, which enables the driver to keep an eye on the road behind him when passing through dangerous—from the police point of view—country was also shown, as well as the safety lamp for use in garages, made on the principle of the miner's Davy lamp, illustrated in Fig. 72. Foot rests, goggles, horns and syrens, &c., were to be seen on this stand, while a new idea in luggage boxes for cars attracted some notice. These can be covered with waterproof cloth to match the colour of the car, and shaped to fit any odd corners of the car, thus utilising all the space to the greatest possible advantage.

**Radiators.**

The Orme-Whitlock radiator, exhibited by Messrs. ORME, EVANS AND CO., LTD., of Wolverhampton, has long passed the experimental stage and may be mentioned as combining a large cooling surface, lightness in weight, and economy in price. It consists of a series of transversely corrugated tubes, extending between a top and bottom water tank. The corrugations of each tube are reversed with relation to the two tubes adjacent on either side, thus forming air cells from the front to the back of the radiator. Experience shows that the two or three gallons of water held by the radiator and jackets are sufficient to ensure adequate cooling, thus obviating the addition of water tanks. The radiator is made in sizes of 3 in. and 4 in. depth. Messrs. Orme, Evans and Co., Ltd., also had a collection of their petrol tanks, bonnets, wings, and other specialties in sheet metal work.

**Ubas Steel.**

Messrs. W. T. FLATHER, LTD., had an interesting collection of steels for motor-car construction. The firm have been engaged in this particular branch of industry for many years, and the enthusiasm of some of the principals for motoring has given them special knowledge of the requirements of motor-car makers. They showed forgings in "mild" and "medium" temper nickel steel, special nickel steel for case hardening, round, square, and hexagonal sections of bright-drawn mild steel; "Ubas" steel for case hardening for gear wheels, shafts, and bearings, as well as a series of tensile and torsion test pieces. "Ubas" steel has become well known in connection with gears, &c., and there was on view a gear which was recently tested on two teeth, with the result that they withstood a breaking load of 27 tons and 7.96 tons per inch width of tooth. In view of the necessity of using only the most reliable materials in motor-car work, such examples of strength are of considerable interest to those engaged in the industry, and a means of assurance to users of vehicles.

**Jacks, etc.**

By all concerned with the storage of automobiles—whether large motor-buses or small pleasure cars—the Adams' quick-lifting and transfer jacks shown by Messrs. ADAMS, PRICE AND CO., of Tunbridge Wells, had more than a cursory inspection. Garage owners will find the patterns A and B. of service in their daily work. These jacks have been mounted on wheels, and are capable of lifting by the front axle

any type of car for the purpose of cleaning, repairing, or removing the tyres. Another type is made to deal with heavy vehicles stored in restricted areas, and a series of elevators is also designed, by the use of which two men can easily and quickly load any type of motor-car on to trolleys. The adaptability of the Adams' speciality to various situations is a feature that has led to its introduction in the leading garages of the country, while its serviceability to private motorists is a matter of general recognition.

**Challiner's Detachable Rim.**

Challiner's patent detachable rim was the novelty at the stand of the SHREWSBURY AND CHALLINER TYRE COMPANY, LTD., whose wheels and tyres for heavy motor vehicles are well known. This rim can be easily detached in a minute or so by the removal of the nuts and bolts which hold it to the wheel. The tyre and rim are removed bodily, and the means of effecting this are so simple that there is nothing to interfere at any time with its ready removal when desired. The firm also showed a selection of their tyres for heavy and light motor vehicles, as well as of artillery motor-car wheels. In the manufacture of their pneumatic tyres, fitted with special compressed, wear-resisting, tough rubber treads, care is taken to meet the strain of wear on both the rubber and the canvas of the casing. The latter is often weakened through moisture, to obviate which the Shrewsbury and Challiner tyre is rendered waterproof to the maximum degree—a point of practical importance. The firm have a complete motor tyre repair department at their works at Ardwick Green, Manchester, and their facilities in connection therewith are considerably extending their clientele throughout the country.

**Exonite Steering Wheels.**

The Dover exonite steering wheel, which we described and illustrated in our report of last year's Stanley Show, as a novelty likely to attain a wide popularity, was to be found on many of the cars at Olympia. It also formed the feature of the exhibit of Messrs. DOVER, LTD. The metal handle is covered with the firm's "Exonite," which proves an admirable preparation for the purpose, being unaffected by the varying atmospheric conditions, and giving great durability in wear. Elegant in appearance, it is always clean in use. The steering wheel can be made with gun metal, aluminium, or other metal centres, the rims being rolled metal, wood, or aluminium, entirely covered with exonite. One pattern is made with a plain upper surface and ribbed on the lower side of the wheel, to enable a secure grip to be obtained. The other is in the form of a spiral rib, and secures an absolutely sure grip of the wheel. The Exonite steering wheel is rapidly attaining a large degree of popularity—certainly well deserved.

**Lamps.**

Messrs. WELDEN AND BLERIOT, Ltd., the English manufacturers of the Bleriot lamps, had a full range of their 1907 patterns in head lights, projectors, side lamps, tail lights, roof lamps, generators, &c.

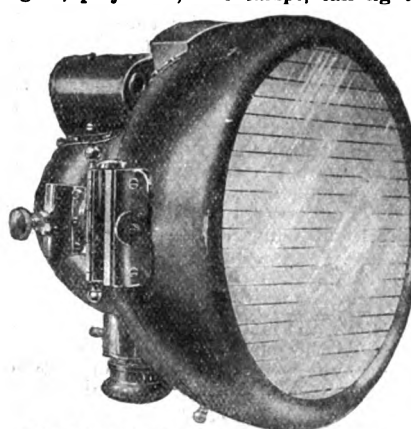


Fig. 72.—The New Bleriot Head Light.

Among the novelties were their Parabolic head lights (Fig. 72) fitted with patent automatic shade, which many car owners will prefer to the ordinary patterns with a view to suppress the objectionable glare without reducing the power of the light on the road. The device is entirely under the control of the driver, who can instantaneously prevent the rays of light from shining forth directly ahead. All the different kinds of lenses now used in head lights (plano-convex, compound, and catadioptric) were also on view, as well as projectors in various sizes. The electric roof lamps and the various types of side lamps also demonstrated that the firm are maintaining their reputation. They also had on view three different types of generators, the most simple type working with "acetylithe," and two working with ordinary carbide, one of them being self-cleaning, so that it can be kept charged as long as required after turning off the light without waste of carbide. New pattern horns were also shown in various sizes.

**Lubricants.**

The STERN-SONNEBORN OIL COMPANY had a comprehensive selection of their lubricants for motor-cars and their parts. Motosternol oil for water-cooled cylinders, Sternoline elastic chain paste, and other specialties were shown, as well as one or two newer introductions which have already attained distinction. These include Saponal, for use in connection with screw-cutting and drilling, Sternonlip for belts, Clutcholine for clutches, and a rolling bearing grease. The high-grade quality of these productions has been often emphasised in previous show reports and it remains but to be said that the firm's reputation is being well maintained and extended.

### The Victoria Resilient Wheels.

In the Victoria Resilient Tread, introduced by the Industrial Improvements Company, Ltd., and shown on the stand of Messrs. H. M. HOBSON, LTD., is another effort to secure resiliency without pneumatics. The idea is certainly ingenious, and the principle of construction has the advantage that everything does not depend on the perfect behaviour of any other section. Attached to the rim of the wheel are twenty-four "elements" or sections, which constitute the wearing surface. Each consists of springs which have been tested to a pressure of 600 lb. to the square inch, and which hold a fabric into which pressure

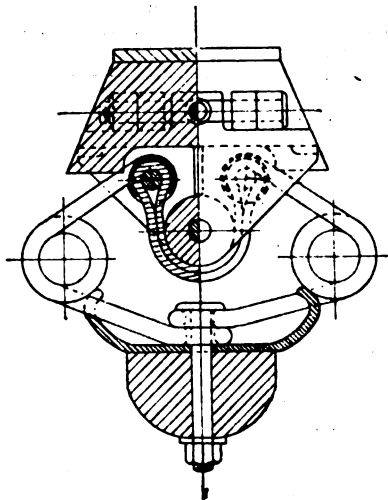


Fig. 73.

the under surface of the tread. These are bolted to the rim in a continuous line, so that, although the principle of construction is segmental, the effect is continuous. Should any mishap—and that is unlikely—happen to any one of the segments the driver can still get home without worry. We hope shortly to put the device to a practical test. Meanwhile the section of the tread in Fig. 73 explains its construction, which seems well calculated to attain the purpose in view. In addition Messrs. H. M. Hobson, Ltd., showed the "Jenatzy" tyre and the "Jenatzy-Houben" non-skidding tyre.

### The "Grose" Leather Tread.

The original "Grose" leather tread was protected in 1897, and Messrs. GROSE, LTD., of Northampton, are able to point to the continuous growth of their business as evidence of its success, despite the number of rivals with which it has to contend for the favour of motorists. The tread itself is made of a special tannage of chrome leather and is fitted with a steel studded strip, which prevents skidding. The leather is formed into the exact curve of the tyre it is intended for, thus giving it a very neat appearance, a point upon which many users of such devices rightly insist. The protection afforded to the tyre makes it impossible for the damp to penetrate to the rubber, thus assisting to prolong its life. A combined "Grose" tyre and non-skid tread has been introduced with advantage, and has proved a great factor in the extension of business. These treads can be fitted to old covers, and much trade in that direction is being done by Messrs. Grose, Ltd.

### "Rub Metal" Non-Skids.

The new MOTOR AND GENERAL RUBBER COMPANY, LTD., which is now located at 374, Euston Road, N.W., and is in a good position to execute all classes of tyre repairs, showed the new "Rub-metal" non-skid tyre. The principle adopted is to have a specially tough rubber foundation overlapping the edges of the base of the tread, so that when vulcanised together the canvas fabric appears to be let into the tread. This principle of construction prevents the loss of resiliency and ensures a really durable non-skid. There are several thicknesses of canvas, and experience has proved the impossibility of the studs pulling away. They may be worn down, but that is all that happens. Even when this occurs the tread is serviceable and combines a non-skid with an ordinary wearing tread. These non-skids can be fitted to any covers, and the skill and experience which the New Motor and General Rubber Company combine in their work is the best guarantee of the excellent results.

### The "Stepney" Spare Wheel.

Considerable interest was taken in the presence of the Stepney spare motor wheel, which has the long experience of motorists to recommend it to those who have been attracted to such means of avoiding delays on the road caused by punctures and tyre troubles. The wheel has a steel rim of standard size carrying an ordinary beaded edge tyre fully inflated. This is conveyed on the car in the ordinary way, and should trouble arise with the tyres it is quickly fastened to the car wheel, and the motorist may go home without risk or delay. The damaged tyre can be repaired at leisure, and the vexatious experience of having

to see to the tyre on the roadside is obviated. Hence the value of the device to professional men and others to whom the keeping of appointments is a vital matter.

### The Lacre Accessories.

Very complete was the collection of motor clothing and accessories with which the LACRE MOTOR CAR COMPANY, LTD., occupied a stand in the gallery. Their "Torrent-proof" garments are of good design, being all made on their own premises and the variety of clothing both for ladies and gentlemen is of great extent. An important section of the exhibit was devoted to lamps—a department in which the Lacre Company have endeavoured to merit distinction. Their headlights are of bold outline and strongly constructed, while the light they give is extremely good. Acetylene head lights, paraffin side lights, and all other goods coming within that branch of the business, made up a good and effective display which was completed with a collection of accumulators, coils, non-skids and other devices, including the "Lacre" spare tyre brackets, an excellent fitting for those who have regard to the appearance of their cars when on the road.

THE ANGLO-AMERICAN OIL COMPANY, LTD., had an interesting exhibit of samples of the various products obtained from American crude petroleum, and by means of models and photographs illustrated the methods employed in importing and distributing Pratt's motor spirit, with which their name has so long been identified. Naturally their speciality does not lend itself to the picturesque side of an exhibition, but the literature issued from this stand recalled some very striking contests in which cars have been carried to victory on Pratt's motor spirit.

The firm of SALSBURY AND SON, LTD., exhibited their productions, and at the same time celebrated their centenary in the lamp business, the firm having been established in 1806. Among the specialities is a new type of head light, which is fitted with a lens mirror reflector, lens condenser, and semi-parabola reflector; it projects the light a long way ahead with a minimum glare to those approaching, and also gives the necessary wide angle light for side roads. Two head lights were shown of the Bullet type, as well as Searchlight and Ovalite lamps. A dissolved acetylene installation, in which the acetylene gas is carried in a steel cylinder, was also shown, together with the "Salsbury-Dietz" lamps and tail lamps. The Salsbury Pillar flash lamp is another neat fitment. It can be attached to any ordinary steering pillar by means of a band clip, and is fitted with a push button, so that the light can be thrown on the dashboard whenever required. A full line of accessories, such as jacks, petrol gauges, horns, and similar goods, completed the display.

### A New Tyre Inflator.

A large selection of accessories and spare parts was shown by Messrs. BROWN BROS., whose specialities now include the new automatic tyre inflator illustrated in Fig. 74, and which they are introducing to the public at this Show. This is known as Maxfield's auto-tyre inflator, and can easily be fixed to any car. It comprises two parts only, viz., an air compressor and an air chamber from which the air is carried by a

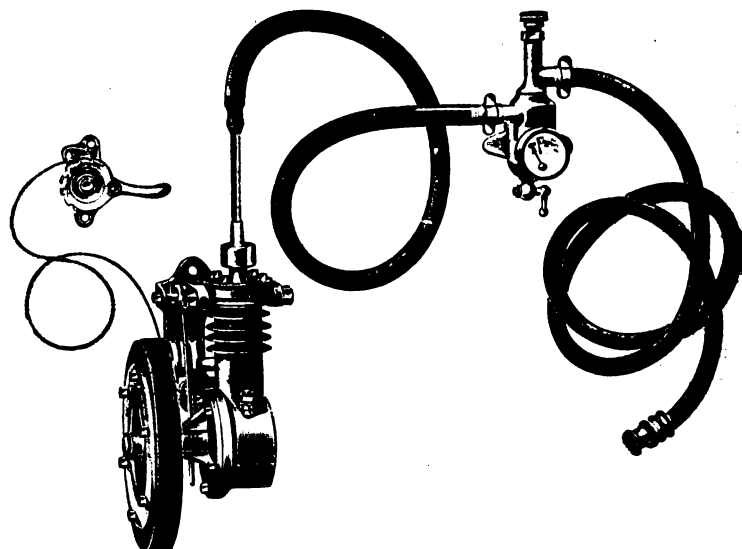


Fig. 74.—Maxfield's Tyre Inflator.

flexible tube to any tyre at pleasure. The compressor is arranged to be driven by friction off the flywheel or clutch of the motor. The bearings and compressor are made of phosphor bronze, and the spindles of hardened steel, which ensures smoothness of running and great durability. By the use of this well-made device a 815 mm. by 105 mm. tyre can be inflated in a couple of minutes, and various tests which have been applied prove it to be reliable as well as automatic in operation.



**Messrs. J. Wilson Browne's Lamps**

On the stand occupied by Mr. E. J. HARDY, of Coventry, was a good selection of lamps bearing the name "Unedallite." These are the production of Messrs. J. Wilson Browne and Son, of Ludgate Hill, Birmingham, and include side lights for cars or motor-buses; head lights, tail lights, and, in fact, every variety of lamp required by motorists, on land or on sea. The "Unedallite" reflecting tail lamp is designed to reflect the light on the number-plate as well as on the road, and is well made to withstand the inconvenient consequences of lights being shaken out. The lens on the side of the lamp will reflect the light right across the road to the hedge, and the device being fitted with a Barton burner to burn petroleum may be relied upon. In the acetylene headlight, with separate generator, is a good type of lamp. The generator is on the diving bell principle, and is quite automatic in its working, being capable of giving off gas the moment the tap is turned on. These lamps are well and strongly made, and their presence at Olympia recalled the very representative show made by Messrs. J. Wilson Browne and Son at the Agricultural Hall in the spring.

**Radiators, Lubricators, etc.**

The DOHERTY MOTOR COMPONENTS, LTD., of Coventry, may always be trusted to make a display fully typical of British excellence of workmanship. They showed some good patterns of lubricators, including those with oil distributors for use with separate pressure feed tanks, and mechanical feed lubricators. The firm's radiators were a distinctive feature of the stand, special importance being given to the tubular form, which has the appearance of the honeycomb type. The maximum of strength and cooling surface is ensured without any sacrifice of good appearance. A number of narrow flat metal strips are fitted horizontally into the vertical edges of the gilled plates, which are folded over to present a thicker edge. They are also slotted to enable the horizontal strips to be properly fitted. Radiators and bonnets for industrial vehicles are a special line with the Doherty Company, which has secured a good place among manufacturers of such necessary parts.

**The Rushmore Lamps.**

At the stand of Messrs. LOVEGROVE and Co. were many notable motoring requisites. The Rushmore lamp was a conspicuous attraction. This is being introduced to British motorists by Messrs. Rushmore Lamps, Ltd., of Rupert Street, London, W., who are the sole agents for Great Britain and Ireland. The lamp, which has long been popular in the United States, is based upon the substitution of an aplanatic lens mirror for the metal reflector; and projects a large percentage of the light where it is most needed by the driver of a motor-car, viz., far along the road ahead, while the part near the vehicle is illumined only by the small amount of light coming directly from the front of the flame. Hence there is sufficient light for the driver to keep an eye on obstructions noted when at a greater distance therefrom, but the searchlight will not annoy drivers coming the other way after they are within a hundred feet or so or on one side of the main beam. Claiming these important advantages, the Rushmore lamp is made in various sizes adapted for the different requirements of users. The lens mirror searchlight is of similar construction to those made for the United States Navy. Fitted with side sockets for slipping upon the ordinary fork brackets of the car, it presents a good appearance, the cylinder and fittings being of brass and the front door and the rear cover being of heavy copper. A swing bracket searchlight is also supplied. This is suspended in a swinging U frame with a bracket for mounting on a flat vertical dashboard, and will be specially appreciated by those who attain a high rate of speed. The Flare Front Lens Mirror Searchlight is another adaptation of the principle, but the lamp has a large flaring front permitting more light directly from the flame to strike the road just in front of the car. The coming of the Rushmore lamp to this country is a matter of considerable concern to motorists, who will not be slow to appreciate the value of the aplanatic lens mirror in securing such an excellent effect.

**Bowden Specialities.**

The BOWDEN PATENTS SYNDICATE, LTD., showed a complete assortment of their various devices and adaptations of the Bowden wire mechanism for the use of motorists. Among the most interesting of these was the new Bowden Mileage Recorder, an ingenious adaptation of the Bowden wire which enables the mileage to be read with ease while driving, or from any other position inside or outside the car desired. Another interesting novelty was the Bowden Petrol Strainer. There was also the Bowden Agitator for Carburettors, by means of which the task of handling the bonnet of the car for the purpose of flooding the carburettor prior to making a start is obviated. This consists of a length of Bowden wire mechanism, with a push button at one end and a device for depressing the float at the other. The former is brought to a point adjacent to the starting handle, so that it can be operated before a turn is given to the starting handle. The means of securing an additional air inlet in connection with the carburettor, which was described and illustrated in our issue of October 6th, was also on view at this stand, attracting much notice from motorists.

**Parsons Non-Skids and Inflators.**

The new type of the Parsons non-skid, illustrated in the *M.C.J.* on September 22nd, was shown by the PARSONS NON-SKID COMPANY, LTD. This is known as the "Parsons Grippa." The side hoops are of chain, and are fastened with a simple yet safe snap coupling. The cross chains now run straight across from hoop to hoop, thus facilitating attachment and detachment, and enabling reductions to be made in both weight and

price. The Parsons Sparklet inflators were also shown. By means of these tyres can be inflated more rapidly and more evenly than has hitherto been the case, the whole operation being accomplished in a minute or so. In connection with the safety of the cylinders employed in the sparklets the company drew attention to a test made on the 17th ult., by Mr. A. H. Wheeler, who is well known in connection with the granite quarries of Carnarvonshire. He had had the cylinder thrown five times over a precipice about 200 feet high on to some large granite boulders, and on these occasions the only result was to "dinge" and scar the tube, the dust cap being also broken off. After throwing the cylinder over the cliff for the sixth time he found more dents in the tube, and found that the plug to which the valve is screwed was leaking, but so slightly that it took more than four hours to empty the cylinder. Such a result demonstrates the safety of the apparatus, and is a testimony to its strength.

**The Windham Motor Body.**

On the stand of Messrs. Sayers and Co., the WINDHAM SLIDING DETACHABLE MOTOR BODY COMPANY had a demonstration of the value of their invention, which consists in building a body on the usual lines with the exception that the floor and framework of the back part of the body is so constructed that it allows this portion to be slid on and off as necessary, leaving the front seats and wings intact. Then the body intended to be placed on the chassis can be pushed on, automatically locking itself to the chassis in the process. On a previous occasion we commented favourably on the idea, which secures such economies to the motorist who uses a motor-car for various purposes.

**Miscellaneous.**

On the stand of the United Motor Industries, Ltd., which was, as usual of considerable interest, was a new speed indicator, which is being placed on the market by Messrs. EVERETT, EDGEUMBE AND CO., LTD., of 87, Victoria Street, Westminster, S.W. Briefly mentioned, it combines a distance recorder with a mileage indicator, and is conspicuous by the ease of adjustment and absence of complicated parts.

MESSRS. LAKE AND ELLIOT, of Braintree, had their usual complete selection of Millenium jacks for motor-cars. These give a long extension in the minimum space and are made in a range of four types for different classes of cars. Castings and engineers' tools, as well as complete tool kits, were also on the stand.

MESSRS. CANN, LTD., showed the double and single White steam landaulets which won the Gold Medal in the recent Town Carriage Competition of the A.C.G.B.I. Another double landaulet made for the 30-h.p. White steam car was upholstered in Bedford cord. Both the large vehicles had the new registered model front boot, which gives an extremely graceful appearance to the front of the landaulet.

Honeycomb radiators, bonnets, petrol tanks, wings, &c., of good design and construction formed the exhibit of Messrs. JOHN MARSTON, LTD., in the Gallery.

Among the insurance companies who took advantage of the occasion to bring their special policies for motor-cars before the public were the Car and General Insurance Corporation, Ltd., which also deals with all accident and third party insurances; the General Accident Fire and Life Assurance Corporation, Ltd., which has its headquarters at Perth; and the International Motor Insurance Company, Ltd.

Motor tyres in three different patterns were shown by the CONTINENTAL TYRE AND RUBBER COMPANY (GREAT BRITAIN), LTD.—viz., round tread, square tread, and with red rubber steel-armoured non-skids. The latter tyres are manufactured with a grey rubber tread with red rubber sides, the rivets being supported by the "Continental" patent discs, enabling the cover to be driven until the tread is completely worn out without the studs becoming loose or the cover defective. Those associated with the heavier type of automobile were interested in the very large pneumatic tyre for motor buses, as well as by two kinds of solid tyres for such vehicles.

PRICE'S PATENT CANDLE COMPANY, LTD., showed a full range of standard lubricating oils, giving prominence to the oils which were used with success in the recent Tourist Trophy trials. New lubricants were shown for engines, gearing, and bearing, specially suited to the motor-buses which now play such a prominent part in public traffic. "Manulan," "Curroleum," and "Cirogene" were other familiar specialities at this stand. In order to overcome the difficulties which motorists have experienced regarding the quality of the oils which they purchase, Messrs. Price's Patent Candle Company, Ltd., have adopted, and exhibited for the first time, a new pattern of enamelled and sealed tin which will enable them to offer to all their customers the assurance that while the seal is unbroken the contents of the tin are genuine.

From Wakefield came the SEAMLESS STEEL BOAT COMPANY, LTD. with a pressed steel car frame and minor other specimens of their pressing.

MESSRS. D. BROWN AND SONS, LTD., of the Park Works, Huddersfield, make their debut at automobile exhibitions with a selection of their machine-cut gears for motor-cars. They have an extensive connection among the leading makers, and specimens of their work were to be seen on many of the cars in the Exhibition.

Woven glass accumulators, induction coils, low tension and high tension magnetos, voltmeters, and ampere meters are among the electrical specialities shown by Messrs. VAN RADEN AND CO., LTD., whose reputation for this class of work is well established.

(To be concluded.)

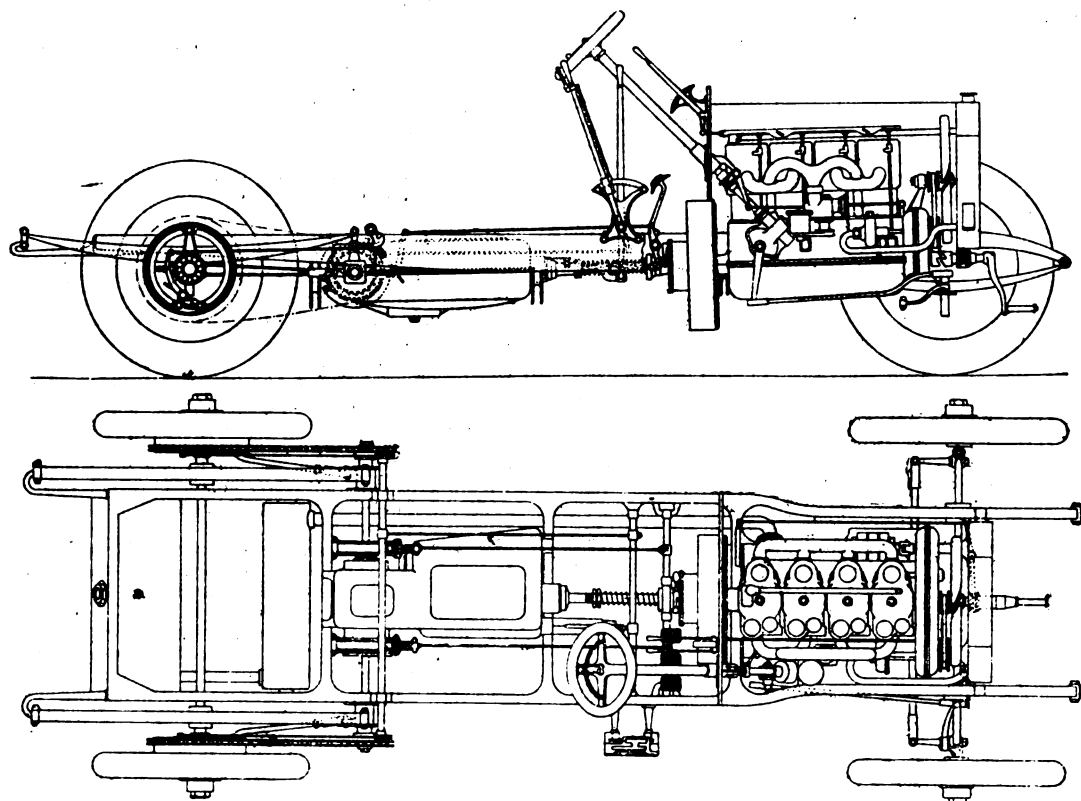
## THE STANLEY SHOW.

THE thirtieth Stanley Show opened at the Royal Agricultural Hall, London, on Friday of last week, being inaugurated by Sir Albert Rollit. It has continued throughout the week, and closes to-day (Saturday). Although the automobile exhibits are not numerous, they are not without interest, as may be gleaned from the perusal of the notes that follow:—

### The Porthos Cars.

A new car of French construction, and known as the "Porthos," is exhibited by the MARLBORO' MOTOR AND ACCESSORIES COMPANY. Generally speaking the vehicle follows the usual lines of chainless cars, although in the details some departures are made from the standard practice, particularly as regards the design of the live axle. The engine, which is rated at 25-30-h.p., comprises four separate cylinders with the valves arranged on opposite sides. Two systems of high tension ignition—magneto and accumulators—are provided, and the mixture is furnished by an automatic carburettor. The clutch is of the leather-faced type and the gear is adapted to give four forward speeds in addition to the reverse. The brakes are all of the internal-expanding

the axle, the weight of the car being carried by the sleeve. The gear-box is provided with three point suspension, the side supports being pivoted so that any strains to which the frame may be subjected are not transmitted to the driving mechanism. The cardan shaft, which has only one universal point at the forward end, is enclosed in a casing. The usual dumb irons at the rear are replaced by halves of semi-elliptical springs. We may add that ball bearings are used throughout except the engine, and that the wheel base is 10 ft. 3 in., permitting any type of carriage body to be fitted to the chassis. At this stand is also to be seen the most powerful car in the Show—a 40-50-h.p. Florentia chain-driven chassis. The engine differs from that in the 18-24-h.p. model in that the cylinders, which are 140 mm. bore by 160 mm. stroke, are separately cast and that the ignition is by low tension magneto. The frame, too, is worthy of notice; this is of pressed steel, with the cross members electrically welded in place, no rivets being employed. The clutch is of the expanding metal type; the female portion is not built rigidly with the flywheel as usual, but is connected to the latter by four studs. The petrol is pressure-fed from the main reservoir at the rear to a small tank on the dashboard. The latter always contains sufficient spirit to run the engine and consequently to maintain the pressure in the main tank, the usual initial hand-pumping being in this way dispensed with. The braking system is extremely powerful; on the differential shaft are two wide contracting brakes, while a hand lever at the side of the



Figs. 1 and 2—Elevation and Plan of the Florentia 40-h.p. Car.

ing variety and the rear springs are three-quarter elliptic. One of the cars on view is fitted with a limousine body and the other is a side-entrance double phaeton.

### The Florentia Cars.

The new firm of Messrs. M. DE BROU AND CO., LTD., make their first public appearance with a polished chassis of the latest type of Florentia 18-24-h.p. car. The vehicle is of Italian construction, and, like the majority of cars which reach us from that country, is of high grade construction. The pressed steel frame is narrowed in front to increase the lock of the steering wheels. The four cylinders, which are cast in two pairs, are 100 mm. bore by 140 mm. stroke. The valves are located on opposite sides, and the ignition is by high-tension magneto. The latter, as well as the water circulating pump, is driven by enclosed gear wheels. The mixture is furnished by a special design of automatic carburettor with hot water jacket. The radiator is of the honeycomb type, air being induced through the same, by a fan formed in the flywheel. The clutch is of the expanding metal-to-metal type, and the shaft connecting it with the gear-box provided with a joint to allow for any want of alignment between the two parts, and also to permit of either being dismounted without disturbing the other. The change-speed gear, which is controlled by a lever working in a "gate," is adapted to give four speeds forward and a reverse with direct drive on top speed; the final transmission is by a cardan shaft and bevel gear to a live axle; the latter has only the driving strain to withstand, the drive to the rear wheel hubs being by the square ends of

driver actuates internal expanding brakes working inside drums attached to the rear road wheels.

### The Clyde Cars.

Mr. G. H. WAIT, of Leicester, exhibits a couple of Clyde 8-9-h.p. double-cylinder cars, one being fitted with a two-seated body and the other with a side-entrance double phaeton. While the general design is unaltered, several improvements have been made in the details with the view of keeping the vehicles well up-to-date and of giving them a pleasing appearance; thus we note that push pedals have been adopted as well as "gate" control, and that a Daimler type of curved dashboard is now being fitted. The engine, which is a double-cylinder White and Poppe, is arranged with its crank shaft parallel to the axles, it being thus fixed at right angles to the usual position. The exhaust gases on reaching the silencer pass through a large expansion chamber, and a special fitting is seen in a device for flooding the carburettor to facilitate starting, without it being necessary to open the bonnet. The transmission in the Clyde cars is on novel lines, and that it is efficient is demonstrated by the success achieved in several of the hill-climbing competitions held in Leicestershire during the past season. The change-speed gear is enclosed in a box which also surrounds a differential on the rear live axle; it is adapted to give three speeds forward and a reverse; the pinions are always in mesh, one set being loosely mounted together with the dog clutches, by means of which they are made to transmit the power, on a short shaft carried parallel to the rear axle. The latter carries the fixed train on

pinions, the usual gear-box side shaft being thus dispensed with. The connection between the engine and the one end of the tubular frame and the gear-box at the other is by an enclosed Renold silent chain, with a three to one reduction. The clutch, which is of the metal-to-metal type, is located within the chain wheel on the outer end of the gear-box.

#### The Starling and Stuart Cars.

The popular little "Starling" 6-h.p. single-cylinder cars are again a feature of the STAR CYCLE COMPANY'S exhibit. These two-seated vehicles have three speeds forward and a reverse, with direct drive on top speed, the transmission being by chains. A number of detail im-

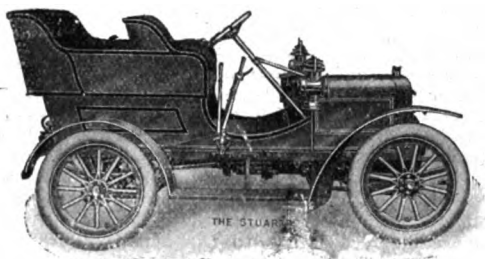


Fig. 3.—The Stuart Car.

provements have been introduced, while the wire wheels have been superseded by those of the artillery type. The novelty at the stand is the range of the new "Stuart" cars fitted with either two, three or four-seated bodies. The frame of these vehicles is of the armoured wood type. The motive power is supplied by a 7-h.p. twin-cylinder engine, the bore and stroke being respectively  $3\frac{3}{8}$  in. and 4 in. All the valves are mechanically operated, and a governor with a cut-out pedal is provided. The mixture is furnished by an automatic carburettor; ignition, which is controlled by a lever on the dashboard, is by coil and accumulators, and the water circulation by a friction-driven pump and radiator with fan. The clutch is of large dimensions, and very easy to adjust; it is of the cone type with three springs and is provided with a ball thrust bearing. The gear-box is adapted to give three forward speeds, the top being direct, and the reverse so arranged as to remain idle except when in actual operation. The final drive is by a cardan shaft and bevel gear to a live axle, the latter as well as the gear-box shafts running on ball bearings. The wheelbase is 7 ft. and the road wheels are shod with 700 by 85 mm. tyres. We note that long footboards replace the small iron steps usually fitted to give access to the vehicle. Designed to meet the requirements of motorists of moderate means, the new Stuart cars form a noteworthy addition to the list of popular-priced vehicles; they are of sound construction, and, judging from our inspection, should give excellent results in practice.

#### The New Eagle Cars.

There are a number of special features in the new Eagle cars exhibited by the ST. GEORGE'S MOTOR CAR COMPANY, of Leeds. This is the first time these cars, which are built to the designs of Mr. Ralph Jackson, have been publicly shown, and the excellent performance made by one of them in the recent speed trials at Blackpool render them worthy of more than passing notice. The frame is of wood and steel construction; the engine, of the 24-30-h.p. model, comprises four cylinders, 110 mm. bore by 130 mm. stroke, cast in two pairs, with the valves arranged on opposite sides. The half-time wheels, governor, &c., are located at the

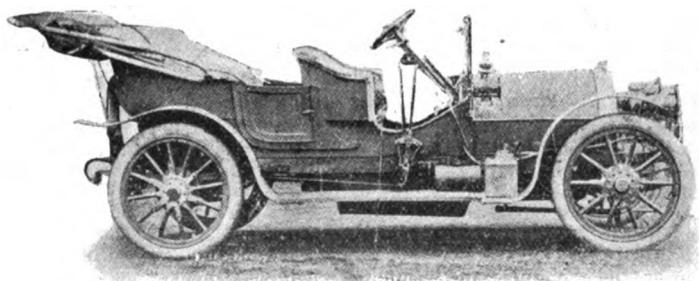


Fig. 4.—The New Eagle 35-45-h.p. Car.

rear end of the motor, they being readily accessible—seeing that no fly-wheel is employed—by lifting up the driver's floor board. Ignition is by high tension magneto and the water circulation by gear-driven pump. A feature of the cars is the employment of an epicyclic or planetary type of change-speed gear giving three speeds forward and a reverse. This is a type which is largely used on American cars and one to which increasing attention is being given in this country. The gears are always in mesh, the first two speeds and reverse motion being obtained by the tightening of bands on their respective drums. On the top speed

the whole gear-box is locked together by means of a clutch having metal faces, the drive being then direct, by a cardan shaft and bevel gear, to a live axle. The rear-springs are of the double-elliptic type, and the torque rods are of special design; they not only extend right from the back axle to a point on the rear frame in a line with the motor, but are built up of plate springs. Other points to which attention may be drawn are the mounting of the steering gear on, instead of below, the frame, and of supporting the starting handle entirely on the engine. The car is fitted with a roomy side-entrance body. A 10-12-h.p. car, with four-cylinder engine and epicyclic change-speed gear, is also on view.

#### The Laurin-Klement Cars.

A new voiturette of Austrian construction is seen in the Laurin-Klement exhibited by Mr. E. H. F. ENGLEHART. The engine, which is of 8-9-h.p., comprises two cylinders arranged in the form of a V (Fig. 5). The inlet valves are of the ordinary suction type and the ignition by low tension magneto. The water circulation is on the thermo-siphon system, no pump being employed. The drive passes through a leather-faced cone clutch to a gear-box giving three speeds and reverse, with direct drive on top speed to the cardan shaft and thence by bevel gear to a live axle. The gear-box is so constructed that the shafts may be drawn out from the rear in case of necessity. The standard car is fitted with a two-seated body, but an additional seat at the rear can be provided if desired.

#### Some Other Cars.

The REX MOTOR MANUFACTURING COMPANY exhibit several examples of the Rexette car, which, while having only three wheels, runs on four tyres, the rear one being of the twin type. This is claimed not only to reduce the chances of skidding, but also to distribute the strain on the driving wheel. The engine is of 8-h.p., and

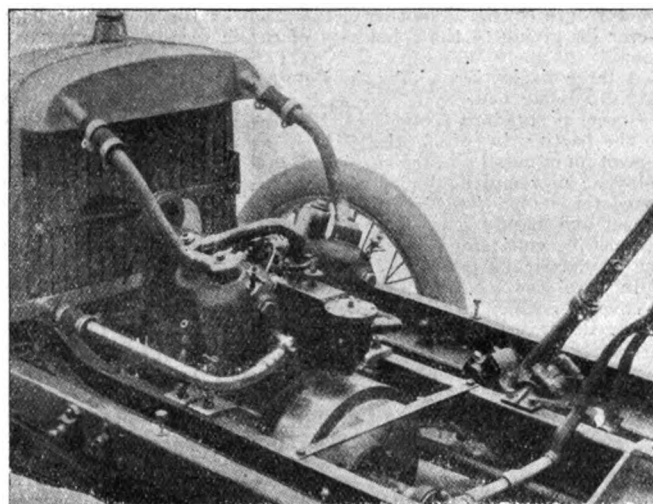


Fig. 5.—View of forward end of chassis of Laurin-Klement Car.

comprises two cylinders in the form of a V. Three speeds forward and a reverse are provided, the final drive being by chain. The car is adapted to carry two persons on the front seat, the driver being at the back. A "Brown" 18-20-h.p. side-entrance car is displayed by Messrs. BROWN BROTHERS, LTD., and Mr. A. PELLANT exhibits a chassis of the latest type of 28-35-h.p. Pilain car, the change-speed gear of which is arranged to give a direct drive on both the third and fourth speeds. A somewhat novel single-seated car known as the "Sabella" is shown by Messrs. A. T. WARNE and Co., of Leytonstone, and it is stated to be designed for the use of doctors, travellers, golfers, and professional men. While, no doubt, much thought has been given to its production, we are afraid that the machine is far too lightly built to prove satisfactory in practice. The engine is a 5-h.p. air-cooled twin-cylinder, fitted with an arrangement by means of which it can be started from the seat. The transmission is by chains, and the single seat is supported on C-springs. The BRITISH DUPLEX MOTOR CO., LTD., exhibit a chassis of a 20-h.p. car fitted with the special two-stroke air-scavenging engine, of which some particulars will be given in our report on the Olympia Show. AUTOMOBILES DE LUXE, LTD., display a range of Darracq cars representative of a number which they keep on hand for hiring-out purposes. AUTOCARS AND ACCESSORIES, LTD., of West Norwood, show a 6-h.p. Starling car provided with a convertible body so that it may be used either as a two-seated pleasure car or as a light delivery van.

Among the exhibits which have become familiar to motorists and which find a place in the Show is the Aralizing installation of the ARA PATENTS CORPORATION, of London, W.C.—a simple system of vulcanizing new rubber into cuts or gashes in the covers or inner tubes of tyres with a minimum of delay on the road. The idea is exceedingly simple and the method of application effective. Whittle's

link-grip belt for motor-cycles, cars, &c., is a combination of leather and steel links, and has already received attention in our columns. Messrs. T. WHITTLE AND SONS, LTD., of Warrington, who are the makers, point out that the method of construction secures that the surface in contact with the pulley is of leather only, and of large area. Mr. F. L. ANDERSON has a display of motor specialities, in which tyre gaiters, non-skid bands, &c., figure largely, the HAGEN ACCUMULATOR WORKS occupying the next stand with their well-made accumulators for all classes of automobiles. Mr. A. C. WRIGHT is represented by his motor-cycle foot rests and a good selection of lamps and carburettors.

The WALTHAM AUTOMOBILE COMPANY exhibit a two-seated run-about, fitted with 4-h.p. air-cooled engine. The car, which is steered by a tiller, is stated to be capable of attaining a speed of twenty-five miles per hour.

#### A Novel Tyre Guard.

A somewhat novel device known as a tyre guard is exhibited by Mr. LOVELESS, of Upwey, Dorset; it consists of two brushes, arranged one in front of each of the steering wheels of the car, the idea being that the brushes will sweep out of the way of the same any puncturing or destroying material, such as sharp stones, rusty nails, &c. The apparatus, which is shown fitted to a Spyker car, is supported from the front axle and cross steering bar in such a way that it follows any movement of the forward road wheels; the brushes themselves are of steel, and can be readily renewed when necessary. The inventor claims that by the use of his arrangement cuts in the outer covers are practically eliminated and a consequent saving in the tyre bill effected. The idea is undoubtedly a simple one, but whether motorists generally will be inclined to convert their cars into road sweepers, even to their own benefit, remains to be seen.

The COUNTY CHEMICAL COMPANY, LTD., have a new steam vulcaniser and a series of repair outfits for tyres, among the latter being G.B. tyre cure, a new renovator for repairing cuts, gashes, &c., in motor tyre covers. Another preparation on the stand is a leather restorer for giving to the upholstery of cars a gloss and texture equal to new.

A large display is made by the PRESTED MINERS' GAS INDICATING ELECTRIC LAMP COMPANY, whose Prested batteries for automobiles have become standard accessories. A new plate has been introduced into the battery by which the risk of swelling is obviated, a new composition of metal now taking the place of the all-lead grid previously employed; new multi-cylinder coils are also exhibited as well as the Prested test lamp. This is made in the shape of a pencil, and is a very compact and handy testing arrangement. Universal charging boards, hydrometers, voltmeters, ammeters, &c., complete a very attractive show of electrical accessories.

In tyres the PALMER TYRE, LTD., show their motor-cycle tyres, the covers of which have been made stronger for the coming season. Messrs. REDDAWAY AND CO., LTD., and the Macintosh Tyre Co., are also represented in this section. The OTTO-BENNETT MOTOR AND ENGINEERING CO. draw renewed attention to their See non-skid puncture-proof bands and non-skids as well as gaiters of an excellent type and examples of repairs to tyres, in which they are developing an excellent connection. The company are making a special feature of retreading Michelin non-skids and plain rubber treads. Among the accessories on view is Payne's hose clip, a non-skid band preservative composition, and selections of Duckham's motor oils, these latter being of high grade. The INDIA RUBBER, GUTTA PERCHA AND TELEGRAPH WORKS CO., LTD., have a show of their "Le Persan" motor tyres, as well as of patches, india rubber solution, and all descriptions of rubber goods. The AVON INDIA RUBBER CO., LTD., also have a display of tyres for motor-cycles and sundries relating to repairs, &c. They are bringing out a new non-skid for motor tyres in which cross grooves are the leading feature. A new detachable rim with an ingenious yet simple fastening is shown by the BURNHAM DETACHABLE MOTOR RIM COMPANY, of Liverpool. The SELF SEALING RUBBER CO., LTD., of the Hermetic Works, Ryland Street, Birmingham, show their non-skidding tyres and their Hermetic specialities in all kinds of motor rubber goods as well as a detachable joint for air tubes, &c. The Exonite steering wheel of DOVER, LTD., noticed in our report of the Olympia Show, is also on view at the Stanley Show, as well as the leather goods of Messrs. J. BROOKS AND CO., LTD., to which full reference was made in last week's M.C.J. The SOUTH BRITISH TRADING CO., LTD., have a selection of accessories, including lamps, sparking plugs, spanners, &c., and the Skinner compound motor tyre pump, by means of which large motor tyres may be pumped up with 100 lbs. pressure with a minimum amount of exertion. Messrs. NICKELLS AND COMPANY take advantage of the occasion to show their nuts and fasteners for accumulators and sparking plugs, valve connectors and other specialities to which reference has lately been made in these columns.

Messrs. SWAN and Co., 212-216 and 228, Pentonville Road, King's Cross, N., have a large selection of motor-car accessories, including lamps, horns, voltmeters, &c., as well as their Cape cart hoods and glass screens, the latter embodying some good points of construction. Other good shows of motor sundries are made by Messrs. BROWN BROS. whose "Duco" specialities are well known; and the East London Rubber Co. Messrs. LAKE and ELLIOT show a complete line of handy tools for repair work and their motor-cycle jacks and stands. THE BIFURCATED

AND TUBULAR RIVET CO., LTD., have several new patterns of bifurcated rivets in all lengths and gauges.

Storage batteries and ignition coils are exhibited by Messrs. H. W. COX, LTD., of Rosebery Avenue, and Laystall Street, E.C. Their "C.M." type of grid should be examined by motorists. The bars of the grid, being on either side, allows the active material to form a complete block held in by the wedges at opposite angles of the cells. The separators are placed in channels on either side of the plates. On the bottom of the two outside plates of the section are placed two feet on each side, and across these is fixed a celluloid bridge, which keeps the section well off the bottom of the cell, while holding it securely and preventing the separators from moving. Well made and carefully thought out, this style of construction should commend itself to motorists.

Messrs. HARVEY, FROST AND CO., LTD., have a complete selection of their well-known vulcanisers, the new features of which have previously been mentioned in these columns.

A newcomer is seen in the UNION RUBBER AND CHEMICAL COMPANY, LTD., of Shaw Street, Ashton New Road, Manchester, which makes a bold show of lubricants, rubber goods, &c., for motorists, the distinctive trade name of "Turco" being applied to all the productions of this firm. The Turco carbide is put up in tins of a convenient size, and so treated when quite new that it is rendered unaffected by atmospheric action, and even after being kept a long time will yield the maximum five cubic feet of gas to the pound. Tyre repair outfits, rubber solutions, a repair band, motor oils, greases, gaiters, and similar goods are included in the range of the Union Rubber and Chemical Company's productions.

Immediately on entering the building the visitor is met by the familiar display of Mr. R. W. COAN, whose capacity for the production of aluminium castings, &c., finds new demonstration at each succeeding Show. Here is a selection of aluminium cases which have been repaired as well as illustrations of new parts made into old cases that have been broken. The patent aluminium steering wheel with hollow rim and spokes is also shown by Mr. R. W. Coan, who thus enables the hot water from the circulating pipe to be run through the wheel and back to the tank by a return pipe, a device that might well be considered by the motor-bus companies now that the winter is with us. Near the stand of the M.C.J. is that whereon the STERN-SONNEBORN OIL COMPANY, LTD., have a selection of their specialities. Further along PRICE'S PATENT CANDLE COMPANY have their complete display. Messrs. TAYLOR AND CO. show their spanners in larger sizes than have hitherto been exhibited. In the prominent position which it occupies at the Cordingley Motor Shows SELVYT finds a place, its variety of uses being fully shown, including lamp covers, metal dusters, and the score of ways in which its merits as a polish cloth are appreciated. Near by is the speciality of the LYXAGON COMPANY—a liquid soap, capable of dissolving grease on the hands, and thus proving of interest to motorists. MUNTZ'S METAL COMPANY, LTD., of French Wall, near Birmingham, is represented by a selection of aluminium castings for automobiles, such as crank cases, gear boxes, and the like, as well as copper tubing for motor-cars. Messrs. GRINDLEY AND CO. have a selection of their Pioneer brand of motor oils and greases, which they are supplying to many of the London motor-bus companies, and for the purposes of several motor mail vans. The "Eclair" pump connection, by means of which an air-tight joint can be made, is shown by Mr. H. HARDING. This consists of an interturned rubber washer, which is pushed over the valve to secure an instantaneous tyre pump connection when necessary.

Messrs. STEINER AND COMPANY have their usual display of lamps, horns and accessories, additional interest being given their exhibit, however, by the presence of the Hella motor headlight, for which the firm are British agents. In this lamp there is a convex nickel-plated reflector, constructed as a door, giving easy access for cleaning the lamp behind the burner. The front glass is some distance from the burner, and hence out of danger from cracking. There is little likelihood of the light blowing back in a high side wind, owing to the excellent construction of the lamp, which has certainly come to this country with a high reputation.

Messrs. C. J. RENTON AND CO., of 139, Long Acre, W.C., are the London agents for M. Louis Auteroche, whose lamps for all classes of motor vehicles are now introduced to the public. A first glance at the special features of the display reveals the good construction of the lamps, the most notable of which is that which secures incandescent lighting by benzoline and oxygen cartridges, and to which we shall make fuller reference on another occasion. The Zanardini lamp is now being handled in this country by Mr. C. F. BERTELLI, 1, Albemarle Street, Piccadilly, W. These are of striking appearance and great illuminating power, and should become as familiar on high-grade cars in this country as they are where their merits are better known. Another lamp which is attracting attention is the "Frankonia," introduced by Messrs. W. TWEEN AND CO., the inverted helmet shape presenting a novel appearance.

The BOWEN AND ODERY MANUFACTURING COMPANY show their "Sentinel" accumulators, the celluloid cases of which are well calculated to withstand hard wear.

One of the simplest detachable rims that has yet been introduced is shown by the BERESFORD MOTOR RIM COMPANY, of Newcastle, Staffordshire. This consists of a ring of metal, which can be easily slipped on the rim and the inflation of the tyre keeps it securely in position, locking the two ends that overlap.



## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
27-33, Charing Cross Road, W.C.]

### EXPERIMENTS WITH COMPRESSED ACETYLENE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have read with great interest the references to the use of compressed or liquefied acetylene for lighting purposes in connection with motor-cars, especially as I have, for the last two or three months, been experimenting with the dissolved acetylene supplied by the Acetylene Illuminating Company, and I must say that under no circumstances would I go back to the old method of having an acetylene gas generator, with all the attendant troubles and annoyances in connection with recharging and cleaning. The gas is supplied in cylinders, and each cylinder contains sufficient for from fifteen to twenty hours.

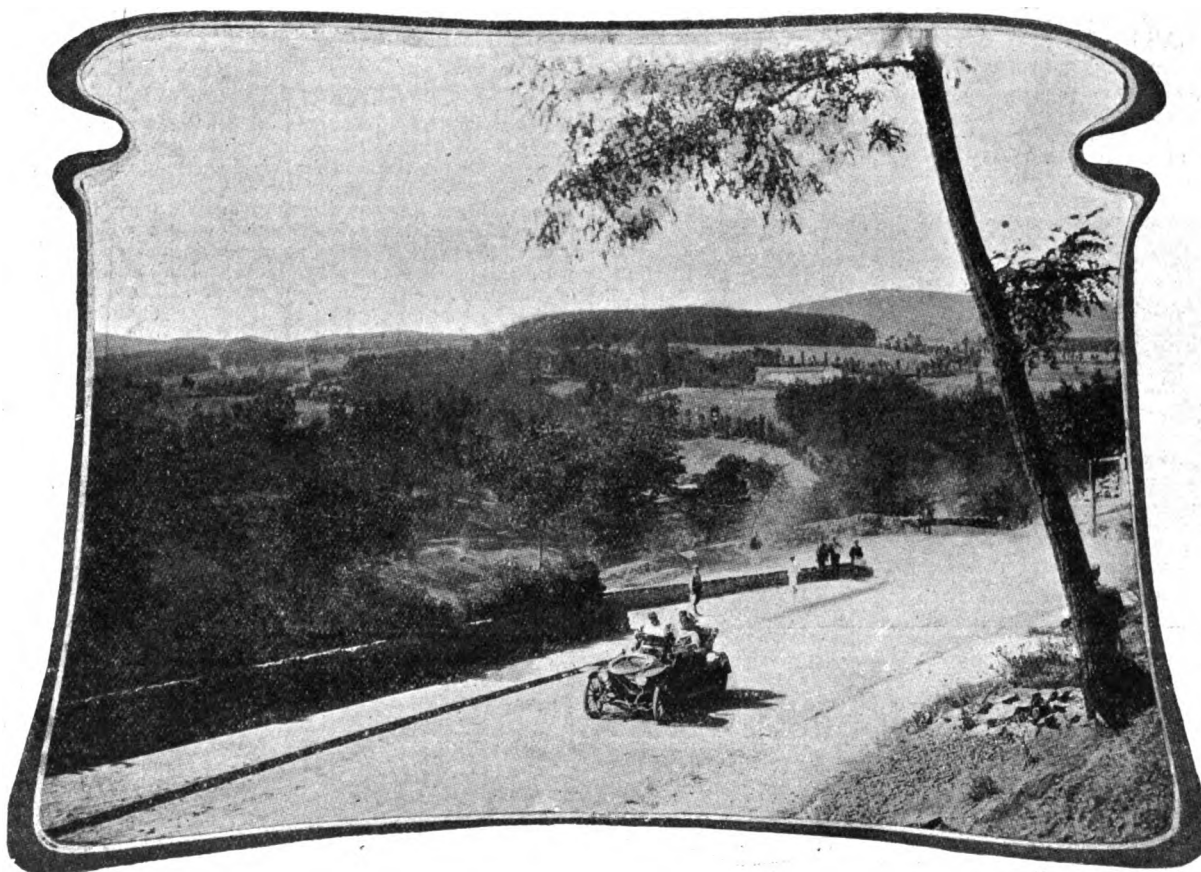
impossible to use it, and was subject to the Explosives Act (38 Vict. c. 17). It was subsequently discovered, however, that acetylene, when compressed into a certain porous substance containing acetone, does not possess explosive properties, and certain rules were laid down for the handling of acetylene gas treated in this manner, and when so treated the cylinders containing it were exempted by special order of Secretary of State. I have made most careful inquiries, and am convinced that there is no danger whatever in the use of these cylinders, which are made under these special regulations, and I therefore have no hesitation in continuing their use myself and recommending them to those of my friends who are interested. Some very interesting experiments were carried out at the Royal Naval College two or three years ago, and it was clearly demonstrated that no element of danger existed.—Yours truly,

CHAS. JARROTT.

### LIVE AXLES AND DIRECT DRIVE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In your last week's issue I notice a letter from Mr. S. F. Edge in which he states that "a live axle and direct drive as introduced by Mr. Napier in 1902." As there have been so many claims as regards



Touring in France.—A Pretty View near St. Flour, in the Auvergne.

use. The great advantage I have noticed in connection with using these cylinders is that one can turn the gas on and off at will in the same way as an ordinary gas tap. There are two points of importance in considering the advisability of using this gas in connection with the motor car—the first its cost, and the second the danger from explosion. On the first point I may state that the cost appears on the face of it to be somewhat expensive, but I find that in actual use it is, in fact, cheaper than using ordinary carbide. It is seldom that one has to use acetylene for a longer period than, say, two or three hours at a stretch, and very often the lamps have to be lit for only half an hour's use. On these occasions the whole charge of carbide is practically spoilt, and it therefore follows that if the lamps are lit for a number of short periods the waste in connection with the carbide is very considerable. By the use of the dissolved acetylene gas, however, the gas can be turned on and off at will, just as and when it is required, with all the attendant trouble in connection with emptying out water and carbide before the car is put away for the night entirely obviated. The actual extra difference is not very considerable, and, to my mind, it is one of the best things I have tried in connection with motoring for some time.

Dealing with the question as to the danger in using compressed acetylene, I would like to mention that originally it was practically

introduced by this gentleman, I think it would be interesting to your readers to know that the Belstar Motors, Ltd., made their first live axle in 1900 and exhibited same at the February Show in the Agricultural Hall in 1901, and have also continued to use the live axle right up to the present day. It is also interesting to note that they built their first six-cylinder car in November, 1904, and have turned out as many as seven cars of this type in one week. Synchronous ignition was introduced by them in 1902, and has been used ever since on all types of cars made by them. I feel sure you agree with me that Mr. Elge's firm is not the only one in the British industry to introduce new features.—Yours truly,

R. CROSSLEY.

### THE QUESTION OF SPEED.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reference to the letter of Mr. A. L. Hickman in your issue of November 17th, I want to point out that it is at any rate not always necessary, as he states, to be examined in order to receive the "permis de circulation" for touring in France. I had to pay twenty francs only for that document, and ate my breakfast while the pre-

liminaries were gone through. In fact, in my case the whole thing was a farce. The idea is right enough, but like many other good intentions, the practice is not ideal. His remarks re the nature of the English driving licence are most appropriate and to the point.—Yours truly,  
A. J. MCKINNEY.

### THE PROPOSED AERIAL ASSOCIATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have had a number of letters from persons who are interested in the solution of the aerial problem, and who are desirous of joining the proposed Aerial Association, but I have noticed that the majority of these are from London or the neighbourhood. I have thought that this circumstance may be due to the fact that I have omitted to mention any address to which such letters might be sent. I might add that, although three years is mentioned as the time during which I have felt confident of being able to design a successful aerial machine, this period was mentioned simply because it was only during this time that I felt sure that an internal combustion engine sufficiently light for the purpose could have been obtained. The model upon which I first demonstrated the principle referred to in my letter was an actual fact made in 1898. I shall be glad to hear from any persons interested in this question at Thanet House, Temple Bar, London, W.C.—Yours truly

J. D. ROOTS.

### GLASS SHIELDS AND THE RAIN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR—As there are now so many motor-cars with canopies, or glass shields, I thought the following tip might interest a few of your readers. Anyone who has driven a car in the rain, especially at night, will readily admit how difficult it is to see far ahead, owing to the raindrops sticking



A Thirsty Car.

all over the glass. To get over this difficulty I wipe off the wet, and then rub the glass all over with a piece of cloth soaked in glycerine. This will appear dull at first, but as soon as it is rained upon it will become as clear as though it had been dried. I have driven from London to Sheffield in pouring rain with only two applications. If glycerine cannot be obtained, paraffin is a good substitute, but when this has been rained on it is necessary to rub it over with the hand to make the drops of rain go even all over, and it does not last long. I am never without the handkerchief and bottle of glycerine. Other motoring friends may have a remedy, but, judging by what I have seen, this is not generally known.—Yours truly,

J. H. HALL.

### DISCOMFORT AT OLYMPIA.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—“Lest we forget” before the next show the annoyance which all have suffered from the dust this year at Olympia, would it not be a wise plan for the Society of Motor Manufacturers and Traders to make some decision at once for the betterment of this disagreeable condition for next year?

If the aisles were covered with cocoanut matting and lightly sprinkled with water, as in the Paris show, there would be very little flying dust. Not only is the dust bad for exhibits, and unpleasant to exhibitors—especially ladies—but it creates a most unwholesome atmosphere for those engaged constantly at the show for ten days.

The condition of nervous exhaustion known to all concerned in the show, due to the confinement and long hours, is greatly augmented by the bad ventilation and dust-laden air.

The object of the show is to exhibit and sell cars, and motor-cars are not bought in a moment like cigars, and no one will remain long in

a fetid atmosphere who does not have to, and a lack of attention to the seemingly small details of ventilation and cleanliness will, in many cases, drive buyers away, and defeat the purpose for which the show is established.—Yours truly,

A. H. ADAMS.

### IMPRESSIONS AT THE SHOW.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Walking round the Show last week one was surprised to find such a large number of well-made and beautifully-finished vehicles. A slight reduction was found in the prices of the high power cars, but this was not the case with the smaller machines, which latter are, however, now of much better construction than before. I looked in vain for a ready good small car, of British make, costing less than £200. The general design, from an outside point of view, has not altered very much since last year, although in detail there is very considerable improvement to be seen and studied.

One was surprised to find so many firms now building cars fitted with six-cylinder engines, but there is yet room for many improvements in the design of these vehicles. There are two points which I would recommend motorists in buying cars to give special attention to. First, the method for locking the selector bars for the change-speed gears, a locking gear being necessary to ensure perfect safety. Second, see that the brakes are thoroughly compensated. I mention these two points in particular, as their necessity is very soon discovered in practice, sometimes with bad results.—Yours truly,

W. W.

### WIRE SPOKED WHEELS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We are quite in accord with the claims which Mr. J. V. Pugh is setting forth in favour of carrying a spare wire-spoked wheel with tyre fitted in place of the usual detachable rim systems, and it may be interesting to note that the new 9-h.p. Riley car which is now being introduced has wire spoked wheels which are interchangeable with each other. We are, moreover, recommending that a spare wheel with tyre fitted be carried to replace either of the four wheels in case of puncture, &c. The principle of attachment appears somewhat similar to that adopted by Mr. Pugh, the outside hub cap forming the locking device for the hub, which slides over a sleeve, the drive being taken by suitable projections, which in the case of the back wheel form part of the brake drum fixing. The weight of a standard wheel with 700 mm. by 90 mm. non-skid tyre fitted is 31 lbs., so that no exception can be taken as regards weight, while the unscrewing of a single cap nut is certainly quicker and easier than the detaching of a rim from the wheel.—Yours truly,

VICTOR RILEY.

### MOTOR PROGRESS ON THE CONTINENT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have been in France and Switzerland lately, and I am not much impressed with the progress of the motor movement abroad. All the hotels in Lausanne and Territet and Montreux appear to use horse-buses, and even in Paris there are not many motor-buses, though of course the small number of horse-buses also in the French capital must be taken into account in comparing Paris with London. In Boulogne, Dijon and Geneva I saw no motor-cabs at all; indeed, I only saw a few in Paris during my tour. I have a view of the Hotel de Ville, in Dijon, showing ten horse cabs in the foreground, a curious commentary on the progress of automobilism in France.—Yours truly,

CECIL JACKSON.

### IGNITION DIFFICULTIES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I shall be much obliged if, through the medium of your journal, you could tell me what is the matter with a 12-16 h.p. Tony Huber car that I am driving.

It runs all right for a day or two, then all of a sudden begins to miss-fire and keeps on doing so for two or three days, then just as suddenly it changes again and goes properly. A new wipe roller has just been fitted to the contact maker, but it does not seem to make any difference. I have examined all plugs, and find that they spark all right when the engine is stationary. I should be pleased if you could suggest any reason for this.—Yours truly,

C. HILL.

[This trouble may be caused by the spring which holds the roller on the contact being weak, or in all probability is due to a bad earth return. A good plan is to get a contact-breaker cover fitted with a contact piece coming into action on the end of the spindle which carries the roller arm. In many cases the trouble may also be overcome by thoroughly washing out the bearing carrying the spindle, and lubricate with thin oil. A roller contact may also be run in thin oil to advantage.]

OUR inquiry for the address of the publisher of Mr. E. Wright's Summary of the Motor Car Act has produced a reply from the Academy of Motoring, who issue this admirable summary of the Act in a very concise form.

## CLUBS AND ASSOCIATIONS.

### PETERBOROUGH AND COUNTIES.

THE members of the above club recently held a re-union to commemorate the tenth anniversary of the Motor Car Act, meeting at the Great Northern Hotel, Peterborough, and having a run to Norman Cross. Those taking part included Messrs. C. E. Pointon, F. W. Southwell, F. S. Southwell, J. Pointon, J. H. Booth, R. S. Parris, J. Wilkins, A. Stallebrass, T. Woodman, W. Walshaw, F. T. Heighton, S. B. Cox and J. Matthews, hon. sec.

### DERBY AND DISTRICT.

THE headquarters of this club have been transferred to the Royal Hotel, Derby, which is the official local house of the A.C.G.B.I. It is hoped that in the course of a few weeks the club will have successfully carried through negotiations which are pending for the provision of a permanent private garage.

### SOCIETY OF MOTOR-OMNIBUS ENGINEERS.

BEFORE the members of the Society of Motor-Omnibus Engineers, who met at the Hotel Cecil, London, on Monday, Dr. H. S. Hele-Shaw examined the questions involved in the theory and practice of power transmission in public service vehicles. The conditions which had to be fulfilled were, that acceleration from rest must be rapid and smooth,

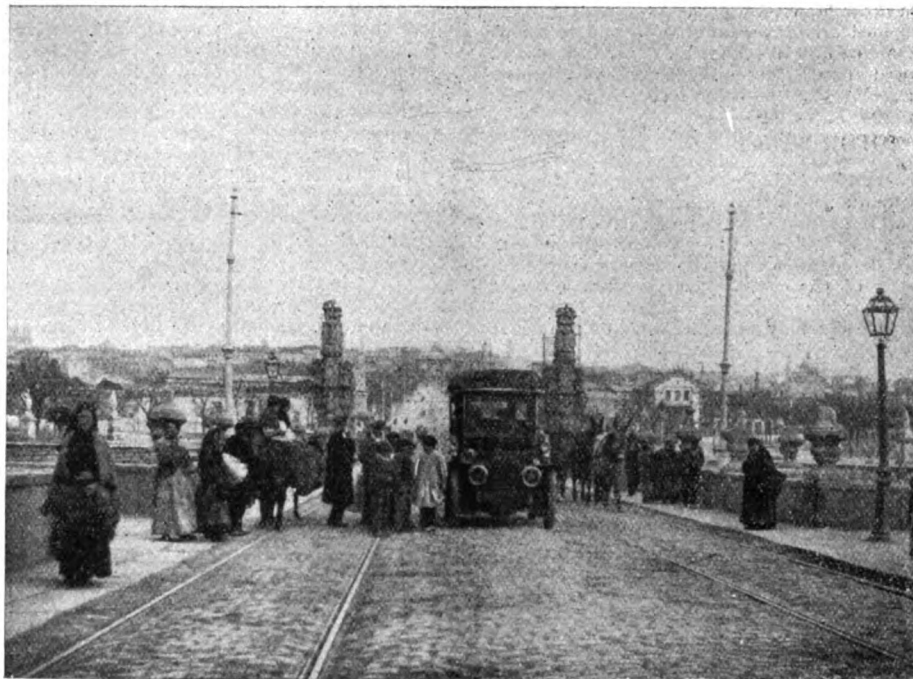
## TOURING IN SPAIN.

THE following extract from "The Car of Destiny," the new novel by Mr. and Mrs. C. N. Williamson, published by Messrs. Methuen and Co., will be of interest to those contemplating a tour in Spain:—

To avoid the town it seemed that we must steer into chaos, void and formless; but there were only a few hundred yards of desert. Beyond we found ourselves in a good road, which led to the white village we had been told to expect, and there, as we were already primed with information, we wasted no time in asking questions. Instead, we plunged into open country, with a vista of olive trees in the grey-green distance. From fair, the road dwindled to doubtful; then to a certainty of badness. It narrowed; softened to a sandbank; hardened into a wilderness of rocks and stones scattered between deep ruts dug by the wheels of ox-carts. Apparently no other vehicles than these had ever weathered the terrors of this passage; yet we persevered, for here were the promised olive trees, so near, indeed, that we lurched against them as we rocked from side to side. We had been warned whatever happened not to be discouraged, and we cheered each other bravely, while our heads bumped against the roof. "It will surely be all right soon."

Meanwhile, however, it was a nightmare; the sort of thing which a delirious chauffeur might dream and rave of in a fever; and instead of improving the way grew worse.

"Let's turn back," said Dick. "Another hundred yards like this, and even if we don't smash the differential or the chassis, Ropes will get side-slip of the brain. Half an hour of such driving must be equal to a week in purgatory for a chauffeur."



From "The Car of Destiny.

The Way into Gay Madrid.

and that gradients, no matter of what inclination or length, must be taken with as little as possible variation from the maximum permissible speed. In crowded cities the former might be of far greater importance, whereas for vehicles running in the country, especially in hilly districts, the opposite might be the case. Unless the variable speed gearing was thoroughly effective from the point of view of easy manipulation, small transmission losses, durability, and silence, it put the petrol or paraffin driven 'bus at a great disadvantage to its steam rival. As to which type was best, the question was not likely to be decided except by the survival of the fittest. Dealing with the different gears at present in use, the speaker approved those in which the changes were effected by pedals rather than levers, for it was most important that a driver should be saved from the necessity of taking his hand from the steering wheel to change gear—a man who could do it while his vehicle was skidding was a perfect genius. If the internal combustion motor was to continue so largely to hold the field against electricity and steam, there might be changes in the matter of transmission gear greater than at the present moment they could venture to forecast with any certainty.

THERE are now nine ambassadors on the list of honorary members of the A.C.G.B.I.

THE Southend and District Motor Club and the Lincolnshire Motor Cycle Club are seeking affiliation to the Auto Cycle Club.

SATURDAY, July 15th, has been provisionally fixed for the open hill-climbing competition to be held by the Midland A.C. at Shelsley Walsh, Worcestershire, next season.

We did turn back, and, feeling years older, arrived once more at the point from which we had started. We would have given something to see the guides, but they had prudently taken themselves off like full-fed vultures. This time we made no inquiries, but trusted to our intuition and our maps, which, without once contradicting each other, led us into a decent road that seemed like a path to Paradise after all we had endured.

Making up for lost time and revelling in joy of motion, we put on our best speed, which for a few moments brought the roadside telegraph posts as close together as fir trees in a Norwegian forest. But suddenly the motor slowed, and stopped with a tired sigh within sight of a village white as newly polished silver.

"Petrol gone," said Ropes. "It oughtn't to be, but it is. Extra strain in that short cut of the Duke's used it up."

He got out and untied a "bidon" from the reserve store fastened upon the footboard. But the tin was light in his hand as a feather. He gave a low whistle, and a shadow darkened his face—a shadow which was not made by the brim of his motor cap as he bent his head to examine the bidon.

"There's a leak here, sir," he said to me—for, though Dick was supposed to be his master, in moments of stress he clung to old habits. "Looks as if the tin had been pricked with some sharp instrument. H'm! Shouldn't wonder if it had been. It would be of a piece with all the rest."

"You mean at Toledo?"

"Yes, sir. Everything was right then. I bought enough petrol in

Madrid to last to Cordova, pretty well all we could carry, and ordered more to meet us there, grande vitesse, in case I couldn't get it, as you said we were sure to go that way."

"Well, let's look at your other bidons. We shall be in a fix if we're held up here."

"Two more empty," announced Ropes. "And three bidons don't suddenly take to leaking of themselves. I suppose if I'd had my wits about me I'd have looked at Toledo before starting; but who's to think of everything?"

### NEW COMPANIES REGISTERED.

**BRITISH AND COLONIAL DAIMLER-MERCEDES SYNDICATE**—£10,000. Motor-car and omnibus proprietors and dealers, carriers, &c. 1, Broad Street Place, E.C.

**HERON MOTOR COMPANY**—£2,500. To acquire the business carried on by Mr. J. J. Horne at 89 and 91, John Bright Street, Birmingham. First directors, Messrs. J. J. Horne and J. S. Arter. 89 and 91, John Bright Street, Birmingham.

**LIVERPOOL AND DISTRICT MOTOR COMPANY**—£15,000. First directors: Messrs. A. L. R. Rathbone, W. K. Poulson, and R. H. Baker. 8, Cook Street, Liverpool.

**ARGYLLS, MANCHESTER**—£10,000. To adopt an agreement with Argyll Motors, Limited, for the appointment of this company as selling agents in and around Manchester. First directors: Messrs. A. Govan (chairman), R. H. Carlisle, and T. J. van Hooydonk. 188, Deansgate, Manchester.

**FRENCH'S GARAGE AND MOTOR WORKS**—£6,000. To acquire the business carried on by W. F. French and Fanny R. Arey at 314, High Road, Balham, as the South Western Motor Company, and to adopt agreements (1) with the said vendors and (2) between R. K. Inman and T. H. Wright. First directors: Messrs. W. F. French, R. K. Inman (chairman), and T. H. Wright. 29A, Charing Cross Road, S.W.

### PUBLIC MOTOR SERVICES.

THE chauffeurs of the Automobile Cab Company recently decided not to take their cabs out in consequence of the statements made by Mr. Perry, the managing director, who attributed the comparative failure of the motor-cab in London to incivility and lazy independence on the part of the drivers. Subsequently a deputation from the drivers waited on the directors and the manager of the company, and at the close of the interview it was announced that all the difficulties had been amicably arranged. The men consequently resumed work on the usual terms.

IN a printed reply to Mr. Timothy Davies, who asked the Home Secretary whether special regulations would be issued to ensure the safety of the travelling public, in view of the motor-omnibus collision with Waterloo Bridge parapet on October 30, Mr. Gladstone (the Home Secretary) replies that the accident was due to skidding, and that he has already communicated with the Commissioner of Police about the occurrence and on the general question of such accidents on bridges.

### SCOTTISH AUTOMOBILE CLUB APPEAL.

AN appeal, which was taken at the instigation of the Scottish Automobile Club from the Police Court at Ayr to the High Court of Justiciary in order to determine the competency of the jurisdiction of magistrates or other summary courts other than the Sheriff Courts in Scotland under the Motor Car Act, 1903, was fully debated in the High Court of Justiciary last week, before the Lord Justice Clerk, Lord Stormonth Darling, and Lord Low. The Lord Justice Clerk intimated that the judges considered the case one of great importance, and that they have accordingly determined to send it to a bench of seven judges.

### MOTOR-CARS ON THE FOOTPATH.

AT the Blackpool Police Court the case of J. C. Derham and Henry Culpin has been up again for the infliction of a penalty. Mr. Culpin was summoned for driving a motor-car over the footpath on Central Beach, but the case was dismissed, and upon the Corporation appealing to the High Court the case was sent back for the imposition of the penalty. The Bench imposed a penalty of 5s. and costs.

### ROAD REPORTS.

**NORTHAMPTONSHIRE**—The county automobile club has been in communication with the county surveyor with regard to the way in which some of the roads are repaired. Satisfactory assurances on the matter have been given by the department concerned—another instance of the benefit of organisation.

**HAMPSHIRE**—A motorist who recently went to Southampton via Bishop's Waltham complains that the road was being repaired in many places, and that it seemed the usual practice to allow the unrolled stones to remain across the whole width of the highway instead of dealing with half the width at a time. This latter method is in vogue in many districts.

## CASES UNDER THE MOTOR-CAR ACT.

### FAILING TO COMPLY WITH REGULATION AS TO NOISE.

AT the Shrewsbury Police Court, William Heatley, chauffeur, in the employ of Miss Louisa Rose Morris, Oxon Hall, near Shrewsbury, was summoned for having, on November 5, failed to comply with the regulations of Article 5 of the Motor Cars (Use and Construction) Order, 1904—viz., did not make prompt and effective use of means to prevent noise when in charge of a motor-car. The case for the prosecution was that the defendant left a motor-car standing in the square for seven minutes, with the engine going and the car vibrating. The defence was that the car was not left for more than two or three minutes, and that although the defendant had not strictly complied with the order the noise made by the motor was no nuisance, and the case was one which should not have been brought into court. The Bench decided that the charge was proved, but as this was the first case of the kind brought before them it was dismissed on payment of costs, £1 3s.

### A QUESTION OF IDENTIFICATION.

Mr. S. A. de la Rue, of Cadogan Square, S.W., was summoned in the Westminster Police Court for driving a motor-car in a manner dangerous to the public in the Fulham Road on November 3rd. Mr. A. Moresby White, instructed by Messrs. Kenyon and Co., defended. A police-constable stated that a collision occurred in the evening of November 3rd between a motor-car, a cab, and some furniture vans, and that the present prosecution was taken on information received. G. Matthews, the driver of the hansom cab, and other witnesses gave evidence as to the collision; they admitted on cross-examination that the road was very greasy and in a dangerous condition. The motor-car skidded across the road and the driver appeared to be doing all he could to control and direct the car. At the close of the case for the prosecution Mr. Moresby White submitted that there was no case for him to answer, as no evidence had been given that his client was actually the driver of the car at the time. The magistrate, Mr. Curtis Bennett, said all he knew was that there was a furniture van, a cab, and a motor-car with a motor-omnibus in front, but it had not been proved that the defendant was there at the time. The summons must be dismissed.

### MOTOR-CAR ACCIDENTS.

AN inquiry has been conducted in Newcastle Royal Infirmary into the death of Alexander Jamieson, who was knocked down by a motor-car and died the following day. George Waggott, an eye-witness, stated that the driver of the car sounded his horn several times, and the car was not travelling at more than four miles an hour. If the deceased had regarded the signal he had ample time to get into a place of safety. The jury returned a verdict of "Accidental death," and attached no blame to the chauffeur.

WHILE Captain Frank Kayser was driving his motor-car through Tansley on Monday it struck a boy who had just jumped off a cart. Captain Kayser motored post haste to Matlock to bring a doctor, but the boy died shortly afterwards.

A KIRKBY collier is at the Nottingham hospital suffering from severe injuries, the result of foolhardy conduct in stepping in the way of a motor-car. He was standing outside a public-house, and noticing a motor coming along, he said to a companion, "Watch me stop this." He then stepped into the road in the way of the oncoming vehicle. The driver pulled up as quickly as possible, but a projecting portion of the canopy struck the man on the left side of his face.

### A MOTORIST ACQUITTED.

MR. JUSTICE PHILLIMORE, at Monmouth Assizes, concluded the hearing of the charge of manslaughter against George Harris Handasyde, a London motor expert. Motorists agreed with the accused that the only hope of avoiding the accident was to put on top speed and swerve. The car was travelling at the rate of 17 miles an hour. Had the chauffeur slowed down and put on the brakes the car would certainly have passed over the cyclist. It was impossible for the motorist to swerve and put on the brakes simultaneously. Counsel for the Crown contended that the prisoner had been guilty of reckless and furious driving, and that if he had exercised reasonable care the fatal collision would not have occurred. The jury found the prisoner not guilty and he was acquitted.

### POLICE TRAP.

THERE is a police trap between Cobham and Ripley which has been in active operation of late.

A NOVELTY on the stand of Mr. R. W. Coan at the Stanley Show is a new telephone receiver in aluminium. By means of universal joints it can be adjusted to any height, and saves the necessity of holding the receiver by the hand for any length of time. The idea is a good one, and Mr. Coan's method of application fulfils all the requirements of such a handy device.



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## COMMENTS.



A CAPITAL all-round sportsman, able to wield the willow, guide a motor-car, or—perhaps most uncertain sport of all—edit a paper, Mr. C. B. Fry occupies a distinguished position in this country. We trust the hotel proprietors who really wish to become prosperous after the manner of those of the olden time will study the warning he has just given them as to the need of making hotels more like homes. It will often pay them to treat motorists going their way as desirable persons, instead of regarding them as mere birds of passage never to be seen again—and, therefore, only to be plucked once. That is, perhaps, an unfair way of looking at things, and our own experience with "mine host" has been of a more pleasurable kind. But there may be some truth in the plaint that hotel proprietors have not universally recognised the conditions imposed by the new locomotion, the provision of garages being one of the first steps to be taken in such a direction. Here, however, improvement is being made, and we are always glad to hear from those proprietors who provide such necessary accommodation.

### The Fuel Question.

WITH commendable promptitude the Motor Union's special committee on the fuel question has got to work, and is now collecting evidence bearing on the conditions which determine the price of petrol and the possibilities of alternatives being provided for the motor-car. So far two gentlemen have given useful information to the committee, Mr. J. H. Knight's experiments being of particular interest at the present time. He has come to the conclusion that paraffin is only slightly more difficult to manipulate than petrol, and "with modern methods it should be possible to employ, even on private cars for touring and town work, paraffin in every day use," but for heavy commercial motors and public service vehicles Mr. Knight is of the opinion that some form of producer gas will be the solution of the fuel for internal combustion engines. The cheapness of this producer gas—the cost being one tenth of a penny per b.h.p. as compared to the 1d. to 1½d. of petrol—is the point that has brought this expert to this conclusion.

### Producer Gas.

ON this point of producer gas Mr. Knight says, the producer and cleaner, placed close to the dashboard, would be so made that they could be removed by unscrewing eight bolts and the gas and water couplings, a clean set being put in, say, once a week. The cleaner could be kept cool by grills, which would reduce the quantity of cooling water. The hopper would be made to hold two or three charges, so that the producer could be recharged more than once on each journey. Two men would be required at each journey's end to charge or change hoppers, which could easily be done at eight or ten minutes' interval by means of a light crane and tackle. If petrol was used for starting and on stiff inclines a good deal of gear changing

would be avoided; the quantity of petrol used would be very small. Mr. Knight does not think users of pleasure cars will use producer gas for very many years, but, if the omnibuses now running gave up using petrol, it would possibly check the rise in price for some time to come, and here, he believes, the problem is a practical one.

### Paraffin.

THE Fuels Committee has also elicited the views of Mr. J. F. Bennett, who, with confidence, declares that he has arrived at a method of using paraffin which gives results similar to those obtained when petrol is employed. The basis of the system is the use of carburetted air in contradistinction to the use of vaporised oil. All his experiments have proved that vaporised oil is uncertain, troublesome, and unsatisfactory, except under certain favourable and exceptional conditions. The carburetted air does not readily condense in Mr. Bennett's device. His carburettor brings a stream of cold air in contact with a current of finely divided particles of paraffin, the latter being previously warmed to approximately 212 deg. Both stream and current are caused by the suction of the engine, and thus a rich carburetted air is produced. This mixture impinges upon a hollow metal globe, through the interior of which the exhaust gases pass. The mixture is thus heated, and then used in the ordinary way in the working cylinder. The finely divided stream of paraffin is previously heated separately by the exhaust. He prefers to start with petrol, but can start by heating with a lamp, and has recently taken out a provisional patent for an invention which will secure a start with paraffin cold. We understand that the Committee of the Motor Union intend to thoroughly investigate this device upon a car.

### A Warning.

OUR attention has been called to a firm that offer drivers assured positions on receipt of a fee. This suggestion is sometimes made to the advertisers in the *M.C.J.*, who may be warned not to part with their money until they are in the situation. Of course, we do not now refer to the recognised agencies that seek to bring the chauffeur and the employer together; but promises of certain definite situations which can be given on payment without further inquiries are too alluring and tempting for many in search of employment. Those who advertise in our columns and then receive circulars making such offers are advised to acquaint us of the receipt of the same at the earliest possible moment.

### Ten Years of Motor-Cars.

OF the making of books dealing with the automobile movement there is no end. Mr. Worby Beaumont and other technical experts have written their learned volumes; publishers have sent forth their annual records of progress, and in the Badminton Library many writers have contributed chapters on various aspects of Motorism from their own particular standpoints. And now comes an account of Mr. C. Jarrott's "Ten Years with Motor-cars," written by himself and illustrated with pictures and photographs of the "old brave

days" when to race on a motor-car was a defiance of danger and a most perilous undertaking. None knows that better than the author of this book, just published by Mr. E. Grant Richards. On the sporting side the work is complete and cheerful; but a strange inaccuracy has crept in on page 8, where the first real show of motor-cars is said to have been held in connection with the Stanley Show in November, 1896—thus ignoring the Imperial Institute display of the previous May and the exhibition organised by Messrs. Cordingley and Co. in August of the same year, which has always been regarded as a pioneer of such shows. In the first chapters we have many reminders of the time when there was "real fun," when the clothes of motorists resembled "a mixture of a South African explorer and a bush-ranger," and when no one knew exactly what was going to happen. Mr. Jarrott's most promising early exploits were in connection with motor cycling, the reminiscences of which are still of interest, while the view of the trio, Messrs. C. Jarrott, C. G. Wridgway (now in America), and S. F. Edge, starting for the motor-cycle championship in 1899—only seven years ago—suggests how quickly advance has been made since then. Then follows descriptions of the famous Continental and Gordon Bennett races—valuable because they contain the impression of a participant in most cases—as well as sketches of the motorists whose names have acquired international fame. To that section of a very interesting volume we propose to make reference on another occasion.



A Reminiscence of Summer.

#### Proposed Speed Limit for Newmarket.

A LOCAL Government Board inquiry has been held at Newmarket into the application of the West Suffolk County Council for a speed limit of ten miles an hour upon two miles of the main road through Newmarket. The applicants were represented by the Clerk to the County Council, and Mr. Rees Jeffreys appeared on behalf of the Motor Union, the A.C.G.B.I., the Cambridgeshire and Isle of Ely A.C., and the Bury and West Suffolk A.C. At the conclusion of the case for the applicants, Mr. Jeffreys, speaking on behalf of the bodies he represented, intimated that in view of the unique character of the traffic upon the main roads through Newmarket, and the support that the horse trainers had given to the application, the bodies he represented were prepared to withdraw their opposition to the application. He suggested, however, certain alternative methods for dealing with the traffic of which the applicants complained, and which the Union and the A.C.G.B.I. were prepared to carry out at their own expense. If these were found by the local authority, at the end of three months, not to be successful, the speed limit might then be tried. The Inspector, Mr. F. J. Willis, stated that he would report to the Board and the decision would be made known in due course.

#### A Reasonable Attitude.

DUE notice should be taken of the attitude of the representative of the motoring interests in this matter. It should certainly dispel the notion that seems to linger in some quarters to the effect that motorists are unreasonable persons, unwilling to recognise the interests of other users of the road, and prone to think and act selfishly without regard to anyone else. There are undoubtedly exceptional circumstances in the town of Newmarket which do not occur anywhere else, and the probability is that some sort of restriction may be imposed on those who drive cars in that district.

#### A Dangerous Corner.

Two years ago a serious accident, in which a motor-car turned turtle in avoiding a cyclist, took place where the Westwood road turns into the main London and Aldershot road near Bagshot. A few weeks ago another mishap occurred at the same spot, but with a fatal result. Now the coroner suggests that the authorities should take steps to protect the public at that point in future—and all who travel on the road will agree with him. But it should not have required a coroner to warn the Berkshire County Council of the dangerous character of that corner. There are many similarly treacherous curves on our main roads, where collisions between vehicles approaching in opposite directions can scarcely be avoided; surely these can be brought to the notice of the authorities before they are associated with fatalities. Until the authorities recognise their public duties, however, we must look to the Automobile Association and the new committee of the Motor Union to provide warning notices, if they cannot trim hedges and remove other roadside obstructions.

#### In the New Forest.

WE have been asked by Lord Montagu to emphasise the warning which has been officially issued by the Verderer of the New Forest with regard to drivers of motor-cars along the delightful highways of that part of Hampshire. Unfortunately the pleasure of motoring has not always been unattended with danger to the animals that roam about its paths, and the Verderer is probably right in the suggestion that the majority of motorists are ignorant of the peculiar condition of things existing in the New Forest. Having regard to the tolerant attitude of the authorities in the past, there is little doubt that motorists from a distance will respect the feelings of those who reside in the vicinity and take especial care not to do anything which may have the effect of raising local prejudice against automobiles.

#### In Epping Forest.

OF all the lovely spots surrounding the metropolis, Epping Forest is the most easily accessible, commencing as it does just beyond the seventh milestone from the City. West-enders should drive through Regent's Park and Camden Road to the Nag's Head at Holloway, and thence along Seven Sisters Road to Tottenham, twist round across the river Lea, pass the waterworks, and follow the tram lines to their termination up Chingford Old Church Hill, and past Chingford Station to the Forest Hotel, just beyond which, on the left, is the Connaught Water. Continuing straight ahead, the road runs into the main road that leads straight to the Wake Arms, shortly beyond which is situate—on the right, a few yards from the road—the Roman Camp called Ambresbury Banks—crude but easily discernible banks raised by the Roman invaders of Britain some 2,000 years ago. Epping Town is a mile beyond. Returning to the Wake Arms, the left-hand road should be taken to Loughton. Straight Londonwards the road rises over Buckhurst Hill, and then through Woodford and Whipp's Cross along the Lea Bridge Road to Clapton. The motorist who has sufficient

time may see more of the Forest by turning very sharp to the right at the fork between Buckhurst Hill and Woodford, and driving again towards Epping, turning sharp to the left, down past Connaught Water and the Forest Hotel, then sharp to the right along a road which will take him to Sewardstone and Waltham Abbey, again to the right and along another road to Theydon Bois and Abridge, and so homeward through Chigwell, by Dickens's "Maypole" (the King's Head) and Woodford Bridge, and thence past Snarebrook and the Lea Bridge road to Clapton, or at Snarebrook straight ahead through Leytonstone to Aldgate and the City.

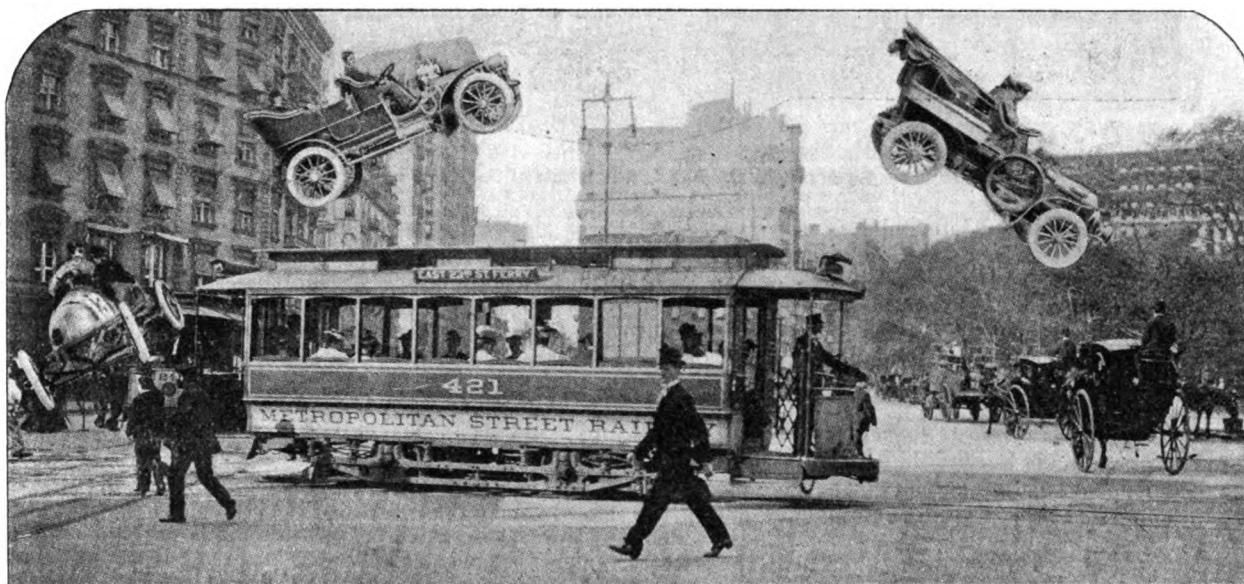
#### All the year round.

ALTHOUGH the weather has been characteristically fickle of late, cold dry winds alternating with damp atmospheres, motorists have been out and about in fairly good numbers. At one time people looked upon the car as only a fair weather vehicle; but nowadays they regard it as suitable for all the year round, and what with detachable bodies, removable canopies, and other adjuncts of the modern car, the automobile has become recognised as a vehicle for all seasons. The tailors, too, who have followed the automobile movement have recognised their

mobile industry will join in the hope that the new Act will do something to mitigate an acknowledged, though not easily traceable, evil.

#### Automobile Demonstrations.

IN view of prospective legislation next year, the General Purposes Committee of the Motor Union is now considering the suggestion of Sir J. H. A. Macdonald that demonstrations or gatherings of motorists should be held in every important centre throughout the kingdom, at which meetings should be held and resolutions adopted emphasising the views of motorists on the subject. It is proposed that these gatherings should take place on the anniversary of the 1,000 mile run, and that everything should be done to make them imposing to the Legislature and educational to the public. Certainly the automobile lends itself to such proceedings, and, but for the dust nuisance, we should have advocated Motor Car pilgrimages from town to town, calling on police inspectors on the way, and generally making it an occasion for informing the police of the peaceful tendencies of those who uphold the new movement. Such, however, is impossible, and probably the best service that can be rendered to those who will have



A Fanciful Solution of the increasing Traffic Problem.

[Motor, New York.

importance in this development, and the selection of winter clothing of really useful and yet inconspicuous design is very different to what we were accustomed to in the early days.

#### Secret Commissions.

NOT without interest to the automobile industry is the fact that on the first day of next month the Secret Commissions Act comes into operation. There have been many rumours of dealings between various people associated with Motorism that have savoured of attempts to secure money without rendering adequate value, and the purchase of goods has sometimes been said to have been influenced by commissions the existence of which was unknown to the principals in the transactions. These wily dealings are always difficult to locate; we do not anticipate that their discovery will be made easier by the new Act. But the fact that secret commissions are regarded as offences against the law, and that those who thus defy the intention of the legislature will be liable to the infliction of pains and penalties by order of the Court may serve as a deterrent to the novitiate in such methods. Mr. Marshall Hall, K.C., recently gave a good round denunciation of secret commissions in the motor trade, and all interested in the fair fame of the auto-

charge of the motorists' case in the Houses of Parliament is for all to drive with caution and care, remembering that an individual indiscretion is often used to damage the whole body of motorists.

MR. E. SCHENK, at the annual meeting of the Electromobile Company, Ltd., has expressed a hope that the new garage which the company is building upon a half-acre site in Mayfair will be opened in time for the next London season.

MESSRS. HUNTLEY WALKER AND Co. inform us that they have recently acquired the sole agency for Minerva four-cylinder cars for Yorkshire and Lancashire; they have also been appointed agents for London and district. In addition the agency for the new Weigel cars has been acquired for London and Lancashire.

FROM Messrs. T. De La Rue and Co., Ltd., comes a selection of diaries and tablet calendars for 1907, which are varied in their form and size, ranging from the daintiest little purse book to volumes of a larger and more utilitarian character. The firm make a speciality of thin diaries in limp leather cases, known as the "Flexible" series; while index diaries are another excellent section of their publications. Tablet calendars are also a good line of these diaries, which may be commended as a most artistic and splendidly produced series of annual reminders.

# The Paris Motor-Car Exhibition.



Le Grand Palais, Paris. The Locale of the Exhibition.

THE ninth annual Salon d'Automobiles, which is to be officially inaugurated in Paris to-day (Friday), by M. Doumerge, the French Minister of Commerce and Industry, will remain open till Christmas Eve, during which time it will be visited by motorists and motor traders from all parts of the world. The huge Grand Palais, at the corner of the Champs Elysées and the Pont Alexandre III., and the "Serres" or Horticultural Palais, on the banks of the Seine, have proved too small for the annual display, the result being that the motor-buses and heavy commercial vehicles, the motor-boats and machinery in motion have been relegated to the Esplanade in front of the Invalides, which has been covered in as an annexe, the temporary buildings which have been erected covering an area of 12,000 square metres. The Grand Palais itself has been in the hands of a huge army of workmen for about a fortnight, and the result of their labours is seen in the magnificent display now housed under its roof. The leading motor-car builders have, as usual, vied with each other as to who shall have the best decorated stand, for which a prize is offered, the consequence being that the general aspect is, if anything, more brilliant than ever. A few firms are utilising their old stands, but the majority are quite new and comprise some excellent specimens of wrought iron work. Brilliant as was the illumination and decoration both inside and outside the Grand Palais last year, it is being surpassed on the present occasion. Flagstaffs have been planted all along the Champs Elysées from the Place de la Concorde, the Avenue d'Antin, and the Avenue Nicolas II., across the Alexandre Bridge, and round the Esplanade des Invalides, and they will be connected by strings

of electric lamps. This week we are forced to content ourselves with a description of the exhibits of two or three well-known firms; but, in accordance with our usual practice, a full account of the novelties and 1907 models of the leading concerns, based on personal observation, will be given in the succeeding issues of the *M.C.J.*

## The Lion-Peugeot Light Cars.

Les Fils de Peugeot Freres, of Beaulieu (Doubs), are now turning out two interesting models of cars of respectively 6-h.p. and 8-h.p. for the motorist of moderate means. Although the general arrangement is the same, the smaller vehicle is fitted with a two-seated body, while the larger one has accommodation for four persons. As will be seen from Fig. 1, the machines are replicas in miniature of more powerful cars with side-chain transmission, the chassis comprising a pressed steel frame, push pedals, wheel control, &c. The 6-h.p. single-cylinder engine has a bore of 100 mm. by 100 mm. stroke, the dimensions of the 8-h.p. being 110 mm. by 110 mm. The valves are arranged side by side and are mechanically operated by a cam shaft driven by skew gearing off the crank shaft. In addition to the water-circulating pump, one is also provided in connection with the lubrication of the engine and gear-box, both being gear driven. The radiator is of the framed ribbed-tube type. Ignition is either by magneto or accumulators, as required. The transmission is by an inverted leather-faced cone clutch to a gear-box giving three forward speeds and a reverse, and thence by bevel gear to a differential shaft, which is, in turn, connected with the rear road wheels by side chains. Three pedals are provided—one operates

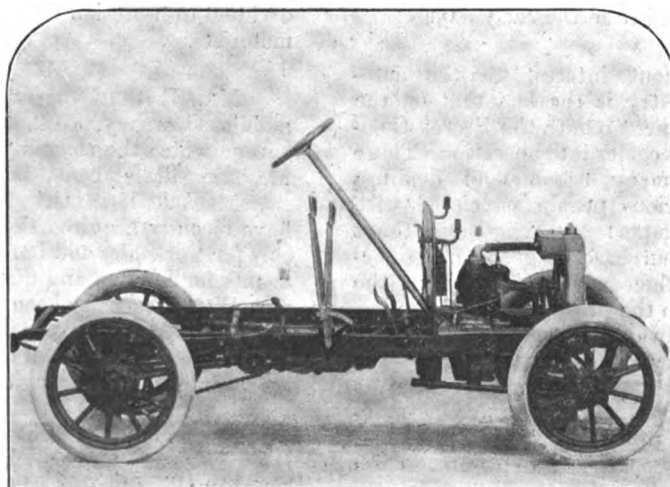


Fig. 1.—The Lion-Peugeot Voiturette.



a brake on the cross-shaft; the second withdraws the clutch and at the same time automatically reduces the speed of the motor, while the third pedal is connected up to the throttle valve. The vehicles can, it is claimed, attain a speed of twenty-eight miles per hour; they are economical in fuel consumption, the makers stating them to be capable of covering a distance of thirty four miles to the gallon of petrol.

diameter, and the framed ribbed-tube radiator is provided with a fan. The clutch is of the leather-faced cone variety, and the gear-box gives three forward speeds and a reverse, with direct drive on top speed through a cardan shaft to the live axle. The latter has only the driving strain to withstand, dog clutches on the ends transmitting the power to the hubs of the rear road wheels, the latter running on ball bearings on the outer casing.

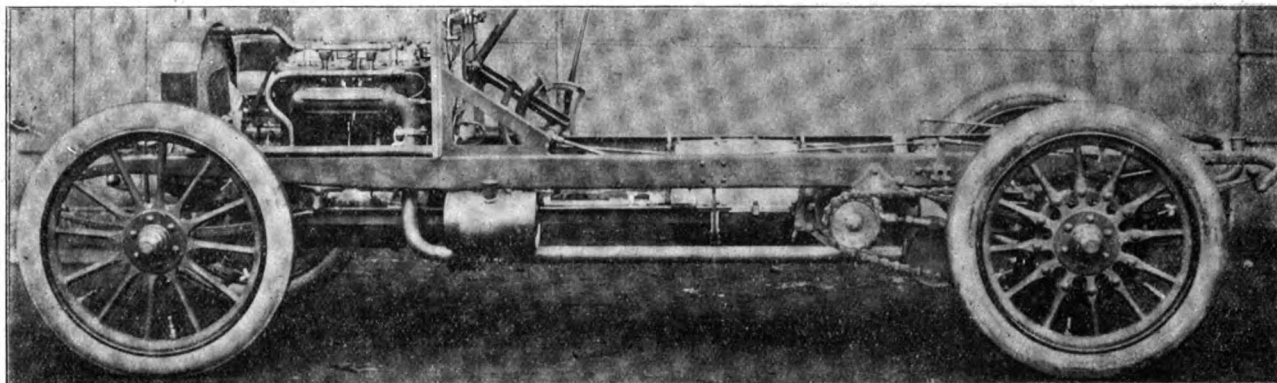


Fig. 2.—Chassis of the Automoto 18-24-h.p. Car.

#### The Automoto Cars.

A make of car which is not very well known in England is the "Automoto," built by La Société de Constructions Mécaniques de la Loire, of St. Etienne. Three sizes are being made—7-9-h.p. single-cylinder and 12-16-h.p. and 18-24-h.p. four-cylinders. We give an illustration of the chassis of the latter in Fig. 2, from which it will be seen that it follows the standard lines of chain-driven vehicles. The cylinders—100 mm. bore by 150 mm. stroke—are cast in pairs, with the valves arranged on opposite sides. The clutch is of the expanding metal-to-metal type, a universally-jointed shaft connecting it with the gear-box, the four speeds of which are controlled by a lever working in a "gate." Ball bearings are used to all parts

#### The Ader Cars.

La Société des Automobiles Ader has entirely abandoned the V-type of engine for its motor-cars, which are all now provided with four-cylinder vertical motors built to the designs of M. Ph. Richemond. Two sizes are being made, 16-20-h.p. and 25-30-h.p., and transmission is either by side-chains or by a cardan shaft, according to the desire of purchasers. A similar choice is also allowed in connection with the suspension, the makers supplying either a transverse spring at the rear, or, failing this, replacing the usual dumb irons by halves of semi-elliptic springs. The motor has the cylinders all cast separately, a bearing being provided between each throw of the crank shaft. The base chamber is not furnished with arms in the usual way, but it is

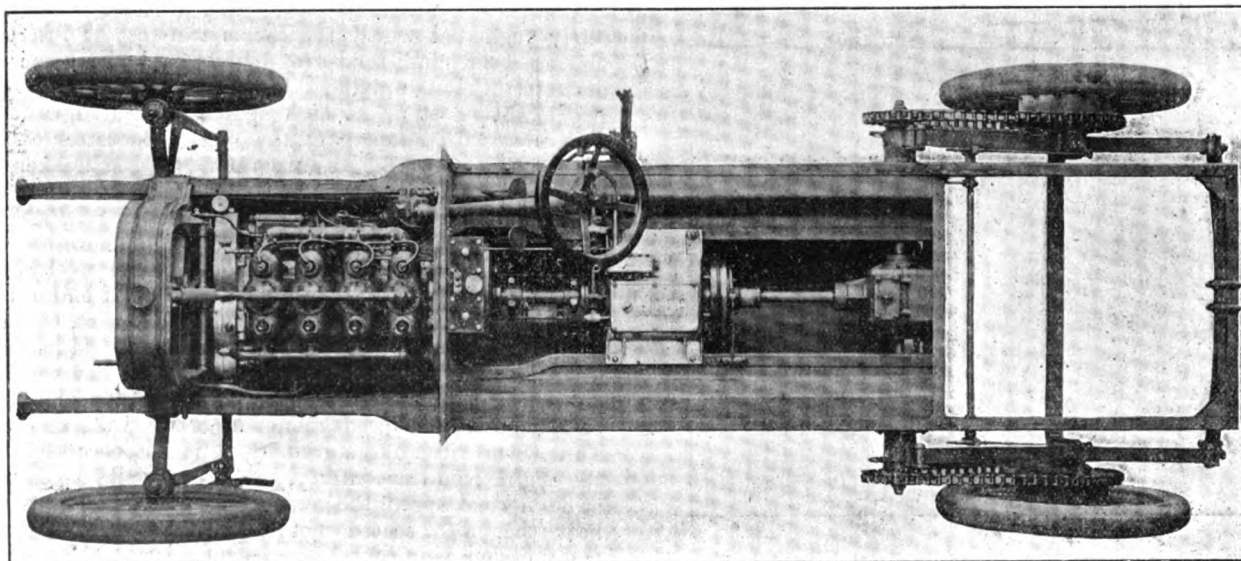


Fig. 3.—Plan of Chassis of Ader 16-20-h.p. Car.

except the engine. The 12-16-h.p. vehicle is on similar lines, except that the final transmission is by a cardan shaft and bevel gear to a live axle. The new 7-9-h.p. two-seated car appears a solidly constructed vehicle; the engine is a single-cylinder, 100 mm. bore by 110 mm. stroke, the normal speed being 1,200 revs. per minute. The water circulation is on the thermo-syphon system, no pump being employed. The pipes are of large

provided with a lip on each side, and extending the whole length of the motor, by means of which the latter is supported on the pressed steel frame. The lip also forms a platform on which the pump, magneto, carburettor, &c., are mounted. Both foot and hand control of the throttle is available, while in addition the clutch pedal is also so coupled up that as the clutch is withdrawn the speed of the engine is automatically cut

down. Ignition is by magneto, with provision for installing accumulators and coil as a reserve. Universally-jointed shafts connect the clutch with the gear-box, and the latter with the differential shaft, this being placed well to the rear in order to give a short chain-drive. The Ader cars appear to be of thoroughly sound construction and of reasonable price, and deserve to be better known in England than they are at present.

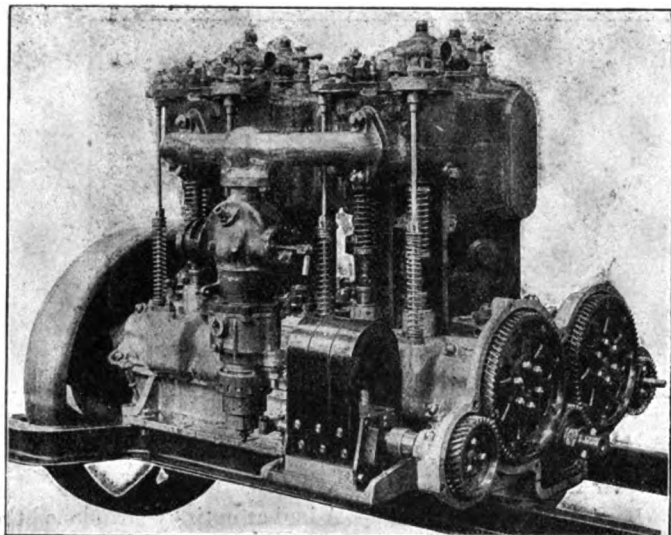


Fig. 4.—The Pilain Four-Cylinder Engine.

#### The Pilain Cars.

The Société des Automobiles Pilain, of Lyon, exhibit two models of respectively 18-24-h.p. and 28-35-h.p. The engine (Fig. 4) comprises four cylinders cast in pairs with the valves arranged on opposite sides; the dimensions of the 18-24-h.p. are 100 mm. bore by 130 mm. stroke, and of the 28-35-h.p., 124 mm. by 140 mm. The ignition is by Simms-Bosch low-tension magneto. The engine, the crankshaft of which is *desaxé*,—that is to say, is slightly out of line with the centre of the cylin-

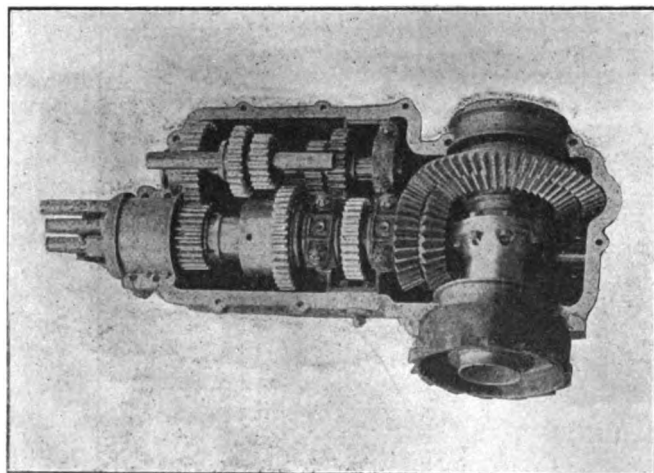


Fig. 5.—The Pilain Change Speed Gear with direct drive on third and fourth speeds by separate Bevel Gearing.

der—is provided with a special form of automatic carburettor, and is so arranged that when the vehicle is running down hill the throttle can be entirely closed and an air-valve opened, which enables the motor to act as a brake. The four-speed gear is of a type which appears to be gaining in popularity, a direct drive being available on both the third and fourth speeds. This is obtained, as will be seen from Fig. 5, by means of two concentric

bevel pinions, either of which can be made, by means of clutches, to transmit the power direct to the corresponding bevel wheel on the differential shaft. The latter is of special design, and comprises two short cardan shafts carrying small spur wheels on their outer ends, which mesh with driving rings attached to the rear road wheels, which latter are carried on a fixed axle.

#### The Foullaron Car.

M. Foullaron continues to turn out cars, ranging from 6-h.p. single-cylinder to 15-18-h.p. four-cylinders, fitted with his special variable speed gear, which since its introduction has, however, been subjected to slight modification. The engine is set in the fore part of a pressed steel frame in the usual way, and drives through a clutch a pulley connected to a second pulley by a combination chain belt of peculiar construction. Each pulley is formed of two lamellated jointless cones, the arms of which are so intertwined that the inner end of each cone penetrates the interior of the other. The bottom of the pulley is represented by the circumference limiting the intersection of the two cones opposed to each other. One of these cones is movable, and can, by sliding along the shaft, penetrate more or less into the stationary lamellated cone, and thus modify the diameter of the bed on which the belt rests. A lever, connected to a non-reversible driving mechanism, enables one of the cones of each of the pulleys to slide along simultaneously, but in the opposite direction. This movement causes a variation in the diameter of the pulleys without modifying the tension of the chain, and enables the entire range of speeds, from a gear equal to five miles per hour up to one giving twenty-eight miles to be obtained. A spring, the tension of which may be

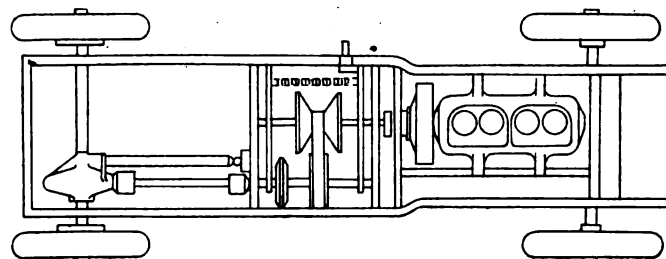


Fig. 6.—Plan of Foullaron Car.

safely regulated whilst the car is running, is inserted in the driving gear, and tends to augment at the same time the diameter of the two pulleys. It automatically takes up all play that might be set up at high speeds by centrifugal force, and does away with slipping of the belt. The latter consists of a series of links or blocks of chrome dressed leather mounted upon a chain of case-hardened steel. The shaft on which the second pulley is mounted, as will be seen from Fig. 6, is connected with the rear axle by a cardan shaft in the usual way. The reverse is obtained by means of a second bevel wheel on the differential shaft; the bevel pinion on the rear end of the cardan shaft is mounted on an eccentric sleeve, so that, by means of a special lever, it can be brought into mesh with either the forward or reverse driving crown wheel. The speed may be varied without disengaging the gear, which enables practical advantage to be taken of all the speeds comprised between the limits available. Thus when ascending a gradient it is not necessary to "race" the engine; on the contrary, the latter should be kept running at its normal speed, the gear being varied slightly to suit. We hear that a 32-seated motor-bus, fitted with the Foullaron transmission, is in course of construction.

(To be continued.)

IN the new detachable rim of the Continental Tyre Company eight clamps secure it to the felloe, and it is detached complete on easing the nuts. Three large keys are placed at equal distances around the rim, and these engaging with slots in the felloe transmit the drive. Altogether the device has the merit of simplicity and should prove efficient.

## CONTINENTAL NOTES.

### The Late M. Jeantaud.

The death of M. Ch. Jeantaud took place in Paris on Friday last week. The deceased, who was sixty-two years of age, was one of the pioneers of the motor-car in France and took a leading part in the development of electrical carriages, his first vehicle being produced as long ago as 1881. He devoted much attention, too, to the question of motor-cabs, and in 1898 built a four-wheel vehicle with hansom body, the driver's seat being perched high up at the rear. The machine was exhibited at the 1898 show at the Agricultural Hall, London, and was driven by its designer in the memorable run to Hounslow at the conclusion of the Exhibition, the novel vehicle attracting considerable attention.

### The 1907 Herkomer Trophy Touring Contest.

Some changes have been made in the route of the 1907 Herkomer Touring Trophy contest, which is to be held in June

copies of forms which any motoring visitor may be called upon to supply or fill up before being permitted to use his car in France.

### Motor-cars for Military Purposes.

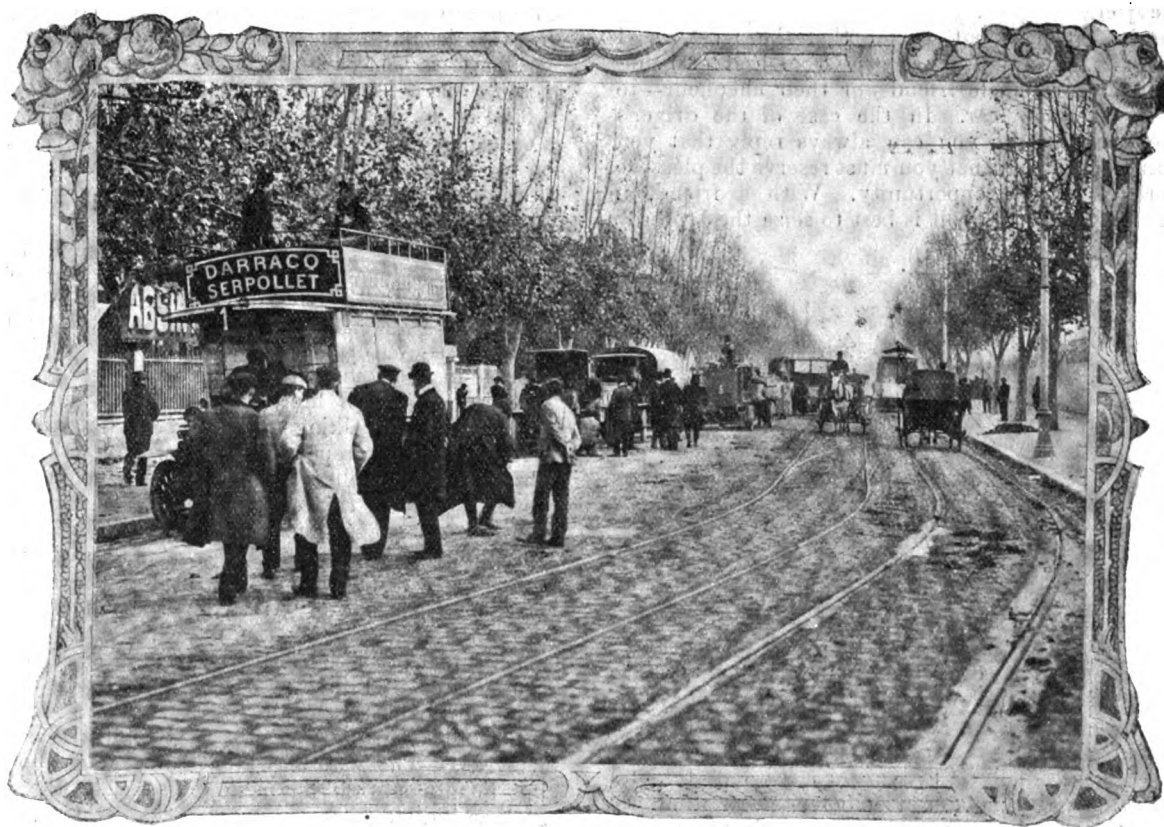
The Austrian military authorities have lately been carrying out some trials of a new motor-car designed for the transport of ammunition and wounded soldiers. The vehicle, which was built by Messrs. Laurin and Klement, is of 12-h.p., and is fitted with double-cylinder engine.

### Public Services in Germany.

It is proposed to establish a motor-bus service between Zittau, Olbersdorf and Oybin. A similar connection between Glashütte and Tegernsee is also in contemplation.

### The French Reliability Trials of 1907 Models and of Heavy Vehicles for Military Purposes.

The reliability trial of 1907 models and of heavy vehicles for military purposes organised by the A.C.F. is still in hand.



The French Trial of Heavy Vehicles for Military Purposes.—The Competitors leaving Marseilles.

next. As finally decided upon, the course to be followed is as follows:—First day, Dresden to Eisenach; second day, Eisenach to Mannheim; third day, Mannheim to Lindau; fourth day, Lindau to Munich, with speed trials in the Forstenrieder Park; fifth day, rest in Munich; sixth day, Munich to Augsburg, with hill climbing competition up the Kesselberg; seventh day, Augsburg to Frankfurt or Homburg. The whole distance to be covered is about 1,200 miles.

### The Automobile Regulations of France.

France is the happy hunting ground of motor tourists of all nationalities, particularly British and American, to whom the book recently written by Mr. H. Cleveland Cox, and published by Brentano's, Paris, should prove of considerable use. Printed in English, it gives in a handy form the regulations relating to automobiles obtaining in France. Twenty pages are devoted to a brief summary of the similar rules in other European countries, while the concluding part of the work is devoted to

In the first-named competition twenty-four out of the thirty-seven cars which started are still in the running, sixteen of these having, so far, not a single penalisation to their credit. The vehicles, after being on exhibition for two days in Monaco, left that town on Sunday for Marseilles, Lyons being the destination on Monday, and Dijon on Tuesday.

### Miscellaneous Items.

Motor-cabs fitted with taximeters are about to be introduced in Marseilles and Bordeaux.—A motor-boat exhibition is to be held in Kiel from June 14th to July 1st next year.—An automobile exhibition is to be held in the Palace of Fine Arts, Madrid, in May next.—The Automobile Club of Milan has decided to organise a reliability trial of touring cars during the course of the Milan Motor Show in May next.—A school of automobile engineering is being established in connection with the Ecole des Arts et Metiers in Madrid.

## IN LIGHTER VEIN.

WITH the exception of babies and bi-metallism—two subjects strictly avoided at all well-ordained dinner tables—there is no more difficult a topic of conversation to the lay person, desirous of maintaining a reputation for not less than average intelligence, than that of the motor-car. Hitherto the weather, the Royal Academy, the newest novel, and the latest musical comedy have made up the field over which the caber of our social small talk has been flung; but now that the motor has descended—Juggernaut-wise—in our midst and attained to a very epidemical height of popularity, the minds of the uninitiated are threatened with an overpowering strain, the consequences of which (unless some help is speedily forthcoming) may prove disastrous in the extreme. As no guide to the art of polite conversation on motor-car etiquette has put forth a helping page, I have been requested by the editor of the "Indian Motor News" to throw myself into the literary breach and offer a few words of advice to the hapless novice suddenly called upon to assume an intelligent interest in the foregoing subject.

Experience has pointed out to me that the most usual pitfall which assails one's unwary footpath is that of being requested by a male or female friend—or their chauffeur—to come and admire the new car. In the case of the driver's invitation, there is no danger; you can always reply that you would like nothing better, but that you must reserve the pleasure until some more favourable opportunity. With a friend, of course, this excuse will not do, so it is best to seize the brute by



The End of the Day's Run.

the throttle, so to speak, and, composing your countenance into a strict, judicial expression, follow gravely in the owner's footsteps to the garage, cowshed, greenhouse, or wherever else the article of torment is kept. Having arrived, and if your friend is of the male sex, gaze fixedly at the car for a few minutes, and then ask to see the engine; under no circumstances whatever must you admire the body, that is quite of secondary importance. When the bonnet is opened ask in an off-hand manner if there is anything extraordinary about the ignition or the carburettor—there is always something special about one or other of these devices, and the question will have the double effect of calling forth a flood of explanations—which will save your making any further remarks and possibly committing yourself—and giving a high opinion of your technical knowledge. When he is thoroughly winded, ask if he would mind "starting her up." He will probably essay to do so and fail, in which case you must put on a pitying smile and suggest that possibly the "mixture is wrong." If he succeeds, you can gently murmur in an admiring tone—"Capital! Congratulate you on your acquisition, old man," and turn the conversation as quickly as possible into safe and more congenial channels.

In the eventuality of the owner being a lady, your chances of being flooded are considerably less. So long as you confine your remarks strictly to the colour of the paint, the symmetrical rotundity of the tyres, the comfort of the upholstery and the finish of the brasswork, she will be absolutely satisfied. Should the car be fitted with an electric device upon the dashboard for signalling instructions to the chauffeur, get inside the

car and press the various buttons which work the lights and letters in the indicator, until the accumulator is quite run down, after which you will probably both feel so thoroughly exhausted that your proposal of an adjournment to basket chairs in the conservatory will be gladly welcomed, and you will live henceforward in the lady's heart as one of the most charming and well-informed persons possible. These few words of advice have also the advantage that they can be used—with variations—at dinner, afternoon tea, and, in fact, upon all occasions when motor talk is vaunted.

Another casualty which is apt to befall the tyro is that of being present on the occasion of the breakdown of an acquaintance's motor, in which he has basely offered to drive you to some country house situated a few score miles from any decent town. Naturally, in this case, the main object of you both is to get the accident put to rights as quickly as possible, especially if the afternoon is well advanced and the weather looks unsettled. If your motoring acquaintance is a novice, strike an admiring pose upon the side of the road farthest removed from the oil-can and spanners, and remark in an audible *sotto voce* that you congratulate yourself upon being out with an old and experienced hand—a jocular observation to the effect that "now we shan't be long" is also a tremendous help. The above-mentioned posture and a few encouraging words in the latter strain induce a fund of resourcefulness in your companion and make him take a cheerful view of the situation; they also, incidentally, spur him on to redoubled exertions in wrestling with the mechanism, and preclude the possibility of his requesting your assistance, which would render you unnecessarily hot and dirty.

If, contrariwise, your acquaintance is an expert, or considers himself as such, then your position must be altered a little. It is safe to say that, usually, the greater his knowledge—or prided knowledge—the longer will be your sojourn in the wilderness. A novice—by sheer luck—may lay his hand on the seat of trouble in a few minutes: an expert, never. Your plan, therefore, is to so sicken him of the car that in sheer desperation he will suggest walking to the nearest village, sending therefrom a man with some rope and a horse to tow the beast home, and obtain a more sober conveyance in which to proceed to your destination. To this end, therefore, you must keep on offering well meant suggestions. For instance, while he is engaged "tickling the carburettor," you should say, "How about the commutator?" and when he turns his attention to that piece of machinery, remark "And the sparking plugs—have you examined them?" By the time you have prompted the dismantlement of a good quarter of the internals of the brute, and the greater portion of the bolts and nuts adorn the interior of the guard beneath the engine, he will more than joyfully second your suggestion to leave the thing to a certified mechanic.

N.B.—This plan may end in a severance of your friendship, but in any case there is a doubt whether the acquaintance of such an individual is worth further cultivation. R. E. G.

THE WOLSELEY TOOL AND MOTOR COMPANY, LTD., have sent us a copy of their 1907 catalogue, in which full particulars are given of the latest types of Siddeley cars. Included in the list is an interesting article entitled "Touching the Choice of a Car," while the text is embellished by a series of well-executed pen and ink sketches of the different forms of vehicles.

MESSRS. S. F. EDGE, LTD., have recently received orders for two six-cylinder Napier cars of 40-h.p. for South African buyers that will be somewhat unique. One of the purchasers is Mr. F. M. Cullinan, well known in Johannesburg, who had a 30 h.p. six-cylinder car specially built for South Africa, the use of which has been so satisfactory that he decided to have one of the latest type. Mr. H. S. Stark, a leading mining engineer of Johannesburg, has also ordered a similar car. The vehicles will both be built with 40 in. wheels, to give extra road clearance to escape obstacles and also to raise the body to permit of the crossing of fairly deep spruits. Everything will be arranged so that the cars can go through a couple of feet of water without difficulty, and petrol capacity sufficient to run 800 miles without replenishment will be provided on each vehicle.

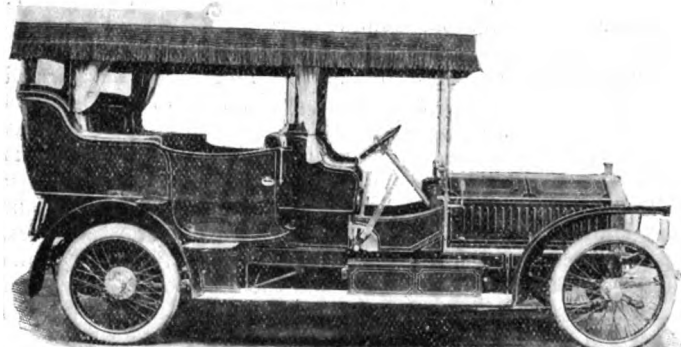


THE General Motor Cab Company, Ltd., intend to employ the Stepney Spare Wheel on the motor-cabs which they are putting on the London streets.

WE learn that the Victoria Carriage Works, of Long Acre, W.C., have secured the sole concession for the Léon Bollée cars for Great Britain and Ireland.

THE Sirdar Rubber Company, Ltd., have received another order for Royal Sirdar Buffer Tyres for the Prince of Wales.

WHAT is probably a record order from India has, we are informed by Mr. S. F. Edge, been placed with his firm. The Nizam of Hyderabad has purchased and received delivery of six Napier cars, five of them being six-cylinder vehicles. One is a



limousine for the Nizam's own use, two carriages are for the ladies of the Zenana, two open touring cars, one of which we illustrate, are intended for his suite, while the sixth is an 18-h.p. car to be used as a pilot. A noteworthy feature of the machines is the use of wire wheels in place of those of the artillery type.

AT 139, Long Acre, W.C., Messrs. C. J. Renton and Co. have a depot for the repair of the Auteroche lamps, for which they are agents.

THE balance-sheet of Messrs. A. Darracq and Co., Ltd., shows a profit for the past year of £222,281. There has been a distribution of 25 per cent. dividend for the year on ordinary shares.

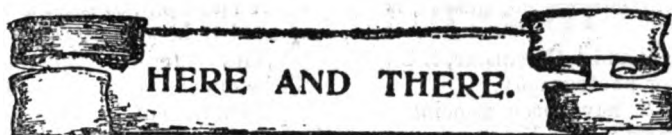
MESSRS. PANHARD AND LEVASSOR'S extensive new repair works at Acton Vale, Uxbridge Road, W., are now in a very forward condition, and will be opened on the first day of the new year.

OF the cars shown at Olympia about one-third were fitted with "Continental" tyres, and the new red rubber Continental steel armoured non-skids were also much in evidence on some of the leading makes of cars.

THOSE motorists and motor agents who contemplate a short visit to the Paris *Salon* may be interested to learn that the London, Brighton and South Coast Railway are issuing Friday to Tuesday tickets to Paris *via* Newhaven and Dieppe at cheap rates.

WE understand that Messrs. Brooke Motors (London), Ltd., the sole concessionaires for the Brooke six-cylinder car, booked a considerable number of orders during the recent Exhibition. Agents who are anxious to take up the sale of the new vehicle should write to the company without delay.

MR. LESLIE BUCKNALL, who left Wandsworth Gasworks on Tuesday afternoon of last week in his balloon "Vivienne IV.," descended at Vevey, on the shore of Lake Geneva, at daybreak on the following day, after a remarkable voyage. The balloon travelled a distance of 420 miles in sixteen hours, reaching Vevey in four hours less than the journey from Charing Cross to the same place occupies by the quickest boat and railway route. The "Vivienne IV." reached Rye, in Sussex, at five o'clock on the Tuesday, and, crossing the Channel to La Touquet, passed Amiens, Rheims, and Chaumont during the night—following a route which must have almost coincided with that of the railway.



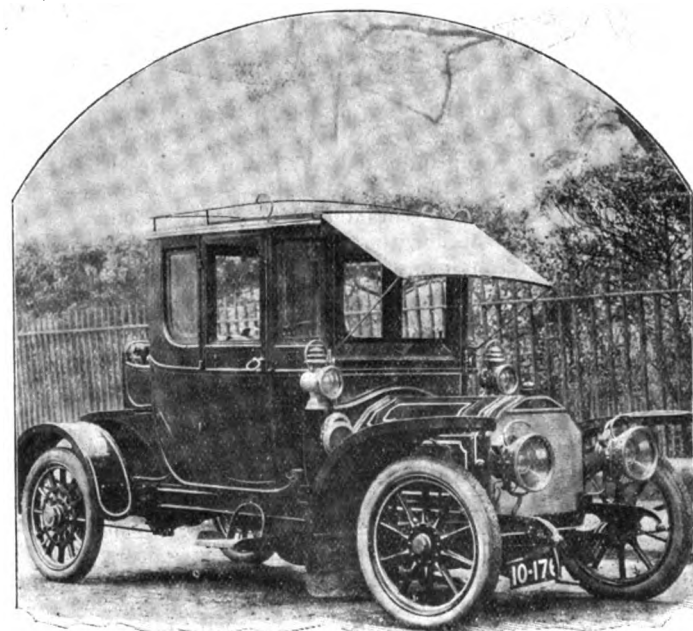
THE Pytchley Autocar Company, of Northampton, have a garage with accommodation for fifty cars and excellent facilities for the repair of vehicles.

THE Valor Company, Ltd., of Rocky Lane, Aston Cross, Birmingham, are the makers of the "New Era" fire extinguisher referred to in a recent Show report.

THE offer of the Adams Manufacturing Company, Ltd., regarding the £2,000 aeroplane prize is not restricted to the use of the "Antoinette" engine, but may be won by any combination of aeroplane and motor, the sole condition being that the flight be made within the next two years with an entirely British-built flying machine.

MESSRS. CHARLES LETTS AND CO., who have attained distinction as diarists during a long period, have their usual selection of annual books, in which the insurance policy plays an attractive part. Apart from that excellent feature, however, the Diaries have merits on their own account, the patent self-opening tablet being another exclusive adjunct. By this contrivance the diary can always be opened at the place in use. In addition to the pocket diaries, Messrs. Charles Letts and Co. have a long series of diaries for the office and the business establishment, automatic date blocks, motor-car log books, and other diaries of various kinds. Their admirable office reminders are another speciality of an old-established firm of diary publishers, who keep well abreast of modern requirements.

THE accompanying illustration depicts a Crossley 20-25-h.p. chainless car fitted with a new and novel type of body designed by Mr. C. Jarrott for his own personal use, and built by Messrs. Salmon and Sons. The vehicle is a single limousine, the seats being located in the position usually occupied by the ordinary driver's seat, the occupant, therefore, being in a comfortable position to drive himself. Accommodation is provided for three persons, and, in the event of it being desirable to carry a mechanic, a fold-up seat is fitted into the back. The top of the car is arranged for the carrying of luggage, and an ingenious celluloid shield which slides into a pocket on the roof is provided



for use in rainy weather. All the windows at the sides and at the back, with the exception of the two front curved panels, let down, and the large window in front is divided so that the driver can have an uninterrupted view without the other passengers being exposed. The height of the celluloid screen is so arranged as to be just above the line of vision of the driver. The change-speed lever and the side brake are arranged inside the carriage body.

MR. C. H. RYDER's garage at Heathfield Station, Sussex, is being enlarged.

THE St. Paul's Studio of Design, 2, 3 and 4, Cheapside, E.C., are specialising in connection with motor photography.

MESSRS. H. E. HALL AND COMPANY have been appointed agents for London and district for the new Singer light cars.

A MOTOR carnival will probably be held at Worthing next Easter, Councillor G. H. Warne taking a leading part in the organisation.

CONSENT has been given by the Middlesex Education Committee to the establishment of motor construction classes at Acton and Chiswick.

NEARLY all the important banks of San Francisco now employ motor-cars in their business in order to maintain rapid communication between the head offices and the branches.

A NEW garage and workshop is being erected in Bridge Street, Guildford, for Messrs. S. P. Rice and Co., Ltd., of which private limited company Mr. G. P. Rice, the official repairer to the West Surrey A.C., is managing director.

WE recently made mention of the "Accurate" speedometer placed upon the market by Messrs. George W. Houk, Ltd., of 7, Snow Hill, E.C., who are devoting considerable attention to this accessory department of motor-car work. One form of the appliance is illustrated herewith, although that fitted with the new patent flexible ball shafting attracted most notice at the recent motor-car show. It is gear-driven, and, in addition to being a speed and a mileage recorder, has an indicating hand



that stops at the highest point of speed attained during the journey. It can be reset to zero at will, but, as the face can only be removed by being unlocked, the same device also gives a check on the driver of the car—a useful point to owners of garages and those who let cars on hire. It will continue to record the mileage whether the car is running backwards or forwards, and the mechanism is so simple that Messrs. G. W. Houk, Ltd., are giving a long guarantee to clients.

THE new class-rooms of the Argyll Motor School, where sound courses of motor instruction for both owners and chauffeurs may be obtained, is situated at the new garage in Percy Street, the fine front of which may be seen from the Tottenham Court Road, W.C. This is open day and night.

"DUCO" motor accessories are the subject of a neat booklet issued by Messrs. Brown Bros., Ltd., and should be useful to motorists of all degrees, the range of articles illustrated and priced including everything, from accumulators to sponges and cleaning cloths, as well as clocks, tool kits, tyres, gaiters, jacks, and a few score other accessories.

AT the Stanley Show, last week, the Ivry Car and Motor Works, of Paris, which have lately established a depot at 15, Victoria Street, London, S.W., exhibited a novel form of tri-car, the front seat being provided with a specially-designed cone-shaped bonnet to cut the wind and to protect the passenger from wind, dust, &c. For the carriage of goods a simple light carrier box can be quickly fitted under the bonnet, converting the machine into a useful delivery vehicle. The engine is of 6-h.p., and is of the vertical water-cooled single-cylinder type; the transmission is by chain.

A PROPOSAL to start a service of motor-buses in Calcutta is reported to be at present under consideration.

THE Dublin Motor Show, which opens on the 5th prox., will be opened by Lord Grenfell, G.C.B., G.C.M.C.

TWELVE entries have been received for the 1907 Tourist Trophy race, which will take place in the early spring.

MOTOR-CAR races will probably be included in the programme of the Olympic games to be held in this country in 1908.

TOY motor-boats, motor-cars and airships have a place of honour in Gamage's Christmas Bazaar, which is "the sight" of Holborn, E.C.

THE motor ambulance van used by the Army Service Corps is fitted with twin 5 in. Royal Sirdar-Buffer tyres on the back wheels and single 5 in. Royal Sirdar-Buffer tyres on the front wheels.

MR. G. HILL, who is well known at Brighton in connection with the Old Ship Garage, has taken the premises at 17, Gloucester Place, Brighton, as showrooms and works, and will keep a large stock of tyres, petrol and accessories.

THE resolution to go into voluntary liquidation was carried at the meeting of the Manchester District Motor Omnibus Company, Limited, on Tuesday. The chairman announced that an expression of opinion representing nearly 60,000 shares out of 75,000 had been received in favour of such a course.

THE Acme Rubber and Tyre Company, of 343, St. Vincent Street, Glasgow, are doing excellent repairs to motor-car tyres, their clientele extending to every part of the country. Thanks to the organisation of their works and their thorough system of repair they are able to undertake prompt despatch as well as efficient work.

MR. EDWIN SMEE, of 403, Oxford Street, W., has brought out a new motor and travelling coat, the great feature of which is that it gives extra warmth without additional weight. The principle upon which it is designed can be applied to either ladies' or gentlemen's wear, and, being wind and water proof, it should become quickly popular at this season of the year.

MR. A. RANDEL, Colpetty, Colombo, has established, near the residence of the Governor of Ceylon, a workshop for the repair of motor-vehicles, cycles, &c. In view of the development of automobilism on the island, he hopes to find local appreciation of his enterprise. He is undertaking all classes of work for cars and tyres, the equipment in the latter repair department including the H.F. vulcanizers.

FROM Messrs. Monte-Callow and Co., of Ipswich, comes a pamphlet of the "H. P." electric dynamometer for testing the horse-power of petrol motors. The plant, which is made by M. Hillairet Huguet, of Paris, and which has been adopted by a number of leading motor-car manufacturers in France and Italy, is an absorption apparatus, and differs from the Prony brake in that the friction is replaced by an electro-magnetic reaction.

THERE will be three motor-cab companies in operation in London within the next few days. The General Motor Cab Company has effected a working arrangement with the United Motor Cab Company, and these will place the Renault and the Unic cabs respectively on the streets. A motor-cab garage has been established on a two and a-quarter acre site at the corner of Brixton Road and the Camberwell New Road—opposite Kennington Church, London, S.E.

THE Blotting Pad Diaries of Messrs. Hudson and Kearns are established institutions in our office, long experience having testified to their capacity to stand a year's hard wear and work. These are made in various sizes and with different conveniences for notes; but all fitted with blotting paper of a uniformly good quality—a very necessary feature in such a work intended to last the twelve months. Special attention may be drawn to 8A, which includes a diary, engagement pad, blotting pad and memoranda block—all before the business man as he writes his letter. The Bankers' edition is another excellent member of the series containing a particularly neat date remembrancer, and a good wide area of blotting paper. Only good things can be said of these blotting pads, the merits of which have carried them into many motor-car works, as well as business offices.

# The Olympia Motor-Car Show.

(Concluded from page 879.)

## The Deasy Car.

Probably one of the most novel cars in the Show was the Deasy, which made its debut at the stand of THE DEASY MOTOR-CAR MANUFACTURING COMPANY, LTD. Designed by Mr. E. W. Lewis, who is well known in motor engineering circles, it bristles with novel features, as a perusal of the following brief description will indicate. To begin with the frame of the car, this is of wood and steel construction, the makers stating this to be stronger than pressed steel and less costly to replace in case of accident. The suspension differs from that usually adopted in that it is by three springs, the customary forward longitudinal pair being replaced by a transverse and inverted semi-elliptical spring. The ends of the latter are pivoted to jaws forming part of the axle pivot brackets. The 24-h.p. engine exhibits many original features, for not only are all four cylinders cast in one piece, but the same casting constitutes the main body of the crank chamber, a plan which enables unusually large inspection covers to be fitted, so that the pistons and connecting rods can when necessary be withdrawn through them. Another advantage obtained is that it is possible to fit a light aluminium base chamber which has merely to serve the purpose of an oil-retaining bath, removable from beneath without disturbing the bearings. The four cylinders are 105 mm. bore by 130 mm. stroke. As will be seen from Fig. 75 the cylinder casting is of a rectangular box shape, having not only the entire distributing gear but the valve tappets and stems enclosed, but made ac-

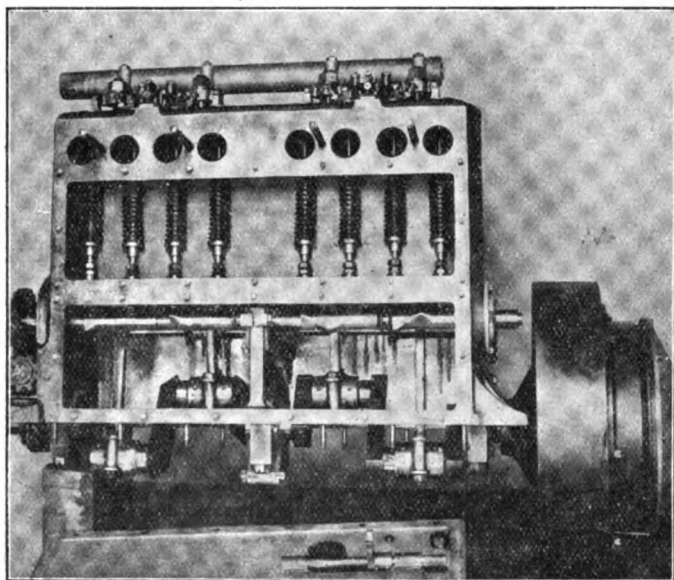


Fig. 75.—The Deasy Engine with Inspection Doors and bottom half of Base Chamber removed.

cessible by large detachable flange plates on both sides. The inlet and exhaust valves are interchangeable, and are all worked off a single shaft. An unusual method of driving the cam shafts, there being two, one operating the valves and the other the magneto and the water-circulating pump, is seen in a short shaft lying across the front end of the engine; it is driven by spiral gear off the crank shaft and drives the two side shafts through similar gearing. The engine embodies Mr. Lewis's cam mechanism, by which not only are the valves operated, but a half-compression device and an air-compressing arrangement obtained, the latter converting the engine into an independent and powerful brake. The method of sliding the cam shaft consists of an adjustable crank arm controlled by a pedal operating a forked striker which engages in a hollow collar forming part of the shaft. The cams are so arranged that as the shaft is moved laterally the lift of the inlet and exhaust valves is gradually reduced until eventually the inlets are entirely closed and the exhausts made to open at the end of the upward stroke of the piston; this is the reverse of the usual procedure and enables the air which is drawn in to be compressed by the rising pistons, so causing the engine to act as a powerful brake. The ignition is by either low or high tension magneto as desired, provision being also made for installing coil and accumulators as a reserve. The

mixture is furnished with a special design of automatic carburettor in which the supply of petrol through the spraying nozzle can be regulated. Passing now to the transmission, the clutch is of the metal-to-metal plate type running in oil; the shaft connecting it with the gear-box is provided with a joint to allow for any want of alignment between the two parts. A stop is provided in connection with the clutch to facilitate changing speed. The gear-box (Fig. 76) is adapted

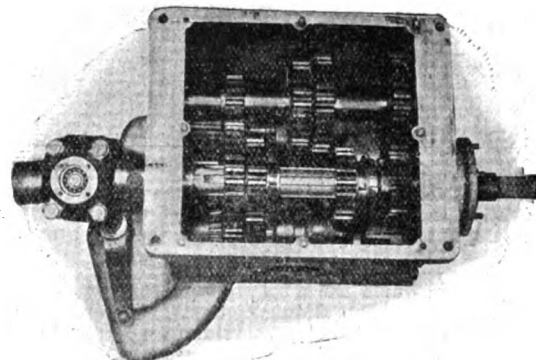


Fig. 76.—The Deasy Change Speed Gear.

to give four speeds forward and a reverse, with a direct drive on top. The control is by a single lever working in a "gate," which has a direct forward or backward movement, a positive stop for each speed being thus provided. The striking mechanism is entirely in the gear-box, the necessary motion being effected by a toothed quadrant and pinion. The quadrant is arranged horizontally at the bottom of the gear-box, while the pinion is keyed to a rotating cam sleeve, which causes the dogs to slide to and fro as the cam is rotated. The shafts can be removed from the gear-box, and new bearings and gear wheels fitted without detaching the gear-box from the frame. The final drive is by a cardan shaft and bevel gear to a live axle. The cardan shaft, which runs in an aluminium casing, is provided with a universal ball bearing joint at the front while at the rear end it is fixed solid to the driving bevel pinion. Provision is made for supplying lubricant to the differential casing and axle ends by an oil-box provided with a lid, immediately at the rear of the axle casing. Three adjustable pedals are provided, one operating the half-compression and engine brake, the centre one the clutch, and the third the foot brake, which consists of contracting bands on large diameter drums on the rear wheels. The hand

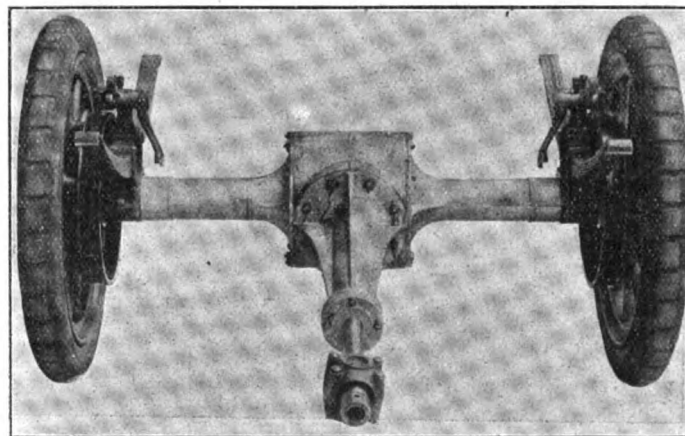


Fig. 77.—The Back Axle of the Deasy Car.

brake, the lever of which is fitted with an Autoloc, no rack being consequently required, actuates internally expanding bands within the same drums. Ball-bearings are employed throughout, the crank and cam shafts of the engine being each fitted with three. The steering column is adjustable so that it may be fixed at an angle to suit the driver. The chassis can, of course, be fitted with any type of body, the exhibit comprising a side-entrance double phaeton.

**The Albion Cars.**

The well-known Albion cars were exhibited by the LACRE MOTOR-CAR COMPANY, LTD. Principal interest was centred in the chassis of the latest 24-h.p. model, in which a number of special features have been incorporated. The engine, which comprises four separate cylinders,  $4\frac{1}{2}$  in. bore by  $4\frac{1}{2}$  in. stroke, has the valves arranged on opposite sides. The arms of the flywheel are arranged to act as a fan to draw a current of air through the framed ribbed-tube radiator. The carburettor is of the automatic variety and the ignition is by a special type of low-

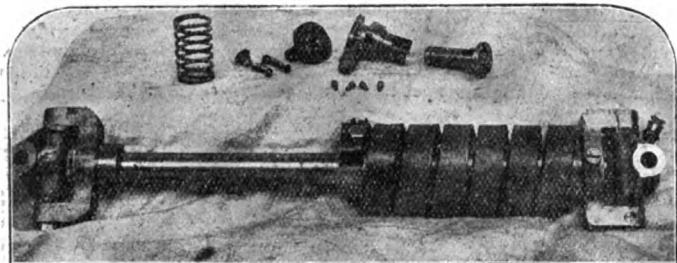


Fig. 78.—The Albion spring drive between the engine and clutch. In the illustration are also shown the parts of the special air pump employed to maintain the pressure in the petrol tank.

tension magneto, in which the magnets, armature and coils are fixed, there being, furthermore, no sliding contacts, commutator or brushes. A reserve ignition by coil and accumulators with synchronised high-tension distributor is also provided for starting purposes. A feature of the Albion cars is the governor, which simultaneously acts on the throttle mixture and ignition, and is itself controlled by a lever on the steering wheel. A new device is seen in a small lever by means of which the gas supply can be entirely shut off, and a port opened instead, giving full air to the carburettor, an excellent scavenging effect being obtained in the cylinders when running downhill. As will be seen from Fig. 79, the mechanical lubricator is supported from the first cylinder and is located under the bonnet between the engine and the radiator; it not only supplies oil to all parts of the motor but to the clutch and the side chains, the feed being proportionate to the speed of the engine. A lever on the dashboard is so connected with it that an initial supply of lubricant may be fed before the engine is started up. The petrol is pressure-fed

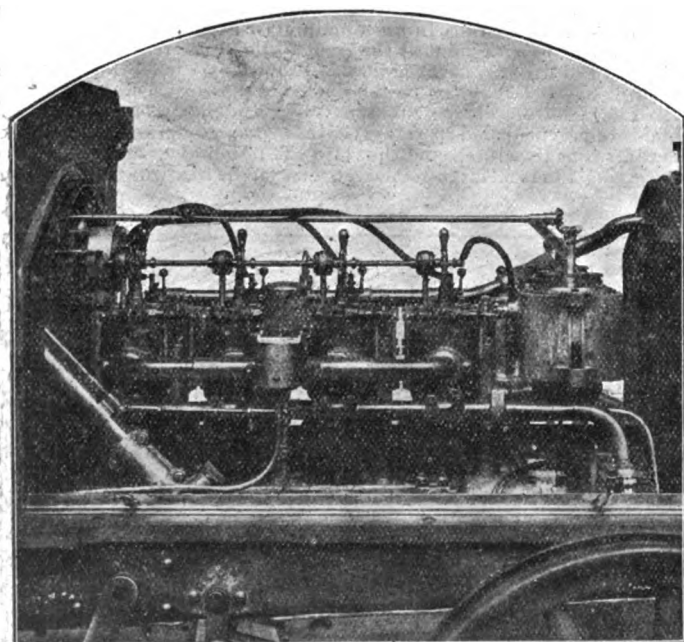


Fig. 79.—The Albion 24-h.p. engine, showing the mechanical lubricator near the radiator.

to the carburettor, the necessary pressure being obtained by a small pump driven off the half-time shaft by means of a cam. Fig. 78 gives a view of the special spring drive on the compound shaft which connects the engine with the clutch. The shaft is in two parts, one connected with the engine being the driver, and the other, which runs inside it, being driven. The rear end of the driving shaft or sleeve is provided with one member of a jaw clutch. The other part

of the latter is formed upon a sleeve, keyed to the driven shaft. The two portions of the clutch are always in engagement, but are so arranged as to allow a small definite relative rotation of the two parts. Round the shafts is placed a helical spring connected at the forward end with the driving shaft, and at the rear with the sleeve on the driven shaft. Thus when the spring is subjected to torque its diameter is reduced and its ends engage the closely-fitting parts of the sleeves after the manner of a coil clutch, and thus take up a proportion of the driving effort. The drive is so arranged that should, for any reason, the spring fail, the jaw clutches in the shaft will automatically engage, allowing the car still to be run. As will be gathered from the description of the spring drive, the clutch, which is of the multiple disc type, is not formed in the fly-wheel, but is contained in an extension of the change-speed gear-box. The latter is adapted to give four speeds and a reverse with direct drive on top, the control being by a lever working in a gate. The final drive is by side chains, which are, we are glad to note, completely protected by a steel casing, which effectively prevents the access of mud and dust, and which also acts as a radius rod. Altogether, the new 24-h.p. Albion is a well-thought-out piece of work, and the vehicle should take an equally high position as regards reliability as has the older 16-h.p. model, which, by the way, shows little change from this year's model.

**The Standard Cars.**

The Standard Motor Company, Ltd., Coventry, which has for some time been devoting attention to six-cylinder cars, exhibited two very fine chassis, one being of 30-h.p. and the other of 50-h.p. Dealing with the 30-h.p. model, the six cylinders are, as will be seen from Fig. 80, cast separately and are 4 in. bore by  $4\frac{1}{2}$  in. stroke; the valves are located on opposite sides; the valve tappets have a steel ball inserted in their lower ends to take the contact with the cams; means are also provided for regulating the lift. The carburettor is of the automatic type, provision being also provided that as the throttle is opened or closed the air inlet is proportionately regulated. A neat arrangement of the inlet pipes has been adopted to allow the mixture an equal distance to travel from the carburettor to each cylinder. The ignition

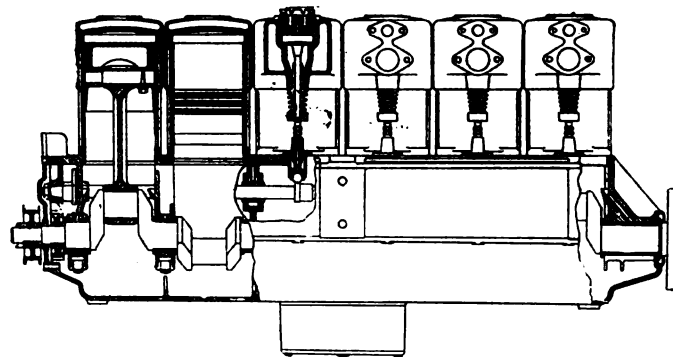


Fig. 80.—Sectional elevation of the new Standard six-cylinder engine.

is by high tension magneto and coil and accumulators, a special form of high tension distributor being provided. Contained with the latter is an ingenious lubricator for the oiling of the low tension contact maker. The lubrication is operated by a pump which sprays the oil on to the moving parts. A feature of the motor, which is carried on a sub-frame, are the large inspection doors provided in the base chamber. The clutch is of the single disc metal-to-metal type running in oil, provision being made to regulate the pedal pressure. The four-speed gear-box is controlled by a lever working in a "gate," a feature being that the direct drive is on the third speed, the fourth being indirect. The rear live axle has been re-designed; the sleeve carries the weight of the car, the power been transmitted to the hubs by the squared ends of the inside shafts. Inspection doors are provided to both the bevel wheels. The brakes are all provided with means of adjustment without the use of tools, while ball bearings are used throughout except on the engine. The 50-h.p. six-cylinder car is on similar lines; the engine, the bore and stroke of which is  $5\frac{1}{2}$  in. by 5 in., is, however, supported directly on the main frame. The chassis are adapted to receive any form of carriage body, the 30-h.p. with a seven-seated Berline being a noteworthy vehicle. A new Miniature Standard two-seated car was shown in an unfinished state; this is provided with a 10-h.p. four-cylinder air-cooled engine, driving through a three-speed gear-box and a cardan shaft on to the live axle.

**The Metallurgique Cars.**

Reference has already been made to the 24-28-h.p. vehicle exhibited by METALLURGIQUE CARS; this company also displayed examples of the 16-20-h.p. and 30-35-h.p. Metallurgique cars and a 60-h.p. chassis, the latter being one of the most noteworthy vehicles in the Show. The four-cylinder engine, the crankshaft of which is *desaxe*, has the inlet valves arranged in the cylinder heads, they being mechanically operated by push rods from a single cam shaft. Two high-tension ignitions are provided. The carburettor is of the automatic variety, the extra inlet valve being provided with a glycerine dashpot in place of the usual spring control



The clutch is of the expanding metal-to-metal type, and a new device consists of a locking bolt which, by pressing an extra foot lever, locks the two parts of the clutch together, thus preventing any slip when climbing hills. The gear-box is adapted to give four forward speeds, the final transmission being by a cardan shaft, spring drive, and bevel gear to a live axle. Three brake systems are provided—a pedal applying a brake on the differential, while a second pedal and a side lever actuate expanding and contracting brakes on drums connected with the rear wheel hub rings.

#### The Ford and S.C.A.R. Cars.

The CENTRAL MOTOR CAR CO., LTD., exhibited examples of the Ford 15-h.p. four-cylinder two-seated car and the S.C.A.R. 18-20-h.p. vehicles. As both of these have already been described in the *M.C.J.*, it is unnecessary to refer to them at any length. The last-named vehicle is of French construction, and made its first public appearance in this country in the 1906 Tourist Trophy race. The design follows the usual lines of live-axle cars; the engine has separately cast cylinders with the valves arranged on opposite sides. The radiator is provided with a fan, driven by bevel gearing off the crank shaft, which is of the built-up type.

through the fourth cylinder and successively through the others, and then into the radiator, the number of pipes being thus reduced to a minimum.

#### The Gobron-Brillie Cars.

The GOBRON-BRILLIE BRITISH MOTOR CO., LTD., exhibited a 40-60-h.p. Gobron-Brillie chassis, in which the well-known engine, with its four cylinders and eight pistons, is still retained; the valves are all operated off a single cam shaft, and the ignition is by high-tension magneto. The clutch is of a duplex type, a central one, metal-to-metal, engaging slightly in advance of the main leather-faced cone, so that the load is taken up without shock. The change-speed gear is now controlled by a lever working in a "gate," the final drive being by side chains. Two brakes are now provided on the differential shaft in addition to the usual hand-operated brakes on the rear road wheels. The complete cars on view included a highly-finished 40-60-h.p. limousine, with seating accommodation for seven.

#### The Lindsay Cars.

A neat design of 12-h.p. four-seated car was shown by the LINDSAY MOTOR CAR COMPANY. It is made to accommodate either three or four persons. The engine is a four-cylinder Fafnir, with a variable

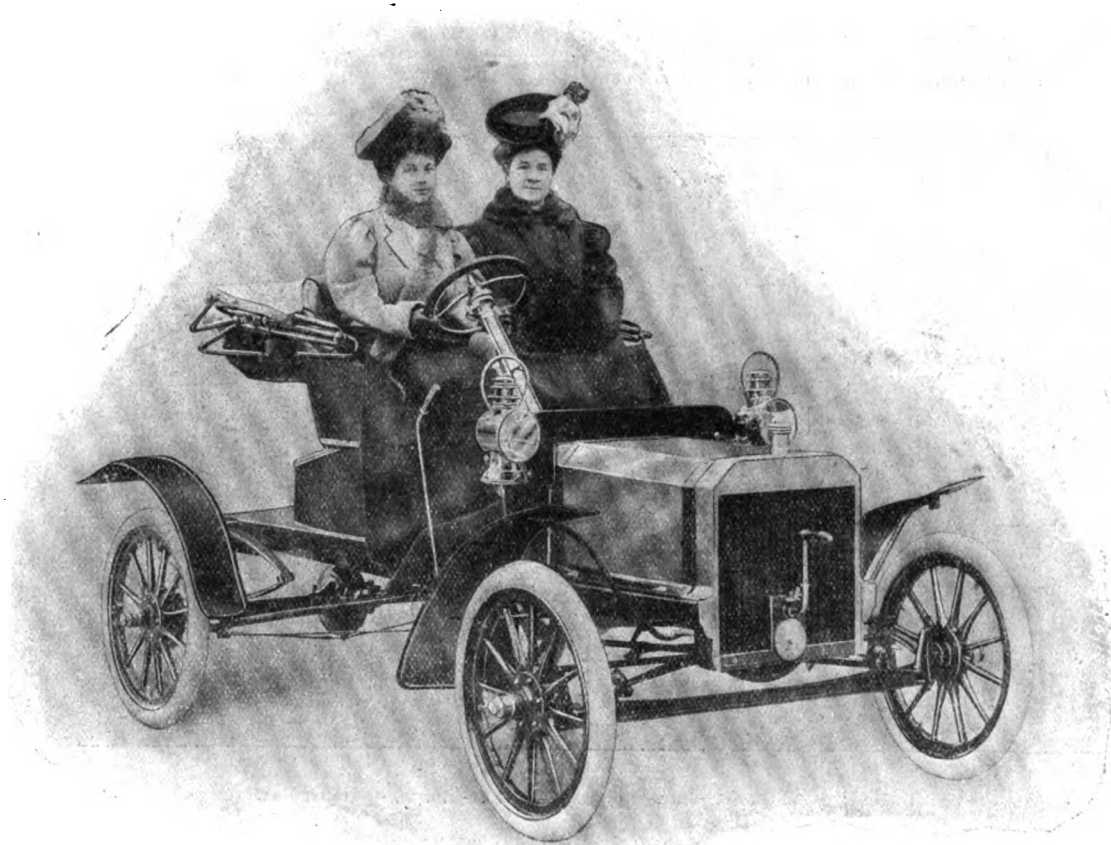


Fig. 81.—The Ford 15-h.p. Four-Cylinder Car.

#### The Whitlock-Aster Cars.

The exhibit of the WHITLOCK AUTOMOBILE CO., LTD., comprised three Whitlock-Aster cars, one being fitted with the latest type of 12-14-h.p. Aster four-cylinder engine, with a cardan-shaft drive and a landaulet body. The other two models were both of 18-22-h.p. with four-cylinder engine, duplicate ignitions, ball bearings throughout and chain transmission. One was a double landaulet and the other an open-side entrance touring car, with seating accommodation for seven. Another exhibit of interest was a doctor's coupé, which may be fitted to any make of chassis, the arrangement being such that the driving is done from the interior.

#### The Panhard Cars.

A range of Panhard cars was exhibited by Messrs. PANHARD AND LEVASSOR, ranging from an 8-11-h.p. three-cylinder landaulet to a 24-h.p. limousine. In all the armoured wood frame is still retained, and the only alteration in the first-named vehicle is a slight change in the shape of the radiator. The 15-20-h.p. car is now being provided with push pedals in place of those of the press down variety. A new 18-h.p. model is being brought out for next year but was not shown. In this car, as also in the 24-h.p. type, the magneto and the water circulating pump are gear driven off the same shaft. The water is first made to pass

lift on the inlet valves. The mixture is furnished by a Longuemare carburettor, and the ignition is by coil and accumulators. Cooling is effected by means of a gear-driven pump and tubular radiator with fan, and the drive is through a leather-covered cone clutch to the three-speed gear-box, and thence by cardan shaft to a live axle. All the gears run on ball bearings. A 28-35-h.p. car was also shown. This is fitted with an Antoine engine, the four cylinders of which are 112 mm. bore by 129 mm. stroke. The valves, which are all on one side of the engine, are mechanically operated and interchangeable. Dual ignition, by accumulator and high tension magneto, is fitted. The carburettor is entirely automatic, and has no valve, while an oscillating pump, driven by the engine, supplies the principal bearings with lubricating oil. The clutch is of the leather-faced cone type, and the gear-box gives three speeds and reverse. The standard type of transmission is by cardan shaft and live axle, a noticeable feature being the provision of cast radius rods of triangular design.

#### The Radia Cars.

Two models of the Radia cars were shown by the ADRIA MOTOR AGENCY, LTD., one of 18-22-h.p. and the other of 30-35-h.p. The vehicles are both on similar lines, and are built in France, where their

excellent performance in various reliability contests has won them many friends. The engine has the cylinders cast in pairs; ignition is by low tension magneto, and the carburettor of a special automatic type. The clutch, which is of the cone type, is provided with a locking device, which prevents any slipping. The transmission is through a four speed gear-box with "gate" control to the differential shaft, which is connected with the rear road wheels by side chains. Throughout the cars are on up-to-date lines, the fan behind the radiator being supplemented by one combined with the flywheel. Double brakes, too, are provided on the differential shaft, in addition to those acting on drums attached to the rear road wheels.

#### The Lutece Car.

Messrs. TESTE AND LASSEN were disappointed in not being able to display a chassis of a new French car, known as the "Lutece," they are introducing into this country. The vehicle is of the live axle variety, and is fitted with a four-cylinder engine of 14-h.p. This firm exhibited one of the 1907 models of 24-h.p. Panhard cars, equipped with a highly-finished limousine body.

#### The Brooke Cars.

Like that of Messrs. S. F. EDGE, Ltd., the exhibit of Messrs. J. W. BROOKE AND CO., LTD., was entirely confined to six-cylinder cars. Only one size is being made, this being rated at 30-h.p. The cylinders, which are cast in pairs, are 92 mm. bore by 120 mm. stroke, the valves being arranged on opposite sides. The ignition is by high-tension magnet. The carburettor is of the automatic air-regulating variety, the inlet pipe being so arranged that the mixture has an equal distance to travel

the tank opens a port admitting oil to each bearing in turn. The speed of the engine is controlled by a hand lever and also by a pedal, which are connected up to a variable lift mechanism on the inlet valves, and to the contact maker. The change-speed gear is also of a special type, the pinions being brought into mesh by an eccentric movement. Three speeds forward and a reverse are controlled by a single lever, which operates any gear at will, and is interlocked with the clutch, so that the gear cannot be changed without declutching. The clutch is of the multiple disc type, and is contained in the gear case. From the engine a single chain transmits the power to the gear-box placed transversely beneath the main frame, the final drive being by another single chain to the live rear axle.

#### The James and Browne Cars.

Hitherto confining their attention to cars with horizontal engines, Messrs. JAMES AND BROWNE, LTD., have at last brought out a 30-40-h.p. six-cylinder vehicle with vertical engine, which they have named the "J. and B. Vertex." The cylinders, which are 4 in. bore by 5 in. stroke, are separately cast, and have the valves arranged on opposite sides. Two throttles are provided in connection with the automatic carburettor, one being operated by the governor, which is connected up to an accelerator pedal, and the other by a hand lever. The water-circulating pump runs at the same speed as the crankshaft, and has a spring device which would break the driving connection should there be any obstruction in the pump itself. The ignition is by a single coil and a synchronised high-tension distributor, the latter being placed behind the dashboard and operated by a vertical

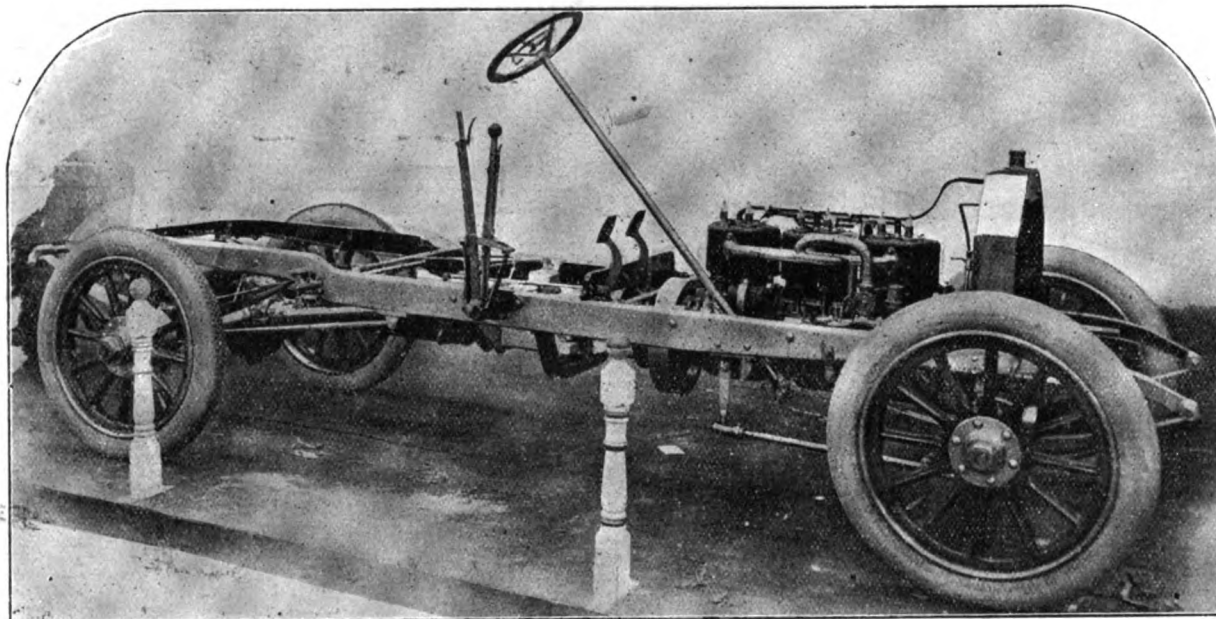


Fig. 82.—Chassis of the Brooke 25-h.p. Six-Cylinder Car.

to each cylinder. Both foot and hand control of the engine speed is provided. The clutch is of the Bradley flat-plate type, 18 plates being employed; the gear-box is adapted to give four speeds and a reverse controlled by a lever working in a "gate," a feature being that the direct drive is on the third speed, the fourth speed being indirect. The transmission is by a cardan shaft to a live axle, which has only to withstand the driving strain, the weight of the car being carried on the sleeve, which is composed of large solid-drawn tubes, tapered in section and flanged to the differential casing, the latter being of malleable steel. The power is transmitted to the hubs of the rear wheels by dog-clutches on the axle ends. Altogether the design and construction is throughout of the highest order, and we look to the new vehicle taking a high place among British-built vehicles. The complete cars on view included a five-seated side-entrance double phaeton and a seven-seated double landaulet. The Brooke vehicles are of British construction throughout.

#### The Pilgrim Cars.

The new Pilgrim cars exhibited by the PILGRIM'S WAY MOTOR COMPANY, LTD., are of an exceedingly novel design and radically different to what may be termed standard practice. The exhibit comprised a two-seated car and a landaulet. The engine, which is mounted in the centre of the frame, comprises four horizontal cylinders all located on the same side of the crank shaft. The cylinders, which are 4½ in. bore by 5 in. stroke, are cast separately but complete with water jacket. The water circulation is on the thermo-siphon system, no pump being used. The standard ignition is by accumulator coil and distributor, the latter being mounted on the motor. The inlet valves are of the auto-mechanical type. The lubrication is on a novel system; a pressure pump is used to maintain a reservoir charged with oil. A rotary valve within

shaft and bevel gear on the inlet camshaft. The clutch is of the metal-to-metal internal cone type, running constantly in oil. The change-gear box, which is controlled by a lever working in a "gate," is suspended from the main frame from three points, and in such a way that the box can be detached in a very few minutes. The final transmission is by side chains. The chassis, which is supported on five springs, has a wheel base of 11 ft. 8 in. A 30-40-h.p. six-cylinder car fitted with one of the most luxuriously finished bodies in the Show was also to be seen at this stand. It consisted of a saloon and was built by the Lacre Company; the limousine top is detachable and is supplemented by a double-extension hood. Comfortable seating accommodation is provided for seven persons. The interior appointments include a glass-fronted cabinet, collapsible table, and an electric signal board in communication with the driver; in fact, scarcely any little detail has been omitted. Examples of the James and Browne 16-h.p. and 25-30-h.p. cars with horizontal engines were also on view.

#### The Globe Cars.

Two sizes of the Globe cars—12-14-h.p. and 22-25-h.p.—were shown by the HITCHON GEAR AND AUTOMOBILE COMPANY. The frame of these vehicles is of a special inverted U section of steel; the engines of both are of the four-cylinder type, and the transmission is now by bevel gear on to a live axle in place of the worm drive formerly employed. The change-speed gear is of the Hitchon patent type, in which the pinions run on free wheel clutches and are arranged that at the instant of changing gear the next higher or lower speed gear wheels must be in mesh before the other pair become disengaged. The universal joints and steering gear employed on these cars are also of noteworthy design.

### The N.E.C. Cars.

Few cars in the exhibition showed such originality in design as did those of the NEW ENGINE COMPANY, of Acton Hill, W., and although at first sight the fact that the mechanism is entirely hidden from view may lead some to think that it is difficult of access, a perusal of the following descriptions in conjunction with the illustrations will show that, far from this being the case, the arrangement is such that all the different parts of the engine and gear can be got at with a minimum of trouble and without having to get under the car. Two sizes are being built—15-h.p. two cylinders and four speeds, and 30-h.p. four-cylinder, the latter being made with either two or four speeds. Except as regards the number of cylinders the arrangement of the two vehicles is practically the same, so that the following particulars may be taken as applying to

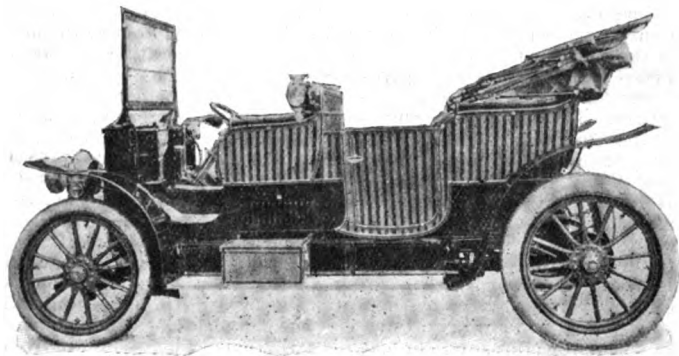


Fig. 83.—The N.E.C. Car with Hood and Front Glass.

both. In the first place it may be observed that the body is entirely supported between the axles; special attention has been paid to the question of suspension, with the object of providing an easy-riding vehicle. The frame is of channel steel, the side members being narrowed at the extreme front and connected by transverse members, the whole being stiffened at the angles by web plates. The springing of the car is novel, half-elliptic springs being placed fore and aft, and connected underneath the axle at the back and on the top in front. The motor (Fig. 84) is located below the front seat floor board. The cylinders, which are separately cast, are arranged in pairs on the opposite side of the base chamber, the valves being all operated off a single cam shaft. The bore and stroke of both engines is  $4\frac{1}{2}$  in. by  $4\frac{1}{2}$  in. The cam shaft and valve tappets are carried in a detachable case which can be readily removed *en bloc*, as shown in Fig. 84, so giving access to the crank shaft and its big ends. The ignition is by coil and accumulators with syn-

changed the air admission is also varied with the speed of the engine. The action of the governor is regulated by the lever on the steering column, which can be set to give any maximum speed desired, the governor then keeping the car at this speed up and down hill, provided the gradient is not too steep. A pedal on the right acts as a decelerator; when pressed down it acts against the governor, closing the throttle, and decreasing the speed of the car to the utmost possible without stopping the motor; further

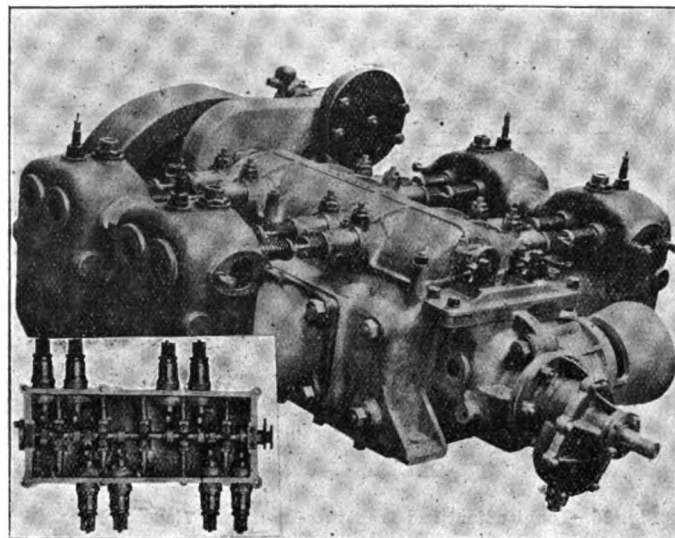


Fig. 84.—The N.E.C. Four-Cylinder Horizontal Engine.

In the bottom left-hand corner is seen an underneath view of the detachable cover which carries the cam shaft and the valve tappets, so that not only are these readily accessible, but a large inspection hole to the engine base chamber is provided.

movement of the pedal then applies the main brake. One lever controls the switch, retards the ignition, closes an auxiliary throttle, and brings half compression cams into operation, to facilitate the starting of the engine, which is performed from the driver's seat. When the engine is in operation the lever is moved back to its original position; while to stop the motor it is pushed backwards against a spring, this switching off the ignition and again closing the auxiliary throttle. The lubrication system, which is automatic, is divided into two systems,

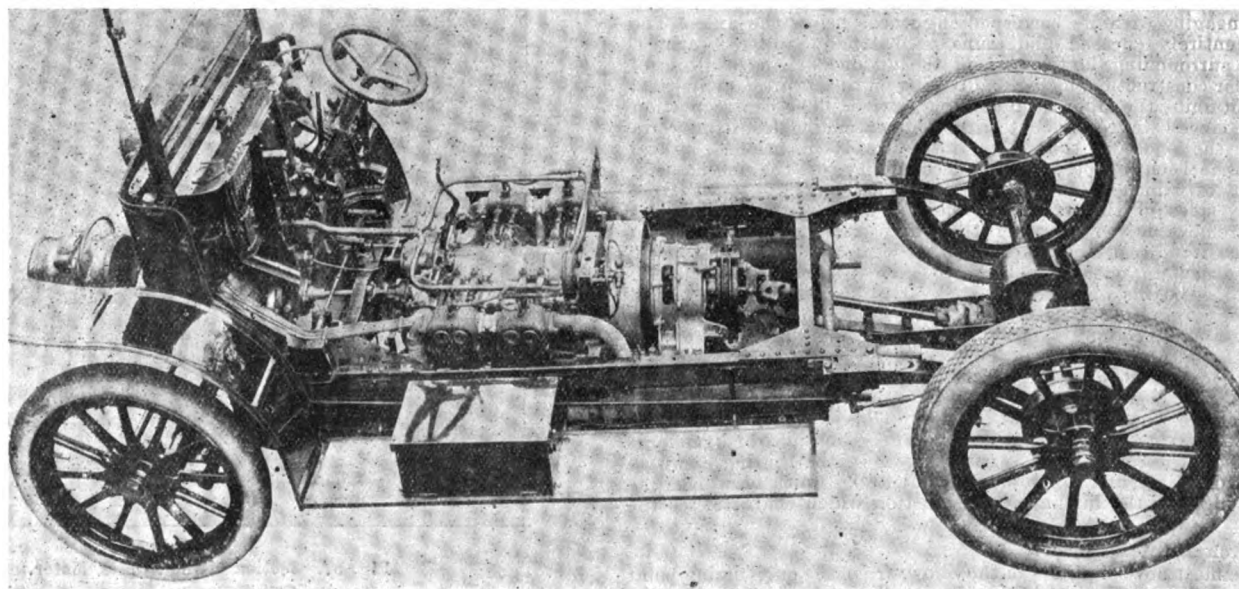


Fig. 85.—View of chassis of the N.E.C. Car.

chronised high-tension distributor. The latter is situated at the rear side of the engine at the rear, and is gear driven from the cam shaft. Owing to its proximity to the plugs the high tension leads are very short. The low-tension contact maker is located inside the governor, and is arranged that as the balls of the latter fly out with increased speed of the engine the ignition is automatically advanced. The governor is also so linked up to the carburettor that as the position of the throttle is

one for the cylinders and one for the bearings. Four drips on the dash, which are connected one to each cylinder, are fed by a small valveless pump mounted on the front end of the crank shaft; the pump draws oil from the filter chamber, which lies just in front of the governor case, and delivers it through the hollow crank shaft to all the bearings. The oil then drains to the bottom of the crank case and thence back to the filter. One of the drips on the dash feeds to the filter chamber

can be adjusted to make up for any loss. On the two-speed cars the water is circulated by a pump driven by a continuation of the crank shaft, a fan being provided behind the tubular radiator. On the four-speed cars the water circulation is on the thermo-siphon system, through a honeycomb radiator, the fan being incorporated in the flywheel. The usual bonnet is replaced by the dashboard, which consists of the radiator and a wooden case serving to hold the petrol and oil tanks. The part above the radiator is covered with patent leather, which sweeps

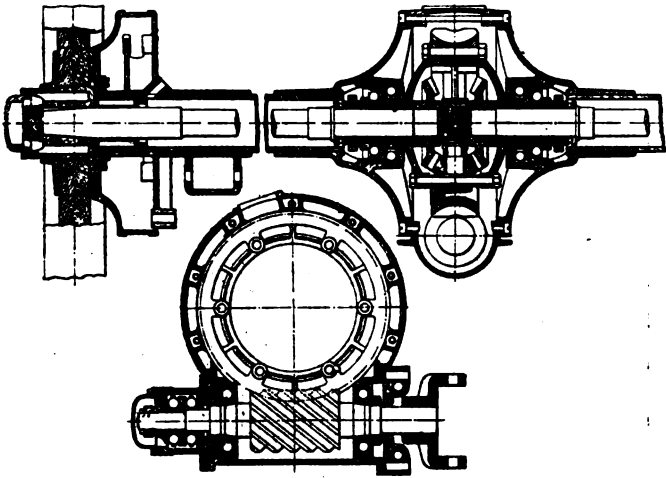


Fig. 86.—Longitudinal and Transverse Sectional Views of N.E.C. Worm Gear-driven Live Axle.

backwards at the sides, giving a very smart appearance. Passing now to the transmission, the two-speed gear is of the epicyclic type and comprises a double-faced leather clutch. When the lever is moved forward the clutch is brought backward into contact with a fixed ring. Part of the epicyclic gear is then held stationary, and the drive passes through the gear, giving the low speed. When the lever is drawn backward the clutch moves forward and makes connection with the flywheel, so giving the direct top speed. In the four-speed gear the forward speeds and the reverse are all operated by one lever working in a "gate." On the top speed the drive is direct, no gear wheels being in mesh. The clutch can be removed without disturbing any other part and all the gears can be taken out without removing the case, or the latter can be removed bodily by undoing four nuts. The transmission from the gearbox to the rear live axle is by a cardan shaft, which has universal joints at both ends, and worm gear, the worm, as will be seen (Fig. 86) engaging with its corresponding wheel below the axle. The latter is entirely encased and runs on ball and roller bearings. The sleeve surrounding the two parts of the divided driving shaft is of steel tubular construction, facing and bolting on to a central cylindrical casting containing the differential and worm drive. The centre portion of the axle is well stayed by stout truss rods extending from the worm casing to the ends of the axles. As already mentioned, special attention has been devoted to the accessibility of the mechanism, every part of which is arranged so that it can be got at from the top or sides of the vehicle. The side panels under the front seat are removable, so exposing the valve caps and the ignition plugs. The front seat and steering wheel are hinged so that they may be turned up out of the way to give access to the engine. The front floor boards and heel board take out in pieces; that under the driver's feet covers the carburettor and the links joining this to the control on the steering column. The flooring on the opposite side covers the governor, the oil filter and the clutch adjustment. As there is nothing to get at underneath the engine, a close-fitting underscreen is fitted, the motor and gear being thus thoroughly protected from dirt. The 15-h.p. car has a wheel base of 9 ft., and the 30-h.p. one of 10 ft. 2 in. The vehicles on view included an Alexandra, the lines of which render it well adapted for use as a town carriage, a six-seated touring car with hood and front glass, and a double landaulet, the finish of which was all in keeping with the high-class construction which characterises the chassis.

#### The British Duplex Motor.

Of the most novel exhibits in the Show, from the engineering point of view, was the 18-20-h.p. chassis displayed by the MOTOR ENGINE AND MANUFACTURING COMPANY, LTD., the interest centreing round the novel two-stroke motor with which it is fitted. We give a sectional view of the new engine in Fig. 87, and may here remark that while only two cylinders are shown in the illustration the engine on the show chassis comprised three cylinders,  $4\frac{1}{2}$  in. bore by 3 in. effective stroke. The method of operation is, however, identical, so that the following description may be taken as applying to both. Each cylinder, it will be seen, contains two chambers of different diameters. It is in the upper ones, B, B', that the expansion of the exploded gases takes place, these being therefore water-cooled. Trunk pistons, A, A', with the

lower ends enlarged, separate the two chambers of each cylinder, three piston rings on the upper end and two on the lower ensuring the necessary tightness. The cranks are set  $180^\circ$  apart, one piston thus being on its up-stroke whilst the other is moving downwards. Assuming the cranks to be in the position shown in the diagram, the cycle of operations takes place in the following sequence as the engine is started up:—In No. 1 cylinder, the one to the left, as the piston A descends it opens both the air valve E', which communicates with the lower chamber C through the transfer pipe G, and also the mixture valve D. The valve F' is held closed both by the suction from the piston A and by the compression from the upward moving piston A' in No. 2 cylinder. A rich mixture is then drawn from the carburettor through the valve D into the chamber C, whilst at the same time pure air is sucked in through the snifting valve E' and down the pipe G. Reaching the bottom of its stroke the piston A commences to ascend, closing both the valves E and D, and compressing the mixture in the chamber C and the air in the pipe G. An operation similar to that just completed in the lower portion of No. 1 cylinder now commences in the lower chamber C' of No. 2 cylinder, the piston A' being on a downward stroke. Directly this pressure can overcome the decreasing compression in the working-chamber B' of No. 2 cylinder, the valve F' opens, admitting under pressure first the cushion of pure air from the pipe G to thoroughly scavenge the cylinder, passing out through the exhaust port H', and then the rich mixture from the chamber C, which can enter only after the pure air above it in the pipe has been displaced. The piston A' commences to ascend, and until it covers the exhaust port H' leakage takes place from the chamber B'; the lower portion of this space being, however, filled only with pure air no fuel is wasted. As soon as the exhaust port is covered by the piston the mixture in the chamber B' is compressed, whilst in No. 1 cylinder the chamber C will again be sucking in air and mixture, and the chamber B scavenged by the air from the transfer pipe G communicating with the lower chamber of No. 2 cylinder. When the piston A' has passed its summit the compressed mixture in the chamber B' is fired, and the motor commences to work. Meanwhile the air-scavenging in No. 1 cylinder having been completed, the mixture pumped in and the exhaust port covered, compression takes place, so that No. 1 cylinder fires just after the working stroke in No. 2 is completed. Alternate firing on every stroke is then maintained by the pumps feeding one or other of the working cylinders on every stroke. It will be seen that the crank case compression usually adopted in two-cylinder motors has been abandoned in favour of an annular pump at the

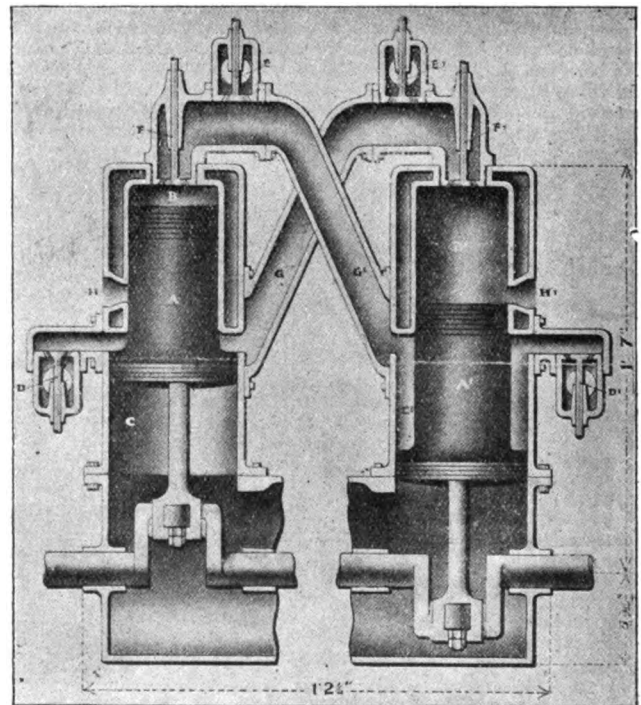


Fig. 87.—Section of the Duplex Motor.

lower end of the cylinder. Back-firing at high speeds is prevented by providing a means for thoroughly scavenging the cylinder before the new charge of gas is admitted, while leakage of the mixture through the exhaust port is avoided by pumping it in through the top of the cylinder behind a column of air; and, finally, the possibility of a smoky exhaust has been removed by the complete independence of the crank case and working chamber, which are separated from each other, not only by five piston rings, but also by an annular chamber. The three-cylinder engine, which develops 30-h.p. at 1,000 revs. per minute, occupies a space of 24 in. long, by 16 in. wide, by 24 in. deep, so that, compared



with the ordinary four-cycle engine, the new motor occupies only about half the space and weighs at least one-half less per h.p. Another advantage is that it has no cam shaft or valve tappets, the three valves of each cylinder all being automatic, and only one of these is exposed to the full heat of combustion. The reduction in the number of working parts is about ten pieces per cylinder, and as there is no valve movement to be accurately timed and set, or any adjustment whatever to be made, the motor can be easily taken down and fitted up again. By cutting off the mixture supply the engine can be instantaneously transformed into an air-compressor and act as a powerful brake, for on every up-stroke of each piston part of the momentum of the vehicle will be absorbed in compressing a full charge of air. Altogether, the engine forms a striking departure, the progress of which we shall watch with interest.

#### The Argyll Cars.

On their distinctively decorated stand ARGYLLS MOTORS, LTD., made special prominence of their 14-16-h.p. model, which will be their leading production for the 1907 season. The main features that have given the

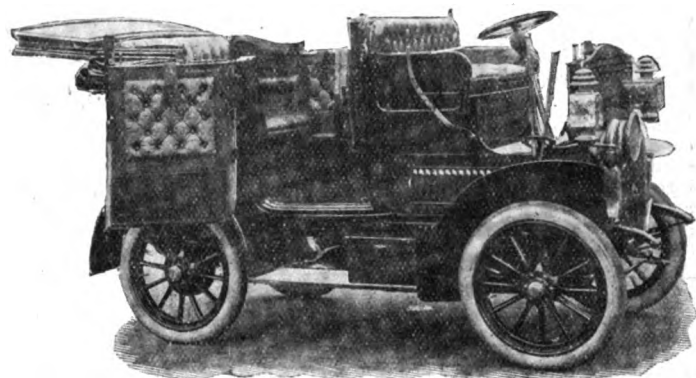


Fig. 88.—The Argyll 14-16-h.p. Landulet, with the engine under the driver's seat.

car its position among motorists in the past have been retained, with the addition of improvements calculated to perfect the running and reliability of the vehicle. It has, however, been decided to adopt the metal-to-metal clutch, and the use of staggered spoke wheels will be more generally followed, thus contributing to the reliability of the car. The examples of the 14-16-h.p. vehicle on the stand included a standard side-entrance car and a landulet (Fig. 88), both fitted with the Argyll four-cylinder engine. The cylinders are cast separately, with the inlet and exhaust valves on the right and left of the engine respectively. They are operated by vertical lifters from the solid cam-shaft running in special bearing metal bushes. The crank shaft is of strong design, with bearings between each cylinder and specially long bearings at the outer end. Accessibility has not been overlooked in the design. Large plugs are fitted on the cylinder heads and above the valves, while large holes are provided in the crank case to allow of easy inspection and adjustment. Over lubrication is provided against by an arrangement to ensure a constant level of the oil, while the lubrication for the connecting rod ends is on the splash system. The main crank shaft bearings are lubricated from a reservoir on the dashboard by pressure from the exhaust gases. Cooling is effected by a centrifugal pump and honeycomb radiator, with belt driven air inducing fan. The ignition is by accumulator and multiple coils, a specially designed contact maker being fitted, and the speed of the engine is automatically controlled by a centrifugal governor on the cam shaft, acting on the throttle, which latter is also regulated by a lever on the steering wheel. The ignition is also advanced or retarded by another lever on the wheel, and is connected by means of universally jointed rods to the contact maker casing, which can be rotated in either direction to obtain the desired result. A special single jet carburettor is provided. Transmission is through a flexible coupling to the change-speed gear-box of the well-known Govan type; the final drive is by cardan shaft to the rear axle. There are three speeds and reverse. The rear axle is now made with the flanges of the sleeve attached by eight bolts to the differential casing. The foot brake is of the metal-to-metal contracting type, a hand brake of the internal expanding variety being also fitted; the adjustment of the latter is made by the simple tightening up of a long sleeve acting upon right and left handed threaded rods. The frame is of channel steel of strong section, and presents a good example of British workmanship. In addition to the two 14-16-h.p. vehicles, Argylls Motors, Ltd., also showed a 10-12-h.p. two-cylinder car with Aster engine, fitted with a Cape cart hood and glass screen as well as a 16-20-h.p. limousine upholstered in light cloth. The evident intention of the Argyll Company to keep in the front rank of motor-car constructors was testified by the workmanship and design of the vehicles displayed by them.

#### The Premier and Marchand Cars.

The PREMIER MOTOR COMPANY, LTD., exhibited a new 10-12-h.p. two-cylinder car bearing their name. The vehicle, which can be

supplied with either two or four-seated bodies, has been designed to meet the requirements of motorists of moderate means. High tension magneto ignition is fitted, and the cooling is by thermo-syphon, a very large radiator being provided. The lubrication is pressure-fed from the exhaust. The clutch is of the usual cone type, with a ball thrust to take the pressure when declutching. The gear-box gives three speeds forward and a reverse, with a direct drive on the top speed. A cardan shaft transmits the power to the rear live axle, which is of substantial construction, with six rows of ball-bearings. Internal expanding metal-to-metal brakes are provided on the rear wheels. A feature of the frame is that neither a pressed steel nor tubular frame is used; it is of T steel section with an under-frame of similar design. A chassis of the Italian-built 30-40-h.p. Marchand car, for which they are British agents, was also shown by the Premier Company. The engine, which comprises four separate cylinders, is provided with an automatic carburettor and a double ignition system. The change-speed gear is now operated by a lever working in a "gate." Transmission is by side chains, and the rear brakes are of the internal expanding type, while the countershaft brakes, of which there are two, are operated by one pedal.

#### The Peugeot Cars.

An excellent display of Peugeot cars was made by Messrs. FRISWELL, LTD., who inform us, however, that the 1907 models are being reserved for the forthcoming Paris Salon. The cars on view included a 30-40-h.p. landulet, an 18-24 h.p. side-entrance double phaeton, and a 12-16-h.p. double phaeton, with Cape cart hood and glass screen. The 30-40-h.p. car is fitted with a four-cylinder engine, having a bore of 130 mm. and a stroke of 120 mm. All the valves are interchangeable, and the admission and exhaust valves are placed on opposite sides. The ignition is by rotary Simms-Bosch low tension magneto, with make and break inside the cylinders. The change-speed gear gives four speeds forward and a reverse with a direct drive on top. The Baby Friswell two-seated car was also shown. This is fitted with a standard 64-h.p. De Dion engine. The frame is of stamped steel, and is practically a small reproduction of the highest class of automobile built. The ignition is of the ordinary high-tension type, fitted with accumulators and a trembler coil. The gear-box, which is adapted to give three speeds forward and one reverse, is fitted with ball bearings. A feature of the braking system is that the pedal operated brake acts on drums on the rear wheels, the hand brake being on the cardan shaft behind the gear-box.

#### The White Car.

Naturally much interest was evinced in the new models of the White car, which has become a popular town carriage as well as a reliable touring vehicle. For the coming season a 30-h.p. car has been brought out, an illustration of which appears in Fig. 89. Apart from the increased power now obtained the 1907 car has some interesting features and improvements that should serve to carry it still further in the regions of popularity. The generator in the new model has tubes of a larger capacity than previous types, while by adding a feed water heater ten per cent. more efficiency is secured to the power plant. This auxiliary consists of a short coil of pipe connected between the water tank and the generator and located in the exhaust pipe supplying the water at an increased temperature, so adding to the efficiency of condensation. The new engine has been much strengthened and the crankshaft has been newly designed. The two cylinders are of 3 in. and 6 in. diameter respectively, with a 4½ in. stroke. The water pumps are worked by a lever driven from an eccentric on the

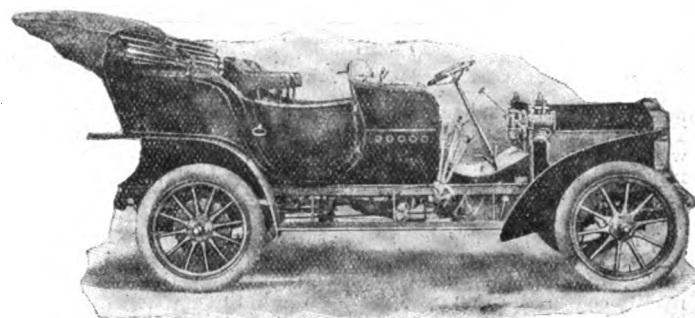


Fig. 89.—The White 30-h.p. Steam Car.

crank shaft and projecting at the side of the engine. Consequently the crank case is entirely closed, resulting in improved lubrication and an economy in the use of the oil. We notice that the tubular condenser has been made larger, and the fan is of correspondingly increased size, while the bonnet being in three independent parts facilitates removal when necessary. The fuel tank, now made of two steel stampings, instead of three as heretofore, is hung between the rear of the chassis frame and a cross brace connecting the sides of the same. By means of the float indicator it is possible to ascertain the level of the fuel at any time. Other points of interest consist in the adoption of a tubular front axle, the fitting of longer and heavier springs, and the hanging of the water tank beneath the car. The hand and foot brakes are on the

rear wheels, the latter being an internal expanding brake and the former a contracting brake on the outside of the drum. These are independent of each other and are of undoubted strength. Three good types of bodies were shown on the 30-h.p. chassis, a double phaeton, a limousine, and a landaulet, all thoroughly worthy of the success which recently attended the White steam cars in the town carriage competition, for which they were entered by Mr. Frederic Coleman. We hope shortly to publish a description of the 20-h.p. car which is also to be introduced for the 1907 season.

#### The Reyrol Cars.

Several examples of the little Reyrol two and three-seated cars were shown by the MOTOR SUPPLY COMPANY, LTD. These vehicles, which are designed to meet the requirements of motorists of moderate means, are fitted with either a De Dion 6-h.p. or Buchet 6-8-h.p. engine; the mixture is furnished by an automatic carburettor, and the water circulation is on the thermo-siphon arrangement, no pump being employed. A transverse spring has now been fitted at the rear of the chassis, in addition to the two semi-elliptic side springs. The gear-box provides three speeds and a reverse, and has a direct drive on the top gear, which is an innovation, as are also the torque-rod and the internal expanding brakes on the rear wheels. A new 10-12-h.p. four-cylinder Reyrol car is also being introduced, but unfortunately the company were only able to display the motor of the vehicle. This has the four cylinders all in one casting, the bore being 85 mm. and the stroke 95 mm. The ignition is by magneto, and a feature of the carburettor is that the air inlet and the throttle are controlled by one lever.

#### Argyll Cars.

The Metropolitan representatives for the Argyll cars, ARGYLLS, LONDON, LTD., had an attractive stand in the Annex, whereon they demonstrated the serious attention which the Alexandria Company is

indicating for all the leading types of cars in use in Europe is sufficient indication of their merit to many motorists. At the Exhibition special attention was directed to their model de luxe combined speed indicator and communicator, by means of which the passenger may transmit instructions to the driver, and eight-day watch, the whole being fitted in an extremely good type of case, making an attractive provision for the car. The accuracy, durability and clear reading of this speedometer have long been appreciated while a previous description in the *M.C.J.* obviates the necessity for lengthened reference on the present occasion. The firm also showed their milometer as intended for attachment to the hub cap as well as in a new form for fixing to the dashboard. In "Communicators" a handsome new circular pattern was exhibited, while electric side lamps, steering column lamps and portable inspection lamps were included in a very representative display.

#### Coachwork.

Several examples of high-grade coachwork were on view, a pleasing instance of the excellence of British production in this respect being given by Messrs. SAYERS AND CO., of 90 and 92, Wandsworth Road, S.E., whose *debut* at the Agricultural Hall exhibition in the spring gave them a splendid introduction to the motor-car industry. They showed a limousine body to seat five persons and with a sliding luggage grid at the rear; a touring landaulet with "Sayerico" seats and tyre brackets of the same name; a phaeton body showing the adaptation of the Windham detachable body which we have previously illustrated in our columns; and an extension hood capable of being brought into use in a really quick space of time. The harmonious colour schemes introduced into the upholstery as well as the woodwork of the cars gave great attraction to Messrs. Sayers and Co.'s exhibits. At their stand was also to be seen the "Saverico" folding ladder intended for the conveni-

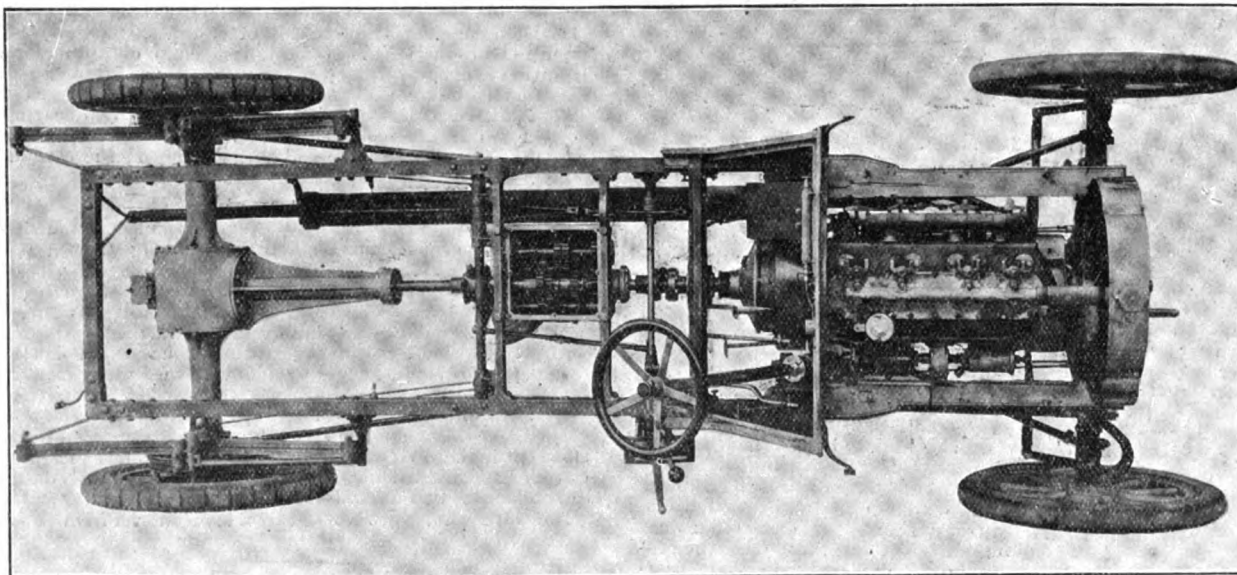


Fig. 80.—Plan of Chassis of Deasy 24-h.p. Car. (See page 897).

now giving to broughams, landaulets and closed carriages generally. The 26-30-h.p. car with limousine body by Mulliner, of Northampton, was a conspicuous example of carriage work, the fitting and upholstery, from the adjustable skylight ventilator in the roof to the minor accessories provided throughout the car, being of high grade. It has accommodation for five passengers. From the coach-building point of view, equal interest attached to the three-quarter landaulet body fitted on a 16-20-h.p. chassis. This had a detachable canopy and sliding wind shield, while all the pillars are hinged so that the vehicle can be readily converted to an open carriage. Both cars were fitted with a four-cylinder Aster engine of 26-30-h.p. and 16-20-h.p. respectively. Transmission is by cardan shaft to a live axle, and the Govan patent three-speed gear is fitted. The clutch is of the metal-to-metal type, which is now being provided on Argyll cars. Other models on the stand included a 14-16-h.p. landaulet with four-cylinder Argyll engine, in which the motor is located directly under the driver's seat, by which means the wheelbase has been shortened about 3 ft. 6 in., with consequent advantage in congested traffic, and a 16-20-h.p. chassis with Aster engine and provided with a side-entrance touring body, Cape hood and sliding canopy, allowing the ready conversion of the vehicle to an open carriage. Upon the stand was a polished chassis, fitted with a four-cylinder 14-16-h.p. engine, two of the cylinders of which were cut away and the gear-box opened out to allow of public inspection.

#### Smith's Indicators.

The fact that Messrs. S. SMITH AND SON, LTD., have in the course of the last eighteen months supplied over 5,000 of their speed

ence of loading luggage on the roof of covered cars without damaging the carriage by clambering on to the top, in the usual way. It folds up very compactly, and forms a useful adjunct to the accessories carried when on tour.

#### The Turquand Tyre Flange.

At the stand of the AUTOLOC SYNDICATE, LTD., was the speciality of the Turquand Tyre Rim Company, of 1, Broad Street Buildings, E.C. The Turquand twin tyre flange is easily attached or detached, and can be fixed to any artillery wheel carrying any type of beaded edge tyre. In fixing the new flange one of the beads of the existing standard tyre rim is removed and T headed bolts are fixed laterally through the wood felloe with the heads slightly projecting. These bolts are secured by means of helicoid safety nuts. A side-flange is provided carrying a bead to the exact section of the piece removed, and also containing slots to slip over the heads of the bolts. A covering ring is also provided in the form of a D shaped steel tube and containing slots in its flat portion. The combination of the two rings secures the strength of the device. The flange plate takes the circumferential strain, and the tubular covering ring adds to the lateral strength and rigidity of the wheel. The security of the attachment has been well provided for, and the Turquand flange certainly ranked amongst the novelties of the Show.

#### Lamps.

Messrs. HOWES AND BURLEY, LTD., gave ample illustration of their capacity to provide motorists with lamps of pleasing appearance as well as of good structural work. Their acetylene head lamps for the coming season are being placed on the market in three types

viz., with removable generator, separate generator, and entirely self-contained. In the side and tail lamps a new patent automatic fixing for the oil reservoir gives additional security in a lamp that has been well received since it was first placed on the market. Among the other lamps which formed a large section of this firm's display of accessories, including motor body builders' ironmongery, were brougham lamps, interchangeable for acetylene or candle.

#### The Goodrich Non-Skid.

The Goodrich all-rubber non-skid band was exhibited by B. F. GOODRICH AND CO., the special feature of the device being that the studs are of rubber, thus adding to the resiliency of the tyre and prolonging its life. The new tread can be fitted to any existing tyre, and will doubtless attract the notice of those looking for a non-skid band that will not slacken the speed of the car. The firm's tyres for motor-cars as well as for the heavier type of vehicles were also shown.

#### The Hutchinson Tyre.

Recently we referred to the Hutchinson tyre as one that had become recognised in France as of considerable merit, and its advent to the Show was a matter of more than ordinary interest. The tyre is of the familiar beaded edge pattern, a substantial tread of good quality of rubber being an element in its durability. Both rubber and fabric employed are of high grade, and ESTABLISSEMENTS HUTCHINSON should have many inquiries at their London office, 13, Maddox Street, W.

#### Autoloc Syndicate.

The AUTOLOC SYNDICATE, LTD., whose specialities attracted considerable attention at the exhibition where first shown last spring, showed their system of steering-wheel control and also their extra air valve control levers. The Hamilton carburettor and the radiator of the same name were also on view as well as the Turquand detachable flange. Another novelty at the stand of the Autoloc Syndicate, Ltd., was the Hopewell tyre case. This is of leather and has a cord at one end and a metallic cable at the other. These are drawn together and fastened in such a way that a good appearance is obtained, while an effectual security is ensured.

#### Bodymakers' Furniture.

MESSRS. FREDERIC SELBY AND COMPANY took the opportunity of making known their capabilities for the production of fittings, &c., for the coachwork of automobiles, and demonstrated an all-round excellence of workmanship. Axles and springs were an important section of the exhibit, while the selection of wind screens and Cape hoods was of interest. Included amongst these specialities was a Cape hood for a two-seated car, the ease of the adjustment of which constitutes an admirable feature. Door locks, handles, hinges, &c., turn buttons, steps, and other similar items of furniture for motor-bodies, completed Messrs. Selby and Co.'s range of exhibits.

#### Accessories.

MESSRS. G. T. RICHES AND COMPANY may always be relied upon to have an exhibit thoroughly representative of the accessory branch of the automobile trade. Among the minor matters included therein was French chalk, put up in tins with revolving perforated lids. The Pumiss soap, recently noted in the *M.C.J.*, also attracted some attention, as well as the loose canvas gloves, the advantage of which is apparent when dirty jobs have to be undertaken on the car. They also showed a lamp for fixing on the steering column for the illumination of the dashboard, and a number of accessories of very varied extent, the specialities including Plaxine. The Eisemann magneto, with which the firm's name has long been identified in this country, was also on view.

#### Elastes.

Considerable interest was shown in the new substance known as Elastex, which was shown by the ELASTES COMPANY on the Wolseley Company's stand. Elastex is an artificial rubber manufactured from chromic acid, glycerine and gelatine by a special process. When originally prepared it is in a liquid form, but gradually it sets into a stable and extremely resilient substance which is neither affected by water nor by any reasonable changes of temperature. Although the new substance can be employed in many ways in place of rubber, the company are at present devoting attention to popularising its use in place of air in the inner tubes of motor tyres, so rendering them equally free from puncture troubles as a solid tyre whilst retaining all the advantages in the way of resiliency of the pneumatic. The compound is forced through the ordinary air valve into the inner tube of a motor-car tyre fitted in its outer cover and mounted on a rim. The proportions of the ingredients and the pressure with which it is forced into the tube vary according to the weight, horse-power, and speed of the car for which it is destined. The tyre having thus been filled and properly distended is put aside for some days to allow the substance to set. Tyres filled with Elastex have been in use in France for some time past, and a few vehicles have also been running with them in this country, the success achieved having resulted in the formation of an important company to develop the idea in England.

#### Stevens Engines.

Mr. E. J. Hardy's exhibit included a well-made example of the engines of the STEVENS MOTOR MANUFACTURING COMPANY, LTD. These are made in 6-h.p., 7.8-h.p., 8-10-h.p., with twin-cylinders, the four-cylinder engines being of 16-18-h.p. With regard to the general details of these engines, we note that the Longuemare carburettor is usually fitted. The pumps are gear driven from the main shaft. The

wipe contact makers are operated by bevel wheels from the cam shaft. Mechanically-operated valves are provided, and the fly-wheels are tapered to take the usual leather-faced cone clutch. The bore and stroke of the 6-h.p. engine is 81 by 89 mm. and that of the 16-18-h.p. motor 92 mm. by 102 mm., this developing its full power at 1,100-1,200 revs. The crankshaft of this model has a disc  $4\frac{1}{2}$  in. diameter for bolting to the fly-wheel. All the engines are well constructed, the crankshafts being of a fine grade of nickel steel and the bearings of phosphor bronze of a high quality.

#### The Gratz Specialities.

Since its introduction to the public at one of the Agricultural Hall Shows the Gratz speed indicator has attained considerable distinction in the automobile world, where its accuracy and durability have been appreciated. The instrument possesses a pointer clamp by which the hand may be fixed at the speed the car is travelling at any particular moment, thus affording a silent but effective witness should the police attempt to give false evidence against the motorist who is unfortunate enough to come within their clutches. A mileage recorder can also be attached to this British instrument, the new model of which is of extremely neat appearance. The GRATZ PATENTS, LTD., by whom the speed indicator is made, had several other good accessories on view. We were shown the model of a new jack about to be placed on the market, which merits trial for those anxious to keep their equipment thoroughly up to date. In a cylinder standing on a firm base about ten inches high, with a diameter of nearly three inches, is placed another cylinder which is inverted and which is extended by the pressure of air pumped by an ordinary tyre pump. Once inflated the supply of air can be retained until the opening of a cock allows for its escape and the return of the inner cylinder entirely within the outer one. An electric horn, which will emit a strong sound, on a four volt battery, was also on view, as well as a good selection of electrical accessories, including the Gratz Plate accumulator. In the positive plates of this type there is no paste to disintegrate in active use. They are moulded with fine

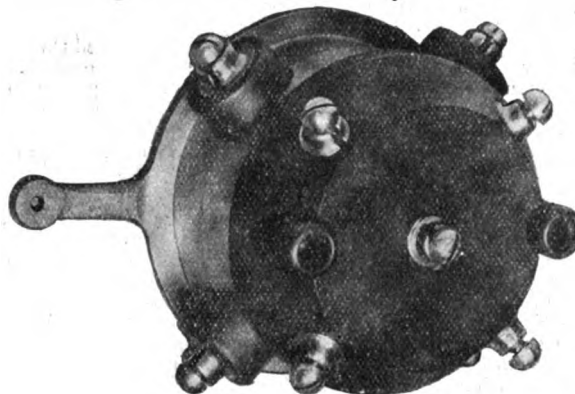


Fig. 91.—The Gratz Distributor.

intersections in blue lead and then dipped in chemicals to secure a certain degree of porosity. The peroxide is deposited by electrolytic action until the cavities are filled and the lead, with the exception of the central core, becomes an active and hard material. Equal care is taken to secure the compact character and hardness of the negative plates, so that the accumulator is not subject to the disintegration, sulphating and other undesirable conditions sometimes occurring in accumulators. A good type of spring ball contact maker and the combined current distributor and contact maker, shown about one-third of its full size in Fig. 91, were also of considerable interest. The current passes to the terminals through the medium of a steel ball resting in a small metal cup. The latter is held in position by a spring, which is compressed when contact is made, so that both a mechanical and electrical contact follows. Absolute synchronism in the running of the motor will be assured by its use, while the interchangeability of the parts and their easy detachment are points not without value.

#### The "Gaulois" Tyres.

A special feature of the display of the GAULOIS TYRES, LTD., was the "Gaulois-Agrippa" non-skid covers, which were shown in standard sizes and sections. A new tyre known as the "Gaulois special tourist" tyre, with toughened rubber tread, was on view. The strength of the Gaulois tyre is ensured by the system of construction. The air tube is made in three layers, the point of each separate layer falling at a different point in the circumference, preventing any leak penetrating. This, combined with the outer cover with toughened rubber, made a most durable combination. Among the literature circulated from this stand was a booklet on the "Care of Tyres," admirably written by Mr. F. J. J. Glynn, the manager of Gaulois Tyres, Ltd., whose extended knowledge of the subject is now placed at the service of motorists.

#### Imperial Tyres.

The IMPERIAL TYRE AND RUBBER COMPANY, LTD., showed their Imperial tyres, both of the pneumatic and solid types. The pneumatic

tyres for motor-cars are made with a toughened tread, which should be a material point in increasing their life, while the high grade of rubber employed in their manufacture is another contributory merit. The company make a speciality of repairing all types of motor-car tyres and tubes and fit non-skids of all designs. Their facilities of production enable them to do all kinds of fitting solid tyres or the reconstruction of wheels.

#### E.I.C. Specialities.

The ELECTRIC IGNITION COMPANY, LTD., had their generative set in two sizes, one for pleasure cars and one for motor-buses. This generative set consists of a specially designed generator driven by the engine, and keeps the accumulators fully charged, so ensuring lights for lighting up omnibuses, broughams, &c., and at the same time provides for the ignition and the current for electric horns. A type of switch enabling accumulator or magneto ignition to be used at will, and a complete range of accumulators, coils, sparking plugs, distributors, &c., comprised the interesting exhibit of this company. The E.I.C. Mica plug has become a standard article, the fact that the patent tapered insulator is in one piece being an important point. This is automatically locked tighter by every explosion of the engine, and it is claimed to be impossible for it to short circuit. The E.I.C. coils have done well in many important races—a fact that was brought well home to motorists during the show.

#### The Palmer Tyre.

Now that important concession with regard to price has been made in connection with the Palmer tyres, additional interest is likely to be attracted to this type during the coming season. In the works of the Palmer Tyre, Ltd., new labour-saving machinery has been installed, and the advantage in cost is now shared with the users of these standard tyres. No new departure in construction has been made, but some innovations with regard to the sizes give occasion for comment. A new 6 in. tyre with ribbed non-slipping tread is a special feature for the new season and is suitable for loads up to one ton per wheel, while a similar tyre adapted for the flange fixing method of attachment is to be put upon the market. The company recommend flange fixing for heavy and powerful cars. In this, the beads are supported throughout their entire circumference on both the inside and outside edges. The attachment is a purely mechanical one which does not depend upon the air pressure within the tyre, and the device is not likely to become detached from the wheel as the result of a sudden deflation, even should the car be rounding a corner at a high speed. A new tyre pressure gauge was also shown on the stand.

#### Miscellaneous.

Messrs. ROTHERHAM AND SONS had a selection of lubricators, &c., including automatic feed lubricators with tank for use on the dashboard of cars. A complete selection of petrol filters, needle valves, taps of all kinds, and similar accessories made up a useful display.

The Cowey patent extension speed indicator, made by the COWEY ENGINEERING CO., LTD., of Kew Gardens, is guaranteed for twelve months, so confident are the makers in its durability and accuracy. In the Extension Speed Indicator there is a speed indicator on the dashboard, an extension dial being also fitted inside the car and in full view of the other occupants than the driver. The speeds are indicated on both dials, the connection between the two consisting of a small cord of an eighth of an inch in diameter, which may be led to any convenient point in the interior of the car. The features of the Cowey Indicator are well known, and it remains only to be said that with the help of this extension the passenger in the car can observe the speed at which it is travelling—an important point, should the recommendation of the Commission with regard to the liability of the owner of the car be enforced.

Messrs. J. C. FULLER AND SON, of Bow, E., made a feature of their High Tension Magneto, and showed a full range of coils for multi-cylinder engines with wipe contacts, and for synchronised high tension ignition, including a powerful coil for synchronised ignition, giving a 2-inch spark. In accumulators they had a complete range of sizes for motor-cars in 2, 4 and 6 volt series. Attention was also drawn to their moto-capsule batteries, which are a form of dry cell for carrying on the car for emergency, and also their charging sets.

In addition to the Victoria resilient wheel which was shown on their stand, Messrs. H. M. HOBSON, LTD., had the Pognon plug, Bougie switches and Jenatz tyres. The plugs are now fitted on many cars of the best type and may be relied upon to give satisfaction to users. The Bougie switch is of service in testing the engine and should be found among the adjuncts on all cars.

Among the tailors represented were Messrs. DRYKITT, LTD., who have taken up the sale of the Robeson patent driving coat, which made its debut to the motoring world at the Cordingley Motor Show. They have a good assortment of ladies' and gentlemen's driving coats in frieze, leather, and waterproof coats. Umbrella coats were also among the exhibits.

A display of motor-car body timber was made by Messrs. JOSEPH OWEN AND SONS, LTD., whose long experience in the wood trade gives them exceptional opportunities for suiting the requirements of makers of automobiles. Bent ash and hickory rime, hickory and oak spokes, wings, panels and thoroughly seasoned ash, birch wood, white wood, etc., for body work were included in an interesting collection of timber.

The "De Nevers" tyres of Messrs. G. LIVERSIDGE AND SON, LTD., have stood the test of experience, the construction giving a combination of the advantages of solid with pneumatic tyres. At certain intervals in the rubber tyre transverse grooves are cut from the surface, so that

when under pressure the rubber can extend, securing that no resiliency is lost. The grooves take up any elongation that occurs and enable the tyre to get a grip of the road in greasy weather. The "De Nevers" tyre has all the elements of durability, and many well-known motorists are recognising its good parts.

Messrs. BRAMPTON BROS. were represented by a selection of their chains for motor-cars, the merits of which have been demonstrated during the development of the motor-car industry.

M. ANDRE GODIN had a good display of the well-known Ducellier motor lamps as well as of the "Dinin" accumulators and other electrical devices, including the "Hydra" high tension magneto. The new Oxy-etherique "Ducellier" light was an attractive exhibit, the admirable features of which will be illustrated in our columns at a later date.

A display of accessories and Panhard parts was made by Messrs. PANHARD AND LEVASSOR, whose Acton Vale works are replete with everything necessary for repair work. There they undertake to despatch Panhard parts by return, to lengthen the chassis of short cars to take side-entrance bodies, and, in fact, generally overhaul automobiles. A minor, yet important, section of their activity is the repair and testing of Eisemann magnetos.

The GENERAL PETROLEUM COMPANY, LTD., drew much attention to their "Shell" spirit, the good results obtained with which have been generally attested by many well-known motor experts who have adopted this grade of petrol.

Several good tools were shown by Messrs. W. H. WILLCOX AND COMPANY, LTD., including the "Murray" force feed lubricator, and various patterns of jacks, gauges, circulating pumps, &c. In greases and oils, as well as lubricators and feeders, the display was complete, and of interest to all concerned in that important branch of automobilism. Messrs. ROSS, COURTNEY AND COMPANY, LTD., had a collection of their pumps, bolts and nuts, lubricators, screw terminals and other specialities for motorists, a feature being made of the "Timesaver," this being a double-barrel pump for use in garages, &c.

Messrs. LUDW. LOEWE AND COMPANY, LTD., showed the D. W. M. ball bearings, which are made of steel by the "Cleveland New Process," and the balls being gauged by a patented process are guaranteed of absolute uniformity in diameter.

A new tyre pump worked from the engine was shown at the stand occupied by Messrs. J. E. HUTTON, LTD., in the Gallery, whereon was a comprehensive selection of spare parts and accessories for all classes of automobiles.

THE COVENTRY CHAIN COMPANY, LTD., showed a fine selection of chains for automobiles, from a small gear chain with a light breaking strain, to a 2½ in. pitch motor lorry chain with a breaking load of 63,000 lbs. Attention was being directed to the special type of chain in which the bushes are made integral with the side plates, thereby ensuring that all stretch must be due to actual wear and tear. The chain lubricant bath was also brought to the notice of motorists during the Exhibition.

THE VACUUM OIL COMPANY, LTD., showed their various descriptions of automobile lubricants, including "Vacuum mobiloils" for petrol, steam, and electric vehicles. Vacuum graphite grease for chains and the company's semi-solid lubricant known as "mobilubricant" were among the specialities included in an attractive show of very necessary adjuncts to the successful running of the motor-car.

Messrs. G. DAVENPORT AND COMPANY were represented by the "Imperial" axle odometer, which gives the total mileage run, thus affording, as the makers point out, a check on the consumption of petrol, and an opportunity of gauging the life of tyres. The device is made for any size wheel, is very strong in construction, and does not project beyond the hub cap, being fitted on the steering arm. Combined watch and speed indicators, the "Imperial" motor watches, petrol gauges, hydrometers, and dashboard lamps contributed to a very interesting display.

Messrs. SAWYER AND COMPANY devoted their space to the representation of the Sawyer non-skid band. This is of the detachable type, the band being of a good quality of chrome leather. It can be fitted with steel studs or, where preferred, washers and rivets. Experience has given the Sawyer band a good place among such devices.

Mr. E. EICHHORN'S display included many good lines of automobile accessories, in which were conspicuous the "Perfecta" lamps and horns as well as the Mez goggles.

Complete selections of motor-car accessories and parts were shown by Messrs. BRANSON, KENT AND CO., LTD. The "Darop" plug was a leading line among the various B. K. specialities on view. Longuemare carburetors, Basse and Michel coils and accumulators, and several good types of lamps were comprised in the exhibit.

The "Perfect Detachable" tyre which Messrs. DAVID MOSELEY AND SONS, LTD., introduced to lessen the worries of motorists when on the road was shown in the Gallery, as well as being fitted to many cars on the ground floor. In this the cover is kept in position by a locking ring which passes over the lip of the flange.

In the accessory section of the exhibition the SIMMS MANUFACTURING COMPANY, LTD., showed a range of Simms engines from the 2½-h.p. air-cooled type to the 100-h.p. water cooled four-cylinder motor. All the exhibits were fitted with the Simms-Bosch magneto-ignition, some on the high tension and others on the low tension system. The Simms safety buffer, designed to avert the full shock of collision, was also on view.



## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
87-88, Charing Cross Road, W.C.]

### THE MOTORING AND THE NON-MOTORING PUBLIC.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The Chief Commissioner of Police for the Metropolis has published recently his annual report showing the number of fatal accidents occurring in the streets of London last year. The number of people killed by carts, vans, and horse-omnibuses, which may be taken to represent the slow-going traffic, during the year was 110. The number of people killed by motor-cars, including motor-omnibuses, was twenty-two. These figures show, as exact statistics have always made clear, that fast vehicles like cycles and motor-cars cause the fewest fatal accidents, and that slow moving vehicles like vans cause the most. Control, ease of steering, power to stop quickly, these are the things that make for public safety. Speed is one of the least important of the factors.

Exact comparison between various classes of vehicles should be on the basis of the aggregate number of miles travelled. Figures collected for the Royal Commission on Motor Cars showed that 2,515 motor-car owners, who had travelled in the aggregate 44,352,312 miles, had caused accidentally the death of sixteen persons, an average of 0.3 persons per ten thousand miles travelled. So far as has been found possible to obtain comparative figures they show that the above percentage of accidents is very much less than by any other class of road vehicle.

These facts will enable your readers to judge properly the attempts that are being made by a body calling itself the Highways Protection League, by misleading or incomplete statements, to discount the report of the Royal Commission on Motor Cars, and induce the non-motoring public to join in an agitation for restrictive legislation directed at motor vehicles.

A letter has been circulated from this tainted source containing an alarming list of fifty "victims" of the motor-car during August, September, and October.

Fortunately, the Motor Union carefully records all fatal motor accidents, with the object of ascertaining whether it is possible for the Union to take any further steps to render the motor-car—already proved to be the safest vehicle using the public roads—still more safe. A comparison of this list with the list printed in the dailies shows some discrepancies. The Motor Union have, on previous occasions, found, on investigation, that circumstantial accounts of fatal accidents alleged to have been caused by motor-cars were absolute fabrications. In the present cases, enquiries were at once set on foot, and it may interest your readers to know the results.

In the "scare" list fatal accidents are stated to have occurred at Tavistock, Esher, and Cradley, during the three months. The Superintendent of Police at Tavistock writes denying that any person has been killed at Tavistock. The Superintendent of Police at Esher writes that no person has been killed at Esher in a motor accident during the present year. The Police Sergeant at Cradley writes that no fatal accident has occurred at Cradley, Cradley Heath. Enquiries are now being made as to whether such an accident has happened at any other place called Cradley.

Another fact that might very properly have been brought out in the "scare" letter is that in five cases the person killed was an occupant of the car. The implied suggestion is that all the "victims" were members of the non-motoring public.

The real question, however, is the responsibility of the motorist for the deaths reported. From the analysis of the verdicts of the coroners' juries in the cases of which I have been able to obtain particulars, it appears that, with two exceptions, the verdict was one of "accidental death," and the drivers of the cars were exonerated from blame. In the first exception, an occupant of a car was killed through the overturning of the car, and the jury in this case found that it was being driven at an excessive speed. In the second case the jury returned an open verdict, and the matter is now being taken further by the police authorities.

It would appear, therefore, from this analysis, that only in two cases included in the list has it been found, on judicial investigation, that the driver of the car was responsible for the accident.

The Motor Union has, during the past few months, prosecuted and obtained convictions in five cases of assault upon members of the public legitimately using the public roads. It has prosecuted and obtained convictions in five cases of wilful obstruction upon the King's highway. It has, in co-operation with the police and the education authorities, given an effective check to the dangerous practice of throwing stones at travellers upon the roads. In association with the A.C.G.B.I., it is arranging, at a cost of some £500, for a competition designed to reduce the cost of making our roads dustless. In many other ways it is striving to better and cheapen the motor-car, so as to bring it and the enjoyment and use of our common roads within the means of the majority of the British public. Compare this real highways protection work with the efforts of a body of prejudiced men, who,

masquerading under the title of the Highways Protection League, seek to inflame public opinion against the motor vehicle, and by increasing restrictions, fines, and taxes, effectively to place the motor car beyond the means of many who desire to use and profit by it.—Yours truly,

W. REES JEFFREYS.

### SOLID TYRE EXPERIENCES INVITED.

TO THE EDITOR OF *The Motor-Car Journal*.

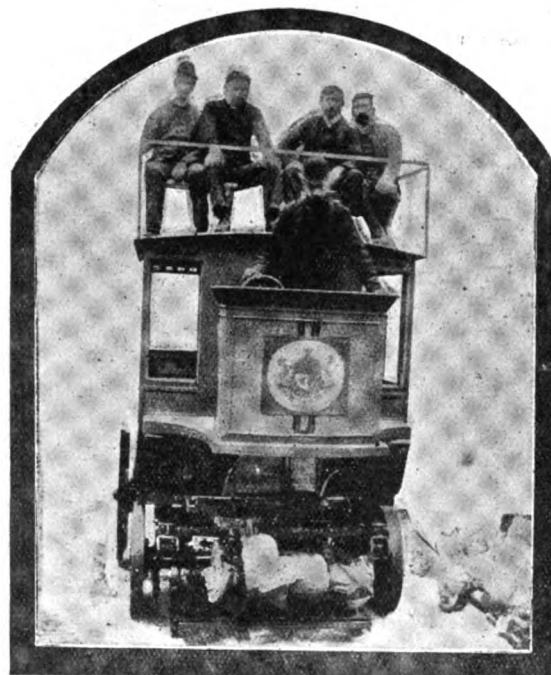
SIR,—Can any of your readers tell me from personal experience whether it would answer to run a 10-h.p. Panhard on solid tyres, and if so, what are the most satisfactory solids to fit? The roads in my district are very hard on tyres, and the trouble and expense of pneumatics are great. I am told that with solids a speed of sixteen miles per hour cannot be exceeded with comfort, and that the wear and tear to the car will greatly exceed any saving in tyre bill. Is this the case? I do not mind sacrificing some speed to immunity from puncture.—Yours truly,

TRAMP.

### AN EARLY ELECTRICAL MOTOR-BUS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I enclose herewith a copy of the only existing photograph of the electric omnibus designed by me in 1889-90. The vehicle was completed in 1891, nearly sixteen years ago, having been built to my designs



by the Electric Construction Corporation, of Wolverhampton, where Mr. Thomas Parker, jun., assisted in its construction. This omnibus, which was constructed for twenty-six passengers, was the first mechanically propelled vehicle of any sort licensed by Scotland Yard to ply for hire, and subsequently plied between Charing Cross and Victoria Stations, the fare being one penny. It was driven by two large electric motors coupled by reducing gear comprising a chain drive both to the rear and to the front axles. The photo was taken before the body-work was quite completed; for instance, only two of the garden seats were fixed.—Yours truly,

W. C. BERSEY.

### MOTORING IN THE NEW FOREST.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have been instructed by the official Verderer and the Verderer of the New Forest, sitting in their Court of Swainmote and Attachment for the New Forest, at the Verderers' Hall, in the King's House, Lyndhurst, on the 19th ult., to state that the correspondence which has recently passed between Lord Montagu and myself relating to the danger of driving motor-cars through the New Forest has been read to the court.

You are probably aware that my letter of November 28th 1904, addressed to the secretary of the Automobile Club, was written in consequence of several cases having occurred of certain commonable animals lawfully depasturing within the perambulation of the New Forest having been run down by night by motor-cars and killed, and it was pointed out in my letter that animals whilst lawfully depasturing

were in the habit of frequently crossing and re-crossing the roads and grazing by the sides of the highways, and even of lying down on and at the sides of the roads.

At the present time it is believed that the majority of motorists are not aware of the peculiar condition of things existing in the New Forest, and of the fact that ponies, cattle and pigs may at any time be met with in the act of crossing the roads, nor do motorists realise that the open Forest roads are unfenced and are to a very great extent bounded by thickets of bushes and trees which naturally conceal any animals depasturing near thereto, with the result that on the rapid approach of motor-cars, with their accompanying powerful lights, these animals are startled and run across and along the roads immediately in front of the cars, and unless great caution and care is exercised by drivers (especially by those who are unacquainted with the habit of Forest animals) fatal accidents are bound to occur.

It is a very good rule when approaching ponies in the Forest to notice whether the foals are near their mothers. If they are not, extra caution should be displayed, as, at the last moment, as the car approaches, the young animals are likely to attempt to cross the road to rejoin their mothers, and a collision may very likely then take place.

The Court of Verderers are desirous that every publicity should be given to the risks which are attended by motoring at high speed through the Forest, in the hope that such accidents as are referred to may be minimised as far as possible; and when it is borne in mind that the animals that roam in the Forest are for the most part the property of commoners

not mean to say that by fixing speed accidents are going to be prevented, but the consequences would perhaps not be so serious. It wants some believing, after a mishap has taken place, that the speed was only say fifteen miles per hour, when the car is smashed out of all recognition. I shall use all my influence to put down the scorching motorist, even if the driver has enough certificates to make a suit of. Owners of high-powered cars must not forget that what is sport to them is a nuisance to other people, and if they can afford to risk a car costing, say, from £800 to £1,500 in tearing along at illegal speeds, I should suggest that they could find a better use for their money.—Yours truly,

W. J. W., A 1299.

#### TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to your correspondent, Mr. A. J. McKinney, allow me to point out that the examination of the person about to drive in France is not for the "Permis de Circulation;" the car in question is examined for this permit, which is, as the phrase signifies, to permit the car to "circulate" on the roads of France. The examination of the driver is for him to obtain the "Permis de Conduire," which is practically equivalent to the English driving licence. I cannot understand how it was that your correspondent had to pay 20 francs for his permis de circulation. I quite concur with Mr. McKinney that the idea is good in examining those who purpose to drive, but of course the stringency with which the examination is conducted will naturally vary according to the individual examining. I am glad that your corre-



Motoring in Spain.—The Summit of the Pass between Old and New Castile.

[From "The Car of Destiny."]

who can ill afford to sustain any loss, and that such accidents tend to create a feeling of hostility towards motorists, it is hoped that the utmost caution and care both by day and night will be exercised by the drivers of motor-cars when passing through the New Forest, and that no further damage will be caused to the commoners' animals.—Yours truly,

MONTAGUE CHANDLER,

Clerk to the Verderers of the New Forest.

#### THE QUESTION OF SPEED.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I must differ from "A. A. L. H." on the above subject. I cannot see that the French system would be anything but a worry to us. The larger portion of motor accidents are only too plainly due to excessive speed. From your correspondent's letter I take it that after a driver has passed some so-called test he is to be allowed to go the pace his fancy demands. It is but poor solace to the victim to know that he has been run down by an up-to-date motor-car fitted with all the latest improvements and driven by a gold medal driver. The arrangement of handing a certificate to the police, as proposed by "A. A. L. H.," would be voted by most would-be motorists as a bit of a nuisance, and would, I should think, cause a lot of trouble when selling or buying a second-hand car. Finally, I consider it a positive danger to allow such powerful machines on the highway, as the most skilful driver is subject to momentary fits of forgetfulness, with grave results to all concerned, and I have no doubt many accidents have been caused by a sudden failure of brain power due to the excessive strain on the nerves. I do

spondent agrees with me as regards the arrangements of the English driving licencing process.—Yours truly,

ALAN A. L. HICKMAN.

#### THE LIMITATION OF SPEED.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Motorists are only human, and with machines in their possession capable of a speed up to forty-five miles an hour, it is expecting too much of them that they should confine themselves to twenty or less. In my opinion the only remedy for reckless and excessive speed is for the Legislature to pass a measure which, among other regulations, would refuse licences to travel on the public highways to vehicles capable of exceeding the legal maximum, and thus check the increasing monopoly of the roads and the great injury to the surface which high-speed motor-cars are inflicting on the public, and restore the free use of the highways and byways to all.—Yours truly,

P. J. KING.

#### THREE SPEEDS OR FOUR?

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—There seems little doubt, after a careful examination of the Olympia Show, as to the popularity of four speeds. Three speeds have been very generally employed the last year or so, owing to the great advances made in engine control. Motors could be run to possibly from about 100 revolutions per minute up to 1,500 or 2,000, and three speeds

were considered enough, the third speed being, of course, a direct drive, and consequently most of the running was done on it. A few firms, including one large English maker, still adhere to this principle, but others have been alive to the difficulty. For a driver who was contented not to "push" his car unduly, either on the level or downhill, the three-speed arrangement was admirable, but otherwise it is not a happy one, nor is it conducive to long life of the motor. If the three-speed car is geared to take its full load up ordinary hills without changing speed, it stands to reason that on the level or downhill it will "have some in hand," and, if allowed, the engine will commence to "race." People have been so easily deceived by that alluring advertisement, "climbs everything on top speed," which in reality only proves that the car is so geared that it can take ordinary hills on its top, just the same as a four-speed car is geared to take them on its third. Apparently the majority of good makers have found out the disadvantages of the three speeds only, for several are now fitting a fourth, or, still better, are arranging a direct third and a geared fourth, which is an admirable arrangement, and has really no objection, except, perhaps, the additional complication, if it can be called such, in the gear-box.—Yours truly,

FOUR-SPEEDER.

### THE SIDE-SLIP PREVENTION COMPETITION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It is gratifying to find a side-slip prevention competition is to be held, although the authority conducting the same may not be regarded as wholly authoritative, seeing that the A.C.G.B.I. is more generally associated with pleasure cars than with 'buses. The existence of the Society of Motor 'Bus Engineers seems to have been overlooked in the matter.

There is one clause in the rules which seems not only unnecessary but unwise. Drawings are to be submitted and "only those devices which, in the opinion of the judges, are suitable will be put to a practical test." This surely is hampering inventors unnecessarily. The judges cannot know everything, and their view of suitability without seeing the appliance actually at work may rule out of the test many meritorious devices that might secure their purpose, although of a form unfamiliar to the judges.—Yours truly,

W. WALKER.

### AIDING AND ABETTING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to your report on Mr. Harvey Du Cros' appeal case, if it is to be the case that any passenger in a car, if he has had any automobile experience, may be convicted of "aiding and abetting" an offending driver, it opens up a vista of terrors against all and sundry who ride in motor-cars. For instance, let us suppose that an experienced driver is sitting with a driver who has charge of the car, but has had little or no experience, it will become the natural thing for the experienced driver to be summoned for aiding and abetting the offending driver, although very possibly he has nothing whatever to do with the latter's driving. Please convey my sympathy, through your columns, to Mr. Harvey Du Cros in this very English method of dealing with automobiles in courts of so-called justice.—Yours truly,

A. L. H.

### CLUTCH TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The clutch of my engine is of the leather-faced cone type, normally held in engagement by a coil spring and is released by the action of a pedal. The clutch has been slipping badly of late, and I have tried the application of all of the substances of which I have heard to prevent this. I should be glad if you or any reader of the *M.C.J.* could assist me in ascertaining if the trouble is with the leather or with the spring? I think perhaps the latter is not sufficiently strong to properly wedge the cone into the engine flywheel.—Yours truly,

R. FRASER.

[Our correspondent's trouble is very probably due to the leather becoming worn, allowing the rivets to stand flush with the face of the leather, or perhaps being worn sufficient to allow the inner face of the clutch to touch the flywheel. It would be advisable to ascertain if this is the case, as it would be useless treating the leather if it is so worn as to allow either of the above to happen. A good dressing for a leather clutch is 50 per cent. castor oil and paraffin, or, if it is found to slip, a little Fuller's earth or French chalk may be applied.]

### EXPERIMENTS WITH COMPRESSED ACETYLENE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was extremely interested to read Mr. Jarrott's letter regarding the dissolved acetylene supplied by the Acetylene Illuminating Co., and can only endorse every word that Mr. Jarrott writes. I have been using this apparatus for some time past on my car, and can only say that nothing on earth would induce me to go back to the old-fashioned generator and its attendant troubles, with such an invention

as this on the market. I find that it gives a very much steadier and clearer light than any generator, and as a sort of test I have used four different types of headlights, and found that it worked equally well with either.

I have no interest at all in the Acetylene Illuminating Co., but feel that such an invention as they are putting on the market is deserving of every praise.—Yours truly,

COLIN DEFRIES.

### TESTING VALVE SPRINGS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you, or any reader of the *M.C.J.*, would inform me how I can tell if the valve springs on my motor are of the same tension, and whether it is necessary to have them exactly alike.—Yours truly,

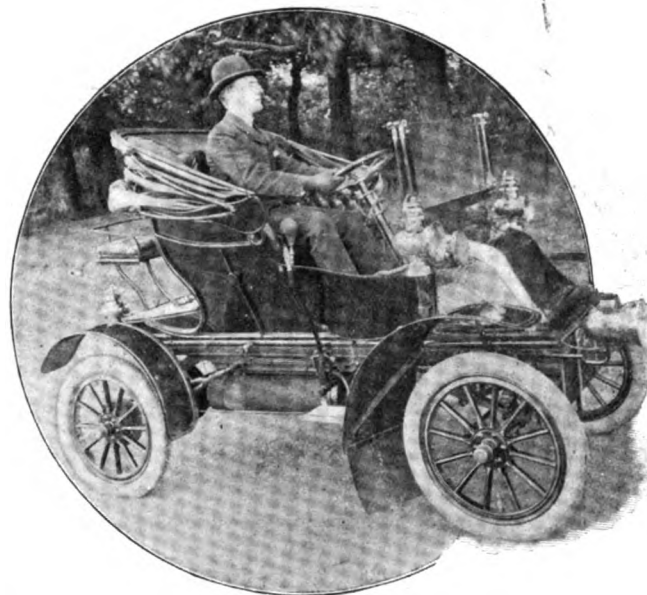
NOVICE.

[The usual method of testing the springs of the valves is by comparing the tension of each, this being usually done between thumb and finger. It is not so essential to have them accurate as to see that they are sufficiently strong to close the valves properly.]

### IMPRESSIONS AT THE SHOW.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice that you have devoted some space to show impressions, and therefore venture to send you a few I gathered as the result of an inspection of the new models displayed at the recent exhibition.



Dr. A. H. Brodribb, of Guildford, on his Adams-Hewitt Mail Phaeton.

In the first place, one of the directions in which improvement may be noted is in the provisions for mounting and positively driving the engine auxiliaries—the circulating pump, the radiator fan, the lubricator and the magneto. A few years ago it was common to find the pump mounted almost anywhere upon the chassis and driven by a belt or chain, or by friction off the fly-wheel; now it is almost universal practice to make the pump integral with the engine, designed as a part of it and positively geared to it. It has also become general practice to cast the engine base with a bracket for the mounting of the magneto, and to make provision for the necessary driving gearing. Lubricators have, in the past, usually been driven by small round belts or chains; quite a number of the new cars, however, make use of oil pumps which, if not actually a part of the motor itself and geared to it, are mounted upon the dashboard and driven by an eccentric off one of the cam shafts. In short, it looks as though the days of leather belts and chains as a means of driving engine auxiliaries were nearly over, they being superseded by gear wheels, which give increased positiveness of action, greater freedom from the necessity of adjustments, and a motive power equipment complete in itself.—Yours truly,

A YORKSHIRE VISITOR.

MR. S. R. BATSON, manager of the Lindsay Motor Car Company, 1, Albemarle Street, W., would be glad to hear from the gentleman who kindly lent him the accumulator at the Ritz Hotel, about the 12th ult., as he would like to return same.

MANGANESE STEEL SHEETING.—A correspondent asks for the names of firms supplying sheet manganese steel as a substitute for aluminium for beating into panels for motor bodies.

## CLUBS AND ASSOCIATIONS.

### AUTO CYCLE CLUB.

ON Friday of last week some of the competitors in the end to end run of last summer met at dinner at Frascati's, London. A discussion subsequently took place with regard to a similar run next year. Various opinions were expressed, the idea of a six days' tour over new ground being generally favoured.

### YORKSHIRE.

THE annual dinner of the Yorkshire Automobile Club, which is to be held at the Hotel Metropole, Leeds, on the 14th inst., promises to be a great success. Mr. A. W. M. Bosville, J.P., a vice-president of the club, will preside.

The following gentlemen have been elected to membership of the club:—Messrs. G. H. Anderson, J.P., Kilnin Lodge, Howden; E. G. Arnold, 2, North Hill Road, Headingley, Leeds; R. B. Sharp, Riversleigh, Scarcroft Road, York; and M. Matthews, Bank House, Eccleshill, Bradford.

The membership of the Yorkshire Automobile Club and its



A Morning Meet in the Park.

affiliated branches now totals 549, being made up as follows:—Yorkshire A.C., 269; Barnsley Branch, 18; Bradford Branch, 53; Cleveland Branch, 53; Halifax Branch, 40; Huddersfield Branch, 116.

### LINCOLNSHIRE MOTOR CYCLE CLUB.

THOUGH only formed a couple of months ago, the Lincolnshire Motor Cycle Club membership should be 200 by the inaugural dinner, which takes place next Wednesday. Major J. A. Cole will take the chair, and among the other speakers will be Mr. Robert Todd and Mr. F. Straight. The dinner will be at the Black Goats Hotel, Lincoln, and there will be a general meeting of members at the Spread Eagle.

### TRANSVAAL.

THE annual competition of the Transvaal A.C. took place towards the close of October, attracting twelve entries. The first day's run was one of eighty-two miles, from Johannesburg to Potchefstroom; on the second day the journey was to Schoeman's Drift and back, a distance of forty-eight miles, and the third day's trip was a return to Johannesburg. Non-stop runs on the three days were made by Messrs. Piel (16-20-h.p. Adler), Gill (9-h.p. Darracq), and Connock (14-h.p. Minerva). The club's gold medal and Mr. W. E. Pack's cup were awarded to the first named.

THE A.C.G.B.I. founder members' annual dinner will be held on the 17th inst. Mr. R. W. Wallace, K.C., will preside.

A PAPER on hill climbing formula will be read by Professor

Archibald Sharp before the members of the Auto Cycle Club on the 14th inst.

A NEW list of the 100 members, together with the rules of the Liverpool Automobile Club and Self-propelled Traffic Association, has just been issued.

### PUBLIC MOTOR SERVICES.

THE annual meeting of the Torquay Motor 'Bus Company has been held. In their report the directors congratulated the shareholders on the satisfactory results obtained. The maintenance of a regular service during the past year had been attended with considerable difficulty, owing to the almost continuous interruption of traffic by the breaking up of the roads. The revenue derived from the employment of the char-a-banc motors for tours round Dartmoor and the district had been highly satisfactory, and the special facilities offered in connection with the purchase of books and tickets had been much appreciated. The company had received for fares and motor hire the sum of £5,845 8s. 8d. The expenditure showed a balance on the revenue account of £1,702 7s. 10d., and after allowing for depreciation and the usual proportion for the formation and other expenses, and placing £800 to reserve, there remained a profit of £467 19s. 8d. The directors recommended the declaration of a dividend at the rate of 7½ per cent. per annum, free of income tax.

THE Kensington and Islington Borough Councils are jointly convening a conference of the metropolitan municipal authorities, to be held at the Westminster City Hall, on Wednesday next, to consider the subject of the annoyance resulting from motor traffic through the streets of London, with a view to joint action being taken to promote legislation for controlling such traffic.

MR. FELL has asked the President of the Board of Trade if he was aware of the fact that the bulk of the motor-omnibuses in use in London had been made in Germany, and that contracts had recently been placed in that country for the construction of about £350,000 worth of these vehicles to be used in London; and whether he could in any way assist in transferring this industry to this country in such a way as to find employment for the mechanics discharged from the Woolwich Arsenal. Mr. Lloyd-George, in reply, said he was aware that many of the chassis of motor-omnibuses in use in London were of foreign production. He understood that foreign makers had had longer experience than British manufacturers in this branch of industry. This advantage, however, as in the case of motors generally, was now diminishing, and there was reason to hope that in future a large share of the orders would fall to British manufacturers. He saw no reason why suitable mechanics discharged from Woolwich Arsenal should not have an equal chance with others of sharing in any employment thus afforded.

KINTYRE MOTOR COMPANY, LTD., whose headquarters are at Campbeltown, have just increased their capital to £10,000, with the object of carrying out an important extension and the development of their service and opening up Argyllshire to motor traffic next summer.

A DISCUSSION has taken place at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, on the subject of steam as motive power for public services vehicles. In replying to the contention of one of the speakers that steam omnibuses greatly reduced the danger of skidding, an engineer of the London Road Car Company pointed out that a system had been employed successfully on one of their omnibuses for two months which, it was claimed, would almost eliminate the possibility of skidding.

JUDGMENT has been pronounced by Lord Salvesen in the action by the Glasgow and South Western Railway Company against the provost, magistrates and councillors of the burgh of Saltcoats for declarator that pursuers do not require to obtain licences from the defenders for the motor-cars and men in charge which pursuers maintain for conveyance for hire of passengers in connection with the train service on their Glasgow and Ardrossan line. His lordship, taking the view that defenders' by-laws applied to vehicles drawn by one or more horses, granted pursuers declarator and found neither party entitled to expenses.

A REPORT on the motor-bus traffic of Brighton has been prepared by Mr. W. B. Gentle, the Chief Constable, who says that the chief cause of the noise, apart from the ordinary working of the engines, has arisen from the fact that the vehicles have wooden wheels. The company have given orders for steel wheels, which will be substituted for the wooden ones; some have already been replaced with steel wheels; and they are further reducing the noise occasioned by the working of the engines, by substituting raw cowhide cogwheels for the ordinary metal ones. With regard to speed, Mr. Gentle has drawn up a time table as follows (the times to include stoppages):—

From	To	Distance.	Allowance.	Miles. per hr.
Sussex Square ...	New Steine ...	1,770 yds.	8 min.	7½
New Steine ...	Old Steine ...	450 yds.	3 min.	5
Old Steine ...	Top North St.	650 yds.	3½ min.	6½
Top North St. ...	Clarence Sq. ...	300 yds.	2 min.	5½
Clarence Sq. ...	York Road ...	600 yds.	3 min.	7

He recommends that these times be endorsed on the licence for each vehicle, and the Omnibus Company to be informed that they will be expected to run in strict conformity with the time table.

THE Great North of Scotland Railway Company announce that their motor-omnibus service between Udney, Tarves, and Methlick will be discontinued after the 31st inst.



## CASES UNDER THE MOTOR-CAR ACT.

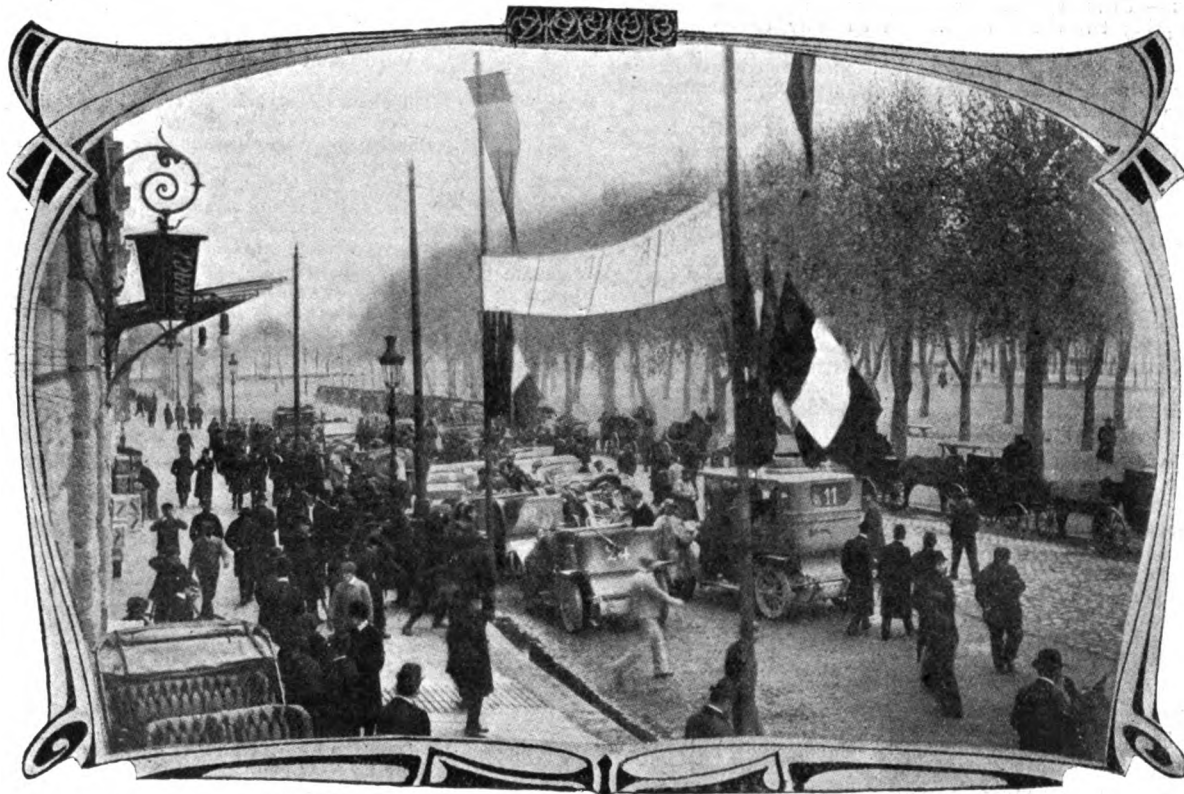
### SECTION 1.—RECKLESS DRIVING.

Mr. Lewis Waller appeared at Coventry on the 30th ult. to answer a summons alleging reckless driving of a motor-car at Willenhall, three miles from Coventry, on the road to London. Mr. George Elliott represented defendant. Mr. Masser (for the police) said defendant was driving a motor-car of considerable power from Coventry to London at a great speed, which various witnesses estimated at from thirty to forty miles an hour. In endeavouring to avoid another motor-car an accident happened, and defendant's car swerved and turned over on the side of the road. William James Bromley, who was driving his motor-car on the same road and in the same direction, having turned out of a side lane, said defendant's car touched the right-hand dumb iron of witness's car. It then swerved, turned over on its side, dragged along four or five yards in the hubs, and finally settled down with its position entirely reversed. The occupants, Mr. Waller, a lady, and the chauffeur, were thrown out. Witness examined the car, and found defendant had jammed the brakes on. Witness added that he attended under a summons, as being a motorist he did not care to give evidence against another motorist. In the end the Bench decided to convict, and imposed a fine of £5 and costs. Mr. Elliott applied that the licence should not be endorsed pending

that there was not the slightest doubt that defendant was guilty of what he ought to know was a very dangerous practice. He was, however, pleased to see the excellent character defendant had received from his employer, and, taking that into consideration, he would impose a fine of £3 and costs.

### SECTIONS 2 AND 3.—RECKLESS DRIVING AND LICENSING.

At Coventry, Charles Hill, Broadwater, Kenilworth Road, has been summoned for driving a motor-car in a manner dangerous to the public on October 28th, and also for driving a motor-car without a licence. The Town Clerk (Mr. G. Sutton) prosecuted, and Mr. C. Mathias defended. Mr. Sutton said the first offence alleged was committed in the Burges. A constable signalled to the driver of the car to pull up, and signalled to the driver of a horse and van to come on. The motor-car continued its career, however, with the result that the driver of the horse and van had to pull up the horse on its haunches to avoid a collision, and in so doing dropped down on to the board in front of the van. The speed of the car was only about six or eight miles an hour, but he (the Town Clerk) submitted that under the circumstances the defendant drove his car in a manner dangerous to the public. The Bench imposed a fine of £2 and costs. Mr. Mathias intimated that there would probably be an appeal to the quarter sessions, and with that in view he asked that the endorsement of the licence might be sus-



The French Reliability Trials of 1907 Models.—The Cars arriving at Lyons.

consideration as to whether an appeal should be taken, and this was granted.

Edward Hill, of Bideford, was summoned to Accrington Police Court to answer a charge of driving a motor-car at a speed dangerous to the public. P.S. Bale said that on November 10th he was in Blackburn road. Defendant was driving from towards Church at a speed of twenty-five or thirty miles an hour, and certainly dangerous to the public. He put up his hand and shouted to the defendant to stop, but defendant drew off from him, nearly running into a lorry, and going away. A fine of £1 and costs was imposed, the chairman stating it would have been more if defendant had been the owner of the car.

The Derby county magistrates imposed a fine of £3 and costs upon John Scales, an Ashbourne chauffeur, for driving too quickly at Mark-eaton on November 5th. Police-Sergeant Bown said the motor-car was carrying several ladies, and he estimated its speed at thirty miles an hour.—Mr. J. E. Ducker, who defended, placed the speed at twenty-three miles an hour, and added that the car was a large one, "and therefore appeared to be going faster than it really was."

William Parrish, chauffeur to Dr. Fraser, of Bath, has been fined £3 and costs at the Bristol Police Court, for driving a motor-car down Stokes Croft on November 10th at a speed dangerous to the public. The evidence given on behalf of the prosecution showed that the car was being driven at eighteen to twenty miles an hour. Defendant denied that he was going faster than six to seven miles an hour, and stated that he had complete control over the car. The Chairman stated

pendent. This was agreed to.—In the second case, Mr. Sutton said Mr. Hill seemed to have been under a misapprehension as to his former licence having lapsed, and he (Mr. Sutton) was willing that the case should be dismissed on payment of costs, a course which the magistrates adopted.

### THE ASCOT MOTOR MISHAP.

At Windsor, on Saturday, Lieut. George A. L. Paton, of the Northumberland Fusiliers, was charged with the manslaughter of Osborn Hart, a cyclist, near Ascot, on October 23rd. From the evidence it appeared that the deceased was riding a bicycle along Westwood Road into the main London and Aldershot road and was crossing to the left side when the motor-car driven by Mr. Paton caught him and carried both him and his machine some distance. As a result of the collision his spine was fractured, and he died in Ascot Cottage Hospital the same night. The coroner's jury returned an open verdict. An assistant surveyor of the Berkshire County Council admitted that it would be difficult for anyone coming along the London road from Bagshot to see anything in the Westwood road until within a short distance. When the case for the prosecution was completed, the magistrates, without hearing the evidence for defence, retired to consider whether there was a *prima facie* case. After a few minutes' absence they returned into court. The chairman announced they had come to the conclusion that there was

not sufficient evidence to send the defendant for trial. They were of opinion that no accident would have occurred if the cyclist had not attempted to cross the road in front of the motor-car driven by the defendant. The magistrates understood that accidents had occurred at the same spot before, and therefore they thought it very desirable that some means should be taken by the County Council to protect the public in future. Lieut. Paton would be discharged.

### ROAD REPORTS.

**DERBY.**—The Derby and District A.C. has been in communication with the County Surveyor with reference to the state of the Burton road near Derby. The surveyor has assured the club that he will do his best to remedy the defects complained of.

**EASTBOURNE.**—The only portion of the main road at Eastbourne that will be under repair during the next two or three weeks is Seaside, from Langney Bridge towards Eastbourne. About the beginning of the next year, however, portions of Willingdon Road will also be under repair from the boundary towards Eastbourne.

**CAMBRIDGE.**—No main roads in Cambridge will be under repairs during the remainder of the year—an assurance of interest to local motorists.

**GODALMING.**—All the main road repairs in Godalming are completed excepting two short lengths which may be done before Christmas.

**BRADFORD.**—There will be no main roads under repair within the City of Bradford during the next three weeks which will interfere with the passage of motor traffic.

**NEWMARKET.**—A census recently taken of traffic in the Bury Road, Newmarket, shows that an average of 2,473 persons and vehicles use the road every day. We understand that the surveyor to the Urban District Council has screened a quantity of clinker and had it prepared with tar for road making. Experiments as to its use will be carried out on the Bury and Exning roads.

### COMPANY NEWS.

**CHARRON.**—£384,000. To manufacture and deal in motor-cars, and acquire the works of the Société Charron, Girardot and Voigt, at Puteaux. First directors: Sir Constantine Phipps, Admiral Sir Charles Fane, Marquis De Mun, Count Leon de Bertier de Sauvigny, E. Voigt, and E. Giraud.

**PRESTON GARAGE AND MOTOR ENGINEERING COMPANY.**—£5,000. To take over the business of a garage keeper, &c., carried on at Charnley Street, and Fishergate, Preston, by Mr. C. Parish.

**STEPNEY SPARE MOTOR WHEEL.**—£120,000. To acquire the business carried on as Davies Brothers at Stepney Works, Llanely, and to manufacture the Stepney Spare Motor Wheel. The first directors are: Mr. W. B. Jessop (chairman), Park Avenue, Bradford; Major J. A. Cole, Roxholme Hall, Sleaford; Messrs. T. M. Davies and W. Davies, both of Stepney Works, Llanely; and Mr. R. L. Wood, of Cheltenham. 9, Great James Street, W.C.

**A. DARRACQ AND COMPANY (1905).**—The first annual general meeting of A. Darracq and Company (1905), Ltd., took place on Monday. Mr. J. S. Smith-Winby (the chairman) said that this was the fourth annual meeting at which he had presided, and the net profits submitted had been as follows:—For 1903 £100,275, for 1904 £112,213, for 1905, when the extensions of the previous year had made themselves felt, £152,663, and for the year now ended £203,238. The net profits during the last four years had thus more than doubled. In securing for the company a virtual 20 per cent. interest in the Darracq-Serpollet Company the Board had secured an asset which should prove of very great value. A large interest had also been obtained in an Italian company for the construction of Darracq cars in Italy, which should give satisfactory results. A factory was being erected at Suresnes, specially designed for the construction of light cars of the voiturette type, and motor-cabs, for which they had received a large number of orders. During 1906 ninety first places had been gained in all parts of the world by Darracq cars. The business already done for next season was greater than at the corresponding period of any previous year, and if nothing unforeseen occurred, he believed in twelve months' time the directors would again have a satisfactory report to submit. For the year under review the Board considered that a distribution of 25 per cent. was a very satisfactory return upon the ordinary capital. The report was unanimously agreed to.

**PALMER TYRE.**—The report for the twelve months ended September 30th, states the profit, including £614 brought forward, is £5,462. The directors recommend a dividend (free of income-tax) at the rate of five per cent. per annum, and that £1,500 be carried to reserve, leaving to carry forward (subject to directors' fees) £962.

**BOWDEN BRAKE.**—The report for the year ended September 30 last states that the net profits, together with £535 brought forward, amount to £8,265. The directors propose to take a sum of £2,000 from the reserve fund, the available amount for distribution being thus raised to £6,265, which the directors propose to apply to a dividend at the rate of twenty per cent. per annum, leaving to carry forward, £252.

### POLICE TRAPS.

A NEW kind of police persecution of motorists has commenced on the Ripley road. It takes the form of a night trap, and is worked by the usual three men, one of whom either whistles or fires a detonator as each car passes. The driver is then ordered to stop on the most trivial pretext. One splash of mud on the identification plate, construed by an imaginative officer into an alteration of a letter or number, is sufficient to ensure a summons to Guildford and the almost inevitable fine. As the Automobile Association exists to fight persecution, they propose to take an active interest in the condition of identification plates after dark, on that portion of the road between Wisley and Guildford. If, therefore, motorists are "held up" by the patrols they will not misunderstand the action.

### AN ODE TO THE CAR.

(WRITTEN in the visitors' book of a wayside hostelry after a delightful morning run.)

Oh, turn from the town and list to me,  
To a song of the countryside,  
Of mountain and moor, of lake and lea,  
Of the joys of a royal ride  
For many a mile in a motor-car,  
With Dame Pleasure our only guide.

The clock has struck, 'tis the hour of five,  
Yet the city is still abed,  
But my good Argyll is all alive,  
True, and trusty—a thoroughbred.  
Come, friend, away, 'ere the break of day,  
'Ere the shafts of the dawn have spread.

The town's behind, and the country calls,  
And the car goes merrily on;  
Sweet is the world as the dim road falls  
From the hill where the last lamp shone.  
As the veil of dawn is softly drawn  
When the day bids the night begone.

The keen, clean rays of the coming sun  
Bravely glint on our steed of steel.  
It's hey, away, for a bracing run  
With ozone for a morning meal.  
Hurrah, hurrah, for a bonny car,  
And the hum of the whirling wheel.

Amethyst skies with a rosy blush  
Cap the hills to our right and left,  
The motor sings as the new winds rush  
By the honeycomb cleanly cleft.  
From shafts and springs to her guarding wings,  
Gay, debonair, dapper, and deft.

Faster we fly in the joyous race,  
All free from the timers of miles,  
Each pulse athrob with the pride of pace,  
And the country girl with smiles.  
A fig for the towns when the luring downs  
May be won with the word "Argylls."

The clock has struck, 'tis the hour of eight  
And the city we left lies afar,  
The signs of a wayside hostel state—  
"Good refreshment for man and car."  
Stay, call the host, and we'll give the toast—  
May good luck be the Argyll's star."

SILAS C. PENNY.

MESSRS. T. J. AND J. SMITH'S Diaries come along to remind us of the close of the year. This series of yearly books has been before the public upwards of sixty years, and has been constantly brought up to date, so that it now stands in the very front rank of such publications. The Self-Registering Pocket Diaries have the merit of compactness, and with the aid of the pencil, which is inserted in the book near the last page written on, time in finding the place is saved. This is a convenience not to be lightly esteemed. With their £1,000 insurance coupons, Smith's self-registering note books are certainly an aid to the busy man who employs a car in his calls. The firm's diaries for the desk, the pocket and the workshop are well bound, on good paper, and contain many features commending them to all business men.

# THE Motor-Car Journal.

VOL VIII.]

LONDON, SATURDAY, DECEMBER 15, 1906.

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## COMMENTS.



**B**Y the Dogs' Act, which comes into operation at the beginning of next year, it devolves upon the local authorities to make various regulations, some of which will be of interest to motorists, who suffer as much from the wanderings of the canine fraternity as any class of human beings. At Manchester, for instance, it has been decided that all dogs appearing in public must wear collars bearing the name and address of their owners, and animals which neglect or whose owners ignore this regulation will be liable to be confiscated and destroyed, under the new Act, after a limit of seven days. Whether this will exonerate motorists who may, unfortunately, run over collarless animals is a matter of conjecture, but it should at least prevent the fraudulent devices that have been perpetrated on motorists in certain districts, where stray animals wandering under cars have suddenly assumed considerable financial value.

### Encouraging Invention.

AMONG the popular features of the Motor Car Exhibition to be held in the Agricultural Hall, London, in April, 1907, will be the section devoted to aeronautics. This has steadily grown in interest and importance in recent years, and the "Daily Mail" on Monday announced that the Aero Club Exhibition, to be held in connection with Cordingley's Motor Show, will, it is expected, contain a number of working models of aeroplanes. In order to incite inventors to put forth their best efforts, our contemporary has offered the sum of £250, to be divided into three prizes, for the best working models of aeroplanes, to be exhibited and practically tested at the Exhibition. In view of the revival of public interest in the navigation of the air, this announcement comes at an opportune moment, and will, we doubt not, elicit many new features of interest for the balloon and airship section of the Exhibition, which, owing to the way in which space is being so well taken up for the motor-car section, will be allocated in the Berner's Hall next year.

### A Link with the Colonies.

EVERY mail from the Colonies brings news of developments with regard to the automobile in connection with public service as well as private pleasure and convenience. Now and again the newspapers appear with accounts of runs and trips, but it is evident that the novelty with which such were regarded but a year or two ago has worn off and they are now counted as ordinary experiences—varied, of course, by the difficulties of bad roads and treacherous surfaces. Our Colonial motorists will never have the mechanical troubles that prevented the monotony of motoring in the early days in this country. That was apparent on the shores of Lochs Lomond and Fyne the other day when four Albion motor-wagonettes intended for the Straits Settlements were taken on a trial run along roads made familiar to British motorists during the Scottish Trials. Mr. Heath, the chief inspecting engineer for the Colonial Crown Agent, watched the trials on behalf of the Colony, and expressed satisfaction with the route taken as providing adequate variety for demonstration

purposes. All the elements necessary to test the stamina of the cars were to be found on these roads, which abound in hills to test their climbing powers and in corners and curves difficult of negotiation. On the steep hill in the vicinity of Whistlefield, where there is a gradient of one in seven, special trials were made, and these the cars accomplished to the satisfaction of all concerned. At times a speed of about twenty miles was maintained, and the entire journey—a distance of about 100 miles—was covered at an average speed of fifteen miles an hour.

### Events of Importance.

ALREADY the programme for 1907 is being filled up, and evidently the next twelvemonth will be as busy as its predecessor. There will be the Tourist Trophy race in the early part of the year instead of in the autumn. Then on May 3 the Herefordshire A.C. will hold a hill climb on Frome's Hill, the scene of interesting competitions in the Small Car Trials; in the following month the Scottish Reliability Trials will call many motorists to the Highlands, and in July, on the 15th of that month, the Shelsey Walsh hill climb of the Midland A.C. will prove a great attraction. Will secretaries keep us informed of important events as they are arranged, so that we may make early announcement, and so prevent, in some degree, the clashing of events that has sometimes occurred?

### Provincial Welcome.

IT is the season of the annual dinners of the various associations which have sprung into existence to promote the welfare of automobilism throughout the country. An excellent feature of those which are being held this season is being seen in the presence of leaders of public life who have not yet become identified with the motor-car movement. At Sheffield, for instance, the Lord Mayor of that town, who was the chief guest of the evening, having in view the recent manufacturing developments as well as the importance of the pleasure side of the movement, stated that the Corporation would welcome the industry by securing cheaper rates of transit and water supply, and this will doubtless be appreciated by motor-car firms in the district as well as motorists generally. Sheffield is not alone in this welcoming attitude towards the new industry, Doncaster, Ipswich, Peterborough, and the authorities of the Garden City near Hitchen having promised to do all they can to assist firms establishing themselves in their areas. This tendency to encourage the development of the industry on the part of provincial boroughs is one of the most satisfactory signs of the times with regard to the automobile outlook.

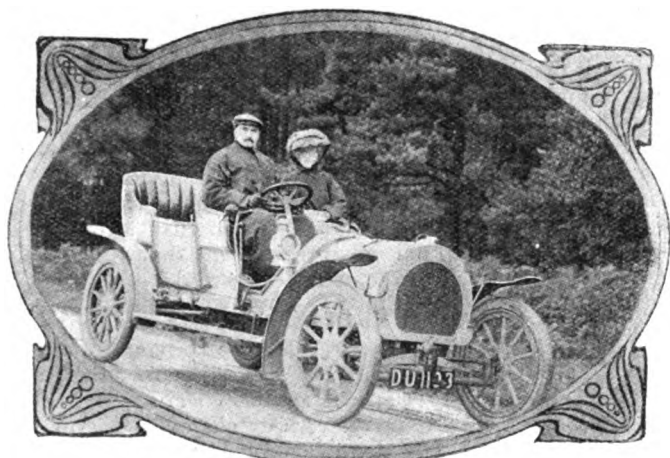
### Naming Villages.

ALL villages seem very much alike to the motorist as he passes through them, and it means oftentimes a serious delay to have to stop and enquire the name of each. Some years ago a partial attempt was made to solve the difficulty by the Cyclists' Touring Club, which induced the Postmaster-General to have the name of each village displayed over the local post-office. This was satisfactory as far as it went, but unfortunately it did not go far enough. The village post-office may be situated on a side street away from the main thoroughfare, or else it is

placed in some inconspicuous cottage or humble dwelling not readily recognisable. Hence this plan is of only small service to motorists, even when properly carried out, for if inquiries have to be made as to the whereabouts of the post-office, the name of the place might as well be asked at once. The Automobile Association now promises to come to the rescue, and intends to have names placed at either end of all villages and small towns on the main lines of travel. The signs will be of large size and special design, showing not only the name of the place but the names and distances of the four nearest towns.

#### Schools and Motorists.

THE schoolmaster and the motorist should have a common interest in securing the safety of the road. This the former can assist by warning his pupils of the dangers run when public highways are converted into playgrounds; the latter can also help to disarm public opinion by driving carefully when approaching villages and schoolhouses. We learn that in the Suffolk village of Rumburgh the vicar has, with the sanction of the postal authorities, placed a notice warning motorists of the presence of a school in the vicinity, on one of the telegraph poles. This is about 200 yards from the building, and should be advocated as a desirable practice wherever schools are on the main roads. There is much useful work yet to be done in this direction.



Captain Deasy at the wheel of a Deasy Car.

#### An Important Appeal.

AN important application was made to the Divisional Court on Tuesday by Mr. Horace Avory, K.C., in moving for a rule nisi for a writ of certiorari to issue to quash a conviction by the Eddisbury Justices, before whom Mr. W. E. Rowcliffe was summoned. He was convicted under Section 30 of the Locomotives on Highways (Amendment) Act, 1878, for allowing smoke to issue from his motor-car, the evidence of one policeman being that the motor-car emitted smoke for three-quarters of a mile. Mr. Avory pointed out that a motor-car was defined by Section 1 of the Light Locomotives Act of 1896, and stated that the enactments mentioned in the Schedule to the Act of 1896 were not to apply to locomotives, and that the Schedule contains (*inter alia*) "Part 2 of the Locomotives on Highways (Amendment) Act, 1878," and that Part 2 contains Section 3, under which section the magistrates convicted Mr. Rowcliffe on the ground that the car he was driving was a locomotive which did not so far as practicable consume its own smoke. They convicted under this Act notwithstanding the fact that they described it both as a locomotive and as a motor car. Having treated the car as a locomotive and not as a motor-car, they then ordered Mr. Rowcliffe's licence to be endorsed under the Motor-

Car Act, 1903. The police, not satisfied with what they imagined was a great victory on their part, summoned Mr. Rowcliffe shortly after for a similar offence when driving the same car, but on this occasion Mr. Staplee Firth appeared for Mr. Rowcliffe, and, after arguing the case fully, the bench declined to commit themselves, reserving their decision until after an appeal on the first case had been disposed of. Mr. Justice Darling and Mr. Justice Bucknill, sitting as the Divisional Court, on Tuesday, directed an order nisi for a writ of certiorari to issue, firstly, on the grounds that the conviction was bad, because it was under a section of an Act of Parliament which did not apply to light locomotives or motor-cars; and secondly, because the direction to endorse Mr. Rowcliffe's licence was improper and illegal. Motorists are to be congratulated on such a decision.

#### Private Motor Houses.

ABOUT London and the large towns where land is valuable and building operations extensive, the motorist of moderate means often experiences difficulty in finding suitable accommodation for his car, and agents and builders in the suburbs have not been really responsive to the demand for this addition to ordinary houses. And yet these are the people who, as Motorism becomes a pleasure available to the professional and trading classes, will have to be considered. In some of the newer suburbs that have lately been formed attention has been given to the provision of motor-houses near the dwelling-places of people likely to own cars, and such enterprise should be profitable to the landlords. For there are many men hovering on the brink of possession who would quickly obtain a vehicle if they had means of garage close at hand. The impossibility of obtaining such accommodation fairly near to the place of residence has delayed many men in taking the plunge into automobilism.

#### Dust on Roads.

ALTHOUGH this is hardly the dust season, reference may well be made to the matter in the hope that those responsible for the maintenance of our public highways will give the subject adequate attention ere the nuisance is revived in the spring. In this connection, mention may be made of the report on road construction recently made by Mr. A. Gladwell, surveyor to the Eton Rural District Council, in which he refers to what he has done in recent months in connection with (a) dust laying preparations, and (b) available material of practically little commercial value. Generally speaking, he alludes to many of the much-advertised preparations as "economically impossible in rural districts where no road watering is resorted to," and he has come to the conclusion that of all preparations the use of a good granite in conjunction with a binding flux of a "tarry" character would yield the best results. The practicability of the system advocated by Mr. Gladwell is, we understand, being considered by some of the authorities now devoting attention to the subject, and a report of their conclusions will be awaited with considerable interest.

#### The Carrying of Licences.

AMONG the questions of irritating pettiness associated with automobilism is the carrying of a licence. Many motorists have been punished, not because they have had no licence, but because they happened not to have it with them when stopped by some inquisitorial policeman. The absence of the licence is usually a matter of inadvertence, and no offence need have been committed before the constable may challenge the driver of a car. This is very absurd, but absolutely legal. Now, a sportsman need not carry his licence as well as his gun. Why, then, should this be necessary in the case of motorists, who can generally be reached through the registered number on the car? We trust this will not be overlooked when the new motor-car legislation comes up for discussion.



### Obstructing the Highway.

THE Motor Union have again been the prosecutors in a case heard at the Salford Police Court, when the driver of a cart was summoned for obstructing one of the members of the Union, Dr. F. Westmacott, of Pendlebury. The offence took place on the Bolton Road, which is a very wide road, and has two lines of tramway thereon, with central standards. The doctor was at the time on his way to the hospital, to perform an urgent operation. The defendant was driving a light spring lorry on the tram-lines, and although the doctor blew his horn when some fifty yards away, and continued to blow as he approached, the defendant took no notice. The doctor was obstructed for about 100 yards, though there was a space of over 16 ft. on the left for the defendant. Further than this, after the doctor had stopped the defendant to remonstrate with him in respect of this offence, and his name and address had been taken by a constable, he repeated

siding genius of the Shrewsbury Court is an exception, and might be asked whether he expects the declaration of such biased views to assist the public in gauging his official temper. Having regard to the few cases coming before the coroners in which cars have been the actual cause of death, this statement seems foolish, and calls for notice from the authorities.

### An Annual Volume.

ANNUAL publications are now coming forward with their customary summaries of matters relating to the earth, sea, and air—motor-cars, boats, and airships conspicuously to the front in most cases. In Hazell's Annual—which is now in its twenty-second year, and is as complete and accurate as ever—is a useful article on motor vehicles, the tendencies that were prominent during the year now closing being well stated, while the statistics are brought as closely up to date as the exigencies



The French Reliability Trials of 1907 Models and Industrial Motor Vehicles.—The Arrival of the Cars in Paris after their long journey.

the offence higher up the road, so that the offence was deliberate. After considering the evidence on both sides the Bench considered the obstruction proved and fined the defendant 10s. and costs. This makes the sixth conviction for obstructing motorists which the Motor Union has secured this year.

### A Coroner's View.

ACCORDING to Mr. R. E. CLARKE, the coroner at Shrewsbury, "God created horses for the use of mankind, and the Devil invented motor-cars for the destruction of mankind." This saying has been uttered in public hearing, and so pleased the luminary of the court that he said the newspapers could publish the assertion if they liked. As a general rule, coroners have preserved an air of impartiality in automobile affairs, and the association of prejudice with their judgments has not yet been credited to coroners. But the pre-

of printing would allow. From the commercial point of view the comparison of the returns for the first nine months of 1906 with the corresponding period of 1904 is interesting as showing the doubling of British export trade in motor-cars during the two years. Here, however, the compiler of the summary is at a loss in ascertaining the extent of the home demand for British cars, which would serve to place our industry in a very favourable light. When, however, Mr. Lloyd George's Census of Production is taken, figures may be available assisting us to a proper knowledge on that point. In connection with its references to motor-boats, "Hazell's" might have enumerated the chief organisations advancing the progress of this branch of automobilism, just as the associations dealing with the movement on land are set forth. As illustrating the up-to-date character of the information in this work of reference we may instance the mention of Mr. Leslie Bucknall's notable balloon journey on Nov. 27th, and the record of the many prizes subsequently offered to inventors of air-ships.

**Touring in France.**

Now that many British motorists are about to undertake tours in France, the arrangements in connection with Customs' formalities are of great interest. We learn that a new regulation has just come into force by which the papers issued by the A.C.G.B.I.'s Touring Department to members going abroad are available in France for twelve months from the date of issue instead of being recognised only until the 31st December in each year. This is a little formality that has been adjusted in a way likely to add to the convenience of the excellent arrangements made by the club's touring department for motorists touring on the Continent.

**Road Reports.**

FROM the reports that have lately come to hand from our correspondents in various parts of the country, it would seem that less than the usual amount of road repairing is being undertaken now than is usually the case at the present season of the year. In some cases, notably in the eastern counties, complaints have arisen that loose stones have been allowed to accumulate on the roadways without being rolled in, to the danger of all users of the highway. With the advent of the Christmas season there is an increased amount of motor travel, and matters such as these become of great importance. Nowadays the closed automobile with its various fittings for the comfort of travellers is doing something to revive the social value of Christmas in the country, and, given the fair weather anticipated by the prophets, calls by motor will become fashionable from now to the middle of January. Hence the hope that surveyors will not leave their road surfaces in a condition likely to prove hurtful to tyres and distressing to motorists who brave the uncertainties of the English climate. We hope to keep our readers in northern Britain as well as the south informed of what is being done in connection with road repairs—a branch of the subject upon which so much of the development of the movement depends.

**Motor-buses in London.**

NEARLY thirty borough authorities connected with the Metropolis were represented at an important conference held in London on Wednesday. The Kensington representatives urged that the present "unwieldy" motor-buses in service were a serious danger to the public, and were depreciating property wheresoever they travelled. This is but a part of the indictment against the modern means of getting about, and is characteristically narrow in its judgment. We doubt if the police, who regulate traffic, and who have opportunities of noting the improvement that has lately taken place in the way these vehicles are handled, would describe them as unwieldy, while it is very certain there has been a wonderful improvement in the order of their running since the summer. This should be recognised by those responsible for local government, who must realise that, after all, the present motor-bus is not in a condition of finality, and that by the time their cogitations have resulted in official action the perfect vehicle may be coming upon the road. Why cannot they exercise the patience with which they expect the ratepayers to bear the burdens thrust upon them?

**The Success of Tarred Roads.**

MR. FRANK H. MASON, the American Consul-General at Paris, in a report to Washington, states that during the past summer some American tourists, travelling by automobile through France, complained that they had been annoyed by the coal-tar on certain roads adhering to the wheels and thereby being spattered over their car and clothing. He says the impression created in some quarters by this statement has been that tarred roads have not, on the whole, proved successful, and therefore transmits a report on the subject to his Government, in which he says:—The treatment of macadamised roads

and streets with crude petroleum as a preventive of dust in summer and mud in winter was first attempted in Southern France ten or fifteen years ago, and appears to have been successful for the suppression of the dust caused by ordinary traffic. But for obvious reasons the use of petroleum soon gave way to that of coal-tar, which has the additional advantage that, unlike oil, it hardens when exposed in a thin layer to the action of the air, covering the surface of the road with a practically air and watertight skin, which not only holds down the dust in dry weather, but prevents water from penetrating the roadway in time of rain, provided the road itself is well constructed and the tar properly applied. One of the first important experiments made by the French Department of Bridges and Roads was on the national route from Oran to Mers-el-Kebir, in the Algerian Department of Oran. The success of the system was fully demonstrated, and it has since been adopted and applied to many country roads and macadamised city streets throughout France, with uniform success wherever the conditions have been normal and the work properly and thoroughly performed. Tarred roadways are not recommended for steep grades, where their smooth service might be slippery and dangerous for horses.

MESSRS. HUMBER, LTD., are opening a large depot at 60-64, Brompton Road, London, W., for the sale of Humber cars.

MESSRS. S. HOLMES AND CO., of Manchester Road, Bradford, have issued what they term a "Katalog" of cheap lathes, grinders, drills, and other tools produced at their Albion Works.

MR. J. WALES SMITH, of the Motor Car Works, Woodhouse, Leeds, has recently introduced a new flexible propeller shaft for live axle cars. It is known as the "Spivey," and is claimed to obviate shock in starting and changing gear, no matter how fierce the clutch may be, and consequently to increase the life of the gears and tyres.

A HUNGERFORD motorist sends us a report of a local Council meeting, at which Mr. Bishop said: "I think it a shame that these infernal machines should so monopolise the roads. I should like to have a day shooting at the devils." And to these people the regulation of motor-car traffic should, in the opinion of some people, be entrusted.

FROM Capt. Theo Masui comes a copy of the 1907 catalogue of Germain cars, in which are given not only particulars of next year's models but also illustrations of many of the component parts. The types dealt with include the 14-h.p. and 18-h.p. and also the new six-cylinder vehicle which has made its first appearance at the Paris Salon. Special attention is also being paid to cars intended for service in the colonies and hot climates.

MR. G. H. WAIT, of Leicester, is now making a good display of motor-car accessories, clothing, &c., at his showrooms in the London Road. At his garage he is also commencing a course of instruction in motor mechanism and driving, which should be of considerable value to novices in the Midlands. The class has just commenced, and driving instruction will be given on the road at times to suit the convenience of individual pupils in and around Leicester.

FOR renovating the appearance of both the leather and enamelled parts of motor-car bodies the Turtle Motor Company, of 72, High Street, Croydon, have brought out a new preparation of considerable merit. It is applied with a soft rag, used as a pad, and removes the dirt, restoring the polish to its original condition. Thus it will be found very effective for automobiles as well as for general use, and Eucalyne—the name given to this new preparation—should be stocked by all who have dealings with motorists.

WE have received from Messrs. R. and J. Pullman, Ltd., of Godalming, a sample of a new automatic air valve they have just introduced. The apparatus, which is the joint invention of Mr. E. E. Pullman and Mr. R. Bowman, is intended to be fitted to the induction pipe between the throttle and the cylinder. The valve is exceedingly simple, there being no springs in connection with it, and we are informed that as the result of fitting one to an 8-h.p. De Dion motor, the mileage per gallon has been increased from 25 to 36. We hope to give the valve a practical trial shortly, and refer to it again in a subsequent issue.

## THE EDUCATIVE VALUE OF THE AUTOMOBILE.

THE motor-car has been treated from almost every conceivable standpoint in the technical press, and its present and prospective influence upon social and economic conditions has been fully reviewed, but no extensive comment has been made upon the very important work which it is quietly accomplishing in popularizing a knowledge of things mechanical among the general public. The forerunner of the automobile, the cycle, commenced and carried forward to no inconsiderable extent this good work.

While hitherto mechanical knowledge was supposed to be the exclusive possession of the male half of humanity, a most important exception arose, in the acquirement by hundreds of thousands of women of a practical understanding of the mechanical operation of the bicycle, its technical terms and the ordinary care of the machine. The bicycle's technical school was thus co-educational in a very high degree, and, excepting her knowledge of the sewing machine, it marks woman's début into the mechanical world. The bicycle has thus maintained a preparatory mechanical school which fits its pupils for the broader technical training offered in the mechanical university conducted by the motor-car, at which, though the tuition is high, hundreds of thousands have matriculated, or are preparing to do so.

One of the stock criticisms of the automobile offered in wearisome reiteration by that embodiment of all wisdom, the man in the street, is worded thus:—"It takes an engineer to run one." Now, with the consent of the man in question, let this sentiment be amended by changing a "t" into a "m," so that it shall read: It makes an engineer to run one. This is near the truth; for, while one may run a car without previous engineering experience, the use of the vehicle will sooner or later advance him far toward deserving the title of engineer.

Mechanical education from automobile sources begins long before the actual possession of a car. The average victim of the "fever" approaches the problem of purchasing one with seriousness and accumulates an enormous amount of literature. Before his deliberations are ended, and he has finally "cast the die," he very likely has acquired a fair abstract knowledge of many essentials of construction. If, in addition to perusing circulars, he has read extensively the automobile journals, he may be expected to know in a rough way how the petrol engine "notes," how the carburettor "carburets," and something about the relative advantages of different ignition and cooling systems, as well as to have gained some conception of the construction and respective merits of speed changing devices, and a useful smattering of other information, which he might never have obtained had not the motor-car attracted him. Attending an automobile show and inspecting his friends' machines will be sure to give concrete form to this information, and, if he has been deliberate, earnest and painstaking in making his choice, he will have become vastly enlightened before he is the actual owner of a car.

The substantial part of the training will, of course, begin when the vehicle is actually in hand. The owner will concentrate the general information which he already possesses upon the particular constructional features which his own car possesses, scrutinizing each part of it in the light of the best knowledge which he has. After actual use of the car begins, taking care of it on the part of the owner brings him more and more closely in touch with its construction and the principles underlying its operation, but it is not, remarks Mr. A. L. Clough in an American contemporary, until some derangement occurs that the owner begins to receive the full value of his tuition. The exact and intimate knowledge obtainable by the taking apart, repairing, and reassembling of parts cannot be equalled, and the best of the matter is that such information is perfectly definite and practically directed. As the actual use of the vehicle continues, and one part after another is called to the owner's attention for inspection or repair, as it inevitably will be in time, he becomes absolutely conversant with the vehicle, and is master of every

emergency as far as it is humanly possible; in other words, he has received the elements of a good education as an engineer, which he might never have obtained had he not decided to drive an automobile. Such an owner has become, almost unconsciously, a petrol motor engineer conversant with valves, cams, pistons and their relations; with carburettors, circulating pumps, lubricators and the like. He has become an electrical engineer to the extent of knowing the construction and conditions of use of dynamos, magnetos and batteries, the laws and practice governing insulation and perfect conductivity, and he has obtained a working knowledge of simple electrical testing. In the mechanical line he will have acquired a good fund of information in regard to clutches, gears, bearings, and other elements of mechanism. He will not only have learned how things are done, but how to do things in the mechanical world, for the automobile school is one of manual training. Thousands of people have become expert with the spanner and the file in this school, and the value of an ability to do things mechanical upon a motor-car is inevitably extended into other and more serious fields.



The Royal Observatory, Greenwich, from which the time for all parts of the United Kingdom is regulated.

Photo by

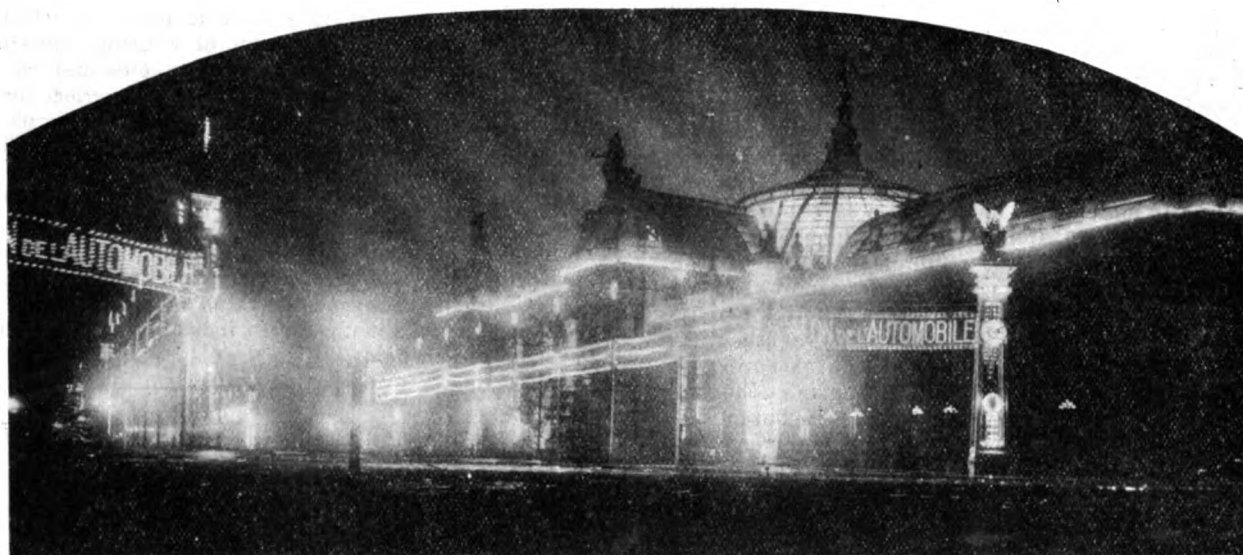
[Mr. O. Cook.]

WITH reference to the novel air-pump attached to one of the valve guides in their new 30-h.p. six-cylinder model, the Beaufort Motor Company ask us to state that they hope shortly to be in a position to supply the apparatus ready for attachment to all cars having four-cycle engines.

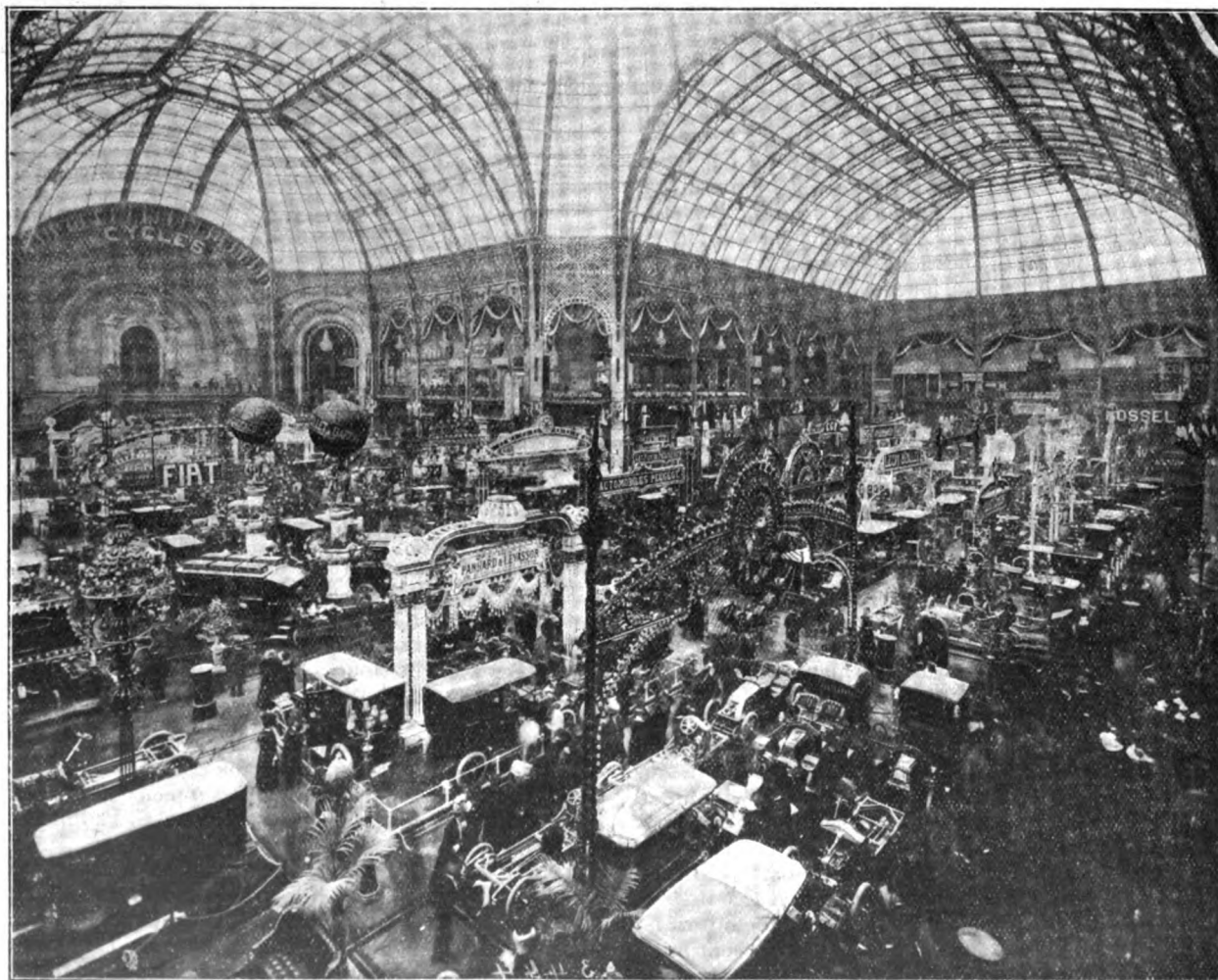
THE Education Department of the London County Council have placed an order with Messrs. Clement Talbot, Ltd., London, for one of their London-made four-cylinder engines, 100 mm. bore and 120 mm. stroke, including pump, carburettor, magneto, and commutator for supplementary ignition. The motor is intended for use at the L.C.C. Paddington Technical Institute.

EARLY recognising the expansion of the automobile business, Messrs. Wilson Bros., of Bedford, were the pioneers of the motor-car in that town. They have lately built a new place in front of a disused chapel, which they use as a garage, and through which cars can be driven from one street to another. They always keep a stock of spare parts and accessories, and can do all classes of repairs to cars or tyres.

## THE GRAND PALAIS, PARIS.



An Exterior View of the Building, showing the Illumination at Night.



A General View of the Show from a Corner of the Gallery.



# The Paris Motor-Car Exhibition.

(Continued from page 892.)

**T**O say that the ninth annual Salon d'Automobiles eclipses all its predecessors is to give but a faint idea of the excitement that is at present prevailing at the Grand Palais, in the Champs Elysees, Paris. No sooner were the doors open on Friday of last week than the rush began, and within a few minutes the building was a mass of people representative of all nations. The show, which was officially opened by M. Fallieres, the President of the Republic, who arrived promptly at 10 a.m., can, from a spectacular point of view, only be described as magnificent. Thousands of pounds have been expended on the stands alone, the elaborate drapery and festoons of flowers by day, and the myriads of electric lamps by night, making up a scene of amazing splendour. Some idea of the blaze of light after dark may be gathered from the fact that not only is all the available current from the central stations in the neighbourhood taken, but that several temporary plants have had to be put down.

and Bennett, Coventry. The latter firm have devoted considerable attention to the design and construction of machine tools for motor-car works, and their special automatic machine for milling engine cam shafts from the solid are being adopted not only in England but also by Continental makers. The tool gives a highly-finished product, with the advantage of the cams being in exact relation to each other. A cam grinding machine by the same makers is also to be seen at the stand of their French agents, Messrs. Fenwick Freres. Of motor-buses and industrial motor-vehicles there is also a large collection, reference to which, however, we must reserve until next week.

## The Grand Palais.

Returning to the Grand Palais, French firms of course predominate, but the international character of the display may be gauged from the fact that it comprises cars not only of French, but also of British, Belgian, German, Swiss, Austrian, Italian, and even Spanish construction, the single exhibit from the last-

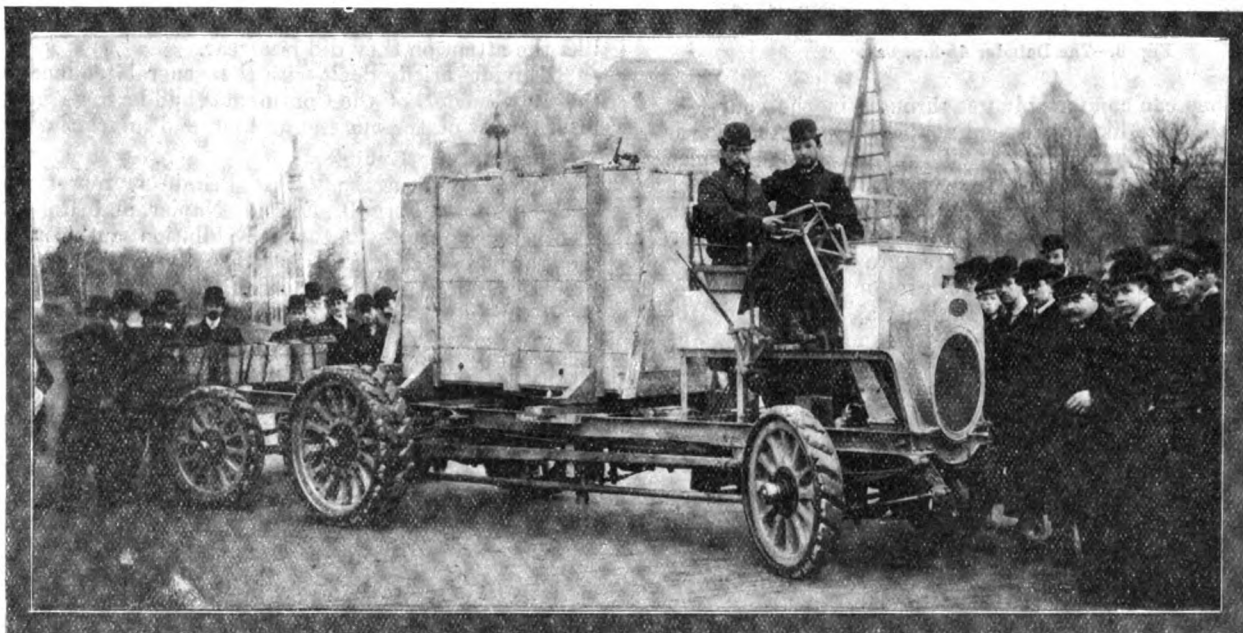


Fig. 7.—The Chassis of the new Brillie Six-wheel 'Bus arriving at the Salon.

The view from the extreme ends of the gallery, when the roof and the stands are illuminated, is simply indescribable, while, as regards the exterior lighting, the photo we reproduce will possibly convey some idea of the blaze of light, although the colouring scheme cannot, of course, be depicted.

## The Annexe and the Machine Tool Exhibits.

The demand for space for the display of industrial motor-vehicles, motor-boats, and machinery having outgrown the capacity of the Serres or glass-houses on the banks of the Seine which formed the Horticultural Palace in the 1900 Exhibition, a huge temporary building has this year been erected on the Esplanade des Invalides, on the opposite side of the river. Probably such a large collection of machine tools suitable for use in connection with automobile construction has not before been seen under one roof, and it is pleasing to be able to record that in this section one comes across the productions of British firms at every turn. Among them are Messrs. Alfred Herbert, Ltd., Coventry; Messrs. H. W. Ward and Co., Birmingham; Messrs. Parkinson and Son, Shipley; Messrs. J. Archdale and Co., Ltd., Birmingham; Messrs. Greenwood and Batley, Leeds; Messrs. T. Rider and Sons, Bolton; the Wolseley Tool and Motor Car Company, Ltd., Birmingham; and Messrs. Webster

named country being one which, on account of its excellent design and construction, merits close attention. Perhaps the most noticeable feature of the *Salon* is the large number of Italian-built cars on view. Not only so, but the high quality of the vehicles has been much commented upon. The Fiat, Itala, and Florentia are already well known in this country, and rivals to these are now seen in the Rapid, Bianchi, Isotta Fraschini, Züst, Marchand, Aquila, Esperia, Standard, S.P.A., F.L.A.G., and Junior automobiles, all of which contain many points of interest. Steam cars are but little *en evidence*. Serpollet has given up the small pleasure cars, and is now engaged, in conjunction with Darracq, in building big steam 'buses and touring "Pullmans." The only small steam vehicle—and this is of 25-h.p.—is that exhibited by Messrs. Weyher and Richmond. Mud-stained cars—vehicles which competed in the recent trial from Paris to Monte Carlo and back of 1907 models—are given a prominent place on many of the stands. This year some attempt has been made to group the exhibits into a number of classes. Thus the Grand Nef is entirely devoted to pleasure cars, the cycles and motor-cycles having been allotted a special section in a large hall abutting on the Gallery. The non-skid tyres and bands are also to be found

together, likewise the lamp makers, the carriage builders, motor-car agents, &c. The success of the detachable rim in the Grand Prix race has turned the attention of inventors in a new direction, there being fully a score of such devices on view; while of magneto and electrical ignition specialities, lamps, &c., there is almost a bewildering selection.

#### General Tendencies.

Many and cogent as may be the reasons against the multiplication of shows from the exhibitor's point of view, there are none from that of the spectator, and those who are visiting the Grand Palais under the impression that they have already seen the most important novelties in England will find that far more

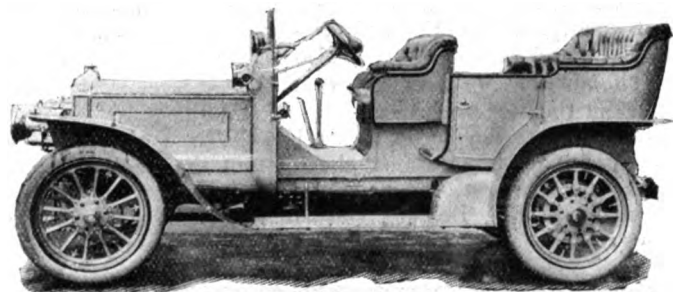


Fig. 8.—The Daimler 45-h.p. Car.

remain than they can comfortably get through in the course of the few days they are likely to spend at the *Salon*. As regards general tendencies, that of typical uniformity of design—which seems now the inevitable remark that must be made on each succeeding show—is superficially evident, but it is more than ever accompanied by variety and improvement, or at least alteration, in detail; while one great feature of the Show is, of course, the large number of six-cylinder cars on view. Some of these have already been seen in England, as, for instance, the Darracq, Hotchkiss, Berliet, Vinot-Deguingand, Gladiator, and Fiat. Additions are, however, seen in the Brasier, Mors, Bollée, Rossel, La Buire, Bolide, Gnome, Itala, Standard (Italian), S.P.A., Marchand and Germain, to mention only those which occur to us as we write. The long-announced Mercedes "six" is expected this week, but had not put in an appearance on Monday last. Engine design continues to be of a varied character, the question of cylinders cast separately or in pairs being still an open one, as is also that of the arrangement of the valves—on one or both sides. Very few single-cylinder motors are shown, but, on the other hand, quite a number of four-cylinder cars are to be seen, all apparently fitted with the same engine, which has all the four cylinders in one casting, and, probably with the view of keeping down the cost, the old form of automatic inlet valves. Radiators are either of the ribbed-tube or honeycomb pattern, in all cases provided with a fan either directly behind or combined with the flywheel. It may be added that the circular shape of radiator, as introduced by Hotchkiss and Delaunay-Belleville, seems to be growing in popularity. A good deal of ingenuity continues to be shown in the design of carburettors, while, as regards ignition, the tendency of the times seems to be towards the high-tension magneto. Lubrication by a positively-actuated pump is now to be found as a standard fitting on all the principal makes of cars. The metal-to-metal type of clutch—and more especially the multiple disc pattern *à la* Hele Shaw—is rapidly displacing the leather-faced cone, while the "gate" change-speed gear is as universal as it was at the recent Olympia Show. The direct drive on top speed is the rule, but there are few vehicles of French construction to be seen in which the side shaft in the gear-box is entirely free when the car is on top speed. Nor do we find any instance of a direct third and an indirect fourth. Transmission is still either by cardan shaft or by side-chains, with the former taking first place as regards cars of moderate and medium horse-power. Pressed steel is, with the well-known exceptions of Panhard and Charron, universal for frames other than those of cheap voitures. To meet the requirements of

town carriages with low side entrance, however, the side members are no longer made straight, but are being dropped in the centre. A somewhat interesting innovation is seen in the frames shown by Lazerges and Tourand, in which the upper edges are turned over to the outside, instead of inside, and to a degree which practically forms a tube. The *chassis-carrosserie*—by which is meant a pressed steel frame with the sides extended upwards to form part of the car body—is also a new production which is apparently meeting with favour, particularly for light cars. A salutary movement towards more efficient springing is everywhere noticeable, quite a large number of cars having semi-springs for the rear hangers, though spring dumb-irons in front have not caught on to the same extent. Where the former are not adopted it is quite usual to find a transverse spring even in the smaller chassis. There is, however, great variation in the methods adopted in fitting the latter, some makers arranging it below the cross member of the frame, while in others it projects a considerable distance behind the chassis. A noteworthy characteristic of the 1907 models is the increase in the width and diameter of brake drums. Now that touring has become so popular and extensive, the provision of adequate brake power is a necessity which we are glad to find is being recognised, some of the cars on view having brake drums at least four inches wide. There are again a number of self-starting devices to be seen, but these do not attract anything like the attention they did last year.

Having briefly dealt with the general tendencies shown in the 1907 models of the Continental builders, we now pass to a brief review of the more important and interesting exhibits.

#### The British Car Exhibits.

In the car section Great Britain is represented by five firms—Daimler, Argyll, Enfield, Napier, and Rolls-Royce. It is to be regretted that the Exhibition authorities have not thought fit to give foreign firms equally as good positions as the French manufacturers, the spaces allotted to the British firms being not only small, but outside the line of the big and attractive displays. The Daimler Co. show a 45-h.p. side-entrance car (Fig. 8), and a 30-h.p. limousine; the Argyll Co. have on view a 14–16-h.p. four-cylinder chassis and a 16–20-h.p. limousine (Fig. 9); the Enfield Autocar Co.'s exhibit comprises examples of both the 15-h.p. and 25-h.p. models; two 40-h.p. six-cylinder San Giorgio–Napier cars are displayed by the Societa S. Giorgio, of Genoa, the Italian licensees; while the Rolls-Royce six-

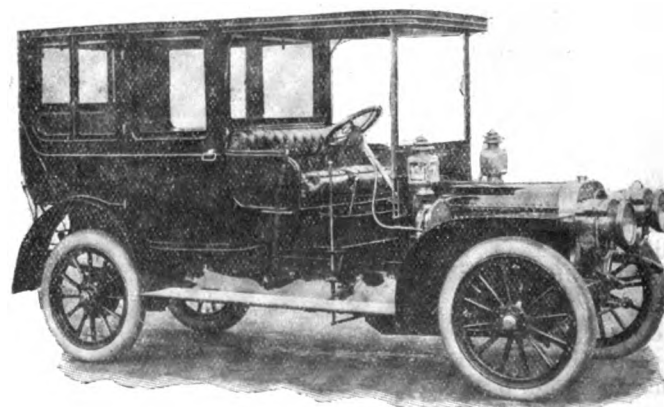


Fig. 9.—The Argyll 16-20-h.p. Limousine

cylinder car is to be seen on the stand of Messrs. A. de Massol and Co. in one of the side galleries.

#### The Labor Car.

A new "marque" is seen in the Labor car, exhibited by Messrs. DE CLEVES ET CHEVALIER, of Neuilly-sur-Seine, and made to their designs by the old-established engineering firm of Messrs. Weyher and Richemond. The usual lines of cardan shaft vehicles are followed, the chassis on view being of 20–30-h.p. The four cylinders are separately cast, 110 mm. bore by 140 mm. stroke. The valves are all operated off a single cam shaft; the ignition is by high tension magneto. The carburettor

is of a special automatic type, and comprises two spraying jets, the second one coming into operation as the speed of the engine increases. The clutch is of the leather faced cone type, the cone being, however, made in two halves, bolted together to facilitate its removal when this becomes necessary. The four-speed change-speed gear is operated by a gate lever, and gives a direct drive on the top speed. The frame is narrowed in front

with direct drive on top speed to the differential shaft, and thence by side chains to the rear road wheels.

#### The Niclausse Car.

A new addition to the list of French motor-car builders is Messrs. J. and A. NICLAUSSE, of Paris, who have already earned a reputation as marine boiler constructors. The chassis of the 30-40-h.p. petrol car (Fig. 11) on view is of both excellent design

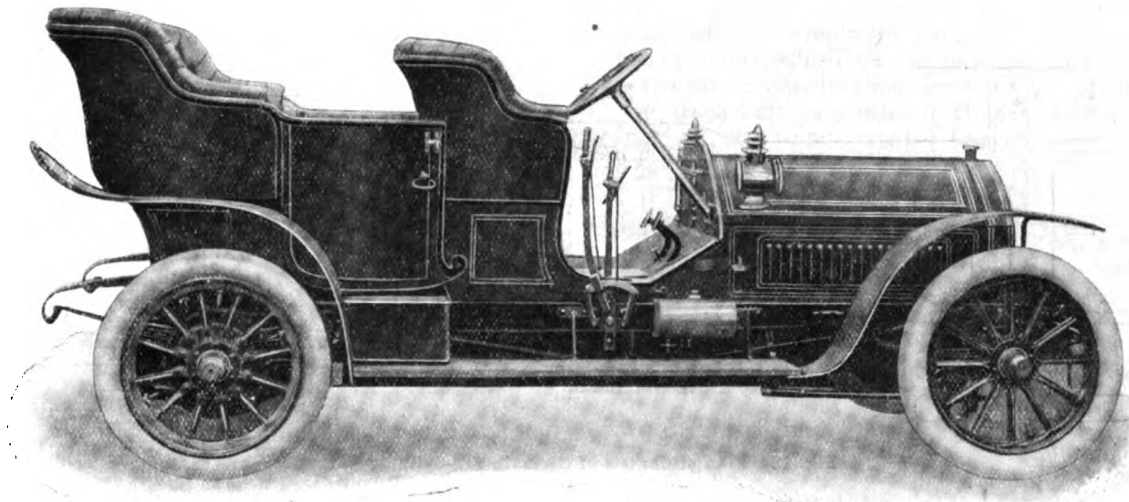


Fig. 10.—The Vinot 35-50-h.p. Six-cylinder Car.

to increase the lock of the steering wheels, and is raised at the rear to clear the differential case. Altogether the Labor car appears to be a soundly-constructed vehicle.

#### The Vinot Cars.

Messrs. VINOT AND DEGUINGAND, represented in England by Messrs. T. J. Harman and Co., exhibit a 16-24-h.p. four-cylinder vehicle and a 35-50-h.p. six-cylinder car. As we dealt with these in our report of the Olympia Show, it need only be mentioned that the "six" has the cylinders cast in pairs, that the

and solid construction. The engine comprises four separate cylinders, 120 mm. bore by 140 mm. stroke, with the valves on opposite sides. Ignition is by high-tension magneto, and a half-compression device is fitted to facilitate the starting of the engine. The carburettor is of a special design, and is entirely automatic. Its throttle is controlled by a lever on the steering wheel, and a somewhat new departure is seen in inter-connecting the brake with the throttle in such a way that when the brake is applied the speed of the engine is automatically cut down.

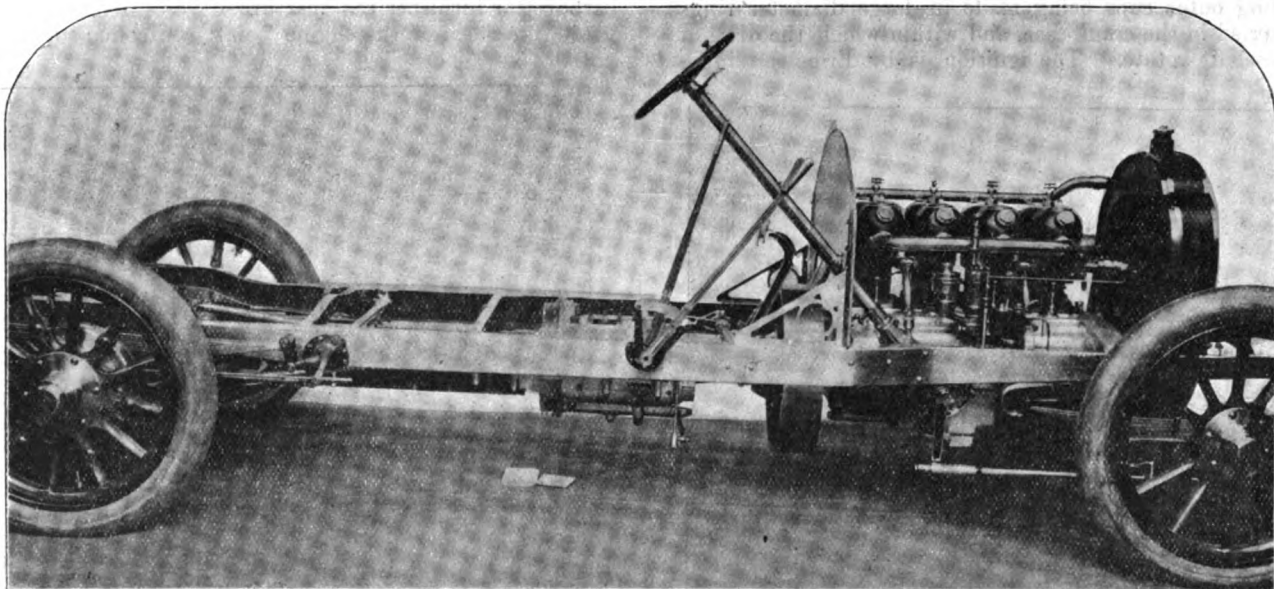


Fig. 11.—Chassis of the Niclausse 30-40-h.p. Car.

ignition is by high tension magneto, and that the mixture is furnished by a Krebs automatic carburettor. The engine is controlled by hand and foot levers, no automatic governor being fitted. The clutch is of the disc type, and the change-speed gear is actuated by a lever working in a vertical "gate" on the Vinot special system, the arrangement, however, having been improved. Four speeds forward and a reverse are provided,

The arrangement of the water-circulating pipes is also worthy of attention, rendering as it does the valve springs very accessible. The water passes into a horizontal pipe enclosed in the crank case; from this rise two vertical pipes having short branches at their upper ends—one to each cylinder. The clutch, which is provided with a stop or brake just forward of the gear-box, is of the multiple disc type, and the change-speed gear is controlled by a

"gate" lever. The final drive is by a cardan shaft to a well-supported live axle. The chassis is supported on five springs, a feature of which is that they are quite straight, and not slightly curved, as usual, and a neat means of adjusting the brakes without the use of tools is provided. The lubrication of the engine is by a pump. Altogether the new Niclausse car is one deserving close attention.

special form of spring-held quadrant. The final drive is by a cardan shaft to a live axle, which latter is also of an interesting design. The road wheels are carried on the sleeve or casing surrounding the live axle, the outer ends of which are extended and turned over to form, as it were, the hub caps, which are bolted to the wheels. By removing these bolts the cap and the half axle can be readily drawn out.

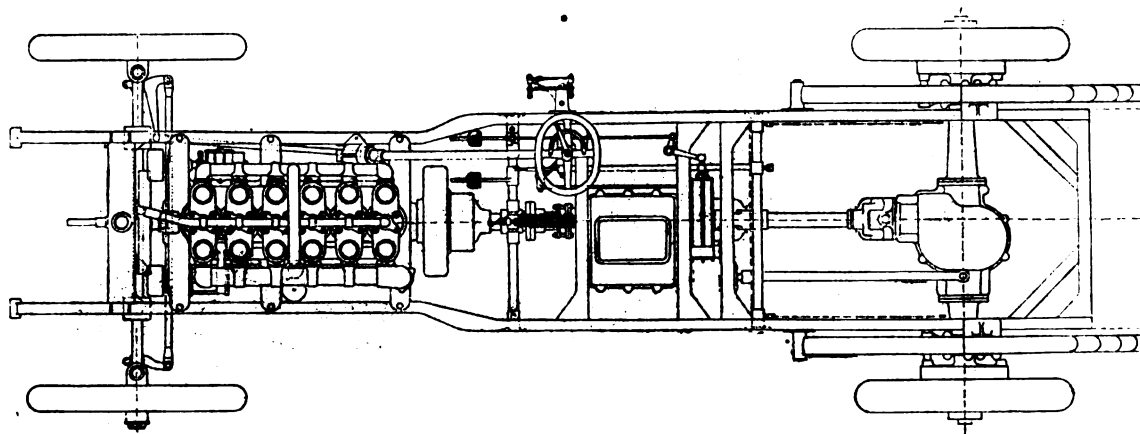


Fig. 12.—Plan of Chassis of Germain Six-Cylinder Car.

#### The Germain Cars.

The great attraction of the stand of the ATELIERS GERMAIN, represented in England by Captain Theo Masui, is the chassis of the new Germain 60-h.p. six-cylinder car, which is, as was to be expected, an excellent specimen of automobile engineering. The cylinders are separate, and are made, as usual with this firm, of steel with brass water-jackets; the dimensions are 120 mm. bore by 130 mm. stroke. The arrangement of the crank shaft, with the object of keeping the overall length within reasonable dimensions, is particularly noteworthy. In place of the usual wide bearing between each of the crank throws there is a disc formed solid with the shaft; the periphery of the discs is grooved out to form cups or races for the ball bearings, the corresponding outer cups being made in large diameter rings suitably carried in the crank case, and within which the discs of the crank shaft rotate. The ignition is by Eisemann high-

#### The Mors Cars.

For the 1907 season the Mors cars are being made in six different sizes, viz., 10-h.p., 15-h.p., 17-h.p., 28-h.p., 45-h.p., and 50-h.p. The first five have four-cylinder engines, while the largest model has six cylinders: with the exception of the new 10 and 15-h.p. vehicles, which have live axles, the transmission is by side chains. Interest is naturally centred on the chassis of the new six-cylinder car. The cylinders—110 mm. bore by 150 mm. stroke—are cast in pairs, with the valves arranged on opposite sides. The ignition, as in the 17-h.p., 28-h.p., and 45-h.p. cars, is by low-tension magneto, accumulators and coil being fitted as a reserve. A half-compression device to facilitate starting is provided, and a special form of automatic carburettor furnishes the mixture. No centrifugal governor is fitted, the speed of the engine being controlled by the throttle

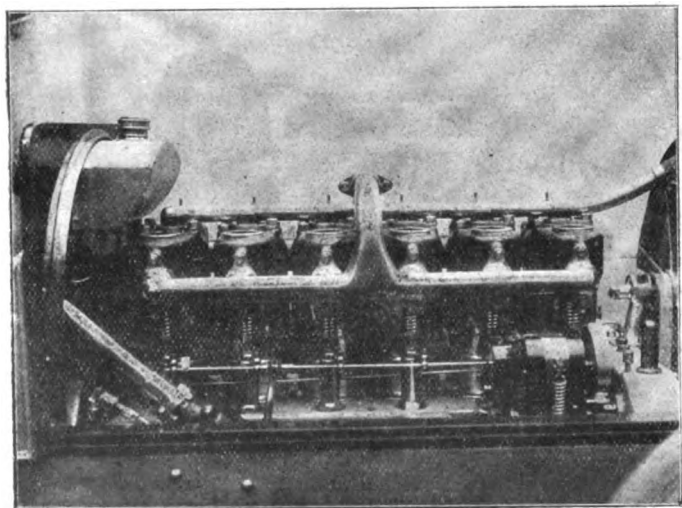


Fig. 13.—The Germain Six-Cylinder Engine.

tension magneto, a new departure being the coupling up of the governor to it, so that the sparking is automatically advanced and retarded. The speed of the engine is regulated by means of a lever on the steering wheel acting on a variable lift to the inlet valves. The clutch is of the disc type, and the change-speed gear, which gives three forward speeds and a reverse with direct drive on top, is controlled by a lever working in a

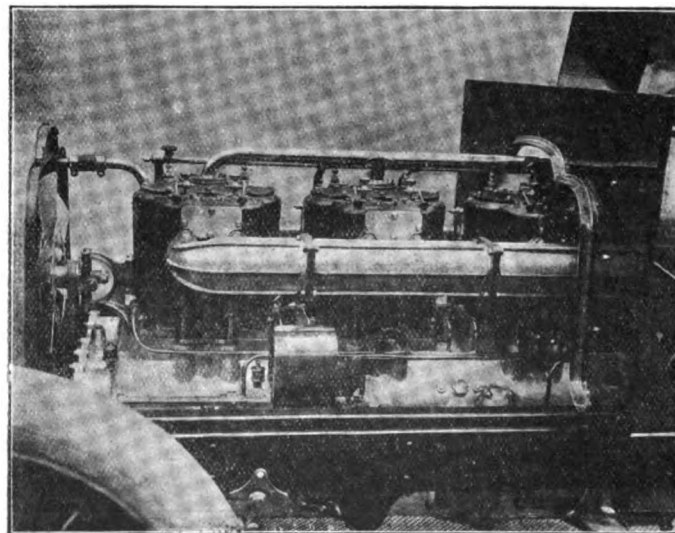


Fig. 14.—The Mors Six-Cylinder Engine.

valve, which is automatically closed as soon as the driver de-clutches. The cooling of the cylinders is effected in the usual manner by a pump which forces water, already cooled by the framed ribbed tube radiator, through the cylinder jackets, a fan being now provided. The lubrication is effected by a small pump, analogous in construction to the water-circulating pump. The clutch is of the contracting metal band type; the Mors



system of change-speed gear, in which the power is transmitted through one or other of two bevel gears to the differential shaft, is still retained, four speeds and a reverse being provided, the control being by a lever working in a "gate." A novel idea is seen in connection with the engine bonnet. With the idea of apparently, although not effectively, reducing its length, two dashboards are provided, one being located midway between the rear pair of cylinders, and the other in the usual position, hinged brass lids between the two giving access to the back portion of the motor. The new 10-h.p. and 15-h.p. live axle vehicles have been specially designed for use as town

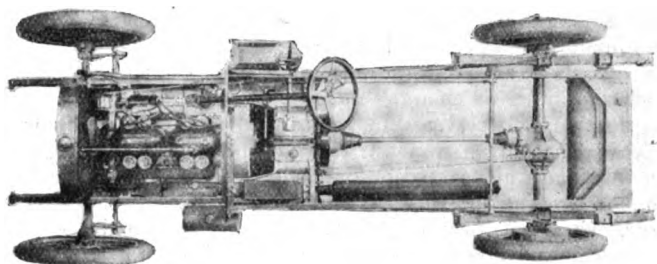


Fig. 14.—Plan of Chassis of Hispano-Suiza Car.

carriages; a feature of the engine is that the four cylinders are all in one casting, the bore and stroke of the 10-h.p. being 75 mm. by 90 mm., and of the 15-h.p. 85 mm. by 100 mm. The valves are all mechanically operated off a single cam shaft. The ignition is by high-tension magneto, while the lubrication is maintained by pump. Two large inspection plates are fitted to the under side of the crank case. Lubrication is by gear-driven pump working off a vertical shaft. The water pump is of new design, and is driven by a cross shaft set in front of the crank case, a coupling being provided to admit of easy detachment. A fan is placed behind the ribbed-tube radiator, which is carried on a spring-supported bushing. A supplementary water tank is placed inside the bonnet on the dashboard. The change-speed gear is adapted to give three speeds forward and a reverse, with direct drive on top speed. The single controlling lever works in a "gate" quadrant. The cardan shaft is provided with a special form of universal joint, and the torque rod is carried at the front end in a spring box. The frame, which is of pressed steel, is raised at the back to clear the differential casing; the rear suspension is by means of three-quarter elliptic springs.

#### The Hispano-Suiza Car.

We have already referred to the appearance for the first time of a Spanish-built car. This is the Hispano-Suiza, made by LA SOCIEDAD HISPANO-SUIZA, of Barcelona. Two models are made—20-h.p. and 40-h.p.—both having four-cylinder engines. The cylinders are cast in pairs with the valves on opposite sides. Ignition is by high tension magneto, with a contact maker fixed on the base chamber, it being driven by skew gearing off one of the cam shafts. The clutch is of the metal-to-metal expanding type, the pedal being so connected up to the throttle that, as the clutch is withdrawn, the speed of the engine is automatically cut down. Duplicate clutch springs are employed, and these are so fitted that they can be entirely detached by the fingers. The four-speed change-speed gear has "gate" control, and the direct drive is on the third speed and not on the top, this being one of the few cars having an indirect fourth in the Show. The transmission is by cardan shaft to a live axle, which is provided with a triangular-shaped torsion rod and two side radius rods. Another characteristic feature of the vehicle is that the chassis has practically only one cross member—that at the rear. The lower half of the engine base chamber and of the gear box are joined together so that the motor-clutch and change-speed gear form a block which ties the front part of the frame rigidly together. As will be seen, the Hispano-Suiza car (Fig. 15) is not only of interest because of its being the first Spanish production, but also because of its special design.

#### The Hotchkiss Cars.

For the 1907 season three sizes of Hotchkiss cars—20-30-h.p., 25-35-h.p., and 35-45-h.p.—are being turned out. The two former have four cylinders, and the latter six, and it is the chassis of this type which attracts most attention at the stand of the HOTCHKISS COMPANY, represented in England by the London and Parisian Motor Company, Ltd. It is undoubtedly a fine piece of work, and well repays any time spent on its inspection. As, however, the cars were on view at Olympia and were described in our report of that show, we need only mention that the cylinders, which are cast in three pairs and have the valves arranged on opposite sides, are 120 mm. bore by 120 mm. stroke. The crankshaft, as is usual in Hotchkiss cars, is mounted on ball bearings, one being provided between each throw. Ignition is by gear-driven Eisemann high-tension magneto. Special attention has been devoted to the question of engine lubrication, which is effected by an improved form of lubricator on the dashboard. The admission piping is arranged in such a way that an equal distribution of gas to the six cylinders is obtained. The clutch, which is of the leather-faced cone type, is mounted on an extension of the crankshaft. The gear-box, which is supported on cross members immediately behind the clutch, and is smaller in size than formerly, gives four speeds forward and a reverse, with direct drive on the high gear. The control is by a single lever working in a "gate" quadrant. From the rear-box the power is conveyed through a cardan shaft and bevel gear on to a live axle, the latter being so arranged that it has only the driving strain to withstand, the weight of the car being carried by the sleeve surrounding it.

#### The Sanchis Combined Pressed Steel Frame and Body.

One of the novelties of the show is the combined pressed steel frame and skeleton body (Fig. 16) exhibited by M. Enrique Sanchis, of Paris. Sheet metal panels are riveted to the framework of the seats, the whole resulting, it is claimed, in a lighter and stronger construction than when wood is employed.

#### The Isotta-Fraschini Cars.

The Isotta Fraschini cars, which made their debut in England at the Agricultural Hall Show in March last, continue to attract considerable attention. Three sizes are being made, 16-22-h.p., 28-35-h.p., and 50-65-h.p., all being fitted with side chain transmission. As the vehicles have already been fully described in the *M.C.J.*, it is unnecessary to deal with them at any length, but it may be mentioned that slight modifications

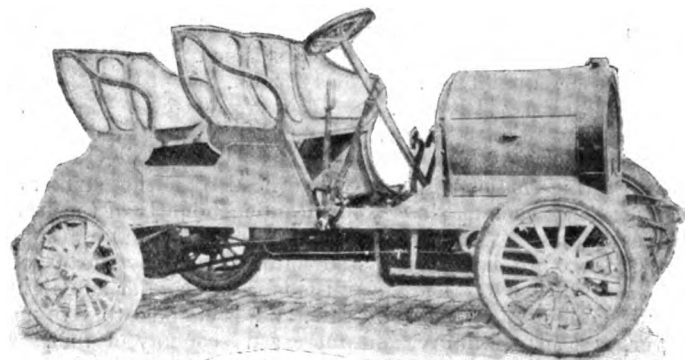


Fig. 16.—The Sanchis Combination Frame and Skeleton Body.

have been made in the motors, which have the valves operated off separate cam shafts, and that the ignition is by high tension magneto. The flywheel is adapted to act as a fan, while the clutch is of the multiple disc type. The usual brake on the differential shaft is supplemented by one on the forward end of the gear box side shaft. In the two larger sizes the top gear is now a direct drive. The novelty at the stand is the new automatic engine starting device which can be fitted to the 28-35-h.p. and 50-65-h.p. cars. The arrangement, which appears to be both simple and practical, consists of a small air-pump operated by an eccentric off the differential shaft, which compresses air in a tank fixed transversely in the frame to a

pressure of 12 atmospheres. The tank is connected by a pipe to a special device on the rear end of the cam shaft, which, when a heel pedal is pressed down, permits the compressed air to pass into the cylinder, through a special inlet arranged at the side of the explosion chamber, in which the piston is at its uppermost position.

#### The Brasier Car.

The centre of attraction at the stand of LA SOCIÉTÉ DE CONSTRUCTIONS D'AUTOMOBILES "Le Trefle à Quatre Feuilles" is the engine (Fig. 17), for the new Brasier 45-60-h.p. six-cylinder car, which supplements the three sizes of four cylinder vehicles—12-15-h.p., 16-26-h.p., 30-40-h.p.—this concern is building for the 1907 season. The small machine has a live axle,

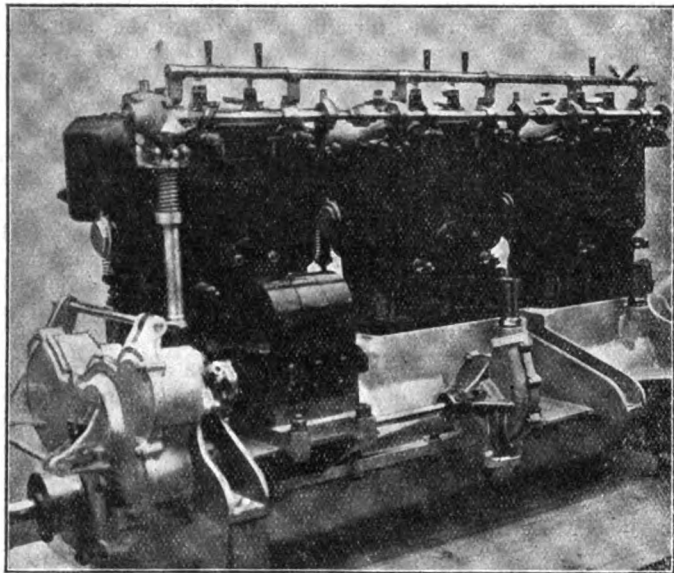


Fig. 17.—The Brasier Six-Cylinder Engine.

but all the others have side chain transmission. A sub-frame of tubular construction is still employed to carry the engine and gear-box; the main frame is, however, now narrowed in front to increase the lock of the steering-wheels. The cylinders are cast in pairs, with the valves all arranged on one side; the dimensions of the 12-15-h.p. engine are 75 mm. bore by 120 mm., of the 16-26-h.p. 90 mm. bore by 120 mm., and of the 30-40-h.p. and 45-60-h.p. 112 mm. by 130 mm. stroke. The crank shaft is *desaxé*, that is to say, it is slightly out of line with the centre of the cylinders. Ignition is by low tension magneto, the operating shaft being located overhead with the strikers so arranged that each may be taken out independently of the others. The carburettor is of a new design, the additional air supply for the mixture being regulated automatically by means of a small conical valve. The apparatus is much smaller and lighter than the one used on the 1906 cars, and is claimed to give more power, greater flexibility, and increased economy of fuel. On the two smaller models thermo-syphon water circulation is employed; the larger cars, however, have a centrifugal pump, and a radiator similar to those used on this year's racers. The leather-faced cone type of clutch is retained, a positive locking device being employed on the "six" to prevent any chance of slipping; a double-jointed shaft connects the clutch with the gear-box. The latter is adapted to give four speeds forward and a reverse, with single operating lever working in a "gate." On the top speed the drive is direct to the differential shaft. The steering gear has been strengthened, and the steering column increased in diameter. Ball-bearings are fitted to all parts except the engine. Each car is made in two lengths of chassis, so that any type of body may be fitted.

#### The Arbel Chassis.

The ARBEL COMPANY make a big display of pressed steel frames, the *don* of their exhibition being a frame 27 ft. long,

fitted with the framework of a char-a-banc body, which is also of pressed steel. Seating accommodation for thirty-six persons is arranged, gallery fashion, in nine rows, each of which is at a slightly higher level than the others, so that all the passengers can have an unobstructed view ahead. The frame and body form undoubtedly a wonderful example of pressed steel work, and indicate the huge plant the Arbel Company have at their disposal.

#### The De Dietrich Cars.

For the 1907 season four sizes of the well-known De Dietrich cars are being built—16-h.p., 24-h.p., 40-h.p., and 60-h.p.—all having four-cylinder engines and side-chain transmission. Prominent on the stand of the DE DIETRICH COMPANY is a chassis of the latest type of 40-h.p. De Dietrich car, in which a number of changes and improvements have been made. The four cylinders, cast in two pairs, as regards the water jackets are separate, and are 130 mm. bore by 160 mm. stroke. The valves are all located on one side, and operated off a single cam shaft. The mixture is furnished by an automatic carburettor, with hot water jacket, specially designed to secure economical and silent running. The lubrication of the engine is automatically effected, a useful feature being the gauge and tap fitted in the crank case, which enables the oil level to be seen without it being necessary to open up the inspection doors. The ignition is by low tension magneto, the ignition plates being now placed at the side of the inlet valves,

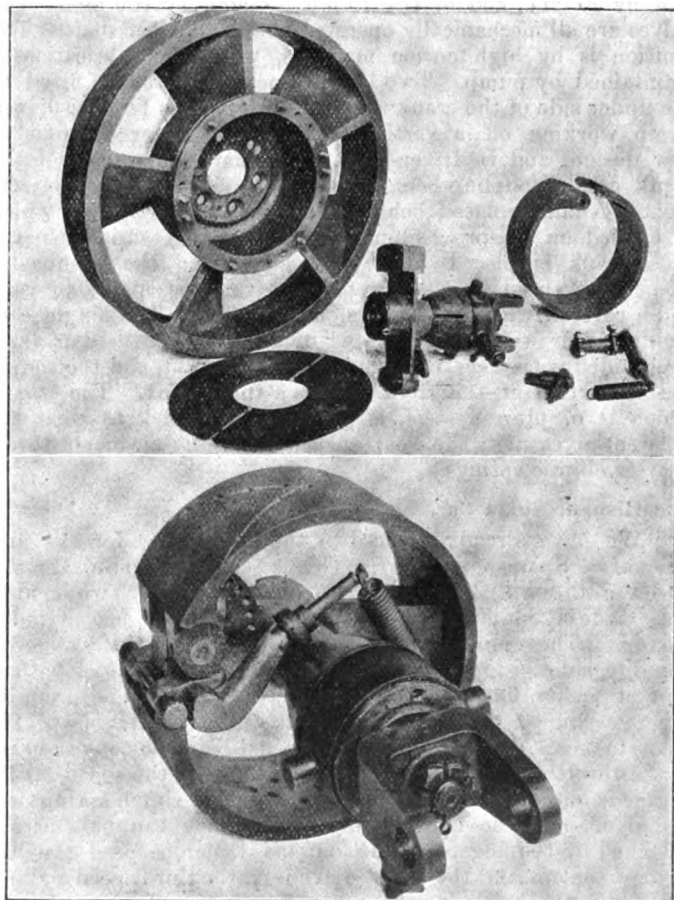


Fig. 18.—Detail View of the De Dietrich Metal-to-metal Clutch.

instead of on top of the cylinders, as hitherto. To facilitate the starting of the engine a special half compression device, operated from the front of the car, is provided. An important feature of the new models is the metal-to-metal clutch (Fig. 18). It is of the internal expanding type and runs entirely in oil in the centre of the flywheel. The latter is provided with a liner of cast iron drilled all round with small hole; a small channel is also turned out of the flywheel so as to leave a space for the oil which is pressed

through the holes when the clutch engages. The latter consists of a T-piece of forged steel; to one end of this a complete segment of cast iron is carried on an eccentric pin which is used for adjustment as well as fixing the segment to the T-piece. The other end of the segment is connected to a toggle joint and lever, which in turn is also coupled with the T-piece. Midway on the lever is fitted a small

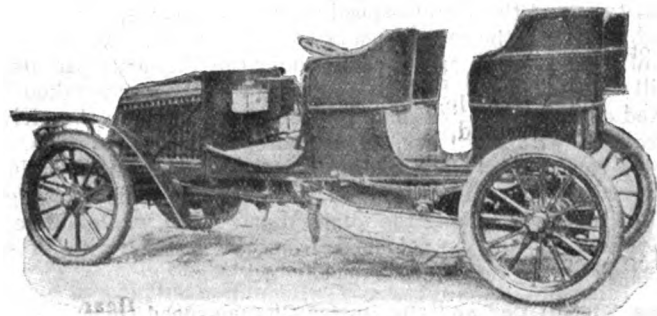


Fig. 19.—A Renault Car fitted with Victoria Suspension.

roller and at the end a spring for contracting the clutch. The expansion is effected by a steel cone which slides on the T-piece and works on the roller on the lever. When the clutch is let in, the main clutch spring, which is carried outside, pushes the cone forward and forces the lever away from the centre, at the same time expanding the segment through the toggle joint. By depressing the pedal the cone is withdrawn and the small spring at the end of the lever contracts the segment. It is claimed that the clutch always takes the drive up gently, as, before it will grip, the oil has to be forced through the liner. The clutch can also be "slipped" continuously, as the oil returns through the liner on to the surfaces as soon as any contraction takes place. A universally-jointed shaft connects the device with the gear-box, the latter being adapted to give four speeds forward and a reverse, all being controlled by a lever working in a special "gate" quadrant. A new self-starting device, known as the Letombe, is fitted to the 24-h.p. chassis, some particulars of which we hope to give in a later issue.

#### The Victoria Suspension.

A somewhat novel system of frame suspension known as the "Victoria" is shown by M. C. E. KOLB, of Paris. It is fitted to an old Renault car. As will be seen from Fig. 19, the side springs, instead of being attached to the axle in the usual way, are mounted midway upon girder plates, one at each side,

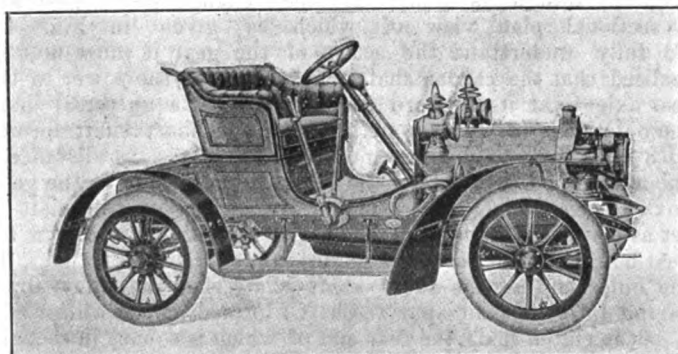


Fig. 20.—The Zedel Four-Cylinder Two-seated Car.

and jointed freely to the axle at the rear end, and at the other are supported upon spiral springs carried on studs depending from the side members of the frame. The arrangement not only gives a longer wheel-base to a short chassis, and so permits the fitting of a side-entrance body, but it gives a better suspension to vehicles having a long chassis. At the same time, vibration is reduced and a great saving in tyres effected.

#### The Werner Voiturette.

The Werner Company, which has recently been acquired by Messrs. GALLIA and SARDA, in addition to their motor-cycles, are showing for the first time a two-seated voiturette, a replica in miniature of a large touring car. The engine is of 7-h.p., and comprises two cylinders, 70 mm. bore by 100 mm. stroke. The ignition is either by magneto or accumulators as desired, while a special feature of the equipment is a new design of automatic carburettor. No pump is employed for the water circulation, which is on the thermo-syphon system. The clutch is of the standard leather-faced cone type, and the gear-box gives three speeds and a reverse with direct drive on top speed through a cardan shaft and bevel gear to a live axle.

#### The Zedel Car.

An exceedingly interesting miniature four-cylinder car is shown by LA FABRIQUE DE MOTEURS ZEDEL, of Pontarlier (Doubs). Built only as a two-seater (Fig. 20), it has a pressed steel frame, automatic carburettor, high-tension magneto ignition, lubricating oil pump, and ball bearings to all parts except the

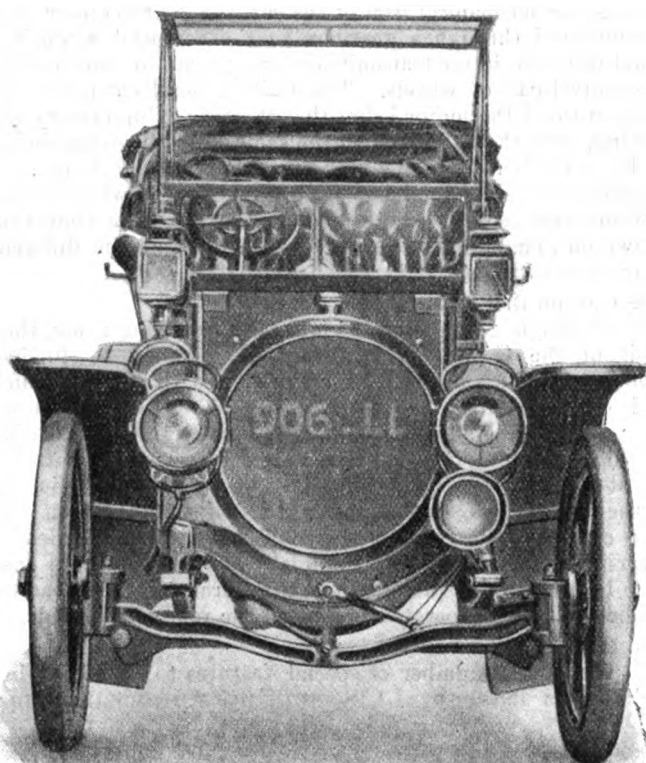


Fig. 21.—Front View of Underberg 24-h.p. Car.

engine. The four cylinders, 67 mm. bore by 80 mm. stroke, are all in one casting, with the valves arranged on opposite sides. The transmission is by a cardan shaft to a live axle, the square ends of which drive the rear road wheels through the hubs, the wheels themselves running on the axle casing, a flywheel fan, multiple disc clutch and "gate" change-speed gear are also provided.

#### The Underberg Cars.

Messrs. UNDERBERG AND CO., of Nantes, whose voiturette we remember inspecting some years ago, are now turning out large cars, the chassis exhibited being of 24-h.p. It follows the general arrangements of chain-driven vehicles; we note, however, that the armoured wood frame as employed by Panhard is still retained and that the steering gear is arranged on somewhat novel lines. The end of the steering column is connected, not to the arm near one of the front wheels, as usual, but to an arm fulcrumed in the middle of the axle, the cross connecting rod being in two halves. Other models on view include a 16-h.p. and a 12-h.p.; the latter has a live axle and is designed for use as a town carriage.

### The Gros Six-wheel and Cail-Borderel Cars.

One of the novelties of the Show is to be seen at the stand of M. J. BORDEREL, Paris, where is exhibited a 25-30-h.p. six-wheel motor-car, built to the designs of M. F. Gros. Apart from the six wheels, a noticeable feature of interest lies in the arrangement of the suspension of the chassis by balanced springs, the object of the designer being not so much to obviate side-slip as to permit of the use of solid tyres in place of pneumatics. As

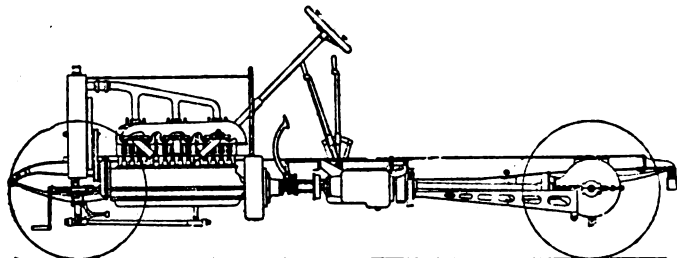


Fig. 22.—Elevation of Chassis of Bolide 35-h.p. Six-Cylinder Car.

regards the mechanical part of the car, the four-cylinder engine is connected through a gear-box to a differential shaft in the usual way, the latter transmitting the power by side chains to the central pair of wheels. The Cail-Borderel car is of 30-h.p., the feature of the motor being that the four cylinders are in one casting, with the valves all on the same side. The transmission is by a cardan shaft to a rear live axle of special design. The casing surrounding the latter is of pressed steel, while the axles are so arranged that by removing the hub caps they can be drawn out, enabling the bevel crown wheel and the differential gear to be lifted out.

### The Gobron-Brillie Cars.

Although 24-h.p. and 35-h.p. cars are being made, the exhibit of the GOBRON-BRILLIE CO. is confined to 40-60-h.p. vehicles, in which the well-known engine, with its four cylinders and eight pistons, is still retained; the valves are now all operated off a single cam shaft, and the ignition is by high-tension magneto. The clutch is of a duplex type, a central one, metal-to-metal, engaging slightly in advance of the main leather-faced cone, so that the load is taken up without shock. The change-speed gear in the 1907 model is controlled by a lever working in a "gate," the final drive being by side chains. Two brakes are now provided on the differential shaft in addition to the usual hand-operated brakes on the rear road wheels.

### The Bolide Cars.

There are a number of special features to be found in the Bolide cars shown by LA SOCIÉTÉ DES AUTOMOBILES BOLIDE,

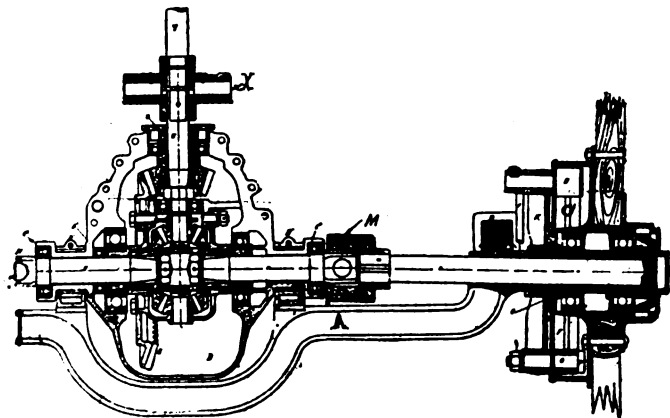


Fig. 23.—Part Sectional Plan of Live Axle of Bolide Six-Cylinder Car.

Paris. Three models are staged—12-h.p. and 22-h.p. four-cylinder, and 35-h.p. six-cylinder, all having live axles. The engine of the 12-h.p. type has all four cylinders in one casting and the valves operated off a single cam shaft. The cylinders of the 22-h.p. and 35-h.p. cars are, on the other hand, cast in pairs, with the valves all on one side; the bore is 100 mm. and the stroke 120 mm. Referring more particularly to the last-

named model, Fig. 22, it may be mentioned that the ignition is by gear-driven Simms-Bosch high-tension magneto. The radiator is on exceedingly novel lines; in place of the usual honeycomb or ribbed tubes a circular frame forming the tank is employed, within which is a revolving radiator the tubes of which are built up in the form of a fan. Something of the kind was seen at the Agricultural Hall Show a couple of years ago, but, like its predecessor, we imagine the arrangement on the Bolide car will prove more novel than practical. The clutch is of the multiple disc type and the change-speed gear gives four speeds forward and a reverse, the control being by a gate lever. The back axle is of special design and is made under the Vigneaux patents. As will be seen from Fig. 23, the weight of the car is taken by a fixed axle A; the live shafts, which have thus only the driving strain to withstand, are, furthermore, each in two parts, they being connected by the cardan joints M, thus no shocks due to bad roads are transmitted to the bevel or differential gear, while by disconnecting the joints M and X the whole differential case can be quickly detached from the chassis, without even jacking up the rear wheels.

### The Mistral Car and the Bozier Change-speed Gear.

With the view of meeting the demand for a two-seated car at a low price, Messrs. Bozier, of Puteaux (Seine) are manufacturing and showing a little vehicle known as the Mistral, which is being introduced into England by M. H. Cintrat. The engine, which is a  $4\frac{1}{2}$ -h.p. single-cylinder De Dion, is fixed in the frame in a somewhat novel position; the crank shaft, instead of being

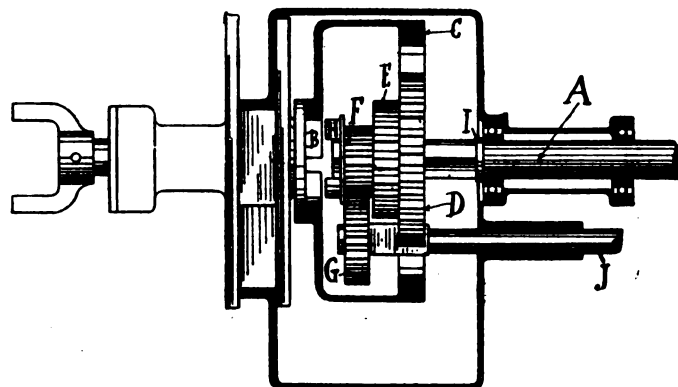


Fig. 24.—Sectional Plan View of New Bozier Change Speed Gear.

at right angles to the front axle, is at an angle of about forty-five degrees thereto. The result is that the cardan shaft from the gear-box drives a bevel crown wheel at one end of instead of the centre of the back axle. A further original design is found in the change-speed gear-box, a sectional plan view of which is given in Fig. 24. To fully understand the action of the gear it must first be realised that the cardan shaft which conveys the power to the rear axle is at its forward end attached to a universal joint, the outer part of which, together with the short shaft formed with it, is free to slide to and fro laterally a short distance—about  $1\frac{1}{2}$  in. on each side of the centre, in a opening in the gear-box. Large oblong-shaped plates are formed on the shaft to act as covers, both internal and external, to the recess in the gear-box, and also to act as guides for the sliding action. To the inner end of the short shaft is attached a hollow drum having internally-cut spur teeth (C) formed on the widest end. A is the clutch-shaft, the rear end of which is square in section; fixed on the latter in such a way that, while they must rotate with the shaft, they can be slid along to the right or left are three different sized pinions, D, E, F. By means of the "gate" change-speed lever, which is connected with the actuating rod J, any of the three pinions can be brought vertically below the toothed ring C, the latter being simultaneously moved to and fro to correspond with the varying diameters of the different pinions. Thus, to give the first speed, the pinion F meshes with C; on the second speed, the drive is through E and C; on the third, through D and C. On the fourth speed all the pinions are



disengaged, the power being transmitted direct to the cardan shaft through the dog clutch B H. The reverse is obtained by means of an intermediary pinion G on the end of the actuating rod J, the power then passing through F and G to the ring C. The gear illustrated gives, as we have shown, four forward speeds, and is that fitted to the Bozier 24-h.p. car. That on the 4½-h.p. Mistral voiturette is on similar lines, but is adapted to give only three forward speeds in addition to the reverse. The gear, which is contained in an oil-tight outer casing, is exceedingly simple, and we shall be interested in watching its behaviour in practice.

#### The Marchand Cars.

Among the Italian concerns showing six-cylinder vehicles is the SOCIETA MARCHAND, of Piacenza, represented in England by the Premier Motor Company, of Birmingham. The vehicle is of 50-60-h.p., the separately-cast cylinders being 125 mm. bore by 140 mm. stroke. The valves are arranged on each side and the ignition is by high-tension magneto. The mixture is supplied by a special automatic carburettor, and an endeavour has been made to secure that the gas for each cylinder shall have an equal distance to travel; while this has been obtained the arrangement of the pipes does not, however, strike us as being neat. The clutch is of the multiple disc type, and the change-speed gear is controlled by a "gate" lever. The transmission is by side chains, two brakes being provided on the differential shaft in addition to the hand-operated ones on the rear road wheels. A 28-32-h.p. four-cylinder car is also shown, this being, generally speaking, on the same lines as the "six."

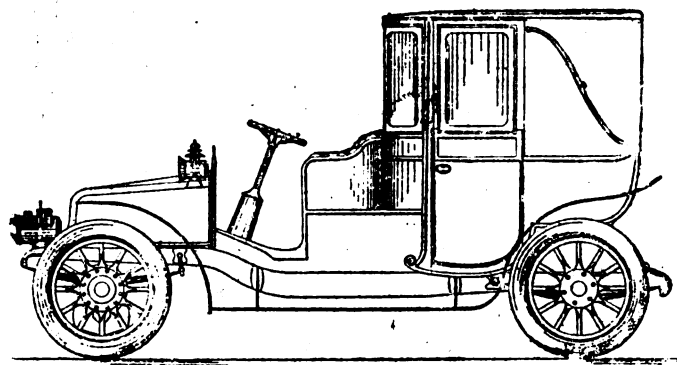


Fig. 25.—The New Krieger Electrical Landulet.

#### The Krieger Electrical Vehicle.

The Krieger Company exhibits quite a new design of electrical vehicle, built, as regards its outward appearance, to closely resemble a petrol car (Fig. 25). The pressed steel frame is dropped to give a low entrance to the inside seats, while the wheel base is longer than hitherto. The motors are still supported from the front axle, and drive on to the forward road wheels. A Krieger combination petrol-electric car on the lines of that described in our report of the 1905 *Salon* is also on view.

#### The Longuemare Automatic Extra Air Inlet for Carburettors.

The old-established firm of Vve. L. Longuemare have, as usual, a large display of the largely-used Longuemare carburettors. The novelty for 1907 is an automatic extra air inlet, fitted near the throttle valve, between the carburettor and the explosion chamber. A sectional view of the apparatus is given in Fig. 26, from which it will be seen that it consists of a hollow piston *a*, free to rise and fall in a small cylinder *b*, the lower end of which is closed by the cap *c*; the piston *a* is pierced by a number of small holes *d*, *e*, the lower set of which can be closed by means of a rotating disc *k*, held in position by the screw *q*. Formed in one with the piston *a* is a cylindrical sleeve *g* working in the corresponding part *h* of the device. The outer casing and the sleeve are both pierced by specially-shaped holes *i*, *j*, these being so arranged that when the piston *a* is at its highest point the two series of holes are exactly in line with each other, allowing the maximum supply of air to

enter. Above the air valve is a perforated tube *p*, connected at one side with the pipe *m* from the carburettor, this being provided to cause an intimate mixture of the additional air with the carburetted vapour. The ordinary piston throttle is provided at *r*, by means of which the opening in the inlet pipe *n* to the engine can be more or less varied, either by a hand lever

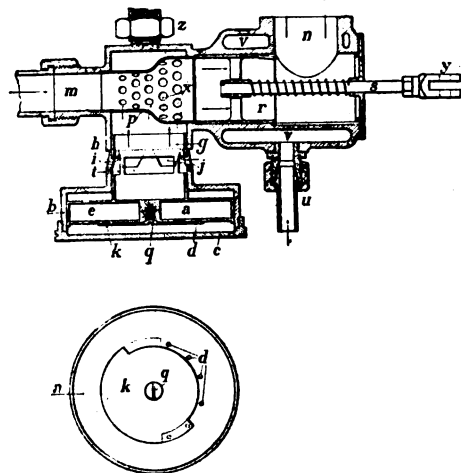


Fig. 26.—Sectional Views of Longuemare Automatic Extra Air-Inlet Valve.

- |                    |                               |                     |
|--------------------|-------------------------------|---------------------|
| a. Dashpot piston. | i & j. Additional air inlets. | r. Throttle piston. |
| b. Cylinder.       | m. Pipe from spray chamber.   | s. Throttle rod.    |
| c. Cap.            | n. Gas outlet.                | u. Hot air union.   |
| g. Piston valve.   | p. Mixing tube.               | v. Hot air jacket.  |
| h. Outer casing.   |                               |                     |

or pedal. The arrangement of the piston *a* is claimed to cause it to act as a sort of dashpot, enabling it to respond steadily and without jerks to the varying suction of the motor, and consequently to furnish a more homogeneous mixture. A hot water

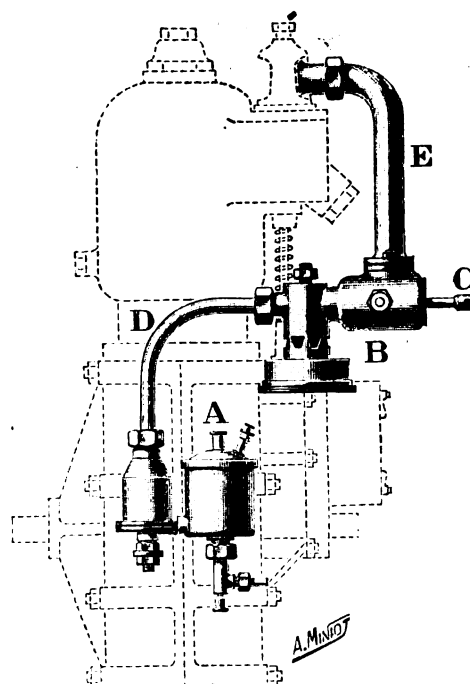


Fig. 27.—The Longuemare Automatic Extra Inlet Valve as fitted to a Single-Cylinder Engine.

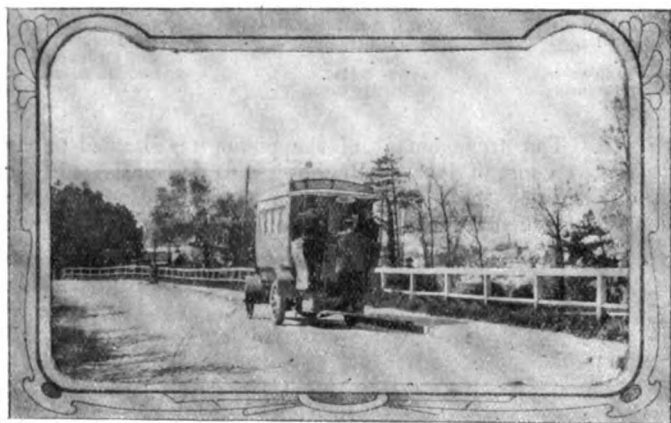
- |                           |                       |                        |
|---------------------------|-----------------------|------------------------|
| A. Float chamber.         | B. Extra inlet valve. | C. Throttle valve rod. |
| D and E. Admission pipes. |                       |                        |

jacket is provided at *v*, in order to prevent any condensation of the petrol in the carburetted charge. The new valve is shown fitted to a single-cylinder engine in Fig. 27; it can, however, be adapted equally well to two four-cylinder motors.

(To be continued.)

## DESTRUCTIVE EFFECT OF BROKEN VALVES.

ONE of the highly-destructive accidents which may befall a petrol car is the cracking of the head of a cylinder and the fracture of its piston due to the breakage of a valve. If the head of a valve becomes broken or detached from its stem it is likely to find its way through the port into the cylinder, and when the piston comes up it may be caught in the very restricted space between the latter and the cylinder head and stresses developed in the piston and cylinder heads sufficient to cause their breakage. A broken inlet valve is rather more likely to lead to this accident than is a broken exhaust valve, for the reason that the former is subject to the suction of the incoming charge. In order to minimise the danger of an accident of this kind the ports in some engines have been cast with a thin central bridge, which acts more or less as a safeguard against the pieces of the valve entering the cylinder. Obviously, the most effective preventive of trouble of this kind is to use valves which possess the least liability of breaking in service, and the special nickel steels used for this purpose by careful manufacturers come very near the ideal in this respect. The valve and its stem are a single forging, in the best practice—the custom of riveting the head on to the stem having generally been discarded by the leading designers. Special attention is required in the form of the portion where the stem



One of the Motor-Buses running between Honfleur and Trouville.

expands to form the head, as this is the most vulnerable part of a valve. A fillet of liberal dimensions ought here to be provided.

The adoption of the mechanically-operated inlet and exhaust valves and of improved cam design has greatly reduced the danger of broken valves. Indeed, a uniform acceleration cam and spring can be so proportioned as to reduce the velocity of the valve at the moment of seating to zero, theoretically. Under such a condition the valve is not subject to a blow and should never break. In practice, however, there is always a slight impact between the valve and its seat, but one which may be reduced to a minimum. Automatic inlet valves, in closing, move at their maximum velocity at the moment of seating, and the blow produced is much greater than it need be with a mechanically controlled valve. Inlet valves of the automatic type are thus quite prone to breakage. The employment of solid piece valves with ample metal at the junction between head and stem, formed of an alloy steel of the maximum toughness consistent with its possession of proper heat-resisting qualities, and the operation of these valves from cams of gently-closing contour, should render extremely remote the possibility of broken valves, and the serious damage which such breakages sometimes entail.

THE garage and goods entrance of Argylls London, Ltd., has been removed from Newman Passage to Percy Street, Tottenham Court Road, W.

## SOME USEFUL NOTES.

LUBRICATORS arranged to feed by gravity are not to be depended upon in very cold weather, unless they are placed where they are constantly kept warm, in order that the oil shall be maintained in a fluid condition.

CARS which are constantly in operation during the winter are preferably kept in a heated stable. If stored in a cold place the bearings will be found exceedingly stiff when the machine is taken out in frosty weather, which makes them run much harder. Besides, with many forms of carburettor, difficulties are experienced in starting the motor.

SOMETIMES when testing a multiple-cylinder engine one or two cylinders will be found to be very much weaker than the others, although the ignition, valves, timing, &c., are perfect. Close examination will generally reveal a lack of oil in the particular cylinders, the difference this can cause being remarkable.

A CORRESPONDENT writes that for the past three winters he has used with great success an anti-freezing mixture consisting of 4 gallons of water,  $1\frac{1}{2}$  gallons wood alcohol, and  $\frac{1}{2}$  gallon glycerine. He adds about 1 pint of wood alcohol each week, and enough water to keep up the normal quantity of mixture.

THE needle valve in the float chamber of the carburettor may occasionally become slightly leaky through the roughening of the conical valve surfaces due to constant vibration, or on account of small foreign particles lodging therein. The leakage may not be sufficient to cause any loss of petrol or flooding of the vapourising chamber while the engine is running, but may be sufficient in amount to lead to a constant slow dripping while the engine is stopped. As it is the practice of many motorists not to shut off the petrol supply from the tank when the car is left standing, there may be an escape of fuel in this manner, amounting in time to a very considerable amount. The petrol will usually evaporate from the floor or be absorbed by the road without forming any noticeable puddle, and unless the carburettor be very closely watched the leak may continue undetected for a long time.

THE greatest supply of "spares" that forethought based upon long experience can suggest will sometimes not suffice to save a delay, but it goes without saying that the driver whose car is well provided in this respect is far better off in the majority of instances than the motorist who trusts to luck to get to the end of his journey. Above all things, a supply of nuts and bolts of the sizes employed on the car should not be overlooked. Despite the most painstaking precaution on the part of the manufacturer to pin and lock every nut on the vehicle before it leaves the factory, there will be occasions when one or the other is missed, and few things are so trying as an attempt to secure duplicates of bolts or nuts or special types and sizes at out-of-the-way places. Even if the motorist carries nothing else, a liberal provision of these small essentials will often be the means of averting a deal of annoyance as well as a waste of time.

ON cars fitted with pressure-fed carburettors some difficulty may occasionally be experienced with leaks in the pressure pipes, and it is no easy matter to locate these. The trouble is sometimes caused by dirt getting under the check valve which controls the amount of exhaust pressure in the petrol tank. Particles of carbon get under this and prevent it from seating. It is a good idea to take this valve out every few hundred miles and clean it thoroughly. At times the connections along the pressure pipe will work loose and cause a leak, or a pin hole will appear in the pipe at some point along its length. The best and easiest way to locate these leaks is to pump up two pounds of pressure or more and then go along the line with soap suds, covering the pipe at its joints and for its entire length. The leak, if any, will betray its presence by forming bubbles, and when so located may be easily repaired.

THE New Engine Company have secured an order from the Marchioness of Ripon for one of the 30-h.p. N.E.C. cars fitted with special landaulet body.

PROFESSOR BONE, of Leeds, is of the opinion that the future of automobile engineering is as much bound up with the understanding of fuel and its combustion as with the mechanism of the engine.

THE New Speedwell Motor Company, Ltd., have such faith in the reliability of their vehicles that they are now guaranteeing their Speedwell cars for five years.

THE next term in the motor-car engineering classes at the Battersea Polytechnic commences on the 27th prox. The names of intending students are now being received by the Principal.

"CALCUTTA MOTORS, LTD.," is the title of a company which will commence next month to carry parcels and passengers in and about Calcutta. The service will be commenced with ten motor-buses and a similar number of motor lorries and vans.

MANY well-known persons were present at one of the recent sales held at "The Motor House." Amongst them were representatives of the Maharaja of Baroda and the Sultan of Johore. Much amusement was caused by one Eastern potentate, who drove up in native costume accompanied by one of his wives.

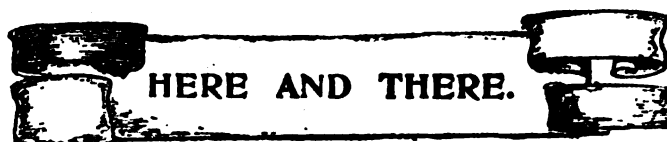
THE London staff of the Wolsley Tool and Motor-car Company, Ltd., held their house dinner on Wednesday, the 5th inst., at the Cafe Monico. There was a large attendance of members of the firm and their friends, while both the Birmingham and Crayford works staffs mustered strongly to the support of their colleagues in London.

THE Companies' Diary and Agenda Book for 1907 comes from Messrs. Jordan and Sons, Ltd., and, in addition to the usual diary features of such a publication, contains a memorandum of the requirements under the Companies' Acts, and much useful information with regard to financial matters generally, including stamp duties and fees, and miscellaneous matter of a useful and interesting character.

MESSRS. ALFRED DUNHILL, LTD., have issued a new and novel list of motorities, expressly designed to facilitate the choice of Christmas gifts for motoring friends. It contains illustrations of many novel designs in trunks, luggage boxes, tool-kits, as well as dashboard cigar and cigarette cases, foot-warmers and other useful articles, to say nothing of the foot-muffs, ladies' gauntlets, and other articles for the fair sex.

MR. COURTHOPE has asked the President of the Local Government Board whether experiments had taken place with heavy motor vehicles, running at a speed exceeding eight but not exceeding twelve miles an hour, on wheels fitted with tyres of other substances than rubber; whether such substances include wood; what conclusions, if any, had been arrived at as a result of such trials in respect of skidding on a wet surface and wear and tear of roadway. The only case of the kind referred to within the knowledge of Mr. John Burns is one in which a trial was made of a heavy motor-car running on wheels fitted with wooden tyres. The result of the trial was not, according to the reply of the President of the Local Government Board, altogether satisfactory as regards skidding.

ON Friday last week, at the invitation of Messrs. Brown Bros., we paid a visit to Great Eastern Street, E.C., to inspect the extension of premises of this well-known firm. Under the guidance of the directors we were shown through a perfect labyrinth of warehouses, whose congested state demonstrated the necessity for the premises now occupied. The new building is a substantial structure of five floors, situated in the rear of the present establishment, and will be occupied by the offices of the company, so that a more prominent position may be given to the motor department in the main building. In the evening the annual dinner of the travellers and heads of departments was held at the Hotel Cecil, where, under the chairmanship of Mr. John Brown, a very pleasant evening was spent. Messrs. Brown Bros. are to be heartily congratulated upon the success they have achieved in the motor branch of their business.



MESSRS. E. WILLIAMS AND Co. have opened a motor garage at the South Parade, Matlock Bath, where cars and tyres will also be repaired.

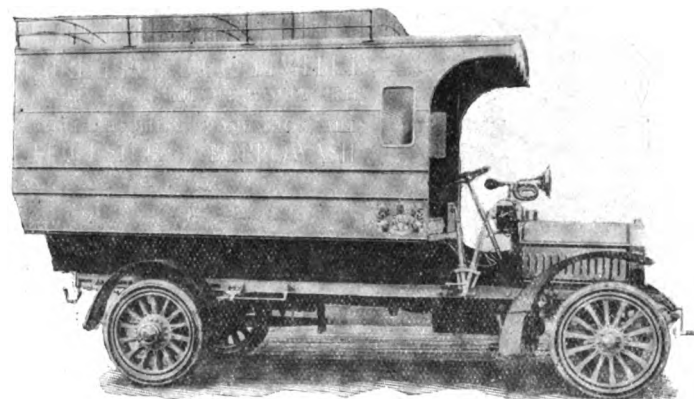
THE Waterloo Motor Works have placed a large order with

Messrs. A. Darracq and Co. for 1907 models, and are, therefore, in a position to give early deliveries of these cars during the coming season.

MESSRS. J. W. BROOKE AND CO., LTD., Lowestoft, have arranged to keep a consignment of Brooke motors at Fremantle, Western Australia, so that immediate deliveries may be made from stock. The first consignment left last week.

THE hospital authorities throughout the country are becoming converted to the motor ambulance. An urgent case recently occurred in Dumfries, and the patient was brought from that town to Glasgow, a distance of over sixty miles, in three hours, by the Argyll ambulance. Evidently the horse-drawn ambulance has had its day.

THE National Cyclists' Union has lodged notice of objection with the Board of Trade against the Kirkby Malzeard Light Railway Order. The opposition is to two level crossings which are contemplated in the Bill, one inside the city of Ripon, and the other just outside the boundary. There is no doubt that level crossings at these points would be both inconvenient and dangerous to users of the road.



The Dennis two-ton Delivery Van just delivered to Messrs. Faire Bros., Leicester.

The vehicle is fitted with a 20-h.p. engine with two ignitions. The gear-box gives three speeds forward and a reverse, the final drive being by worm gear.

FROM the Motor House comes a list of their recent purchases of motor accessories, motor clothing, lamps, horns, tyres, &c., which they have recently obtained from various factors, and which they are now disposing of at reduced prices. The catalogue will doubtless be of value and interest to motorists generally, and copies may be obtained on postal application to the Motor House in Euston Road, N.W.

As a souvenir of the exhibition at Olympia, Messrs. Mitchell, of Mitchell Motor Garage, Wardour Street, London, W., prepared a booklet entitled "Motor Roads to London." This gives the main routes to London from the principal towns in England and Scotland, and should prove of particular interest to motorists on the road. Published at a reasonable price, it should prove a useful guide to motorists when touring.

AN inquiry by Mr. Alexander Stuart, Commissioner to the Secretary for Scotland, into an application by the Town Council of the Burgh of Ayr for the restriction of the speed of motor-cars within the precincts of the burgh, was held at Ayr recently. Mr. Geo. H. Robb, Glasgow, who was accompanied by Mr. Robert J. Smith, C.A., Glasgow, Secretary of the Scottish Automobile Club, appeared on behalf of that Club. Mr. Wilfrid C. Macrorie and Mr. C. Basil Richards gave evidence for the Club, while Mr. A. G. Rennie, official timekeeper to the A.C.G.B.I., spoke of the speeds of tramway cars on some of the roads proposed for restriction of speeds.

THE Fife Motor Company has workshop accommodation for motor-cars at Dunfermline.

THE last of the Automobile Club's examinations for the present year was held on Wednesday.

THE Deasy car will make its debut in Ireland at the Dublin Show, where it will be exhibited by Messrs. Wayte Bros.

A POLICE-CONSTABLE in a case at Leeds on Tuesday said that he timed a chauffeur who was driving a car at the rate of 1,382 6-7 miles an hour.

It would be interesting to know under what authority the police have stopped motor-cars from travelling along the north side of Portman Square, W., during the last few days.

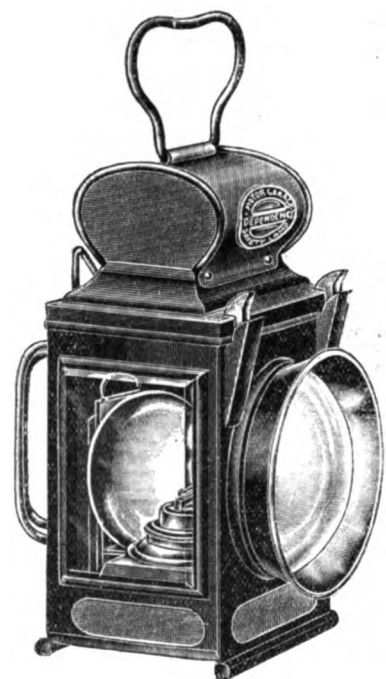
MR. JOSLIN'S carriage factory at Upper Norwood has been removed to Church Road, where it will be known as the Ribblesdale Carriage Works. A speciality is being made of motor-car bodies.

THE Deasy Motor-Car Manufacturing Company ask us to mention that both the foot and hand controlled brakes on the 24-h.p. Deasy car are of the contracting type, both acting on the same drums connected with the rear road wheels.

MESSRS. J. AND R. OLDFIELD, of Warwick Street, Birmingham, have just placed on the market a "Dependence" safety

lamp, which has been subjected to exhaustive tests in petrol vapour and has been found perfectly reliable. It has been specially designed for garage use, and can be safely handled in a pit for lighting and inspection purposes. This lamp is substantially made, can be hung at almost any angle, and is economical in price. During the present cold weather we are using one for heating purposes in a small stable, and will give results in a future issue.

It is not only in this country that commercial motor-vehicle trials are fated to be postponed. It is the same in the United States, where the tests which were to have been held from the 7th to the 10th November, under the auspices of the Automobile Club of America, have been



put off until next spring, owing, it is announced, to insufficient entries having been received.

STANDARDISED sparking plugs and piston rings formed the subject discussed at a recent meeting of the mechanical branch of the American Association of Licensed Automobile Manufacturers. After ascertaining the sizes most used, the merits of the different threads were discussed, and a committee appointed to submit drawings of a standard for adoption. As regards piston rings the Test Committee was instructed to conduct a series of experiments to determine the best material and design for this important part of the engine.

LETT'S DIARIES, published by Messrs. Cassell and Co., Ltd., with their coupon for £1,000 accident insurance, are familiar to all business men. The edition for 1907 contains a coupon insuring against accidents by omnibus, motor-car, cabs, and trams, as well as the risks of railway travel. At the same time the diaries are practical and of sufficient variety in design and form to meet the requirements of any class of user. In addition to the office diaries printed on good paper, and with a blotting paper of a really absorbent nature Lett's diaries also include pocket-books for the year of convenient size, yet compactly filled with useful information of the usual character. Messrs. Cassell and Co.'s list of diaries can be obtained of any bookseller.

A CORRESPONDENT writes recommending Martin's Garage, High Street, Lewes, to motorists passing through that town.

THE EARL OF ELLESMERE has placed an order for a 30-h.p. "Canley" type of Daimler car. The Duke of Portland has also placed an order for a 30-h.p. chassis.

THE Reliance Engineering Co., of Manchester Street, Liverpool, has a large garage and keeps a good stock of accessories, &c.

A GARAGE and repair works has been established in Chester Square, Ashton-under-Lyne, by the Ashton Motor Company, of which Messrs. Woodhead and Sharples are the proprietors.

THE Climax Motors, Ltd., of Coventry, have appointed Messrs. Asprey and Co., of 18, Bruton Mews, Bruton Street, New Bond Street, W., as their sole agent for the London district.

FROM the London office of the High Commissioner for Canada comes a copy of the last edition of the Canadian Trade Index, copies of which can be obtained by British manufacturers at 17, Victoria Street, W.

MESSRS. MIDDLETON and TOWNSEND, of Edinburgh, are introducing a new magnetic clutch for use on motor-cars, to which we hope to make full reference as soon as the various patents have been put through.

THE Cornwall Sea Fisheries Committee have decided that motor-boats come under the same restrictions as steam trawlers, and that proceedings will be taken against craft trawling close in shore contrary to regulations.

THE new edition of the *Motor-Car Journal* Identification Card contains the official road signals for motorists as well as the letters of identification for cars in Great Britain and Ireland. Copies will be sent free on postal application to the offices, 27-33, Charing Cross Road, W.

THE new Arrol-Johnston Car Company, Ltd., has sent us a copy of the 1907 catalogue of Arrol-Johnston pleasure cars, which has just been issued. In it full particulars are given of the 12-15-h.p., 16-25-h.p., 24-30-h.p., and 38-45-h.p. models, clearly-drawn illustrations of the different types accompanying the text.

MESSRS. DEAN AND BURDEN BROS., LTD., of Salisbury, the makers of the "Scout" cars, have appointed the Auto-Car Agencies, Ltd., of 806, Salisbury House, London Wall, E.C., their sole representatives for London and district. Showrooms will shortly be opened in the West End. The works at Salisbury are being enlarged to cope with the growing demand for the Scout vehicles.

MESSRS. S. F. EDGE, LTD., have issued two new publications of great interest and merit setting forth the history of the Napier car, and detailing the claims of the six-cylinder vehicle respectively. From the artistic point of view both lists are excellent, while their contents will help the novice to realise the important part played by the Napier in the development of the British motor industry.

MESSRS. CASSELL AND CO., LTD., have published a new volume in their "Work Handbooks," which are edited by Mr. P. N. Hasluck. In this Mr. Travers deals with motor-bicycle building, an introductory chapter on ignition coils being contributed by Mr. G. Boley. The subject is handled in a very practical manner, being illustrated with over 130 diagrams, the whole forming a thoroughly practical work for those interested in motor-cycles as an industry and a sport.

THE new Bleriot headlight fitted with the automatic lamp shade is likely to attract much notice from those who object to the dazzling effect of powerful headlights. It cuts off the high rising rays of light, projecting them on the ground, where the light is made more powerful. The shade is always in service, thus saving the driver the worry of controlling the device by mechanical means. It is composed of a series of thin plates, dull black on top, absorbing the rising light, and silver-plated beneath in order to increase the power of the projection on the ground. By the adoption of this "Noglare" Bleriot headlight the sudden change to darkness incidental to mechanically-operated shades, is obviated, and inspection of the lamp at the London depot, 53-54, Long Acre, W.C., will establish its merits among practical motorists.



## CONTINENTAL NOTES.

### Belgian Trials of Industrial Motor Vehicles.

The Belgian Automobile Club, in conjunction with the Antwerp and Flanders clubs, is organising a reliability trial of industrial motor vehicles. The competition, which will be held from the 8th to the 10th April next, will be open for (1) motor-cycles capable of carrying from 50 to 100 kilog.; (2) light vans of from 100 to 700 kilog.; (3) lorries for loads of from 700 to 1,500 kilog.; (4) wagons carrying over 1,400 kilog. and public service vehicles accommodating at least twelve passengers. The first day's run will be from Brussels to Antwerp; the second day's from Antwerp to Ghent; and the third day's from Ghent to Brussels. The judges in making the awards will have regard to (1) regularity of running; (2) fuel consumption. Entries will be received until March 1st, at the A.C.B., 5, Place Royale, Brussels.

### Motor Cycles in the Austrian Military Service.

The Austrian military authorities are very much alive to the great advantages of motor vehicles in army operations. Even the motor-cycle has been brought into use, and this for a purpose for which, as will be seen from the accompanying illustrations, they are well adapted—that of quickly establishing temporary telegraphic or telephonic communication. As will be observed, the

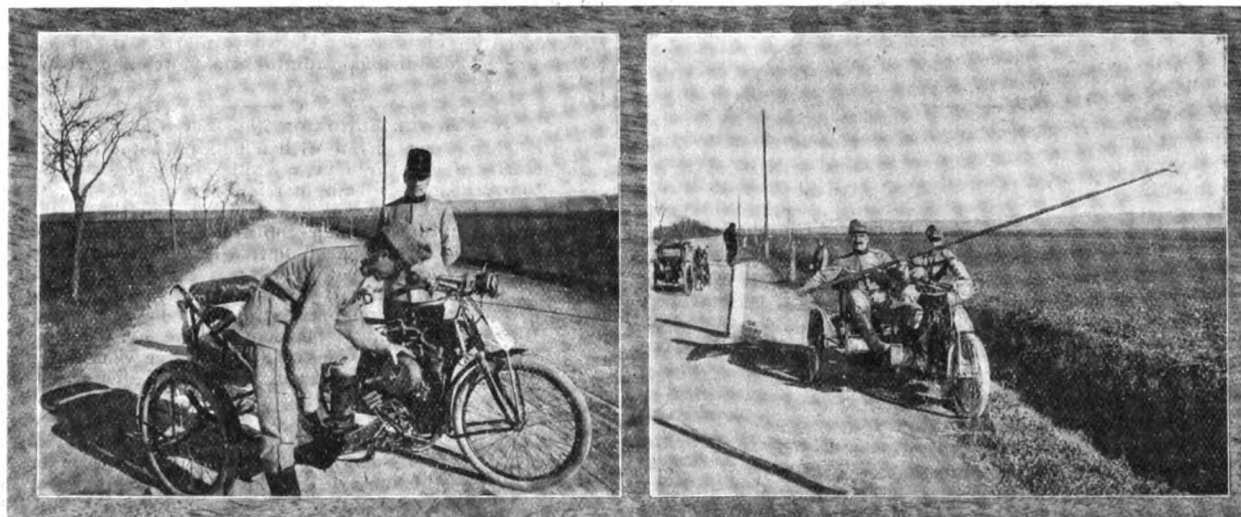
penalisation included a Herald, a Chenard-Walcker, three Clement-Bayards, two Westinghouses, two Decauvilles, three De Dions, an Opel-Darracq and a Boyer. The Unic, Fouillaron, Lion-Peugeot, Legros, Darracq, Prunel and Martini made the tour with the loss of a few marks. The success of the Legros car is particularly worthy of note as it is the first vehicle fitted with a two-cycle engine to go through a reliability trial of this kind. Its running was exceedingly uniform—so much so that M. Rene Legros became known as *l'horloge du concours*.

### An Accident at the Salon.

The Invalides annexe building of the Paris Salon was the scene of an explosion on Sunday afternoon. A compressed air tank at the stand of Messrs. Bonvillain and Ronceray burst, and scattered masses of wood and iron through the building. One man, who sustained injuries on the head, legs, and hands, had to be conveyed to the hospital, while six others were slightly injured.

### Public Services in France.

La Société Française de Transports Departementaux par Automobiles is the title of a company which has just been formed in Paris to establish public services in different parts of France. The idea is to link up outlying towns and villages, unprovided with railway communication, with the nearest station. The



Motor Side-Cars employed in the Austrian Army for the Rapid Erection of Temporary Telegraph Lines.

machines are provided with side cars so that they can carry two soldiers; one has merely to look after the engine and steer the bicycle, while the other has charge of the telephone or telegraph wire reel; he is also provided with a long pole, by means of which, as the machine is travelling, he is able to fix the wire on trees on the roadside or even on the ordinary hedges. The men have been so well trained in their work that it is stated they can erect a ten kilometre ( $6\frac{1}{4}$  miles) line in twenty minutes.

### The French Trials of Industrial Vehicles for Military Purposes.

The trials of industrial vehicles for military purposes were concluded on Wednesday of last week. In this case the run was from Paris to Marseilles and back, and of the nineteen machines which started eleven survived the trial, viz., three Darracq-Serpollets, two De Dions, two Orions, a Peugeot, a Mors, a Turgan, and a Berliet.

### The French Trials of 1907 Models.

The reliability trial of 1907 models from Paris to Monte Carlo and back, organised by the A.C.F., came to an end on Wednesday of last week, when twenty-one out of the thirty-seven which left Paris on the 26th ult. duly arrived back in the French capital. Those which went through the entire test without any

Darracq-Serpollet Company is said to be interested in the new undertaking.

### The A.C.F. 1907 Grand Prix Race.

The rules and regulations of the race for the Grand Prix, which the A.C.F. will hold next year under new conditions, were issued on Monday. Each manufacturer may enter three cars, the fee per vehicle until February 1st next being £200.

### Miscellaneous Items.

A motor-bus service was inaugurated last week between Alost and Graminout, Belgium.—At the last meeting of the Chambre Syndicale de l'Automobile it was announced that the value of the motor-cars exported from France during the ten months ending with October last had attained a value of £4,572,120, an increase of £1,221,240 over the corresponding period of 1905.—The Seventh Austrian International Motor-Car Exhibition is to be held in Vienna from the 28th February to the 12th March next.—Arrangements are in hand for the holding of a motor exhibition in Bergen, Norway, from July 5th to 14th next year.—Double-deck buses are now being introduced into Rotterdam.—A proposal is under consideration to organise a motor-car touring competition between Paris and Madrid in May next.

## CORRESPONDENCE

[Letters to the Editor should be addressed to the office,  
87-88, Charing Cross Road, W.C.]

### THE FLYING PROBLEM: A PREDICTION AND A WARNING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The attainment of greater engine power has something to do with the achievement of the art of flying, particularly in the experimental stages, but it will have little, if anything, to do with the perfect flying machine of the future, which will be a one-man apparatus requiring the manual power of the occupant only for its propulsion. Service models that carry several passengers, under favourable conditions, may be used in between, but they will serve only to narrow down and eliminate the experimental and undesirable to the necessary parts that will be practical under average weather conditions—as is the bird—and which will prove very simple indeed, as it must be of real service to mankind.

We have but to review the progress of mechanical science to see how the obstructing forces of nature, still not fully understood by man, are overcome by engine power. But we must not forget that engine power overcomes much of the obstructing forces by violent means—the sheer



The Only Way across the River.

excess of power—and this mob energy may not be so readily converted to man's use in the upper and unstable realms to which he would fly as upon *terra firma*, from whence he came, upon which he must walk, and to which his natural mechanism, his anatomy, is destined to return. In the air, having once lost the foothold or purchase of the earth, the greater the engine power developed—that is, mob energy or violent power exerted—the greater will be the loss of balancing power *pro rata*. Hence the all-important and vital need, in proposed experiments, to keep down the engine power to the lowest possible minimum in order to negotiate the air safely with the methods proposed. I venture to say that the true solution depends solely upon the artificial production of wings as flexible and buoyant as those of a bird, which I believe possible to make to-day.

A feather in the air is less subject to the action of gravity and less at the mercy of the elements than any of the aerial machines made or proposed. But, unfortunately, feathers, like wings, are not now produced by nature of dimensions large enough for man, whether they were in prehistoric ages or no. Scientists tell us that in our dreams we have returned to us vague impressions of sensations experienced by our ancestors. My ego must, therefore, have once been in the form of a bird of flight. Be that as it may, I have thought upon flying machines until I have many times flown in my dreams, and the last time I distinctly remember to have seen a host of men flying singly, who were pelting the earth with ready-made plum puddings, one of

which, striking me in the eye, awakened me, since which time I have tried to banish flying and all its fleeting glory from my mind. And I most sincerely trust that the many who are induced by the tempting baits offered to attempt flying in some of the impossible machines proposed will take warning by the fate of the plum puddings, for they were all smashed up—no, down—to atoms. That is, if they wish to enjoy a few more plum puddings at the Christmas festive board. I strongly advise the foolhardy to adopt some kind of ground anchorage, similar to that with which Sir Hiram Maxim held his flying machine in bounds, upon which I had the pleasure, many years ago, of seeing him skim, if not fly, through the air.—Yours truly,

GEORGE STURGESS.

### OVERHEATING TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have an "Abeille" 16-h.p. motor-car, the cylinders of which soon get overheated. The radiator is of the honeycomb type, with fan behind, and will hold fifteen quarts of water. Some cars, I believe, hold three times this quantity of water. After the engine has been running a short time the water boils and runs out by the overflow pipe, and the engine gets very hot. Do you think it necessary to have a larger or an additional radiator? There does not appear to be any stoppage in the radiator, as the water runs out when the outlet tap is turned. Can you or any of your readers suggest anything to set the matter right; if so, I should feel obliged?—Yours truly,

SUBSCRIBER.

[The radiator on "Subscriber's" car should be large enough to properly keep the engine cool if rightly constructed. The trouble may be due to faulty fan not drawing sufficient air through. "Subscriber" does not state whether the overheating occurs when the car is running or when stationary with engine running, as a great many engines will quickly boil the water if run when the car is stationary, but are soon cooled when the car is in motion, or moving at a fair rate. If, however, the overheating occurs when the above matters are gone into, we would advise either an additional radiator or a more effective one than used at present.]

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—My car is fitted with a 64-h.p. Aster engine, and has run satisfactorily about three years, until just recently, when the motor seems to overheat, this being particularly noticeable around the valve chamber. The water circulation is good, and the water does not get over hot; the cylinder and piston are clean and free from carbon, &c. The compression is also good, but, all the same, I am troubled with premature firing and cannot find any reason for this. The carburettor and ignition are all right; if you think it is caused by the water jacket being furred, how can I remove any fur which may be deposited, especially around the valve chamber? Is there any reason why the water should not be introduced to the jacket at the valve chamber instead, as at present, the bottom of the cylinder? There is a boss cast on similar to the boss where the sparking plug is fixed. Could not this be drilled and tapped and the water taken in here either as an auxiliary entry or as a main entry, for the water would surround the bottom of the cylinder and would circulate by thermal action, and the pump cylinder would drive the water round the valve chamber and over the cylinder head to the radiator. I think this ought to give increased cooling at the place where it is most wanted, although one hardly likes to tell makers what to do, as surely with their experience they should know best.—Yours truly,

B. Y. 158.

[The cause of the trouble is, without doubt, due to the water jacket being furred up. The best means of removing this is to take the cylinder off and remove all plugs into the jacket and fill the jacket with a strong solution of caustic soda. The boss mentioned by our correspondent is a plug leading into the jacket; this might also be removed. Let this remain for a time and then work a piece of wire or something of the sort around as far as possible from each opening, washing out after with a good pressure of water. We doubt if much advantage would be gained by admitting the water by the valve chamber, but it might be tried if the cleaning of the jacket has no effect.]

### SMOKE OR VAPOUR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As an always interested reader of your valuable journal, I think that the following may prove of interest. Whilst standing outside a West End restaurant a week since, having just pulled up at the door of same, a "gentleman" rushed up to me and roared out "Do you see what you are doing?" Thinking I had possibly dropped my engine in the road, I dismounted, and this was the conversation.

"You are showing smoke, who is the owner of the car? What is the number? I shall report you to the Club; I shall report you to the police; I shall write to the owner."

My reply was to the point, one word, "Good."

Now, the car was showing nothing but vapour, being a very muggy and damp day. I dare scarcely breathe, for my breath was visible, and this kind gentleman, who I learn had a title, actually did report me to the Automobile Club and write to the owner, but from the police I have not yet heard. What is coming next? The awful vapour

was not smoke, and the very thought of it scarcely allows me to breathe on a damp day, for fear I may be summoned for showing vapour. My greatest hope is that the next time this gentleman speaks to a driver in the way he did to me, that driver may be the owner of the car, and it was with sincere regret that I was not at the time, for, even at the risk of my showing visible breath, I should have had some little remark to make to his queries; but at the time my silence was complete, especially as I have been taught in my youth to respect old age and those mentally afflicted.—Yours truly,

J. D. HILL.

### THE TURNER-MIESSE STEAM CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—At the Olympia Show was exhibited a four-cylinder petrol chassis that we designed and built for Messrs. Seymours, Ltd. We have already heard, from several sources, that this has given rise to a misapprehension, and we ask your indulgence to correct it. We have no intention whatever of dropping the manufacture of the Turner-Miesse steam cars. On the contrary, we have a considerable amount of business on our books, and have arranged to manufacture an increased quantity in 1907.

The Turner-Miesse steam cars are increasing in popularity, but, as we have the necessary facilities, and more capital than we can at present employ, we accepted a contract from Messrs. Seymours for a number of petrol cars. We have also designed a light steam chassis to carry twenty passengers or two tons of goods, which will be manufactured in quantities next season.—Yours truly,

J. B. DUMBELL.

I certainly preferred to pay the money and get away at once. As a matter of fact, I did not even receive my "permis de circulation" until I finished my tour and arrived back at Havre. I went early in the season, and perhaps this accounts for their leniency.—Yours truly,

A. J. MCKINNEY.

### IMPRESSIONS AT THE SHOW.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to "W. W." looking in vain for a good small car of British make, costing less than £200, he must surely have missed the stand exhibiting cars of British manufacture, where I placed an order for a two-cylinder vehicle, three speeds and reverse, with "gate" gear and the locking device "W. W." speaks of, for £112 10s. A friend of mine had a similar car from the same firm last year, which gave him every satisfaction, being thoroughly reliable and a good hill-climber.—Yours truly,

E. R.

### SOLID TYRE EXPERIENCES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In answer to the query of "Tramp" in your issue of the 8th inst., I would like to tell him that I have had two years' experience with a small 6-8-h.p. tonneau car on solid tyres. The car is geared to twenty miles per hour on top speed, and I have never found any discomfort travelling at its fastest, neither have I ever had any tyre trouble, and I would not change to pneumatics under any consideration.

In reply to his query as to the best kind of solid tyres, I have found



Motoring in Switzerland.—A Snapshot from Geneva.

### UNTRIED CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It was somewhat freely rumoured at the recent Show that several of the new six-cylinder cars, both English and foreign, had never been run upon the road, and after a careful examination of many of the cars exhibited I should certainly say that the rumour was not without foundation. It seems to me, therefore, that the public would do well to be most careful when purchasing a new six-cylinder car to be quite certain that the particular car they choose has passed through its experimental stages; otherwise they will be in the unenviable position of an owner carrying out experiments at his personal expense for the benefit of the manufacturer. In the case of the six-cylinder Brooke car the manufacturers have been busily engaged in carrying out exhaustive road tests for a lengthy period, with the result that they are now in a position to place before the public a vehicle which will give every satisfaction to its owner.—Yours truly,

ERNEST J. STEEL.

### DRIVING PERMIT IN FRANCE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Evidently our experience differs, as mine does not coincide with that of Mr. A. A. L. Hickman. After I landed at Havre I only received one document, the "permis de circulation," and the other, the "permis de conduire," was not even mentioned in my case. The examining official simply noted h.p., the number of the machine, &c., and asked for twenty francs. This, however, is owing to some arrangement which was made between the French Government and this individual.

the Shrewsbury-Challinor patent "Cup" tyre, the best for my purpose. They do not creep, and they have a large amount of resiliency.

With a car of the type that "Tramp" mentions, I would advise him to retain his pneumatics on the front wheels and fit a good kind of solids on the rear wheels. From my experience, I think he can then run at twenty miles per hour in perfect comfort and without undue strain on the car as a whole. He will have less expense, and if the speed mentioned satisfies him, greater pleasure, for the fear of the expense and annoyance of tyre troubles will be off his mind.—Yours truly,

ROBERT CATT.

### BRITISH AND FOREIGN AUTOMOBILE INDUSTRIES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I regret that my friend, Mr. Jarrott, has not fully appreciated what I said to the shareholders of the Daimler Motor Company at their last general meeting.

I remarked that the United Kingdom was the principal market in Europe for the products of the automobile industry, and that as the purchase of foreign motor-cars in this country showed undoubted signs of falling off, it was only to be expected that the output of foreign motor-car manufacturers would correspondingly diminish.

He meets this statement, which he describes as misleading, by certain figures which he obtains from the body representing the automobile industry in France, and which figures tend to show that the size of the automobile industry in that country is still increasing.

I have no criticism to offer as to what French manufacturers may be doing in countries other than this, but I certainly maintain that the

official figures of the importation of motor-cars into this country fully sustain my statement, as the following table shows:—

For the ten months ending	Increase on previous year.
£	
October, 1903... ..	856,000 = 81 per cent.
October, 1904... ..	334,000 = 21.6 per cent.
October, 1905... ..	287,000 = 15.3 per cent.
October, 1906... ..	30,000 = 1.38 per cent.

It will be observed from the above figures that the increase during the last ten months is almost negligible, and I venture to predict that the figures for the ten months ending October of next year will show an actual decrease.

If further evidence of the justice of my contention is required, it is contained in the published remarks of a celebrated French automobile dealer which resulted from a visit of his to the lately-concluded exhibition in London.—Yours truly,

E. MANVILLE.

### SIMPLIFICATION IN VALVE MECHANISM.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Looking at a six-cylinder car the other day, the engine of which has the valves on one side, the formidable row of a dozen valve stems and their springs led me to wonder whether some simplification could not be made in this part of a petrol motor. The valve gear is at all times a matter of considerable complication, for, besides the two valves which each cylinder requires, there are generally two springs, two spring retaining cotters or nuts, two push rods, two push rod guides, two cam followers and two cams. Would it not be possible to reduce the number of such parts at least one half by so arranging matters that the same spring acts to seat both the inlet and the exhaust valve of each cylinder? The operation of both the exhaust and inlet valve of each cylinder from a single cam, and by means of one push rod, is also a line along which, it seems to me, simplification of valve action might be attained.

Every reduction in the number of parts required for operating the valves would not only simplify matters but would result in reduced cost of manufacture.—Yours truly,

S. CUNNINGHAM.

### FUTURE DEVELOPMENTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The everyday practicability of the motor-car being fully established, the next step in the line of advance is obviously the production of reliable vehicles of moderate speed and at prices within the means of the average user of a horse-drawn carriage. The first step toward any material cheapening of production must be the acceptance of some one or two final standards of design, thus eliminating the necessity for costly experiments. With such finality of design attained in the automobile as has long existed in the horse-drawn carriage, and with a standardization of parts, makers would be free to concentrate their attention upon the production of more efficient but less costly cars. The vital elements of the automobile are already firmly established—the form and construction of the chassis, the wheels, tyres, springs and brakes, the motor and its place at the front, the change-speed gear, the two transmission systems by chains or cardan shaft, and the forms of bodies for various uses.

There are, it is true, almost unlimited possibilities of improvement in such directions as the combination petrol-electric vehicle; change-speed gears and other devices as yet in the experimental stage, any one of which may necessitate radical and costly changes in models and methods and an entire readjustment of all conditions of making and marketing. In spite of this, however, the present indications are that for some time to come makers will be free to deal with the two subjects of perfection of detail and economy of construction, while the changes from one year to the next will be far less marked than in the past, with proportionately greater inducement to the intending buyer to purchase and use a thoroughly reliable car rather than to wait indefinitely for something better.—Yours truly,

R. HENDERSON.

THE practical demonstrations of the simplicity of the Helena tyre outfit drew many observers to the stand of Messrs. J. Lacoste and Co., at Olympia. This was described in our columns when introduced, and is a useful device for facilitating the attachment and removal of tyres, inner tubes, valves, &c. The "Lacoste" high-tension magneto; magnetos of both the high and low tension types for six-cylinder engines; the "Lacoste" contact breakers of the internal wipe pattern and patent insulated terminals for accumulators, coils, plugs, &c., were also on the stand.

MARCONI'S WIRELESS TELEGRAPH CO., LTD., had a display of ignition coils, accumulators, ammeters, &c., at Olympia. Among the exhibits was a steering pillar lamp, designed to affix to the steering pillar of the car and enable the driver to direct a beam of light on to any part of the dashboard, thus enabling him to keep proper observation over his lubricators, &c., when driving at night. If a bulb of sufficient candle-power be employed the lamp can also be used as a small search-light for reading sign-posts, &c.—an important use, having regard to the condition of many of the signposts in country districts.

## CLUBS AND ASSOCIATIONS.

### SHEFFIELD A.C.

THE first annual dinner of the Sheffield and District A.C. was held on Friday of last week in the King's Head Hotel, Sheffield. After the loyal toasts had been honoured, Mr. J. H. Pickford proposed "The City and Trade of Sheffield," and in so doing suggested that the citizens should provide the Lord Mayor and the city surveyor with automobiles.

The Lord Mayor (Ald. R. Styring), responding to the toast, said he looked upon automobilists as being among the enlightened section of the citizens; certainly they were in the forefront of the movements of the times, and they were entitled as well as any other class of the people to any recognition that he, as the Lord Mayor, could give them. But in coming amongst a company of their description he was afraid he lacked one essential condition, namely, he was not an automobilist. Still, he supposed the time had not gone by when he might be one.

Success to "The Motor Union of Great Britain and Ireland" was drunk on the call of Mr. F. B. Cawood (secretary of the Sheffield Automobile Club). He mentioned that he had never come across a place where the police authorities were spoken of by motorists better than they were in Sheffield.

Mr. W. Rees Jeffreys (secretary of the Motor Union) replied. The Motor Union, he said, was the largest organisation of its kind in the world. But they of the Union were in that position because they had received the loyal support of clubs of which the Sheffield Automobile Club was one of the most representative bodies. They existed in order to carry out the collective views of the local clubs; they existed in order to effect the legislative work of the automobile movement, and they carried out all local matters through the local clubs. He alluded to the reckless driver, saying that the desire of the police was to get this class of motorist off the streets. The interest of motorists generally was also to clear the reckless driver from the streets "even more so than the police," he added, "because it is the man who is bringing discredit upon our movement; and I am quite sure we should never aid the defence of a man whom we were advised by a local club was not a considerate driver." But the inconsiderate driver was not going to be removed by the setting of police traps. The chief victims of such traps were not the reckless drivers but the considerate motorists.

Mr. W. Robinson gave "The Public Authorities." Councillor J. E. Wing and Mr. C. F. Wike (the city surveyor) responded. Mr. Wing complained of the action of some police authorities in summoning a motorist not because he had not a licence, but merely because he had not that licence upon him when the police stopped him.

The toast of "The Sheffield and District Automobile Club" was honoured on the call of Mr. W. R. Jeffreys, the chairman responding.

An interesting event of the evening was the presentation of the Harvey Foster Challenge Cup for hill-climbing to Mr. Albert Farnell, and Mr. William Robinson's gold medal to Mr. T. Nash, who was second in the private members' competition.

### SHEFFIELD AND HALLAMSHIRE MOTOR CYCLE CLUB.

THE second annual dinner and prize distribution in connection with this club was held at the Palace Restaurant, Sheffield, and presided over by Mr. J. H. Hall. It was an enjoyable and successful gathering, ladies and gentlemen members and friends being present to the number of 120.

After the toast of "The King" had been loyally honoured, the President, in making the presentation of prizes, took the opportunity of speaking on motor matters in general. He said that although the old Motor Act was being continued for another year he saw no cause for despondency, believing the delay would be in favour of the motorist, as public opinion was being rapidly enlightened, and they would get a much better Motor Act in 1907 than they ever expected in 1906. Lighting of all vehicles on the road should be insisted upon. The increase in the membership of their club was very gratifying, and showed the club was filling a real want in the district. Certainly the club should be successful, as every member on the committee, and many others, were real hard workers, and deserved their best thanks, especially the hon. secretary, Mr. J. Haslam. Later they might approach the Motor Union as to affiliation, but if they did they should have special competitions for the clubs of the north, as the journey south was too far to make it practicable to make much of a show. After the presentation of prizes, various toasts were honoured and a musical programme carried through.

### SOUTH AFRICA.

TWENTY-ONE cars took part in the fourth annual reliability and consumption trial of the A.C. of South Africa last month. The route was from Cape Town to Houw Hoek, a distance of fifty-five miles, and back again. Non-stop runs were made by Mr. Ohlsson's 40-h.p. De



Dietrich, Dr. Fuller's 14-h. Gladiator, Mr. Smuts's 10-h.p. Panhard, Mr. White's 10-h.p. Renault, Mr. Lawton's 8-h.p. Cadillac, and Mr. C. Mills's 10-h.p. Wolseley, although it is understood that the latter was disqualified for completing the outward distance under the minimum time. In addition to the above, Mr. Simpson's 6-h.p. De Dion, Dr. Hewat's 9-h.p. Star, Mr. Mills's 6-h.p. Wolseley, and Mr. Gibson's 10-h.p. Gladiator made non-stop runs on the outward journey. The Pratt's spirit with which the tanks were replenished at Houw Hoek was given by the Colonial Oil Company.

### AERO CLUB.

IN view of the increased interest now being taken in aerial navigation by all sections of the community, the Aero Club proposes to extend the sphere of its operations by the formation of a branch for which mechanics and others will be eligible.

### AERONAUTICAL SOCIETY.

THE opening meeting of the 42nd session of the Aeronautical Society of Great Britain was held at the Society of Arts, John Street, Adelphi,

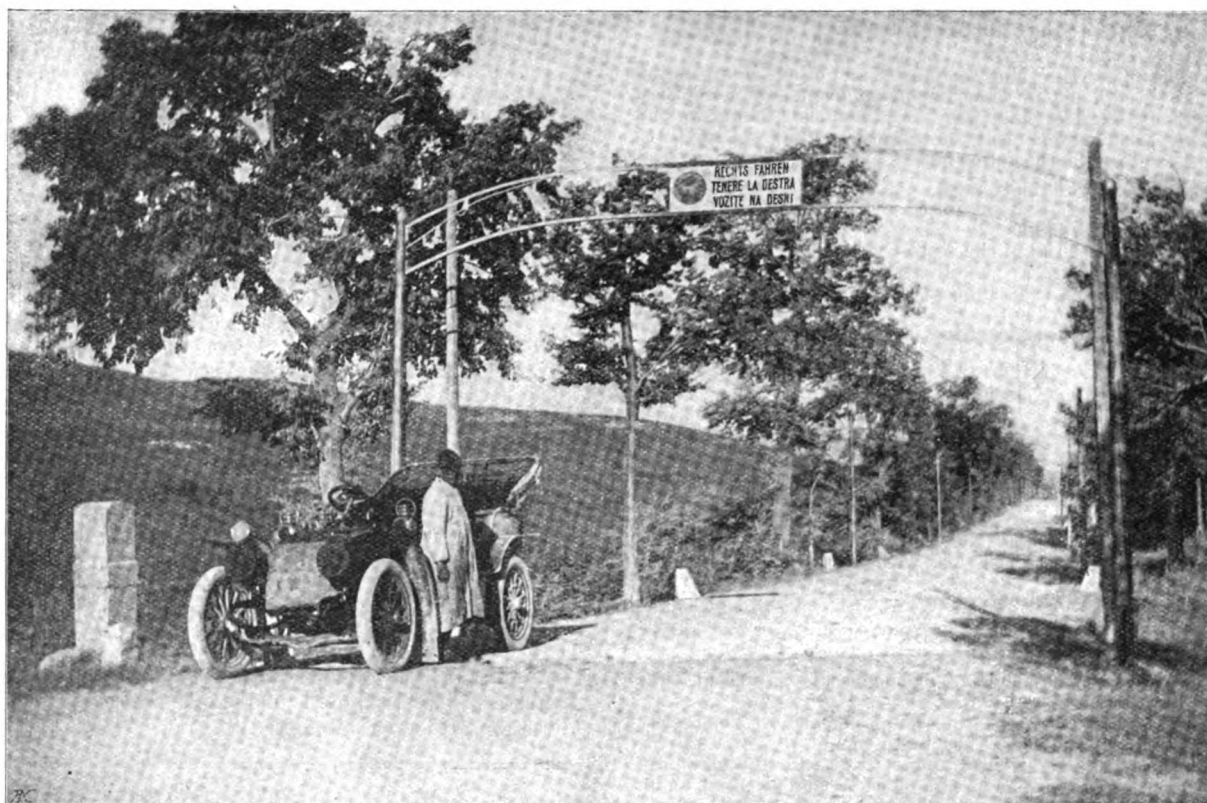
## CASES UNDER THE MOTOR-CAR ACT.

### REGISTRATION.

John Butler, a chauffeur, has been summoned at Chiswick for driving an unregistered car, and not having lights either in front or at the back. The evidence was that the car was driven by defendant along the High Road, Chiswick, at about midnight, the lights in front and at the rear of the car being extinguished. He passed police-officers, but pulled up a short distance away, and when the constables caught up with him he was lighting the lamps. It was found that the car was not registered, and that it was formerly owned by a lady at Kingston, but at the time of the offences being committed the car belonged to the Hon. E. S. Wyndham, who had not registered it. Defendant said he did not see the officers, but a jolt caused the lights to be extinguished, and he was lighting the lamps as they came up. Respecting the registration, he said he thought the owner had to attend to it. Mr. King: The onus is upon you not to drive an unregistered car. Fines amounting to £5 were imposed.

### RECKLESS DRIVING.

John William Bareham was summoned at the West London Police Court to answer a charge of driving a motor-car in Holland Park Avenue on the night of November 1st at a speed dangerous to the public.



A novel Road Sign on the way between Vienna and Trieste, notifying travellers to keep to the right instead of the left after crossing the boundary between the Province of Carniola and the Coast District.

(Allgemeine Automobil Zeitung.)

London, on Friday of last week, Major B. Baden-Powell (president) occupying the chair. Four papers were read, the first being one by Dr. W. N. Shaw, F.R.S., Director of the Meteorological Office, on "The Use of the Kite in Meteorological Research." In the discussion which followed the chairman said that the kite was of special value. The wind had been found to increase up to a height of 500 metres and then higher it did not very much increase. Colonel J. E. Capper, R.E., then read a paper on "The Gordon Bennett International Balloon Race." Following this paper was one by Mr. E. Stuart Bruce on "The Aeroplane Experiments of M. Santos-Dumont," after which the chairman exhibited a model he had made of that aeronaut's flying machine. The proceedings closed with a paper on "The Stability of the Conic Shape of Kites and Flying Machines," by Mr. R. M. Balston.

### LIMERICK.

THE Earl of Dunraven has been elected president of the Limerick A.C., with Sir C. Barrington Bart., Sir T. Cleave and Sir A. Shaw vice-presidents. Mr. A. Blond-Smyth is the hon. secretary. Garage arrangements for members have been made by Mr. P. E. Bourke in Upper William Street, who is providing lock-up houses for the exclusive use of members of the club.

A police officer said defendant passed him at a speed which he estimated at about thirty miles an hour. He drove on the wrong side of the road for 300 yards. Another constable gave corroborative evidence. Defendant stated that having stopped his car some 240 yards from the place where the police were stationed it would have been impossible for him to have attained the speed at which he was alleged to have passed them. Mr. Lane eventually dismissed the summons.

At Buckingham, on Tuesday, Edgar Iff was charged with driving a motor-car to the danger of the public, in Buckingham, on November 23rd. Evidence was given by Mr. James Smith (borough surveyor) and others to the effect that defendant drove round the corner of Lloyds Bank on the Market Square into West Street. He was on the off-side of the road, and gave no warning either by bell or horn of the approach of the car. Dr. Cheesman had turned the corner of Castle Street, at the cross-roads, and was crossing West Street, when Mr. C. A. Bennett, who was talking to Mr. Smith on the opposite side of the road, signalled to him and held up his hunting-whip. Dr. Cheesman stepped back and just escaped a serious accident, and he said he desired to publicly thank Mr. Bennett and Mr. Smith for saving his life. For the defence it was said that the horn was sounded and the car was directed to the off-side of the road to avoid Dr. Cheesman. A fine of £3 and 10s. 6d. costs was inflicted.

At the Marlborough Street Police Court, Mr. F. R. S. Bircham has

been summoned for driving a motor-car on the wrong side of two refuges in Piccadilly—a proceeding designated by the police as constituting danger to the public. He was fined 20s. and costs.

#### NOT STOPPING WHEN REQUESTED.

At the Rye Borough Bench, Frank Gurdon, 18, Magdalen Road, St. Leonards, was summoned for failing to stop a motor-car, driven by him, when requested by a certain person having charge of a horse by putting up his hand for that purpose. Walter Dunk, of Rye, said defendant took no notice of his signal and the colt he was driving swerved into the ditch and turned completely over. Defendant blew his horn, and that, with the noise of the machinery, frightened the animal. In cross-examination, witness said the car was going at about thirty or thirty-five miles an hour. For the defence, it was urged that the accident was the result of negligence on the part of the driver of the colt. Mr. Phillips said he did not know the law was entitled to apply to horses that were being broken in. Mr. Gurdon, on oath, absolutely denied that Dunk gave any signal to him. He would certainly have seen it if he had done so, as he was only going at the rate of ten or fifteen miles an hour. The Chairman said the majority of the Bench considered the defendant guilty and a signal was given. Defendant would be fined 10s. and 16s. costs. The case was adjourned for a week on the question of the endorsement of the licence so that the legal points might be argued.

#### THE 1907 PROGRAMME.

WITH the view of assisting club secretaries and others in arranging their fixtures we give a list of some important events of more than local interest already fixed for next year. Club officials should try and avoid making any other arrangements on these days that are likely to interfere with the success of the following:—

MAY (provisional).—Tourist Trophy race.

MAY 3RD.—Climb at Frome's Hill, organised by the Herefordshire A.C.

JUNE.—Scottish Reliability trial.

JULY.—Annual Six Days' Trial of the Auto-Cycle Club.

JULY 6TH.—The Hertfordshire A.C.'s hill-climb at Aston Hill.

JULY 15TH.—The Midland A.C.'s climb at Shelsley Walsh.

#### A NEW TYRE.

COOK's patent "Universal" tyre, a hint of the coming of which has already appeared in our pages, was shown at the Stanley Show by the inventor, Mr. O. Cook. In this, a series of transverse sections of a tyre are placed between an inner and outer rim in a way that is claimed not to detract from the resiliency of the tyre while entirely obviating the risks that are attendant on pneumatics. As a combination of the pneumatic and solid tyre the idea is ingenious and we shall watch its behaviour on the road with considerable interest.

#### PUBLIC MOTOR SERVICES.

THE Romford Urban Council have decided that at present they cannot establish a service of motor-buses.

A NOVEL application as to the employment of emergency motor-car drivers during a strike has been made to Mr. Curtis-Bennett at the Westminster Police Court by Sub-divisional Inspector Glass, who asked for summonses against a man licensed under the Motor Car Act but not under the Public Carriage Act, and against Mr. Kingham, secretary of the London General Omnibus Company respectively, for driving and permitting to drive a motor-omnibus at Brompton road during the strike of the regular drivers. It was admitted that the attention of the police to the case was called by the representatives of the Drivers' Union, and that the point at issue was whether such employment could be regarded as a case of "unavoidable necessity" under the Public Carriage Act, which permits the engagement of unlicensed substitutes in cases of emergency for a period not exceeding twenty-four hours. Mr. Curtis-Bennett granted the summonses.

A NEW motor-car service between Newcastle Emlyn and Cardigan has been inaugurated by Mr. Tom Lloyd, proprietor of the Cawdor Hotel, Newcastle Emlyn (Wales).

THE motor-bus time-table suggested for Brighton by the Chief Constable, and published in our last issue, has been confirmed by the Town Council, most of the members of which have expressed the view that the proposed regulations will be of considerable value.

#### AUTOMOBILE ACCIDENT

DR. WALDO, the City Coroner, at an inquest relating to the death of Mr. G. H. Durrant, Gray's Inn Road, London, W.C., who was knocked down by a skidding motor-omnibus, commented on the large number of accidents of this description that had happened within the last few months. The jury, in returning a verdict of accidental death, expressed the view that some efficient guard should be fitted round the wheels of motor-omnibuses.

#### ROAD REPORTS.

SUSSEX.—The work of road repair is now in hand in the Steyning East Rural District. Dyke Road, outside the Brighton borough boundary, has been receiving attention, and the steam roller has been on the Saddlecome road, on Patcham Mill road, and is now on the Dyke road near the Dyke railway station.

LANCASHIRE.—It is not at all likely that any repairs will be carried out on the main roads in the boroughs of Bury and Nelson during the next month. Mr. A. W. Bradley, the Borough Surveyor of Bury, is sinking a shaft at Elton road, near Bury Bridge, which will be open till the end of January at least. This is on the way from Tottington, and not far from the point where the road is joined by that leading to Bolton. The chief main roads likely to be under repair in Colne during the next two or three weeks are Keighley road and Burnley road, the former being east and the latter west of the town.

CAMBRIDGESHIRE.—Some discussion is taking place with regard to the state of the roads in certain districts in the county. Patches of loose stones in the Chesterton and Huntingdon roads have been complained of by residents of Cambridge, while Mr. J. Fowler, the overseer for Gamlingay, reports that the county roads in the parish are in a very bad way. For many months past tons and tons of granite have been accumulating at the sides of the roads, presumably to provide ammunition for the children, as many barrow-loads have been picked up in neighbouring fields.

COLCHESTER.—None of the roads in the borough of Colchester will be under repair during the next few days. When repairs are being executed the local authorities invariably get the stone rolled in with a steam roller at the time it is put on the road.

BECCLES.—Norfolk motorists will be interested in the knowledge that no further repairs are to be made this year on those roads in Beccles under the care of the borough surveyor.

PETERBOROUGH.—It is not likely that any of the main roads in this district will be under repair during the next week or two.

CHELTHENHAM.—In about a week the Lansdown Road will be coated with macadam for a length of about a quarter of a mile from Gloucester Road to Queen's Road, and the work will probably take about three or four weeks to complete. This is the main road from Gloucester to Cheltenham, over which there is considerable motor traffic. There is, however, an alternative route by continuing along Gloucester Road and turning along Queen's Road at the Midland Railway station, thence direct into Cheltenham.

#### COMPANY NEWS.

COLNE MOTOR COMPANY.—£1,000. First directors: Messrs. J. Mitton, D. E. Alderson, W. Alderson, W. T. Banks, W. Storr, and T. Lancaster. Red Lion Yard, Colne.

"THOMAS" RESILIENT TYRE COMPANY.—£5,000. To acquire the interest of Mr. D. C. Thomas, Llanishen, in Patent No. 25,777 of 1904 for improvements in the manufacture of rubber tyres.

THE suggestion has been made in Muskogee, U.S.A., that Mr. Andrew Carnegie should now build highways in America instead of libraries, and maps and plans of proposals in this direction are being submitted to him.

#### TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee if any, required for reproduction should be stated in each case; otherwise no liability will be accepted.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment, for same is directly specified in forwarding, and the terms arranged before publication.

# THE Motor-Car Journal.

VOL. VIII.]

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[No. 407.]

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## THE CHRISTMAS HOLIDAYS.

Owing to the Christmas Holidays our Contributors and Correspondents are requested to forward their reports, letters, and other communications for our next issue, to reach the Office not later than the first post on the morning of Monday, the 24th inst.

Similar promptitude with regard to Advertisements will facilitate the labours of the Advertising Department, and save the disappointment of the non-insertion of announcements.

## COMMENTS.



WE are within measurable distance of Christmas, and would take the opportunity to extend the Compliments of the Season to all our readers at home and abroad. Although the social customs of the times are changing in many ways, we are glad to join in preserving this good old English custom—the Scotchman has his turn with the New Year—and wishing the best of joys and pleasures to motorists wherever they are gathered together. Apart from this individual salutation we would have satisfaction in the outlook as it finds the collective body which make up the world of Motoring. Prejudice has been dispelled in many whilom vicious quarters; there has been an unmistakeable decrease in the number of cases before the courts of late, and, although the weather may have had its effect in driving the police from their customary trapping grounds to warmer quarters, we fancy the growth of public opinion against such un-British methods is having its effect in making the police less vindictive against the motorist. The industrial section of automobilism is doing well; employment is good in the districts where motor works are located, and dividends have been unprecedented. Therefore both the pleasure and the trading side of the movement may be regarded as in a happy mood, well able to join the universal felicitations with which Christmas is welcomed, and to mingle in the throng of those wishing each other a Merry Christmas and a Prosperous New Year.

### The Upkeep of the Roads.

THE motor-bus problem in London is becoming a problem in which the interests are conflicting indeed. Sentimental objections are being silenced, but opponents of a more doughty character than Sir Theodore Martin are now entering the lists. At length the London County Council has recognised the seriousness of the rival to its trams, and the amalgamation of the motor-bus companies will soon give us the spectacle of two great interests fighting for the supremacy. This will be good news for the frugal traveller—if he is not run down in the meantime. There is one important suggestion in the report which the Highways Committee of the L.C.C. presented on Tuesday that should not be overlooked by those responsible for motor-bus services. It has been darkly hinted by borough councils in the past, but now that it has been mentioned at Spring Gardens the idea will

probably be brought into greater prominence by those interested in municipal administration. We refer to the view that as the Council has to provide and maintain a proper track for its trams, the motor-bus companies should contribute to the cost of the route over which they run. True, both trams and buses use the public highways as a means of profit, but to suggest that therefore the motor-buses should be mulcted in expense is quite an innovation. If this principle is admitted it should be applied to all carriers, cabmen and others who carry goods or persons for profit. To single out buses, and then to restrict the charge to those of the mechanical order, seems unfair and unreasonable. Doubtless they are recognised as the coming competitors to the Council's trams; hence the desire to handicap them in the race.

### Airships at the Show.

THE offer by Lord Northcliffe of £250 to be given as prizes for working models of aeroplanes, to be exhibited at the Agricultural Hall Motor-car Show, next spring, will serve to incite inventors even more than the prize previously offered by the newspaper with which he is associated. The leading organisations in the Press are already discussing the excellent conditions which will be afforded for the display of improvements in aeronautics, and, coupled with the revival of public interest in the subject, there is no doubt that the Aero Club display at the next Motor Car Exhibition will be of considerable importance. As we mentioned last week, the space devoted to this section of the Exhibition will be much greater than heretofore, and this has been secured without any lessening of that taken up by motor-cars and their accessories.

### A Racing Track.

SEVERAL times during the last few years has the suggestion been made for the establishment of a motor-car track whereon automobiles could disport themselves at extraordinary speeds without danger to the admiring public. So long ago as in June, 1900, we remarked that "the provision of an automobile track is a matter of great importance to automobilism in meeting the need for the organisation of motor sports and pastimes on a thoroughly representative scale." Discussing the conditions for success, we urged the adoption of a bold policy in securing a track with varying gradients as well as straight runs, and with such a long course that competitors should be saved the feelings that are experienced by fishes in a globe. There should be nothing of the cramped and cabined character where motor-car speed is concerned. These desiderata seem to have been secured in the track which is shortly to be opened near Weybridge, and where a dozen important race meetings will be held next year on dates which are given in our article on another page. In addition to the races there notified a prize known as the "Progress Plate" will be offered with a view to encouraging useful improvements in the mechanical propulsion of vehicles. Many of our readers will also be interested in the offer of a prize of £25 for any new suggestion for a Progress Plate, which, having been approved by a board of technical experts, is adopted by the committee.

### Fire at Glasgow.

THE garage of the St. Vincent Motor and Cycle Company, Ltd., in North Street, Glasgow, was the scene of a serious fire one night last week, the damage to fourteen cars out of eighteen being between £5,000 and £6,000. The

Company was fortunate inasmuch as the fire did not spread to the workshops or showrooms, where there were eighteen other cars under repair. An interesting fact with regard to this fire is that all their own make of cars, viz., the Scottish Aster and St. Vincent, contained as much as five and seven gallons of petrol in the tanks, and although the bodies are absolutely destroyed, the tanks kept the petrol intact, no explosions and no petrol catching fire at all. This seems more remarkable when one takes into consideration that the cars must have been



at a very high temperature, for the fire lasted from 9.30 till 12 p.m. We give a photograph of a corner of the garage after the fire, in the foreground of which is a Wolseley car, a St. Vincent vehicle being behind it.

### The Supply of Petrol.

DR. P. DVORKOVITZ has been giving his views on the supply of petrol to the Fuels Committee of the Motor Union. He does not believe that there are any signs of a falling off in the supply for at least a generation or two, and points to the fact that since last spring new fields have been opened up which have increased the available supply of crude oil by a third. In distilling crude oil to obtain illuminating oil, petrol is produced as a by-product, and it does not pay to distil crude oil merely to produce petrol. If, however, the price of coal is high, a good price can be obtained for liquid fuel, hence it pays to use liquid fuel in the form of crude oil without any distillation, and consequently no petrol is produced. The remarkable feature in the problem of the petrol supply is that the demand for petrol has hitherto not been a serious factor in the matter of its output. In some territories as (Group 1) Pennsylvania, Ohio, Roumania, North Caucasus, and Dutch India (Sumatra), the distillation is regulated by the price of illuminating oil. In other districts as (Group 2) Texas, Kansas, California, Indian Territory, Baku, and Borneo, the amount of distillation is regulated by the price of coal. About 60 per cent. of the whole world's production of crude oil is obtained from the latter-mentioned fields, and 40 per cent. from those mentioned in Group 1.

### A Question of the Standard.

THE whole supply of petrol comes only from Group No. 1, the crude oil from which fields contains about 10 or 12 per cent. of petrol. The other fields in Group 2, however, yield an oil containing at least 5 per cent. petrol, but owing to the present unscientific and erroneous (from a practical point of view) method of estimating the quality of petrol, these valuable fields mentioned in Group 2 are, unfortunately, closed. Not only do what may be called the closed fields (closed owing to this unfortunate standard) produce 60 per cent. of the world's total supply of crude oil, but they are the very fields which are being more and more developed, whereas the other group of fields are falling relatively behind, inasmuch as investors prefer to put their money rather into fields which supply fuel than into the fields which chiefly supply illuminating oil, as in Group 1. The petrol excluded by the unfortunate specific gravity already mentioned would be equally good and satisfactory for use with motor-cars with that now in vogue. Dr. Dvorkovitz says he is in a position to state that drivers of motor-cars are unable to tell the difference, if they do not know the kind of petrol they are using; and he believes that the whole question at the present moment is more a matter of custom rather than anything else. If users were to adopt a more rational standard it would open up this new and large source of petrol supply. The area of supply would be extended over the whole world instead of being limited, as at present, to one set of fields. Even now there is no monopoly; far from it, a fairly keen rivalry exists. If there is any monopoly, however, then it is that produced by the adoption of the present standard by the users themselves. The high price of petrol he attributes partly to the artificial standard and partly to high railway tariffs, and also vexatious regulations of the public authorities.

### Motor-Car Imports and Exports.

AN upward tendency is still noticeable as regards the importation of foreign-built cars into this country. According to the returns now available no less than 352 cars, valued at £180,062, were imported during last month; parts were responsible for a further sum of £15,599, giving a combined total of £351,661, which compares with only £275,200 in November, 1905. As regards the imports during the first eleven months of the current year, these have amounted to 5,553 cars, worth £2,385,261, and parts to the extent of £1,764,285, the aggregate of £4,149,546 contrasting with only £3,162,378 in the first eleven months of last year, or an increase of nearly a million sterling. Turning now to the exports of British motor-cars and parts, these, during November last, amounted to £102,971. For the first eleven months of 1906 the shipments comprised 1,224 cars, valued at £437,837, and parts estimated at £280,749, the total of £718,636 representing an increase of £282,428.

### The Rules of the Sport.

THE Racing Rules of the Brooklands Automobile Racing Club, which have been approved by the A.C.G.B.I., are ninety-six in number, and have been issued in a striking black and yellow cover. Among the most interesting are those prohibiting the entry of vehicles having their exhausts so directed as to raise dust from the road surface, and defining the system of classification by (a) weight and (b) price. In connection with the latter section, makers entering vehicles of a stated selling price must give written guarantees as to their ability to supply the public with identical vehicles at the entered price, which, up to £350, will be taken to mean the price of the vehicle complete ready for the road; over that amount the chassis price only will be required with the entry. To carry out the contests the Club will require the appointment of three stewards, a judge, a starter, a clerk of the scales, a clerk of the course, timekeepers and handicappers, as well as a secretary of the meeting. Provision is made for dealing with competitors (who must have been registered by the Club) who are guilty of



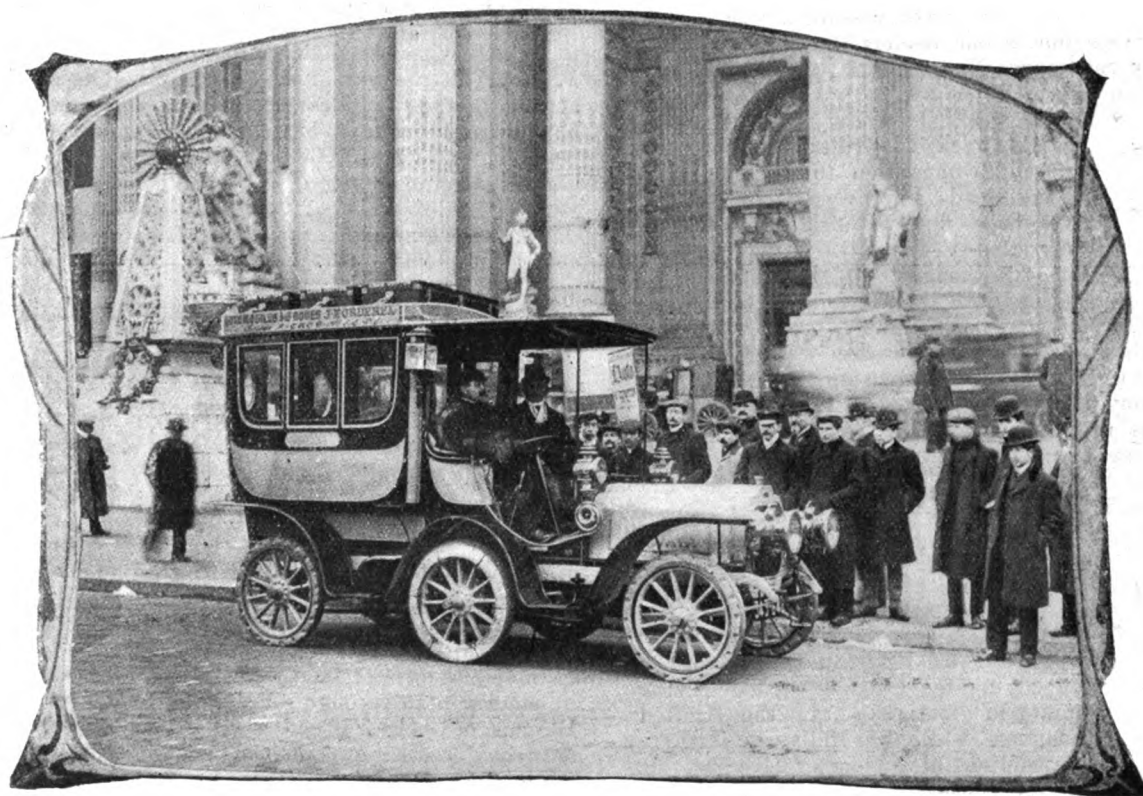
corrupt practices, or who make false statements on the entry forms. Altogether the regulations appear to have been drawn up with care, and from a preliminary examination we do not yet see that the proverbial "coach and four" can be driven through them. They should, in fact, do something to establish motor-car racing on the track as a new attraction for the British lover of sport.

#### The Vacation.

To many sections of the motor trade Christmas will come as a welcome relief from a long and fatiguing season, to which the vagaries of the weather have contributed not a little unpleasantness. Many firms are closing practically all next week, probably the longest vacation in the business being that of the Electric Ignition Company, Ltd., of Birmingham, whose works will be shut down from to-day (Saturday) until the last day of the year.

#### Club Meetings.

MANY of the provincial clubs seem to have been anxious to get their collective dining over before the season of family festivity, and this week we give reports of the dinners of the Hartlepool, Mid-Staffordshire, Yorkshire, and other automobile clubs. The point of similarity among all these associations that cannot fail to strike the reader is the universal story of success. Commencing with a few enthusiasts, they have grown into influential local organisations, and personalities of municipal and county importance are attracted to their tables. Scarcely a club called into existence by enthusiastic motorists has failed to justify its existence, and those that appeared to languish have become merged into other associations, attaining to greater strength in the process. All this may prove satisfactory to the club-man, who, in addition to developing his social instincts, has the knowledge that he is helping to foster a great industry and a growing movement.



The Gros-Borderel Six-Wheel Vehicle outside the Paris Salon.]

#### A Joke Explained.

ON Saturday the Birmingham Law Students dined together, with judges and scientists as the speakers of the evening. Mr. Justice Jelf was judicially serious, and devoted his time to describing motor-cars as "monstrosities" that polluted the streets with noise and smell, and then declared that from his coign of vantage on the Bench he was able to say that the drivers of automobiles were as frequently in the right as were the owners of horses. After that legal pronouncement Sir Oliver Lodge spoke on the subject of motor-cars, and said it had been rumoured that "acetylene" was going to supplant petrol. That, he added with a smile, was nothing new, for we used to run vehicles with "a set o' lean" horses. At this season of the year punning is evidently allowable at Birmingham. We may forgive Sir Oliver for his lapse into humour, for, later in his speech, he emphasised the point that motor-cars, being of mechanical construction, were more easy to steer accurately and more likely to respond to the desires of the driver than was any animal that had a will of its own.

#### Steam v. Petrol.

ON Friday last week the subject of steam as a motive power for public service vehicles was again under discussion at a meeting of the Institution of Mechanical Engineers. Professor Hele-Shaw bestowed great praise upon the ingenuity displayed by Mr. Clarkson in the design of his motor-bus chassis, while Inspector Bassett, of Scotland Yard, indulged in what he described as "destructive criticism." It was evident that at present the authorities are more inclined to regard the petrol bus with favour than its steam rival, although they have passed many steam buses for public service. During the course of the discussion it was mentioned that some four years ago a small company, with a capital of £5,000, had been formed at Torquay to run the steam buses in that town. For the last three years it has paid 7½ per cent. dividend, and has carried forward £2,400. Meanwhile £80,000 has been spent upon tramway plant for Torquay, and not a tram has yet been run. Evidently local experience is that motor-buses are more profitable.

## SEVEN YEARS AGO.

## Roads in Devon.

IN our Correspondence columns, Mr. Evan B. Jeune, of the Manor House, Lynmouth, draws attention to a road improvement of local importance and national interest. An opportunity has occurred to connect Lynton and Lynmouth with the south and east by means of a road having a reasonable and practical gradient, in place of the almost impossible one of 1 in  $4\frac{1}{2}$  as at present. Earl Fortescue has offered the land for the road, which will obviate the notoriously dangerous Barton Steep and allow the avoidance of Porlock and Countisbury Hills, and if a sufficient sum can be obtained by private effort, it is probable, with the aid of the Devon County Council, the work may be carried out. The cost will be between £700 and £800, and of this about one-third will be required from private sources. When we have a Central Road Authority to keep an eye upon the arteries of the country such improvements will be regarded as a national care; meanwhile, we suppose, private generosity must carry out such works which will be of common utility. In the present case the subject is of considerable interest to all who ever motor in fair Devon, and to such a large section of our readers the appeal of Mr. Jeune, supported by Sir George Newnes, M.P., and other public men, should not be in vain.

## The Tar-spraying Competition.

THIS week the rules for the tar-spraying competition to be conducted by the Roads Improvement Association have been finally considered, and we were glad to learn that the General Purposes Committee of the Motor Union have impressed upon the committee the necessity of reminding competitors that the points to be secured are greater economy as compared with the present expensive system of applying tar, both with regard to money cost and time occupied. It must also penetrate deeply into the road, acting as a binding, to secure which result the distribution must be uniform. It has been agreed that the expenses of the competition are to be jointly borne by the Automobile Club and the Motor Union, and the latter is now appealing to the federated clubs to contribute towards its moiety. Some of the people who have lately railed against the dust nuisance might also be invited to give practical evidence of their earnestness in the matter.

## Forming Public Opinion.

WE have received from the Motor Union an official copy of the resolutions embodying the legislative policy of the organised motorists of the United Kingdom, which was fully set forth in our columns of November 24th last. It will be remembered that the General Committee of the Motor Union, which includes the elected representatives of the A.C.G.B.I. and eighty affiliated clubs, adopted certain resolutions with reference to the recommendations of the Royal Commission on Motor Cars, after consideration of the report and suggestions of the National Conference of Automobilists, held at the Hotel Great Central on the tenth anniversary of the Motor Car Act. The document before us sets out in detail the various recommendations of the Royal Commission, with the resolution in respect of each recommendation adopted by the Motor Union. We understand that any automobilist who desires to communicate with his representative in Parliament or on the Local Authority with regard to motor matters can obtain a copy of these resolutions on communicating with the secretary of the Union. A note appended to the publication states that further particulars of the legislative policy of the Motor Union, together with statistics or precise information upon any particular point, will be furnished to any Member of Parliament, county or borough councillor or public official who desires to make himself fully acquainted with any aspect of the motor and road problems, upon application to the secretary of the Union at 1, Albemarle Street, Piccadilly, London, W.

AUTOMOBILE history has been quickly made. Few industries have had their early days so fully and so faithfully recorded as that associated with the motor-car. Participants of its progress and observers of its youthful antics have given their impressions in print so many times that the story is as familiar to the general reader as is that of Robinson Crusoe to the small child of the nursery. Every man who can write, and many whose performances in that direction have been somewhat illusory, has told the tale of roadside troubles and vainglorious travels. And still the publishers continue to send forth a flood of such literature from the reservoirs of remembrances filled by enthusiasts who love to talk of the "good old days," when the uncertainties of motoring entitled it to be regarded as sport.

We do not intend at this festive season to disturb the memories of ancient times, but a glance at the issue of the *M.C.J.* for December 22nd, 1899, exactly seven years ago, has occasioned some amusement as well as revived recollections as to the dearth of actual news in those days. The rumour as to a service of public motor vehicles being started in the Windsor district was given all the prominence of large type, and with equal boldness the announcement was made that a new single-cylinder 12-h.p. car, weighing less than 6 cwt., was being built for the 1,000-mile trial which Mr. C. Johnson was then engaged in arranging. He had had a cool time that week, but managed to travel 322 miles in three days without a breakdown, the journeys including a run from Bristol to Birmingham and thence to Coventry (75 miles), "without meeting a single vehicle." Other interesting trips in December, 1899, were those of Miss N. G. Bacon from London to Brighton in three hours and a half on a Werner motor-bicycle, and Mr. A. Jordan's run on the same route on an electrical car without recharging the batteries.

In the same month the Coventry Technical Instruction Committee declined to provide motor-car classes, feeling "it to be imperative to relegate the matter to a period when the financial position is more sound"; the War Office refused an offer of a free trial of motor-lorries, and the A.C.G.B.I. was suggesting the education of public authorities by the provision of opportunities for riding in cars, while the efforts of horse owners to secure an attitude of equine indifference to automobiles were then recorded with approval, and at length.

Perhaps the most noteworthy evidence of official prescience in those late days of 1899 was seen in the encouragement given by metropolitan borough surveyors to heavy traffic. Mr. T. W. Higgins, of Chelsea, issued a report on the subject, which not only convinced his own Council but also did something to arouse the interest of other bodies in the subject of the more efficient and economical carrying out of municipal road work, while Mr. Weaver, of Kensington, was, even then, voicing the view that the remedy for the dust in London streets was the universal adoption of motors. To facilitate their adoption in his borough he had already begun to employ a finer material in sanding the roads than formerly, and generally welcomed the hopes of cleaner streets that the coming of the automobile seemed to indicate.

This brief reference to seven years ago seems to emphasize how rapidly the movement has grown, and although the sanguine anticipations of the last-named authorities have not been realised in their entirety, the War Office and the technical instruction experts have now been aroused to the existence of the new force that is exerting a powerful influence on our national life—transforming the conditions in many avenues of employment and bringing about a complete change in more ways than are immediately apparent to "the man in the street."

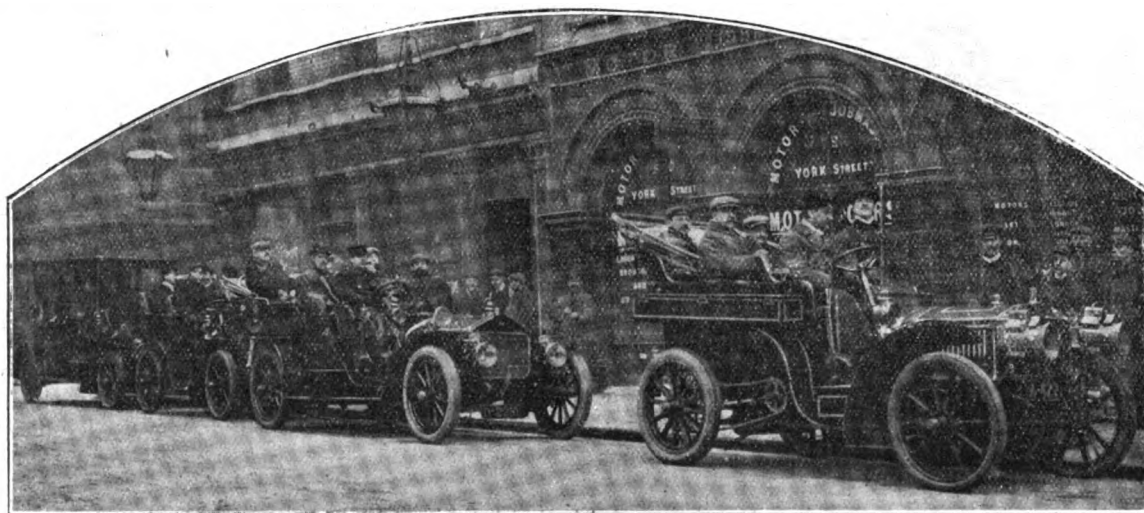
MESSRS. ATKINSON AND PHILIPSON, of Pilgrim Street, Newcastle-on-Tyne, have issued a neat list of the motor-car bodies made at their carriage factory. Their specialities include a Cape cart hood of good design.

## ELASTES—A NEW DEPARTURE IN TYRES.

IT is close upon eighteen months since we drew the attention of motorists to the introduction in France of a new artificial rubber, designed to take the place of air in the inner tubes of motor tyres. Since that time many experiments and trials have been in hand, with the result that not only is the material being commercially manufactured in France, but a very strong concern, known as the Elastes Company, Ltd., has been formed in this country to exploit the new substance. Briefly described, Elastes is an artificial rubber manufactured from glycerine, gelatine, and chromic salts, by a special process. When originally prepared it is in a liquid form, but gradually it sets into a stable and extremely resilient substance which is neither affected by water nor by any reasonable changes of temperature. Although the new substance can be employed in many ways in place of rubber, the company are at present devoting attention to popularising its use in place of air in the inner tubes of motor tyres, so rendering them equally free from puncture troubles as a solid tyre, whilst retaining all the advantages in the way of resiliency of the pneumatic. The compound is forced through the ordinary air valve into the inner tube of a motor-car tyre fitted in its outer cover and mounted on a rim. The proportions

weight or temperature to which it may be subjected, that long use does not affect it, and that it has no tendency either to become hard or disintegrated—in fact, so long as it is not exposed to actual friction, it may be used over and over again.

With the view of testing the running qualities of tyres filled with the new material, we were on Saturday last, in company with a number of other representatives of the Press, invited by the Elastes Company, Ltd., to a trial trip as far as Chertsey and back. On the outward run we travelled on an old 16-h.p. Napier. The route followed afforded samples of every variety of road surface, and included the passage over the frozen ruts of the gravel in Richmond Park, with the result that the tyres were found equally as resilient and easy-riding as pneumatics. Indeed, had we not known otherwise, we should have thought we were, as usual, on air-inflated tyres, as no difference could be discerned even in the hill-climbing qualities of the car. At Chertsey, Mr. J. F. Ochs, one of the directors of the new company, entertained the visitors to lunch at his residence, St. Anne's Hill, a historical old place, seeing that it was for many years the residence of that great statesman, Charles James Fox. The return to town was made on a fully-loaded six-seated 32-h.p. Siddeley car, the journey again proving a success, the sensation of freedom from worry as to possible punctures and delays on the road, especially at this time of the year, being a delightful one.



The Start of the Trial Run of Cars fitted with Elastes Tyres.

of the ingredients and the pressure with which it is forced into the tube, which when filled is known as a *boyau*, vary according to the weight, horse-power, and speed of the car for which it is destined. The tyre having thus been filled and properly distended is put aside for about ten days to allow the substance to set.

The material is of course heavier than air, adding from 10 to 40 lbs. to the weight of each wheel, according to the size. It must be remembered, however, that by the use of Elastes tyres it is unnecessary to carry either spare covers and tubes on the car, or tyre repair outfits, levers, inflators, &c., which are not only in the way of the passengers, but counterbalance the difference in weight between them and Elastes, so that the total weight of the car is not increased. Again, although Elastes adds considerably to the original cost of a set of tyres, yet the use of it in reality effects a saving in running cost; for it is found that the outer covers will last much longer, and can be quite worn out before needing renewal. The tyres always remain properly distended, and any cuts in the cover have no tendency to increase, so that by the time one set of covers has been worn out the expense of Elastes has been more than saved. In addition to this it is possible to again use the Elastes-filled tubes with new covers, as it is claimed that the nature of the substance is such that it will retain its consistency under all variations of

At present it is necessary for motorists wishing to have their tyres adapted to Elastes to send them to the company's depot at 79 and 80, York Street, Westminster, but arrangements are in hand for the establishment of branches in all the principal towns of the country where the tube-filling operation can be carried out.

ONE reason why the Palmer Cord Tyre has been reduced in price is accounted for by the cleverly-devised cord-laying machines lately introduced. A pair of these machines will cord ten tyres with perfect regularity in the time taken by the old process for one tyre, each cord being measured off to the exact length required, so that there is an equal tension of threads throughout the tyre.

THE "Validus" combination non-skid is the subject of a new list just issued by the Validus Non-Skid Motor Tyre Co. In this the hardened steel studs pass through a toughened leather surface tread and then through the main portion of the band, which consists of five layers of rubber with four intermediate layers of canvas. There is a length of chrome leather underneath this band to secure the studs. Before fitting the Combination Non-Skid a piece of rubberized chrome leather is vulcanized on to the tread of the tyre, thus preventing the backs of the studs from chafing the same.

# The Paris Motor-Car Exhibition.

(Continued from page 927.)

## SOME NEW ITALIAN CARS.

**T**HE Paris Show, which comes to a close on Monday evening next, has throughout the week continued to attract large crowds, included among which have been a good number of English visitors. Reference was made in our last issue to the fact that one striking feature of the exhibition is the large number of high-grade cars of Italian construction on view. There is no question that Italy is making extremely rapid progress in the world of automobile construction, and that the country promises to become a serious rival to France. Last week we dealt with the exhibits of the Isotta-Fraschini and Marchand concerns, while below will be found a brief description of the other Italian cars on view, they having been grouped together with the idea of giving some slight indication of the important position the industry in Italy has attained.

### The Italian "Standard" Car.

A newcomer from Italy is the SOCIETA FABBRICA AUTOMOBILI STANDARD, of Turin, which is at present confining its attention to a 10-14-h.p. four-cylinder live axle car. While

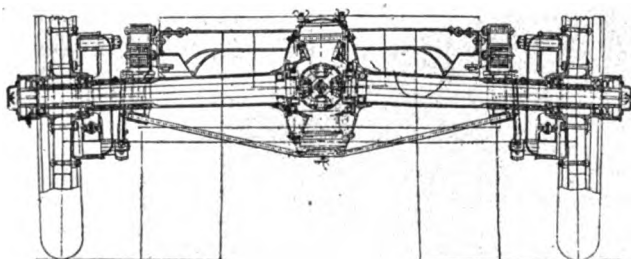


Fig. 28.—Sectional View of Live Axle of the Italian Standard Car.

the usual arrangement of such vehicles is followed, there are one or two interesting features in the car. The cylinders are cast in pairs, and are 85 mm. bore by 110 mm. stroke; high-tension magneto ignition is fitted, and the lubrication is by means of cam-actuated plunger pumps, the lubricator being mounted on the dashboard. The clutch is of the metal-to-metal expanding type, and the four-speed change-gear is operated by a "gate" lever. Coming now to final transmission; the short shaft, which immediately follows the cardan shaft, is carried right through the differential casing, in which it is supported at both ends; the differential itself is mounted in the centre of this longitudinal shaft, which is provided with two bevel pinions, each meshing with a bevel crown attached to its corresponding half of the live axle (Fig. 28). Among the advantages claimed for the arrangement are that it prevents any "sag" in the axle, that it permits the rear wheels to be splayed, and also that each half of the axle may alter its position to the other, due either to the load or to irregularities of the road, without throwing any strain on the differential pinions.

### The Junior Cars.

LA FABBRICA TORINESE AUTOMOBILI JUNIOR, of Turin, are making two sizes of four-cylinder cars, 18-24-h.p. and 28-40-h.p., both being chain-driven. The engine has the four cylinders cast in pairs, and the valves on opposite sides. The ignition is by low-tension magneto ignition, the igniters being operated by horizontal cams mounted on vertical spindles. In the larger car the lever on the steering wheel, which is connected with the ignition, is so arranged that as the latter is retarded a half-compression device is brought into action to facilitate starting the engine. The carburettor has an inter-connection between the hand-operated auxiliary air valve and the petrol jet. The clutch is of the multiple-disc type, and the gear-box, which is controlled by a lever working in a "gate," gives four forward speeds and a reverse.

### The Esperia Cars.

One of the most interesting of the new Italian cars is the Esperia (Fig. 29), made by LA SOCIETA AUTOMOBILI LOMBARDA, of Bergamo. Two models are being made—20-h.p. and 40-h.p. The smaller one has the four cylinders all in one casting with the valves on one side, while on the 40-h.p. they are formed in pairs. The ignition is by low tension magneto, provision being made for easy adjustment of the make and break tappets, and for observing the spark without disturbing any of the parts. The engine lubrication is maintained by a pump. A feature of the motor is its freedom from piping; there is but one induction inlet, one water inlet from a large centrifugal pump, and one outlet direct to the radiator. The clutch, which is of the multiple disc type, is not combined with the flywheel, as usual, but is in a forward extension of the gear-box. The change-speed gear is operated by a "gate" lever, and the final drive is by a special design of live axle. The sleeve enclosing the latter is of steel tubes formed in one with the bevel gear casing. The road wheels, which run on this casing, receive the power in the hubs through dog clutches on the end of the rotating axle. The casing surrounding the cardan shaft is supported by the gear-box through a link, the hinge being concentric with the axis of the universal joint on the end of the cardan shaft. Two rods are also fastened to this link at the forward end and to a transverse member of the main frame at the rear. There are several other points of interest in the "Esperia" vehicle, on the design of which great thought and ingenuity has been devoted.

### The Florentia Cars.

Principal interest at the stand of the FLORENTIA COMPANY, of Florence, Italy, now represented in England by Messrs. M. de Brou and Co., Ltd., is the chassis of the 18-24-h.p. car. For the 1907 season three models are being made—18-24-h.p. with a live axle or side-chain transmission, and 24-30-h.p. and 40-50-h.p. chain-driven. Dealing first with the live axle machine (Fig. 30), it may be mentioned that the four cylinders, which are cast in pairs, are 100 mm. bore by 140 mm. stroke. The valves are located on opposite sides, and the ignition is by high-tension magneto. The mixture is furnished by a special design of automatic carburettor. The radiator is of the honey-comb type, air being induced through the same by a fan formed in the fly-wheel. The clutch in the new model is of the multiple disc type, and the change-speed gear, which is controlled by a lever working in a "gate," is adapted to give four speeds forward and a reverse, with direct drive on top speed; the final transmission is by a cardan shaft and bevel gear to a live axle; the latter has only the driving strain to withstand

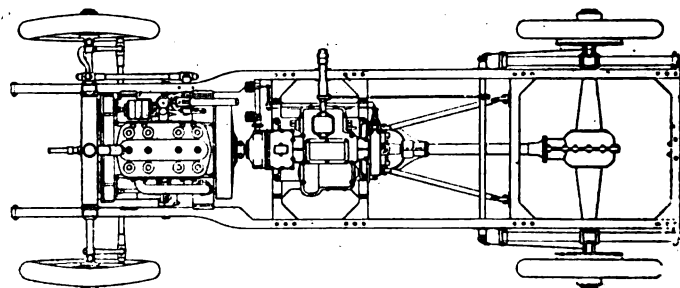


Fig. 29.—Plan of Chassis of Esperia Car.

the drive to the rear wheel hubs being by the square ends of the axle, the weight of the car being carried by the sleeve. The usual dumb irons at the rear are replaced by halves of semi-elliptical springs. We may add that ball bearings are used throughout except the engine. The 24-30-h.p. car is, generally speaking, on similar lines to the 18-24-h.p., except that the transmission is by side chains. Ignition is, however, by low



tension magneto, and the clutch is of the metal-to-metal expanding type. Two brakes are provided on the countershaft, in addition to those operated by a hand lever and acting on the rear road wheels. In the 40-50-h.p. car the cylinders, which are 140 mm. bore by 160 mm. stroke, are separately cast. The frame, too, is worthy of notice; it is of pressed steel, with the cross members electrically welded in place, no rivets being employed.

"parallel motion." In other words, the back axle is tied to the frame in very much the same way as one bar of a parallel ruler is connected to its fellow. This has the result of keeping the axis of the driving pinion on the rear end of the cardan shaft always pointing in exactly the same direction, no matter what may be the relative position of the frame to the back axle. Both foot and hand operated brakes are fitted, a noteworthy point of

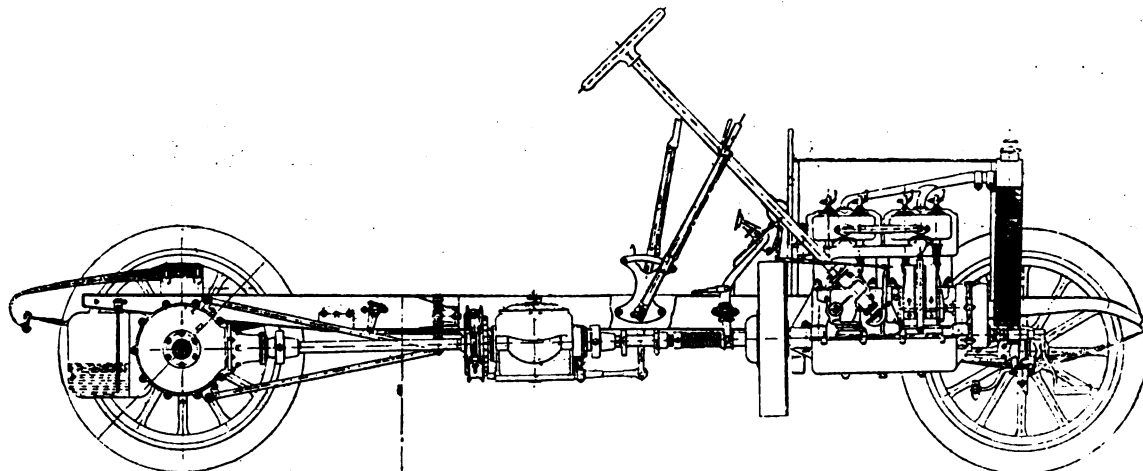


Fig. 30.—Elevation of Chassis of Florentia 18-24-h.p. Car.

#### The Rapid Cars.

LA SOCIETA TORINESE AUTOMOBILE RAPID, whose cars are already well known in England, give prominence to a beautifully finished 50-70-h.p. chassis (Fig. 31). The engine comprises four separate cylinders, 140 mm. bore by 160 mm. stroke, with the valves arranged on opposite sides. The usual arrangement of live-axle cars is followed, the details comprising high-tension magneto ignition, mechanical lubricator, multiple-disc clutch, and "gate" change-speed gear. The joints on the cardan shaft are of a specially large design; they have a sliding as well as a universal action, and comprise a phosphor bronze sphere working between the forks on the two shafts to be connected together. The radius rods at the side of the frame are arranged horizontally, being supported at their front end on special brackets. The torque rod is attached to the upper part of the differential casing at one end, and to a transverse member of the main

the contracting brake behind the gear-box being its unusually large width. A new 12-h.p. two-cylinder chassis on similar lines, and designed for use as a town carriage, is also shown.

#### The S.P.A. Cars.

Among the newcomers from Italy whose cars are likely to be much heard of in the future is the SOCIETA PIEDMONTESE AUTOMOBILI ANSALDI-CEIRANO, of Turin. Two sizes are on view, a 40-h.p. four-cylinder and a 60-h.p. six-cylinder, both having live axles. Except as regards the number of cylinders, the two vehicles are identical as regards the details, so that the following particulars may be taken as applying to both. In the first place it may be mentioned that the object of the designer has been to so arrange the leading components that any of them may be readily detached without disturbing the others. The cylinders, which are 130 mm. bore by 135 mm. stroke, are cast in pairs, and have the valves arranged on opposite sides. The ignition

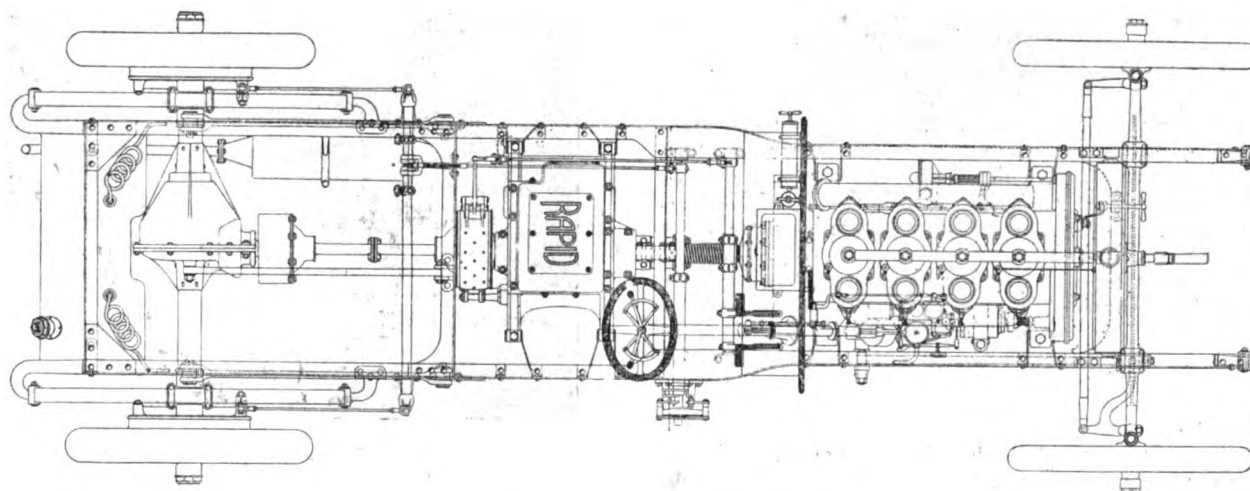


Fig. 31.—Plan of Chassis of Rapid 50-70-h.p. Car.

frame at the other, and it, like the radius rods, lies in a horizontal position. The forces which it counteracts are such as to put the metal in a state of compression. At first sight it may not be quite obvious that this arrangement of radius rods and torque rod is anything but a matter of constructional convenience. A little closer investigation, however, shows that the two radius rods and the torque rod combine to form a simple type of

is by high tension magneto, one cam operating the make and break for two cylinders. The clutch is of the multiple disc type, and the change-speed gear has "gate" control.

#### The F.L.A.G. Cars.

To form the name of the car out of the initial letters of the title of the manufacturing company appears to be quite the fashion in Italy. Another concern which has adopted the plan

is the **FABBRICA LIGURE AUTOMOBILI**, of Genoa, who display two sizes of F.L.A.G. cars, a 16-h.p. live axle vehicle and a 40-h.p. chain-driven machine. A feature of the engines, which comprise four cylinders cast in pairs, with the valves arranged on opposite sides, is the provision of ball bearings on the crank shaft. The clutch is of the multiple disc type, and the change-speed gear is controlled by a "gate" lever. The gear-box on the 16-h.p. car is of relatively small dimensions, and is supported from the cross members of the frame at two points only. The 40-h.p. vehicle is provided with double brakes on the counter-shaft, both being enclosed.

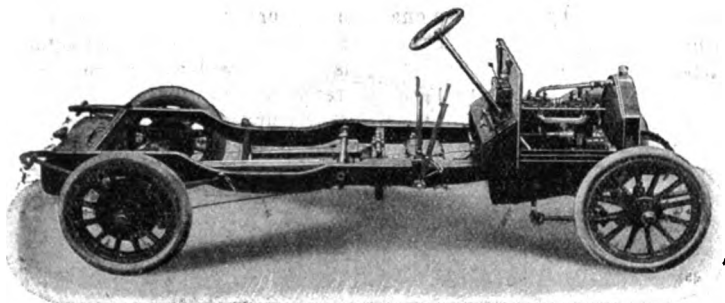


Fig. 32.—Chassis of Fiat 12-16-h.p. Car.

#### The Fiat Cars.

As usual, the **FIAT COMPANY** have an attractive display. For the coming season four sizes are being made—12-16-h.p., 18-24-h.p., and 30-40-h.p. four-cylinder and 60-h.p. six-cylinder. The latter naturally attracts considerable attention, but as we described it in our report of the Olympia Show it need not be further referred to on the present occasion, except to mention the new self-starting apparatus and the improved carburettor. The feature of the latter is that the petrol and supplementary air ports are moved together by a single automatic movement, which not only assures a constant mixture, but also tends to reduce the petrol consumption to a minimum. In fact, the high efficiency to which the new carburettor has been brought is claimed to give increased brake horsepower with less consumption of petrol than in former models. The clutch and change-speed gear are on the usual Fiat lines, the final transmission being by side chains. Fig. 32 depicts the chassis of the new 12-16-h.p. four-cylinder vehicle designed for town use, and in which a number of special features are comprised. To begin with the frame. This is dropped in the centre to give a low side entrance, and is made of extra large section just behind the dashboard. It is in the transmission, however, that the principal novelty lies, the differential mechanism being immediately behind the gear-box. There are two cardan shafts, one within the other, each driving one half of the rear live axle. The shafts are carried in an oil-tight tubular casing, each engaging with a bevel wheel within the live-axle casing, the latter being constructed of pressed steel, the two halves being bolted together vertically. As will be seen, the new arrangement is quite a radical departure; and although the Fiat Company may be relied upon not to put anything on the market without having previously given it extensive trial, we shall be interested in watching its behaviour on the road.

#### The Bianchi Car.

Messrs. **BOUSQUET AND Co.**, the French agents, exhibit a chassis of the **Bianchi 40-h.p. car**, built by Messrs. **E. Bianchi and Co.**, of Milan. The engine, which comprises four cylinders, with the mechanically-operated valves arranged on opposite sides, now runs with a somewhat higher compression than hitherto. The cam gear and governor are entirely enclosed. The clutch is of the multiple-disc type; four speeds and a reverse are controlled by a lever working in a "gate." The change-speed gear-box and differential cases are in one casting, and attached to the frame by three-point suspension; the final drive is by side chains.

#### The Itala Cars.

One of the stands to which it is difficult to gain access, owing to its popularity, is that on which the **Itala car** is exhibited. This Italian-built car has come rapidly to the front during the past year or so, and is now represented in Paris by **M. Henri Fournier** and in this country by the **Itala Automobiles, Ltd.** The great centre of interest is the chassis of the new 60-h.p. six-cylinder car, which, except as regards the engine (of which we give a view in Fig. 33), follows the usual lines adopted by the **Itala Company**, the transmission being by a cardan shaft to a live axle. As will be seen, the motor is exceedingly compact; in fact, it is claimed to have the shortest over-all length—3 ft. 6 in.—of any "six" in the Show. As in the four-cylinder cars, the cylinders are cast in pairs, and the valves are mechanically actuated by separate cam shafts. The ignition is by **Simms-Bosch** low-tension magneto. The clutch is of the metal disc type, and the gear-box is arranged to give four speeds and reverse, operated through a "gate" lever. The cardan joints have metal cup protectors, and ball bearings are fitted throughout. The foot brake between the clutch and the gear-box is no longer provided, but the pedal previously used to operate it has been retained, it being now coupled up to the brakes on the rear wheels, which are also operated by a side-lever. The water-cooled foot-brake behind the gear-box is of course still fitted. The steering connections are all of the ball-and-socket type, a simple means of adjustment being provided.

#### Some other Italian Cars.

Other Italian cars exhibited include the **Zust**, represented in England by the **Farman Automobile Company**. The chassis on view is a 28-40-h.p. four-cylinder, the features of which we referred to in our report of the Olympia Show. The **FABBRICA DI AUTOMOBILI BRIXIA-ZUST**, of Brescia, apparently an offshoot of the **Zust Company**, exhibit an 18-24-h.p. car on very similar lines, the transmission being, however, by a cardan shaft to a live axle. The "**Hisa**" car of the **HERMES ITALIANA SOCIETA AUTOMOBILI**, of Naples, is of 24-28-h.p., and is on the standard lines of live axle vehicles, a noteworthy point

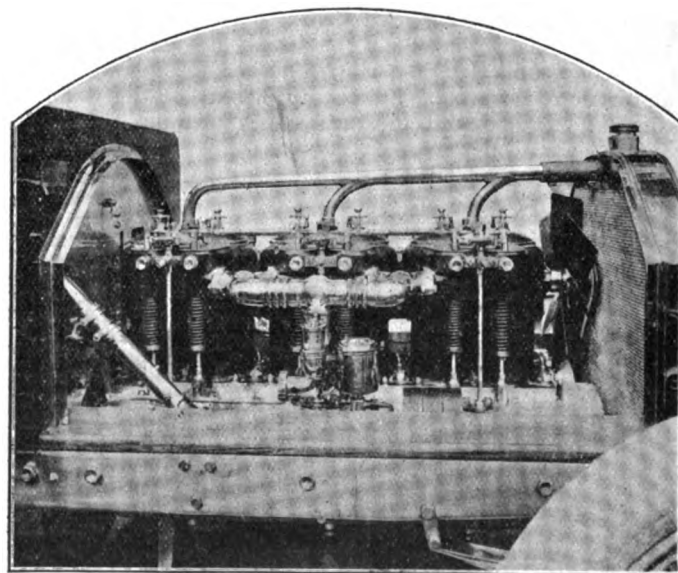


Fig. 33.—The Itala Six-cylinder Motor.

being the relatively low price at which it is being put on the market. A feature of the **Aquila cars** made by the **FABBRICA AUTOMOBILI AQUILA ITALIANA**, of Turin, is that the engines, even in the six-cylinder model, are all in one casting. Four sizes are being made—12-16-h.p. and 28-40-h.p. four-cylinder and 18-24 h.p. and 60-75-h.p. six-cylinder. The vehicles are all of the live axle type, the details comprising low tension magneto ignition, multiple disc clutch, and "gate" control of the change-speed gear, which gives a direct drive on the top speed.

## FRENCH CARS.

**The Delaunay-Belleville Cars.**

For the 1907 season the Delaunay-Belleville cars, represented in England by the BURLINGTON CARRIAGE CO., LTD., are being made in three sizes, 20-h.p., 28-h.p., and 40-h.p. The 1906 models having given every satisfaction, very little change is discernible in the 1907 chassis, the alterations being confined to small details. The 20-h.p. car is supplied with either live axle or chain drive; the others are provided with the latter. The engine has four separate cylinders, with the inlet valves arranged on one side and the exhaust valves on the other, all

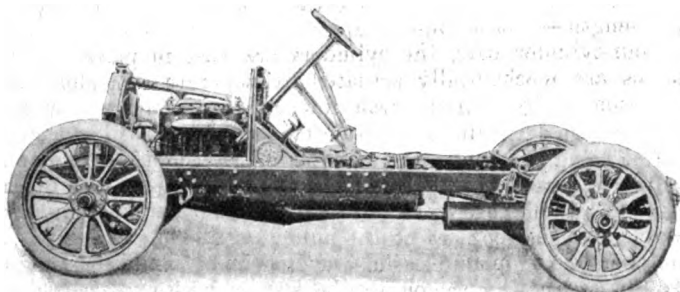


Fig. 34.—Chassis of Westinghouse 20-30-h.p. Live Axle Car.

being mechanically actuated. The bore of the cylinders is somewhat larger than in the 1906 models, so that the power is greatly increased. An additional air-inducing fan is incorporated in the flywheel, and extra louvres are formed in the casing under the chassis. The ignition is by magneto, while the water circulation is maintained by a gear-driven centrifugal pump and a framed ribbed-pipe radiator of the special Delaunay circular shape. The engine is lubricated by oil fed under pressure by a valveless oscillating pump, driven off the crank shaft. The main oil tank, which supplies the base chamber, has been enlarged to double the former size, so that the refilling process is not of such frequent occurrence. The power is transmitted through a leather-faced cone clutch and gear-box giving four speeds forward and a reverse. Ball bearings are used throughout, with the exception of the engine.

**The Westinghouse Cars.**

A good deal of attention is just now being centred on the cars of the WESTINGHOUSE COMPANY, owing to the success of their two vehicles in the recent Paris-Monte Carlo-Paris reliability trial. Two models are being made for next year, the 35-40-h.p. chain-driven vehicle being supplemented by a 20-30-h.p. live axle car intended for town use. The larger machine shows but few changes from last year. The engine comprises four cylinders cast in two pairs, with the valves mechanically actuated off separate cam shafts. The carburettor, low tension magneto, and pump are all mounted on the engine. The governor is enclosed in the crank chamber; it acts on a piston throttle regulating the admission of gas to the engine, an accelerator pedal being also provided. The clutch is now of the metal-to-metal disc type, and is so arranged that it can be removed without interfering with the engine or the gear-box. The latter is adapted to give four speeds and a reverse, with direct drive on top speed. Large diameter foot brakes are provided on the differential shaft, as also a hand brake acting on the hubs of the rear wheels. All the brakes are so arranged that they can be adjusted by hand. Except as regards the transmission and the ignition, which is by high-tension magneto, the 20-30-h.p. vehicle (Fig. 34) is on similar lines to the 35-40-h.p. The frame is raised at the rear to clear the differential, and a transverse spring supplements the usual longitudinal pair. The hind road wheels run on the axle sleeve and receive the power from the live shafts through the hubs. The cars are fitted with a new shock damper, in which an oil-containing inverted cylinder is mounted on the rear axle, a piston rod, working in the same, being bolted rigidly to the side members of the frame. Altogether the Westinghouse cars

make a favourable impression, the workmanship well upholding the reputation of the company in other branches of engineering work.

**The Herald Cars.**

The HERALD COMPANY, of Levallois Perret (Seine), are now turning out four sizes of cars, all having four cylinders, ranging in power from 12 to 40-h.p. Dealing with the 18-h.p., as being a typical model, the engine comprises four separate cylinders of 98 mm. bore by 115 mm. stroke. The valves are interchangeable and placed on the same side of the engine. The mixture is furnished by a Tourand automatic carburettor, and the ignition is by high tension magneto. Large inspection covers are fitted to the base chamber to permit the "big ends" to be readily examined. The clutch is of the leather-faced cone pattern, and the gear-box, which is located well to the rear, is adapted to give four speeds and a reverse. Transmission is by side chains to the rear road wheels, which are mounted on ball bearings, as are also the front wheels. The frame is bent upwards over the rear axle, so as to form a suitable support for the double elliptical springs, which are a special feature of the Herald cars, and one which adds considerably to the easy-riding qualities of the same.

**The Vulpes Cars.**

The VULPES COMPANY are now turning out cars ranging from 8-h.p. two-cylinder to 30-40-h.p. four-cylinder, which, generally speaking, are on standard lines. The new engine, however, is interesting, first, because of its base chamber being in one with that of the gear-box, thus forming one block, and, secondly, in the arrangement adopted for the operation of the valves. The same method is also employed on the two-cylinder motor. From the accompanying illustration it will be seen that the usual camshafts are replaced by short shafts fixed across the engine, one between each pair of cylinders, and operated by worm gearing direct off the crank shaft. On one end of each shaft is mounted a cam, which takes effect upon the lower end of the perpendicular arm of a bell-crank lever on each side, both the inlet and exhaust valves being thus lifted by the

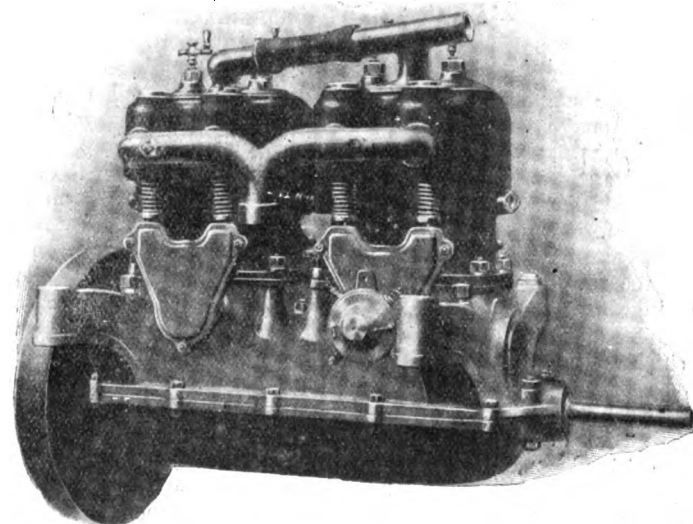


Fig. 35.—The "Simplex" Motor as fitted to Vulpes Cars.

medium of a single cam. The shaft is extended outside the case and carries the contact maker on its extreme end.

**The Guillerme Car.**

M. F. GUILLIERME, of Paris, shows a 10-12-h.p. live-axle car in which several special features are comprised. The engine has the four cylinders, 70 mm. bore by 120 mm. stroke, in one casting, the ordinary type of suction valve being employed. The carburettor is of the Xenia automatic type. The speed of the engine is entirely regulated by the foot by means of a combined press down button and lateral-moving

pedal. The latter moves on an inclined plane, and fixes the speed of the engine according to its position. By means of the button immediately forward of the pedal the motor can be instantly accelerated when necessary, as, for instance, when driving in traffic, the throttle opening, once the pressure on the button is released, returning to the position permitted by the sideways-moving pedal.

#### The Rochet-Schneider Cars.

The ROCHET-SCHNEIDER COMPANY, represented in England by Messrs. Donne and Willans, are now building an extensive

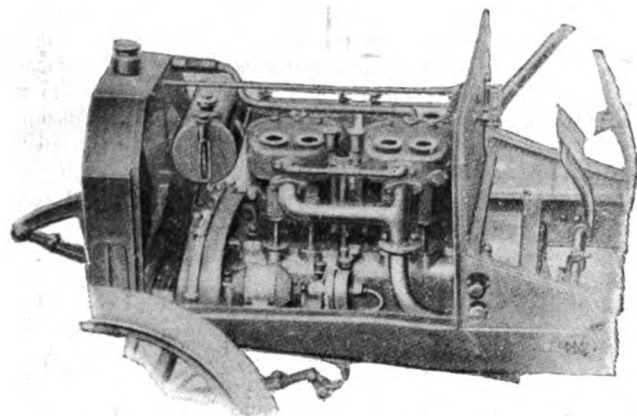


Fig. 36.—View of Engine of the Rochet-Schneider 16-20-h.p. Car, showing lubricating oil tank behind radiator.

range of cars, comprising 16-20-h.p., 20-24-h.p., 30-35-h.p., and 40-50-h.p. four-cylinder and 30-40-h.p. and 45-60-h.p. six-cylinder. The first two have live axles and the others side chain drive. A polished chassis of the 16-20-h.p. type is on view, and is attracting considerable attention. The leading features of the new models having already been given in our report of the Olympia Show, we need only mention that the valves, which are mechanically operated and interchangeable, are located on opposite sides of the cylinders. To facilitate starting the three larger sizes of motors are fitted with an independent half compression device. In the 16-20-h.p. model, Simms-Bosch high tension magneto is used, while in the other types the magneto is of the low tension variety. The cylinder dimensions of the different sizes are: 16-20-h.p., 100 mm. bore by 120 mm.; 20-24-h.p. four-cylinder and 30-40-h.p. "six," 100 mm. by 140 mm.; 30-35-h.p. four-cylinder and 45-60-h.p. "six," 120 mm. by 160 mm.; and 40-50-h.p., 140 mm. by 160 mm. The lubrication of the cylinders is effected by means of a gear-driven pump, which supplies a drip feed rack on the dashboard. The oil tank is placed under the bonnet, as shown in Fig. 36, and serves to feed the pump which distributes the drip-feed. The mixture is furnished by a new patent carburettor, which automatically regulates the carburation in accordance with the engine speed, and at the same time greatly reduces the consumption of petrol. The engine is controlled by means of two levers placed above the steering wheel. The 16-20-h.p., which has been specially designed for town work, has a novel system of control; the clutch is so connected up with the throttle that when the former is withdrawn by pressing forward the pedal the speed of the engine is cut down; a further pressure on the pedal just before letting in the clutch accelerates the motor ready to take the drive; as regards the clutch, in the 16-20-h.p. and 20-24-h.p. models the leather-faced cone type is employed. The other cars are provided with a metal-to-metal clutch, formed by a segment fitted in a metal case connected to the flywheel by means of studs provided with flexible rings. The change-speed gear, which has "gate" control and gives a direct drive on the top speed, is the same as fitted to the 1906 cars. A feature of the live axle cars is that the cardan shaft is enclosed in a casing, which is supported independently, and practically acts on the torque rod, two radius rods being also fitted. Great attention has been given to the

suspension, and by the adoption of a system of three springs at the rear road shocks have been largely eliminated.

#### The "S.V.P." Car.

The exhibit of LA SOCIÉTÉ DES VOITURES POPULAIRES, of Paris, is interesting, comprising as it does one of the very few belt-driven vehicles in the show. The car, which is supplied as a two-seater, has a pressed steel frame, in the fore part of which is set, at right-angles to the usual position, an 8-h.p. single-cylinder vertical engine. A train of sliding gear-wheels adapted to give two speeds and a reverse is carried in an extension of the crank case, the shaft projecting through and carrying on its end a pulley. This is connected by two belts, fixed together at intervals by spring pieces, with a double pulley mounted on a countershaft at the rear. The latter is practically in two parts, each having connected to it at the inner end one-half of the double pulley, the other end terminating in a pinion, which meshes with an internally-toothed ring attached to each of the rear road wheels, the latter being supported on a fixed axle. By the use of the double pulley and the divided countershaft the necessity of a differential gear is claimed to be obviated, the belt slipping slightly on the corresponding part of the pulley on turning a corner. The employment of a clutch is also overcome by mounting the gear-box in such a way that it can be swung backwards slightly, so slackening the belt, which is entirely encased from end to end.

#### The Reyrol Cars.

Several examples of the little Reyrol or Passe Partout—as they are known in France—two and three-seated cars are shown by the SOCIÉTÉ DES AUTOMOBILES PASSE-PARTOUT, represented in England by the Motor Supply Company, Ltd. These vehicles, which are designed to meet the requirements of motorists of moderate means, are fitted with either a De Dion 6-h.p. or Buchet 6-8-h.p. engine; the mixture is furnished by an automatic carburettor, and the water circulation is on the thermo-siphon arrangement. A transverse spring has now been fitted at the rear of the chassis, in addition to the two semi-elliptic side springs. The gear-box provides three speeds and a reverse, and has a direct drive on the top gear, which is an innovation, as are also the torque-rod and the internal expanding brakes on the rear wheels. A new 10-12-h.p. four-cylinder Reyrol car (Fig. 37) is also on view. This has the four cylinders all in one casting, the bore being 75 mm. and the stroke 85 mm. The inlet valves are of the automatic type; the ignition is by high-tension magneto, and a feature of the carburettor is that the air inlet and the throttle are controlled by one lever.

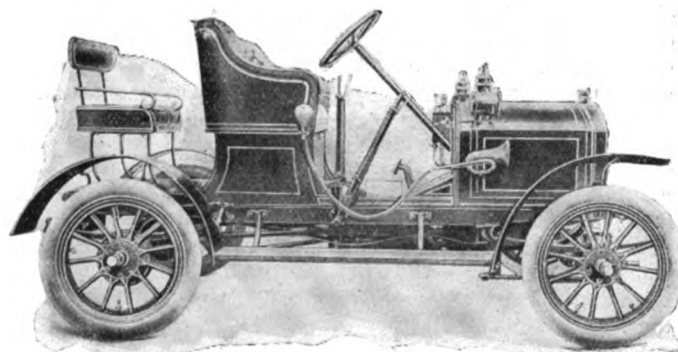


Fig. 37.—The Reyrol 12-14-h.p. Four-Cylinder Car.

Different types of bodies can be fitted to the chassis, among those on view being a neat landaulet for town use.

#### The Berliet Cars.

The 1907 models of the Berliet cars are shown by the BERLIET COMPANY, of Lyons; as, however, they have already been seen in England, and described in our report of the Olympia Show, we need only mention that pride of place is given to the chassis of the new 60-h.p. six-cylinder vehicle. The cylinders, which are cast in pairs, are 120 mm. bore by 140 mm.



stroke, the valves being located on opposite sides. The lubrication is by means of a rotary pump driven off one of the half-time shafts, this forcing the oil up to the dashboard, where it is controlled by means of three easily adjusted sight feeds, two of which go to the motor and the third to the gear-box. The clutch, which is of an improved plate type, requires no exterior lubrication, the crankshaft being hollow, by means of which such little lubrication as is required is furnished by the engine. A feature of the gear-box is that it furnishes a direct drive on the third and fourth speeds, this being obtained by means of two bevels on the end of the gear shaft meshing with two crown wheels arranged one within the other on the differential shaft. Both the bevel pinions are free to run on the propeller shaft, one or other being engaged as required by means of a dog clutch.

#### The Louet Cars.

Messrs. LOUET AND BADIN, of Paris, are generally to be found at the *Salon* with something of mechanical interest. Prominent on the stand is a worm gear drive intended for commercial vehicles, the Louet pleasure cars being now fitted, however, with bevel gear transmission. The feature of the 24-h.p. four-cylinder chassis on view lies in the change-speed gear, the pinions of which are always in mesh, the requisite pair being made to transmit the power by means of dog clutches. The change-speed lever, which works in a notched quadrant, rotates by means of a segment and a bevel wheel a shaft on which are mounted a pair of grooved cams which operate the gear striking forks. Another point worthy of notice are the combined

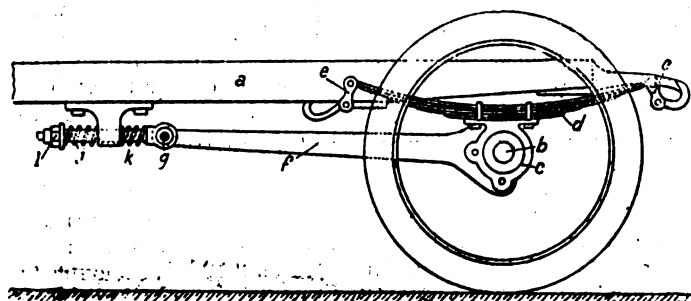


Fig. 38.—The Radius Rods fitted on the Louet Cars.

torque and radius rods, which are cushioned in such a way that upon encountering an obstruction in the road the axle is capable of yielding slightly in a backward direction and afterwards recovering itself without injury to the mechanism. The arrangement is illustrated in Fig. 38. The chassis frame *a*, together with the springs *d*, shackles *e*, and the axle *c* are of the usual construction. Instead of a single torque rod, however, as is commonly employed in live axle machines, there are two parallel rods *f*, one on either side of the frame, which serve the same purpose. These rods are secured to the axle by means of three stud bolts which pass through suitable ears, and form a rigid connection. At the point *g*, the forward ends of the rods are articulated to sliding members *k*, which are adapted to ride in brackets as shown, the latter being permanently attached to the frame members. Between the joint *g* and the other end of the sliding members are interposed a pair of helical springs which press against the supporting lugs, thus tending to hold the rods in a normal mid-way position. When either or both the rear road wheels come in contact with an obstruction the result is that they are moved slightly backward, or are impelled forward in advance of the chassis in the event of dropping into a hollow in the road, immediately regaining their former position as soon as the unusual strain is removed. In this way the chassis, and particularly the axle and driving gear, are relieved of strains, and thereby protected from injury. A lock nut *l* at the forward extremity of the sliding members serves for purposes of adjustment. The cardan shaft is provided with a sliding joint to allow for the movement of the axle.

#### The Cottin-Desgouttes Cars.

The Rochet-Schneider, Miesusset and Berliet cars, which emanate from Lyons, are already well known. To the list has now been added Messrs. COTTIN AND DESGOUTTES, who are turning out cars—all fitted with four-cylinder engines—ranging from 18-22-h.p. to 70-h.p. The chassis we examined—a 24-40-h.p.—is a well-finished piece of work, the various details being on the

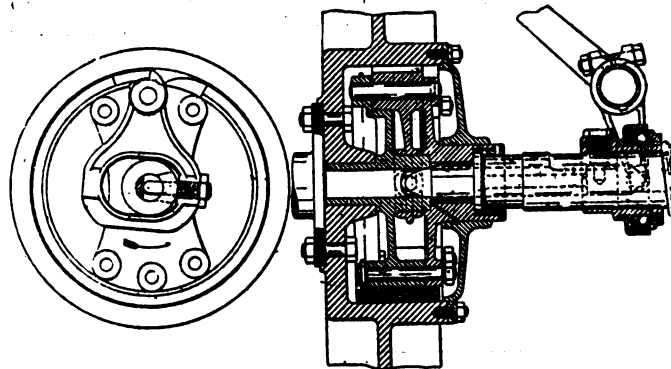


Fig. 39.—Front and Transverse Sectional Views of Cottin-Desgouttes Metal-to-Metal Clutch.

up-to-date lines of chain-driven vehicles. The cylinders—120 mm. bore by 140 mm. stroke—are cast in pairs and have the valves on opposite sides; ignition is by low-tension magneto, which, like the water circulation pump, can be quickly dismantled. The carburettor is of a special automatic design. The lubrication is maintained by a pump on the rear end of the inlet valve cam shaft. The clutch, two views of which are given in Fig. 39, is of the metal-to-metal expanding type, the operating mechanism being contained within the clutch shaft, which is made hollow for the purpose. The change-speed gear, which has "gate" control, is designed to give a direct drive both on the third and four speeds, this being obtained, as in the Pilain and Berliet cars, by two bevel pinions running loosely on the end of the gear-box shaft and meshing with separate concentric bevel crown wheels on the differential shaft, either of the small pinions being made to transmit the power by means of a dog clutch. The method of attaching the chain wheels on the cross shaft is worthy of notice, enabling, as it does, larger or smaller sprockets to be fitted as desired, by simply removing a special

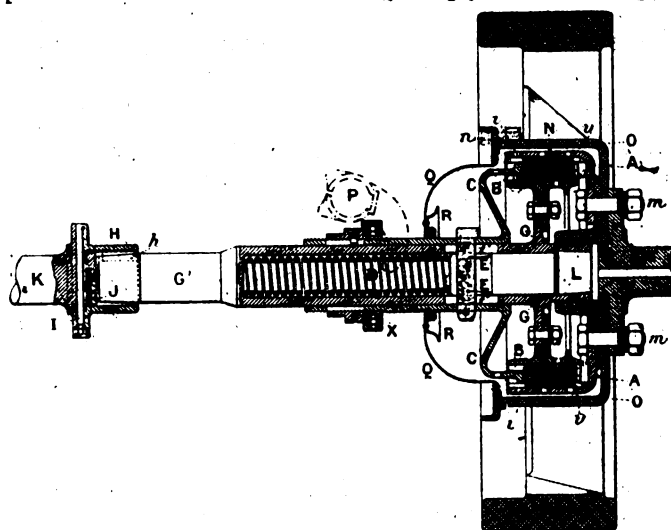


Fig. 40.—Sectional View of Panhard Multiple Disc Clutch.

form of security nut. Double brakes are provided on the differential shaft, in addition to those on the rear road wheels.

#### The Panhard Cars.

Prominence is given on the stand of Messrs. PANHARD AND LEVASSOR COMPANY to the 18-h.p. and 24-h.p. cars. The first is a new model which has not yet been seen in England. The engine comprises four separate cylinders, the

crank shaft being supported on five bearings. The carburettor is regulated hydraulically by means of a branch pipe off the water circulation system. The latter is so arranged as to reduce the length of piping to a minimum; the water passes first through the fourth cylinder, and thence successively through the others, being discharged finally into the radiator. The ignition is by high-tension magneto, coil and accumulators being fitted as a reserve. The change-speed gear is adapted to give four speeds and a reverse, a direct drive on the top

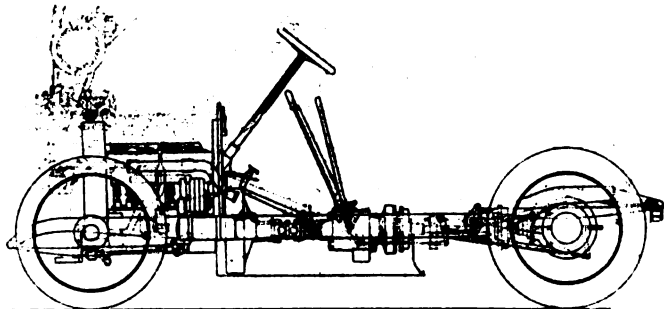


Fig. 41.—Chassis of Gregoire 16-20-h.p. Car.

speed being now provided. The final drive is by side chains. In all the cars the armoured wood frame is still maintained, while those over 15-h.p. are fitted with a multiple disc clutch, which was first used on the 1904 Panhard racing car. A sectional view of the mechanism is given in Fig. 40, from which it will be seen that it comprises a central cage A, provided with a number of slots parallel with the axis, to receive the projections of the twenty metal driving discs. Between each one of the discs are placed an equal number of others of slightly different shape, and fixed this time on to a drum G, bolted on to the shaft G', thus transmitting the power to the change-speed gear-box. The clutch spring is lodged inside the forward end of the shaft G', which is hollow, and presses against the plates by means of a distance piece F. The clutch is lubricated from the engine, oil passing along a central hole in the crank shaft M, any excess finding its way out by small holes in the cage A.

#### The Gregoire Cars.

The GREGOIRE CO., whose British agents are Messrs. Osborn and Co., Ltd., are making three models for the 1907 season, 8-10-h.p. two-cylinder, and 12-16-h.p. and 16-20-h.p. four-cylinder, all having live axles and ball bearings to all parts, including the engine crank-shaft. In the 12-16-h.p. car the four cylinders are all in one casting and the inlet valves are of the automatic type. High tension magneto ignition is employed, and the change-speed gear gives three speeds forward as well as a reverse. The 16-20-h.p. vehicle (Fig. 41), is a new model. The motor has four cylinders, 90 mm. bore by 120 mm. stroke. The valves are all mechanically actuated off a single cam-shaft. The admission is on novel lines, the inlet pipes being cast in one with each pair of cylinders and joined together by a special connecting piece. The arrangement enables the cam-shaft side of the engine to be freed of complication. The ignition is by gear-driven magneto. The half-time gear wheels are located at the rear end of the engine, and are entirely enclosed; the crank shaft is carried on three bearings; the water circulation is on the thermo-syphon system, no pump being used; the radiator is of the vertical ribbed-tube type, set in a frame which forms the water tank; the arms of the fly-wheel are arranged to act as a fan. The lubrication of the engine is maintained by a valveless pump, located in the base chamber, and actuated by one of the inlet-valve cams. The clutch is of the leather cone variety, and the three-speed change gear is controlled by a single lever. Altogether the Gregoire cars appear to be of substantial construction, and have the merit of being moderate in price.

#### The Decauville Cars.

For the 1907 season the well-known DECAUVILLE cars, represented in England by Messrs. H. M. Hobson, Ltd., are being made in five sizes—12-16-h.p., 16-20-h.p., 24-28-h.p.,

30-35-h.p., and 45-60-h.p.; the first two have live axles, the 45-60-h.p. is driven by side chains, while the others are made with either cardan shaft or chain transmission. In the live axle machines the rear road wheels are not fitted on the axle but on a sleeve surrounding the same, the power being transmitted to them through "dogs" on the ends of the axle. Other features of the vehicles are the special form of automatic carburettor employed, and the fitting of high-tension magneto ignition as a standard. The leather-faced cone type of clutch is, we note, still being retained.

#### The Alcyon Light Cars.

LA SOCIÉTÉ ALCYON, of Neuilly-sur-Seine, exhibit a little 7-h.p. single-cylinder two-seated car. The vehicle is on the usual lines of cardan shaft cars, the gear-box giving three speeds and a reverse. The company is also now building a 10-12-h.p. four-cylinder two-seater at a moderate price. The dimensions of the engine are 75 mm. bore by 80 mm. stroke; the water circulation is on the thermo-syphon principle and the ignition by low tension magneto. The frame of the Alcyon vehicles is of the *chassis-carrosserie* type, in which the side members are extended upwards to form part of the body.

#### The Porthos Car.

A new car known as the "Porthos" is exhibited by the SOCIÉTÉ GÉNÉRALE DES AUTOMOBILES PORTHOS, of Billancourt (Seine). Generally speaking the vehicle follows the usual lines of chainless cars, although in the details some departures are made from the standard practice, particularly as regards the design of the live axle, in which provision is made for lateral movement. The engine, which is rated at 24-30-h.p., comprises four separate cylinders, 110 mm. bore by 120 mm. stroke, with the valves arranged on opposite sides. Two systems of high tension ignition—magneto and accumulators—are provided, and the mixture is furnished by an automatic carburettor. The clutch is of the leather-faced cone type, and the gear is adapted to give four forward speeds in addition to the reverse.

#### The Mutel Motors.

A range of the well-known Mutel motors is shown by Messrs. MUTEL AND CO., Paris. These are made in various powers extending from 10-18-h.p. to 40-50-h.p., with four-cylinders, to which has now been added a 50-60-h.p. six-cylinder model (Fig. 42). The cylinders are cast in pairs, and are 110 mm. bore by 130 mm. stroke; the valves are arranged on opposite sides; the contact maker is mounted on the engine, as

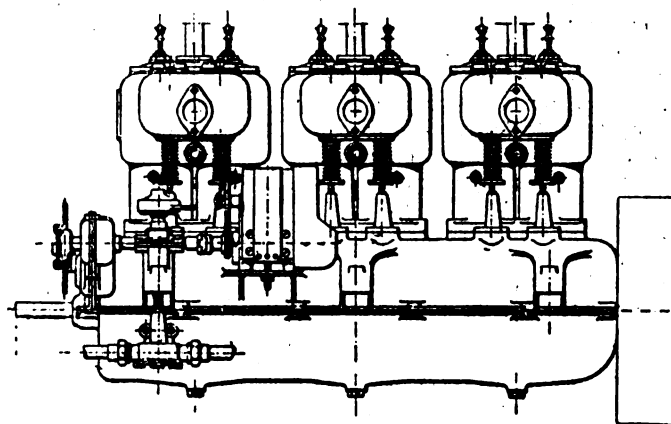


Fig. 42.—The Mutel Six-Cylinder Engine.

are also the water and lubricating oil pumps, while a platform is provided on which a magneto can be fitted.

#### The Hurtu Cars.

LA COMPAGNIE DES AUTOMOBILES HURTU have a large stand, on which are shown specimens of the 8-h.p. single-cylinder and 10-h.p. double-cylinder, and 12-14-h.p., 18-20-h.p. and 20-25-h.p. four-cylinder vehicles which are being turned out for the 1907 season. The vehicles have pressed steel frames narrowed at the front to increase the lock of the steering wheels; except in the 12-14-h.p. vehicle, the engines have

separate cylinders. Either three or four speeds forward and a reverse, with direct drive on top speed, are provided. The gear-box is provided with ball-bearings, and transmission is by enclosed cardan shaft to a live rear axle. Special attention may be drawn to the new 12-14-h.p. model, which in view of its relatively low price and general finish is well worthy of close inspection; indeed, it is generally admitted that for motorists of moderate means the vehicle is one of the best to be found in the show.

#### The Brouhot Cars.

In addition to half-a-dozen sizes of chain-driven vehicles, ranging from 12-h.p. to 60-h.p., Messrs. BROUHOT AND CO. of

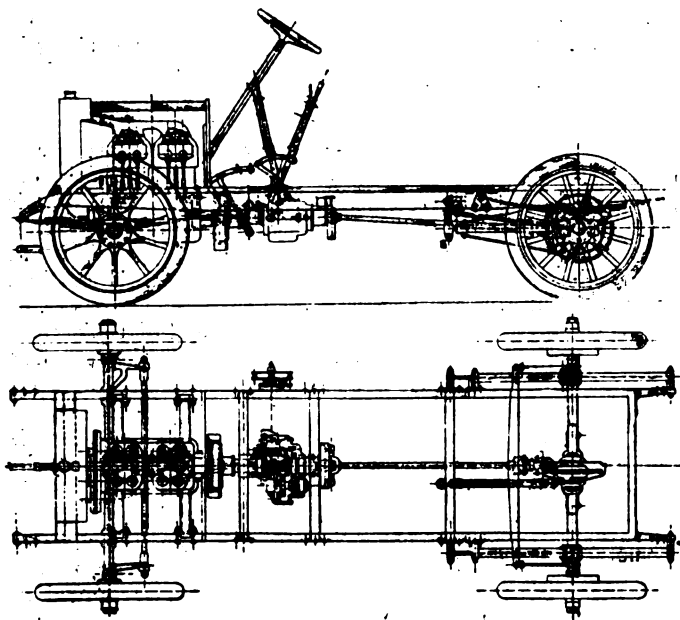


Fig. 43.—Elevation and Plan of the Brouhot 10-h.p. Live Axle Car.

Vierzon (Cher), have introduced two new models—8-h.p. two-cylinder and 10-h.p. four-cylinder—with live axles. An elevation and plan of the latter are given in Fig. 43. The cylinders are cast in pairs, and have the valves arranged on opposite sides. The water circulation is by thermo-syphon, and we note that the fan, which draws a current of air through the ribbed-tube radiator, is mounted on a ball bearing. Passing to the 24-30-h.p. chain-driven car, a feature of the engine is the variable lift device on the inlet valves obtained by means of tapered wedge pieces which can be inserted between the valve push rods and stems, the arrangement being controlled by a lever on the steering wheel. The crank chamber is divided into compartments, so that each cylinder is efficiently lubricated. The carburettor, which is provided with a hot-water jacket, is of the automatic type, while the ignition is by low tension magneto. The lubrication of the motor is controlled by a pump, which forces the oil from the tank through a sight-feed lubricator on the dashboard. The control is by two sectors on the steering wheel, one actuating the ignition and the other the quantity of mixture allowed to pass to the cylinders. Other features of the vehicle include the clutch, which is of the expanding type with leather to metal surfaces, the fitting of double brakes on the differential shaft, and the neat and handy form of adjusting the tension of the driving chains. Ball bearings are used throughout, with the exception of the engine. On the stand is also to be seen a 24-30-h.p., fitted with a special limousine body, built for the King of Portugal.

#### The Tourand Cars.

Messrs. A. TOURAND AND CO., of Suresnes, exhibit an 18-24-h.p. the frame of which is on special lines, it being a combination of the pressed steel and tubular types; at the bottom it is of channel section, but the top is bent over and rounded, then finally turned down and riveted to the side, the whole

giving the appearance of an angle section surmounted by a tube. Long stiffeners set at an angle to the frame sides are provided, the whole forming, it is claimed, a lighter and stronger construction than the ordinary type. As for the motor and transmission, these are on the standard lines of live axle vehicles; the engine comprises four-cylinders 100 mm. bore by 120 mm. stroke; the clutch is of the multiple disc type and the four forward speeds are controlled by a "gate" lever.

#### The Gillet-Forest Cars.

The GILLET-FOREST COMPANY exhibit a range of cars fitted with vertical motors, including 12-h.p., 14-16-h.p., 25-32-h.p. and 35-50-h.p., all provided with four-cylinder engines. The main features of the larger cars are pressed steel frames, dual ignition, "gate" change-speed gear, and a spring drive on the rear end of the cardan shaft, the transmission being by bevel gear to a live axle. A noteworthy feature of the cardan shaft is that, instead of it running direct from the gear-box to the bevel wheel on the back axle, it is carried in a steadying bearing, located a short distance behind the gear-box. The 12-h.p. and 14-16-h.p. are new models which, in view of their relatively low price, should attract considerable notice. The engine differs from that employed on the 25-32-h.p. and 35-50-h.p. cars in that the valves are all operated off a single cam shaft. The change-speed gear, too, is located at the rear end of the cardan shaft instead of near the clutch.

#### The Rebour Cars.

A car which deserves to be better known in England is the Rebour, made by M. E. H. MICHEL, of Puteaux. The one on view is of 30-h.p., and follows closely on Mercedes lines. The motor has its four cylinders cast in pairs, with the valves placed on either side. The bore is 110 mm. and the stroke 130 mm. The carburettor has a single jet with automatic air control, which enables an engine speed rate varying from 150 to 1,400 revolutions per minute. The clutch is of the multiple disc variety, and the "gate" type of change-speed gear is employed, the final drive being by side chains. Attention may be drawn to the provision on the countershaft of a jaw-clutch, by which the differential can be locked solid, thus enabling the car to be driven home on one wheel should one of the driving chains break.

#### The Weyher-Richemond Steam Car.

One of the few steam cars in the Show is to be found on the stand of Messrs. WEYHER AND RICHEMOND, of Pantin (Seine)

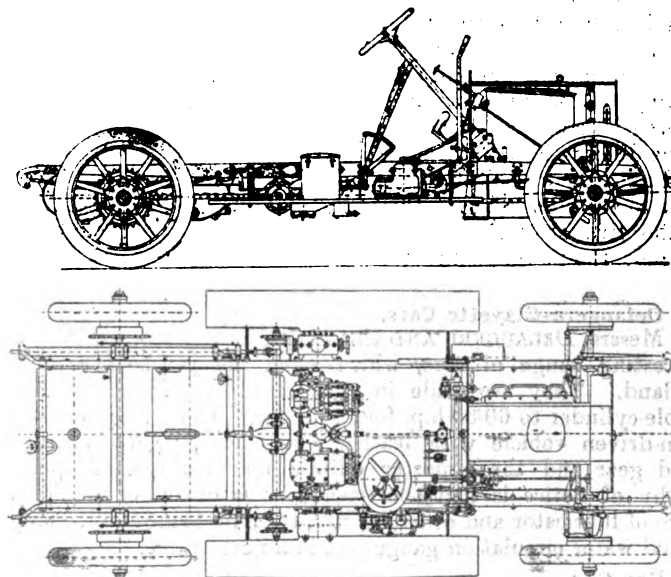


Fig. 44.—Elevation and Plan of Weyher-Richemond Steam Car.

who have on view a chassis of the 25-32-h.p. vehicle (Fig. 44), to which they are at present devoting attention. Outwardly the car closely resembles a petrol vehicle, the generator, which is of the flash type, being located under a bonnet in the fore part of the frame. Paraffin is used as fuel in a special design of burner.

The engine is of the horizontal type, having four cylinders set in pairs on each side of the crankshaft which drives the differential through gearing, the power being thence conveyed to the rear road wheels by side chains. The water supply to the generator is maintained by a feed pump, which in turn is controlled by a lever on the steering-wheel. All the mechanism behind the dashboard is below the level of the frame, so permitting any type of carriage body to be fitted.

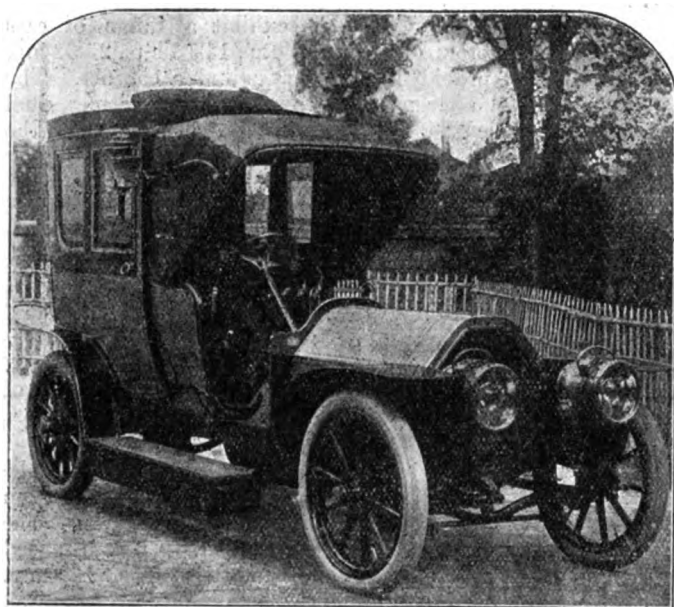


Fig. 45.—The Aries 30-35-h.p. Berline.

#### The Aries Cars.

LA SOCIÉTÉ DES AUTOMOBILES ARIES, of Villeneuve-la-Garenne (Seine), are making no less than seven sizes of cars ranging from 12-14-h.p. to 50-h.p. While following standard practice, they appear to be of high-grade construction, and have certain features of their own. The chassis we examined was of the 30-35-h.p. type. The engine comprises four separate cylinders, with mechanically-operated inlet valves and automatic carburettor, the extra air inlet being controlled hydraulically by a branch off the water circulation system. The clutch is of the metal-to-metal disc type and the transmission is by cardan shaft and bevel gear on to a live axle. The latter is of special design, a fixed axle being provided below it to support the differential case and render it rigid. The shafts from each side of the differential run through the hollow ends of the dropped fixed axle, on which the road wheels are mounted on balls, the drive to the wheels being through a star dog clutch on the end of the live shafts. The differential shaft has thus only to transmit the power without carrying any of the weight of the car.

#### The Delaugere-Clayette Cars.

Messrs. DELAUGERE AND CLAYETTE, of Orleans, exhibit an interesting range of cars, which have not yet been seen in England. They are made in sizes extending from 8-10-h.p. double-cylinder to 60-80-h.p. four-cylinder. The 24-h.p. car is a chain-driven vehicle with leather cone clutch, "gate" change-speed gear and three-quarter elliptic rear springs. A point worthy of notice is that the dashboard is devoid of the usual range of lubricator and other fittings, the only things on it being oil and water circulation gauges set in a neat frame.

#### The Roy Car.

M. P. ROY, of Grand Montrouge (Seine), exhibits a 14-20-h.p. four-cylinder car, the feature of which lies in the special cardan shaft drive and the unusually wide rear brakes. The engine, in which the valves are all operated off a single cam shaft, is supported on tubular bars extending across the frame. In addition to the usual universal joints on the cardan shaft, at the rear end of the latter is a spiral spring, which prevents a bad road from causing too sudden shocks to the shaft. The

live axle has only the driving power to transmit, the weight of the car being taken by the sleeve surrounding it.

#### The Miesusset Cars.

Still another firm hailing from Lyons is LES ÉTABLISSEMENTS MIEUSSET, who are making a wide range of cars extending from a double-cylinder 7-9-h.p. to a 30-40-h.p. four-cylinder. The chassis we examined was that of the 20-24-h.p. four-cylinder type, and so far as we could see it is an excellent production on the customary lines of chain-driven vehicles. The cylinders, which are cast in pairs, are 105 mm. bore by 130 mm. stroke, the valves being arranged on opposite sides. Dual ignition is provided, while the throttle on the automatic carburettor is controlled by both foot and hand levers. The clutch is of the leather-faced cone type, and the change-speed gear, giving four speeds forward and a reverse, is operated by a lever working in a "gate." We may add that Mr. W. H. M. Burgess is the British agent for the Miesusset cars.

#### The Henriod Cars.

M. HENRIOD, of Neuilly-sur-Seine, who many years ago devoted considerable attention to air-cooled engines, is still experimenting with this type, and exhibits a 32-h.p. motor, the four cylinders of which are provided with large radiating ribs. Mounted at the side of and between each pair of cylinders are two large fans driven off the crank shaft to assist in the cooling. At this stand is also to be seen a 30-h.p. four-cylinder car, in which the change-speed gear is located at the end of the cardan shaft, and combined with the bevel gear drive to the rear live axle.

#### The Metallurgique Cars.

Among the prominent Belgian exhibitors at the Salon is LA SOCIÉTÉ METALLURGIQUE, who display a range of the well-known cars bearing their name. The models on view include a 24-28-h.p. chassis, a 30-35-h.p. limousine, and a 60-80-h.p. chassis—all having four-cylinder engines. We give a view of the 60-80-h.p. motor in Fig. 46, and may remark that the crankshaft is *desaxe*, and that the inlet valves are arranged in the cylinder heads, they being mechanically operated by push rods from a single cam shaft. Two high-tension ignitions are provided. The carburettor is of the automatic variety, the

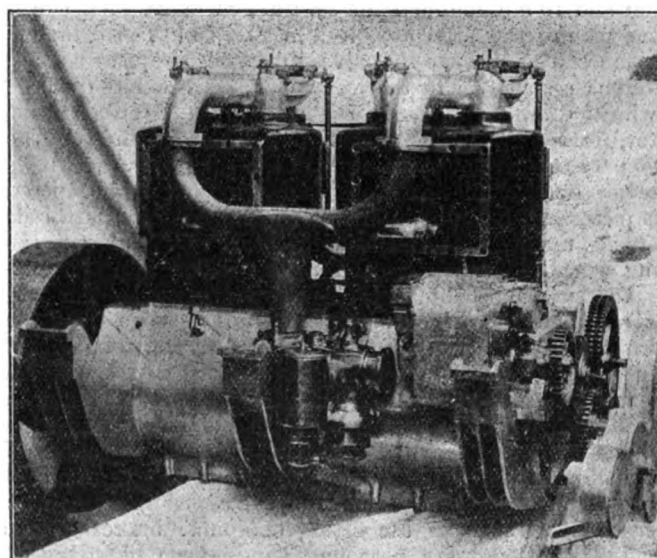


Fig. 46.—The Metallurgique 60-80-h.p. Motor.

extra inlet valve being provided with a glycerine dashpot in place of the usual spring control. The clutch is of the expanding metal-to-metal type, and an interesting device consists of a locking bolt which, by pressing an extra foot lever, locks the two parts of the clutch together, thus preventing any slip when climbing hills. The gear-box is adapted to give four forward speeds, the final transmission being by a cardan shaft, spring drive, and bevel gear to a live axle.

(To be continued.)



THE Earl of Caledon, against whom two previous convictions were proved at Horsham last week, has had his licence suspended for three months.

THE Chancellor of the Exchequer has expressed the view that the industrial methylated spirit defined by section 4 of the Revenue Act, 1906, could not be allowed to be used for automobiles.

New members of the A.C.G.B.I. include the Duke of Hamilton, Lord Ronald Gower, the Hon. Lionel Holland, Sir W. J. Farrer, and Mr. A. E. W. Mason, M.P.

MESSRS. GEORGE AND JOBLING have adapted their garage in Blackwellgate, Darlington, to the purposes of reception rooms for motorists, as well as accommodation for cars.

FROM Messrs. C. Toope and Son, of Stepney Square, Stepney, E., we have received a copy of their catalogue of heating stoves, which are adapted to work either with gas, oil or coke, and are well suited for the heating of motor-houses.

A SERIES of pictures of the various automobile sports of 1906 in which Michelin tyres have attained distinction has been sent us by the Michelin Tyre Company, and forms an interesting souvenir of the year from the motor sportsman's point of view.

THE Daimler Motor Company, Ltd., have given a 28-h.p. car complete with accessories, &c., to the Coventry and Warwickshire Hospital, which will be disposed of for the benefit of that institution, to the funds of which Messrs. Humber, Ltd., have given £250.

WE learn that Mr. G. J. Nearing, who took an active part in the organisation of the recent Blackpool race meeting, has joined the firm of Messrs. Huntley Walker and Co. and will take charge of the firm's repair shop, trial and testing departments, &c., at 483, Oxford Street, W.

THE business of the Peterborough Motor Garage Co. has been acquired by the Peterborough City Garage Co., who will entirely re-organise the concern, extend the premises and generally add to the repair facilities in the city. Mr. A. W. Elliot is a member of the company, and he will supervise the repair department and see that the stock of replacements is fully representative of modern motor requirements.

FROM the Comitato Incremento, Feste e Riunioni Sportive, of Palermo, Italy, we have received a copy of an artistically got-up descriptive souvenir of the 1906 Targa-Florio race. The work, to which the name "Rapiditas" has been given, comprises an interesting account of the contest in four languages, Italian, English, French, and German, and a series of full page illustrations of the competitors and their cars, and interesting snapshots taken during the race.

MOTOR-CARS may now be weighed at the City of London Weights and Measures Office, 18, Whitecross Street, E.C. There is a public weighbridge with a capacity of 15 tons 19 cwt. 3 qr. 21 lbs., and here motor-cars and 'buses not exceeding one ton in weight can be weighed for a fee of sixpence, an additional twopence being charged for every additional ton or fraction of a ton. An official receipt is given, on which the weight is stamped and the Corporation have done well in thus attempting to be of convenience to motorists.

WHILE many manufacturers have been loudly complaining of the stringency of the Scotland Yard authorities in using their powers in applying the motor-omnibus regulations, Messrs. Scott, Stirling and Co., Ltd., of Twickenham, have gone steadily on their way, licences for their 'buses being issued without delay—a fact which says much for Scott-Stirling productions. In addition to their standard 24–30-h.p. double-deck vehicle, we learn that the company are putting on the market for 1907 a 28–35-h.p. chassis for routes with heavy gradients and for country work. The new model will retain all the distinctive features of the 1906 type, but amplified in several respects to meet the heavier working conditions to which it will be submitted. Attention is also being devoted to the construction of two and three-ton delivery vans.

## HERE AND THERE.

FOR slashing William Adcock, chauffeur, across the face, the Rev. A. Langdale Smith, of Holton, was recently fined 10s. and 8s. costs at Oxford.

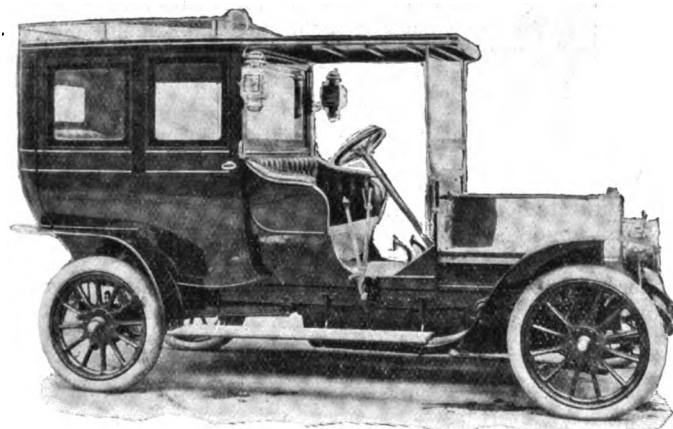
THE WOLSELEY COMPANY has sent us a photograph giving a striking view of a train load of Siddeley chassis being sent from Crayford to Adderley Park, Birmingham, where the company's extensive body works are situated.

MR. JOHN BURNS has deputed a Local Government Board official to attend the trial of non-skidding devices for motor-buses, and has promised personal consideration of his report.

MRS. C. N. WILLIAMSON must look to her laurels, for Mrs. J. M. Barrie has begun to write motoring sketches, the first appearing in the "Woman at Home," and describing a charming tour in Normandy.

At the rear of the Burlington Hotel, Eastbourne, Messrs. F. Ray and Sons, who have acquired the business of Messrs. Jury and Sons, intend to establish a motor garage with accommodation for fifty cars.

MR. COLIN DEFRIES having ceased to be manager of the Waterloo Motor Works, the Hon. L. Bruce intends to give his personal attention to the management, with which Mr. L. J. Bull will be associated.



A 35-40-h.p. Iris Car with Limousine Body.

The vehicle has accommodation for three persons on the back seat, two in front and two on folding seats inside. The interior of the car is trimmed in light grey French cloth finished with silk laces, the front seat being upholstered in morocco-finished hide. The painting is in dark olive-green throughout with black mouldings and fine green lines.

HOLDERS of licences for the storage of petrol should remember that such cannot be transferred without the sanction of the local authorities. Lack of knowledge on this point has just led a Dumfries firm to the court, where they were fined £2 and costs.

THE men attached to the L.C.C. fire station in Eltham Road, Lee, left with their appliances in fifteen seconds from the moment of receiving a call the other day. This is the first fire brigade station in London to be equipped with motor appliances to the exclusion of horses.

ACCORDING to the returns issued by the American Association of Licensed Automobile Manufacturers, 1,204 foreign motor-cars, valued at £88,000, were imported into the United States during the ten months ending October last, as against only 912 vehicles (£63,000) in the corresponding period of 1905.

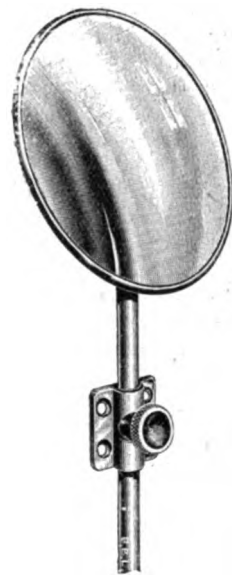
THE Electric Vehicle Company, of Hartford, Conn., U.S.A., is reported to be bringing out a new petrol-electric car. The dynamo takes the place of the flywheel on the rear end of the crankshaft of a four-cylinder engine. At the back of the dynamo is an electric motor, whose shaft is coupled to the ordinary cardan shaft by which the rear axle is driven. Five forward and three reverse speeds are provided. On all except the highest speed the variations are effected electrically. On the top speed, however, the drive is direct from the engine to the cardan shaft, the dynamo and motor rotating merely as flywheels.

A TWO-TON Mann motor-wagon is now being used to carry colliers from Doncaster to a pit several miles from the town.

AMONGST recent purchasers of Daimler cars are Lord Hylton, the Duke of Buccleuch and Sir Henry York, K.C.B.

THE Petherton Motor Works and Garage has accommodation for more than thirty cars at 116, Petherton Road, London, N.

THE "Duco" motor mirror is another addition to the motor accessories emanating from the house of Messrs. Brown Bros., Ltd. This mirror is specially intended for fixing on the



dashboard of the car, or on any other convenient place in front of the driver, so that he is able to discern what is immediately behind. The adoption of this device should tend towards decreasing the number of minor mishaps and frequent damage to the car which happen in crowded thoroughfares. The mirror can be regulated to any desired position, and constitutes a smart addition to the automobile.

THE Continental Tyre and Rubber Company, Ltd., have just received, through the Daimler Company, a repeat order for H.R.H. the Prince of Wales for their red rubber steel armoured non-skid tyres, recently mentioned in our columns.

THE British Empire Motor Trades Alliance has received an enquiry from a Spanish port for a 30-h.p. motor-omnibus to carry sixteen passengers and a 30-h.p. motor-vehicle for goods. British manufacturers of the above are requested to

communicate with Mr. J. B. King, secretary, 11, Red Lion Square, London, W.C.

MESSRS. E. V. COOKE AND Co., textile machinists and general engineers, have opened a garage at their Winton Ironworks, Bridgewater Street, Patricroft, Manchester, for the storing, repairing, and overhauling of every make of motor-car.

MESSRS. J. I. THORNYCROFT AND Co., LTD., ask us to contradict the report that they are giving up their Basingstoke works. So far from this being the case they have standardised the cars made at Basingstoke for the coming season, and their sales are showing a good increase.

MR. DOUGLAS S. COX is now arranging for free storage of the cars of his customers, and for the larger type of vehicles he is providing separate lock-up compartments at his garage at Thomas Place, West Norwood, S.E.—a fact which should be of interest to prospective motorists in that district.

MR. A. H. HUNT, who is the sole British agent for the "Hellenes" dry cell ignition battery, has issued a price list of his accessories for motor-cars, &c., including the "G. L." non-trembler coils, contact breakers, voltmeters, plugs, &c. A series of useful tool wallets is also included in the list.

CHADWICK'S HANDBOOK OF MOTOR OWNERS promises to become a list of Society people. It is headed with thirteen British Royal motorists, and contains about 15,000 addresses of motor-car owners, as well as lists of hotels that have special accommodation for motorists. Apart from a few omissions of really prominent firms in the category of motor-car makers, the directory seems to have been carefully compiled, and should serve a useful purpose.

MESSRS. JAMES NEALE AND SONS, LTD., of 68, Graham Street, Birmingham, are well-known makers of motor-car lamps as well as of carriage furniture and ironmongery. Among their specialities lately introduced is a new wind screen joint known as the Raydyot. This is extremely simple in action as well as efficient, there being no springs or screws to get out of action. In order to alter the position of the screen when in position, it is only necessary to raise a small lever on each joint—an action that can be performed without leaving the car. This is certainly an effective joint which should give security as well as ease of operation.

MR. J. J. KEATING is extending his garage and motor workshop in Lower Abbey Street, Dublin.

ANDERSON'S Bristol Rubber Company have acquired the business of Abbott, Anderson and Abbott, in Queen Street, E.C., and also that of Messrs. Malcom and Co., of Green Street, W.C., both of which they will continue at the same addresses. Their new list contains a varied selection of waterproof garments for motorists.

THIRTY-SIX inch road wheels will, it is stated, be the standard for American high powered cars for next year, the advantage being that greater road clearance is given, that the danger of having highway obstructions interfere with the mechanical parts of the car is minimised, and that the wear on the tyres is reduced.

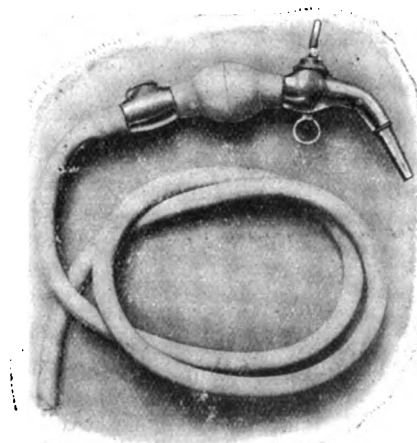
MR. HARRY JULIAN, of Reading, is opening a new garage at 140, Friar Street, Reading, in the first week of the new year. The garage will be thoroughly equipped, and motorists travelling through Reading should make note of the address, since, although the showroom is devoted entirely to Humber cars, every appliance will be at hand for repairs to other cars, and general assistance to motorists.

MOTOR-CARS are now being largely used by professionals to enable them not only to get rapidly from place to place in the metropolis, but also to journey from town to town. Among them is Mr. T. E. Dunville, who has had a Peugeot car for about a year. He has twice toured the provinces, Scotland, Ireland, and Wales, and writes that it has landed him safely and with time to spare on every occasion.

THE motor race meeting organised by the Automobile Club of the Argentine Republic on the 10th inst. proved a decided success. Three events were run off on a 36 kilometre course, from Buenos Ayres to Tigre and return, the principal one being for the El Pais Cup, for four-cylinder touring cars, which was won by Marin, on a 40-h.p. Darracq, in 28 min. 36 sec.; Rade, on a 24-h.p. De Dietrich, being only 9 sec. behind.

FROM Wolverhampton comes the new catalogue of the Star Cycle Co., Ltd., referring to the Starling and Stuart cars recently described in our report of the Stanley Show. In the latter vehicles they have endeavoured to meet the public demand for a car to carry four people at a very reasonable price, and a perusal of the new list, in which coloured printing is employed to good effect, should assist those of our readers who are not yet motorists in coming to a decision.

THE usual method of filling the petrol tank of a car is exceedingly awkward, and the greatest difficulty is experienced in preventing the spirit from splashing over the funnel. There



is, however, no longer any need to follow the procedure adopted in the case of an antiquated oil lamp. Messrs. Alfred Dunhill, Ltd., have introduced a little device known as the Automatic Petrol Syphon, which enables the petrol tank to be replenished with facility and speed, and eliminates any risk of the spirit being wasted and splashed about. The simplicity of the apparatus will be seen from the accompanying

illustration. The end of the rubber tube is placed in the tin of petrol, and the tap is inserted in the petrol tank of the car. A few rapid compressions are given to the bulb behind the tap and the spirit then flows in a continuous stream. For ascertaining the quantity of liquid inserted the flow can be temporarily stopped by closing the little valve on the tap. The bulb need only be used for starting the flow; it is not necessary to operate it all the time.

## CONTINENTAL NOTES.

### The Touring Car Race for the Kaiser's Prize.

It has been decided that the touring car race in the Taunus for the Kaiser's prize shall be run off on June 14th next. The course over which the contest is to be held, and which will have to be covered five times, measures  $77\frac{1}{2}$  kilometres, or only about half that on which the 1904 Gordon Bennett race was held. The starting point is near Saalburg, where the cars will travel via Wehrheim, Usingen, Gravenwiesbach, through the Valley of the Weil to Immershausen and Schmitten, where the climb up the Feldberg commences; this being followed by a steep down hill run to Oberursel and back to Saalburg.

### The Monaco Motor Boat Meeting.

The International Sporting Club has just published its programme for the exhibition to be held at Monaco in 1907, which precedes the competitions arranged from April 2nd to 14th, 1907. The rules and regulations are similar to those of last season. An exception has, however, been made for the seventh and last day, when a trial event will be sailed according to the new measurements elaborated in November last. The committee has voted a sum of £4,200 as prizes for the success-

it passed over the Grand Palais, where the *Salon* is being held, the running of the engine could be distinctly heard. The airship afterwards passed over the Esplanade des Invalides towards the Pantheon, and then returned along the Seine to Meudon, the performance throughout being a notable one.

### Fuel Consumption.

M. de Siqueira, a member of the Association Generale Automobile, has offered this body a sum of £40 as a prize in a competition of apparatus designed to correctly measure the fuel consumption in the petrol engines of motor-cars. It has been decided to ask the Technical Committee of the A.C.F. to draw up the necessary rules and regulations.

### The Congress of National Automobile Clubs.

An important meeting of representatives of the principal automobile clubs of the world was held in Paris on Saturday last, when the main business dealt with was that of the boycott of Switzerland by motorists. After some discussion a resolution was adopted to the effect that, "in view of the explanation of the Swiss Automobile Club, this Association decides to temporarily suspend the boycott of Switzerland for a period of one year, and to send any complaints made by motorists with regard to treat-



The Crown Prince and Princess of Germany on their 70-h.p. Mercedes at Bad Kreuth.

ful competitors, in addition to works of art, &c. Only the craft exhibited will be qualified to compete in the races. Engagements, accompanied by the entrance fee of £4, must reach the International Sporting Club of Monaco on or before February 28th next. A photograph or sketch in blue will suffice, with the name of the builder of the hull and the name of the maker of the motor, the names of the owner or owners, that of the captain or master, and that of the boat, with her length from end to end, width of beam, height of freeboard, and number of passengers fixed by regulation. For next year the two categories of racers and cruisers have been increased by events organised for service cutters pertaining to the Navy, and hydroplanes.

### Navigable Balloons.

Much interest was shown in Paris on Monday in the performance of the military navigable balloon, "La Patrie," which traversed the greater part of the city from the Porte Maillot to the Pantheon, and along the river Seine. The balloon left Chalais about three o'clock, and sailed over the Bois de Boulogne, with three military officers and two engineers as passengers. The balloon, which answered freely to every change of the helm, kept about 650 ft. above the ground, and as

ment in that country to the Swiss Club." It was also resolved to hold another meeting at Homburg on June 15th next year, when the question of the unification of racing rules is to be discussed.

### Motor-Cars for Military Purposes.

M. Trouin, an Algerian deputy, has given notice that he will ask the French Minister of War, when the next Budget is presented, what measures he proposes to take to prepare for the requisition and mobilisation in time of war of all motor-vehicles in private hands.

### Miscellaneous Items.

Fourteen entries have been received for the trial of engine-starting appliances which the A.C.F. is holding in connection with the Paris *Salon*.—A thirty-four-mile circuit close to Fontainebleau, and only forty miles from Paris, has been proposed for the 1907 A.C.F. Grand Prix race.—Signor Marconi is making some experiments with an automobile radiotelegraphic station in connection with his system of wireless telegraphy.—Hemery the well-known racer, is reported to have left the Darracq Company, and to have joined the firm of Messrs. Tourand and Co., of Suresnes.

## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
27-33, Charing Cross Road, W.C.]

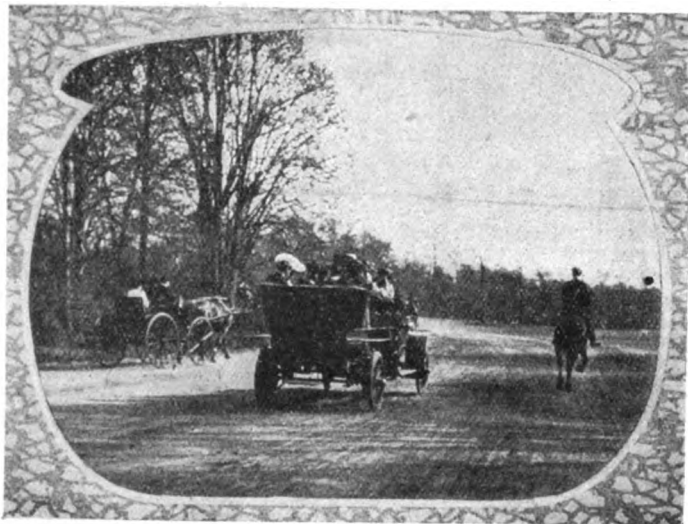
### POLICE AND MOTORISTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In connection with the inaugural dinner of the Lincolnshire Motor Cycle Club, we had a letter from Capt. C. Mitchell Innes, Chief Constable of this large county, and which will be much appreciated by the many automobilists throughout Lincolnshire.

In regretting his inability to be present at the dinner and so showing his "sympathy with the inauguration of clubs in connection with motoring," Capt. Innes said "The police of the county have received most valuable assistance from the Lincolnshire Automobile Club towards the prevention of 'regrettable incidents' in connection with motoring, thanks to their consistent discouragement and condemnation of inconsiderate driving of any kind amongst their members—a policy which has had very practical and happy results for all concerned." I hope the police may look forward with every confidence to the consistent support of the Lincolnshire Motor Cycle Club in maintaining and consolidating the, on the whole, very happy condition of "things automobile" at present existing in our county. The club can do so much if it will.—Yours truly,

G. J. WILKINSON.



Three Methods of Locomotion.

### THE QUESTION OF SPEED.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Replying again to "W. J. W., A 1299," on the question of speed, may I say that this gentleman is mistaken in supposing that after one has passed the necessary examination for driving in France they are allowed to go at what speed they like. There is a speed limit there as here, but, so long as a man drives carefully and considerately, the rate of speed is not worried so much about. The arrangement of handing a certificate to the police is no greater trouble than filling in the forms as is done in England; and when one buys or sells a second-hand car one obtains with the car, or gives with it, as the case may be, the certificate relating to such car. As to the part of your correspondent's letter relating to "momentary fits of forgetfulness," this is foolish, as a man who is liable to "fits of forgetfulness," whether "momentary" or of longer duration, is certainly not the man to drive a car, whether speedy or otherwise. Referring to the latter portion of this gentleman's letter, where he says he will do all he can to put down the scorching motorist, this is all very well so far as it goes; but, if he can, let him discriminate between the scorching motorist and the speedy motorist before he begins to wield his power against the unlucky ones who happen to be running slightly above the "legal limit." As to his suggesting that people who spend from, say, £800 to £1,500 in a speedy car could find a better use for their money, let me respectfully remind your correspondent that surely one is at liberty to spend their own money as they like. Will the public ever realise that exceeding the legal limit does not, *ipso facto*, constitute reckless driving? If the public does not realise this, at least the motoring section ought to.—Yours truly,

ALAN A. L. HICKMAN.

### BRITISH AND FOREIGN AUTOMOBILE INDUSTRIES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—When I read Mr. E. Manville's letter in the last issue of the *M.C.J.*, I thought of the old saying that "figures may be made to prove anything." As one who closely follows the monthly returns issued by the Board of Trade, I was able to see at once that Mr. Manville had only taken those figures which go to prove his argument. It is quite true that the imports of motor-cars, during the ten months ending with October last, did not show a proportionate increase, the advance over the same period of 1905 being roundly only £30,000 as against the £287,000 increase of 1905 over 1904. Your correspondent, however, fails to take any cognisance of the importation of "parts," in which I believe I am correct in stating chassis are included. The respective values of these imports are:—

For the ten months ending	£	Increase over preceding year.
October, 1904	294,013	—
October, 1905	717,346	423,333
October, 1906	1,598,686	881,340

I would also like to draw Mr. Manville's attention to the fact that in the returns the combined total of imports of cars and parts is given, these being as shown below.

#### Imports of motor-cars and parts.

Date.	£	Increase over preceding year.
First 10 months, 1904	2,176,978	—
First 10 months, 1905	2,887,178	710,200
First 10 months, 1906	3,797,885	910,707

Thus, far from the imports, at present, showing any tendency to decrease, they are still on the upward grade, and in view of this I think that Mr. Manville is somewhat bold in his prediction as to what the position will be a year hence. I am making a note of his prophecy in my new diary, so that I may not forget to see whether it comes true or not.—Yours truly,

C. JAMES.

### FOUR v. SIX CYLINDER CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It is seldom that Mr. Edge declines to argue as to the merit of any particular article which he may at the moment be selling, but I do feel that he is in very great difficulty in trying to explain away the success of the four-cylinder cars over the six-cylinder in the recent Town Carriage Competition of the Automobile Club. It must be remembered that that competition was the very first held in which the comparative merits of the two types of vehicle could be carefully judged, and it would have been impossible for a more complete contradiction to have been made of the exaggerated claims made by Mr. Edge during the last two years as to the superiority of the six-cylinder over the four cylinder system. I myself thought that he might perhaps have some reasonable explanation for the failure of the six-cylinder car to score over its four cylinder rivals, but, whilst I sympathise with him, I regret that he should have evaded the whole matter.

Mr. Edge has taken up the point that the four-cylinder car is more destructive on tyres than the six-cylinder, and suggests that my attitude cannot be understood unless I am interested in a tyre factory. During the recent show I was voluntarily informed by two users of six-cylinder cars—the names of which I need not state—that in one case the tyre bill had amounted to over £350 in twelve months, and, in the other, nine months' running had resulted in a total expenditure of over £400 for tyres alone. I am wondering if any four-cylinder car could beat this record.

It is very difficult to argue with an opponent who misquotes what has been said before, but I would like to challenge Mr. Edge to produce any letter of mine or any statement of mine in which I ever suggested that it was impossible for good motor-cars to be manufactured in Great Britain. What I did say was that the motor-cars manufactured in this country two years ago—the time I wrote my letter—were not as good as many of their foreign rivals. I have never posed as a prophet, as to do this it is necessary to possess an imagination, and in this direction I am always prepared to receive ideas from Mr. Edge. Six cylinders possess certain advantages over four, but there are certain disadvantages, and these disadvantages were very clearly demonstrated in the Town Carriage Competition previously referred to by me.—Yours truly,

CHAS. JARROTT.

### SKIDDING EXPERIENCES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I shall never forget my feelings of astonishment when my first car, a small high runabout with smooth tyres, turned round suddenly and faced the opposite way. We were driving on wet wood blocks on the level. The car repeated the performance, describing a huge figure eight from kerb to kerb, on the same road, on another occasion during rain. There was no damage done, although the wheels (wire) struck with a shock against the kerbstone. My next bad skid was on ice. I was driving a powerful 36-h.p. petrol car, on a frost-bound road. All four wheels were fitted with non skid bands. A farmer's cart obliged me to run off



the crown of the road, where there was snow, the rest of the road being rough ice. As soon as two wheels touched the snow the direction of the car was changed. The front wheel ploughed up the bank and struck a glancing blow at the wall. The back wheel at the same time struck the bank, and the shock was somewhat distributed, the result being two bent axles, straightened at a cost of £8, and a damaged front tyre. My last skid was the most serious. I was driving a large car weighing some 25 cwt. down a hill on granite. The driving wheels were fitted with non-skid bands of another make. A tramcar was sighted some eighty yards below on a single line, and I moved to the left. The car skidded, I got her straight; she skidded again and the tram driver pulled up, but my car swung completely round and the left-hand hind wheel swung into the front of the tramcar with sufficient force to project my only passenger on the back seat out of the car into the front portion of the tramcar, where he cut his head. The tool box on the step was smashed to atoms, the car body was seriously damaged, tension rod, &c., broken, and the tramcar was sufficiently punished to require assistance in surmounting the hill. As there was a cemetery handy I left the car in a shed and got my passenger to the doctor in a cab. He was sitting at the time of the collision with his hands in his pockets. The granite was so greasy that it was difficult to stand on it with my golfing boots

have paraffin with us, and I think that it is in this direction that inventors should concentrate their energies. I am afraid that it will be next to impossible to get a carburettor to "start from cold" with paraffin, as it will be absolutely necessary to apply heat either internally or externally to get a starting mixture. It would not be much of a hardship to burn a little methylated spirits, however, to heat a coil, as Mr. Bennett proposes, and I think he is working in the right direction in heating his oil before it goes to the carburettor spray. Why, however, does he use cold air instead of warmed air to mix with his spray? I have a carburettor working on an ordinary gas engine, with Scotch shale oil (Broxburn), which is one of the most difficult paraffin oils to vapourize; the oil passes through a coil of  $\frac{1}{2}$  in. copper pipe kept hot by contact with the exhaust. The air to the carburettor then passes through an exhaust-heated passage, where it gets heated before coming in contact with the already warmed oil. The mixture is then conducted through another passage, also exhaust-heated, before entering the gas valve. The main air supply is by a separate air valve, and the engine is governed by "hit and miss" on the gas valve. Petrol is used to start up, and a fair good heat must be attained before the oil is turned on, but with Royal Daylight the exhaust is quite hot enough in five or ten minutes to switch on the oil. The



Military Motor-Cars in Austria.—The Armoured Car with Quick-Firing Guns and a Motor Side-Car, the latter being used in connection with the rapid erection of telegraph and telephone lines. [Allgemeine Automobil-Zeitung.]

on. Luckily I am insured, but it is evident that to prevent skidding non-skids should have projecting rivets and not smooth steel bands. On ice these smooth steel protectors are a source of danger. I have had my car stopped on a hill with the driving wheel spinning round all the time, polishing the ice still smoother. On greasy granite and wet tram rails they are as dangerous as smooth tyres. I have been motoring for four years and am hoping to do without horses eventually, but, living 950 ft. above sea level, in a very hilly district, I have not yet found a non-skid that I can depend on for winter work. If one could screw studs, blunt or sharp, to suit the weather conditions, into a strong non-skid band as one does into horses' shoes, the motor-car might be depended upon. Can any reader make a suggestion that will enable me to get rid of three hungry harness horses and use to the fullest extent two powerful cars?—Yours truly,

C. D. L.

#### PARAFFIN AS FUEL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We have been hearing a lot of late about alcohol versus petrol, and it is refreshing to see that the paraffin question is being taken up. It may be long enough before we get alcohol, but we already

only drawback is in having to use petrol at all, but in the absence of this lamp warming or some other means of heat would have to be resorted to.

There are some factors that must not be lost sight of in designing a carburettor for paraffin. There is a wide variance between the different flash points of various oils, and a carburettor which would work with one might not do with another, and to be a commercial success we would need to be in a position to use any kind of paraffin that could be procured locally. Taking American Royal Daylight with a flash point of 75 degrees as about the lowest, and the Scotch oils with a flash point of 115 degrees to 140 degrees as the highest, there is a wide variation in the temperature which would be required to successfully vapourize these oils into a combustible mixture, though I have no doubt that this difficulty will be successfully overcome. If the carburettors are designed to use only low flash oils, we would still be at the mercy of the oil kings, who would immediately raise the price as soon as the paraffin became a successful competitor to the petrol.

This is a subject of much interest at the present time, and I should like to see the views of other readers on it. Possibly you might be able to get up a series of articles on the subject, with illustrations of some of the most successful paraffin carburettors now on the market.

Further, a discussion as to what would be the best form of carburettor to employ or the lines to be followed in designing one might help to bring this question of fuel to a speedy and successful issue.—Yours truly,

CYCLE MECHANIC.

### MOTOR REVOLUTION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have just read in one of the daily papers the following:—Mr. Edison has just announced that he has completed an invention which will bring about great changes in the motor-car industry. After a long course of experiments he has found a substitute for lead as a material in the storage battery. For three years 25,000 batteries provided with cobalt instead of lead have been submitted to tests in the Edison workshops at Orange, New Jersey, and it has now been decided that with this metal in the cells a battery can be made that is light, cheap, and practically indestructible. According to the "New York Times," Mr. Edison states that he is able to make, at a cost of 2s., a storage battery that will travel 100,000 miles before it is worn out. Twenty cells are all that will be needed for a brougham, and sixty cells will be enough for the largest and heaviest truck. For £40 one will be able to obtain motive power that will not need renewal for fifteen years. The actual cost of recharging the battery will be no more than a few pence.—Yours truly,

ELECTRIC.



Touring in Spain.—The Entrance to the Convent at Burgos.

### WEIGHT REDUCTION IN MOTOR-CAR DESIGN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In looking over the many interesting accounts of the progress that has been made by the motor-car during the past ten years, there is one point which has struck me as not having received full prominence. I refer to the great reduction of car weight without any resulting sacrifice of strength; indeed, quite probably, with an actual increase in this supremely important quality. This process of weight reduction has been a painstaking one, and has required a most minute attention to details upon the part of motor-car builders. There are two lines along which weight reduction may be carried out. One is by the substitution for materials of construction hitherto used of other materials which possess a higher degree of specific strength to resist stresses of the particular character involved; the other is by the proportioning of each part so that just the amount of material required is made use of to give the requisite strength to resist the maximum stresses to which each part will be subjected in practice. The former line of procedure has been carried out by the practically complete substitution for cast iron of steel and malleable iron castings, and the use of specially compounded steels or nickel steel alloys for steel of common commercial qualities, or in some instances for wrought iron.—Yours truly,

ENGINEER.

### DRIVING PERMIT IN FRANCE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the letter from Mr. A. J. McKinney, in your issue of last week, upon the subject of driving permits in France. This gentleman's experience is certainly peculiar, but is probably explicable in the following way:—The official that examined Mr. McKinney's car was authorised to issue or examine cars for the purpose of issuing "permits de circulation," but was not authorised to issue "permis de conduire," or else he presumed that this gentleman had one of the latter. It is customary to address a request in writing to the "Ingenieur des Mines" in the district in which one lands or resides when living in France, so that this official may appoint a day and hour upon which the candidate may be examined, as also the car which he proposes to drive. Mr. McKinney was lucky in not being asked at any time for his "permis de conduire," but this fact merely shows once more that in France the Government and police wish to foster the automobile industry, and not to throttle it as is the case on this side of the Channel.—Yours truly,

ALAN A. L. HICKMAN.

### A HINT TO SURREY MOTORISTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have just received a printed post-card from the Clerk of the Surrey County Council calling my attention to the fact that the Commissioners of Inland Revenue pay to the County Council of our county the amount received in respect of licences for armorial bearings, carriages (including motor-cars and motor-bicycles), dogs, guns, and male servants, pointing out that it is most important all Surrey ratepayers should take out their licences at post offices in the administrative county of Surrey. As Surrey is notoriously the worst county for motorists, would it not be as well to urge all motorists to take out their licences in some other county, and thereby endeavour to teach the magisterial benches that in their bigoted persecution of motorists they are doing their county some harm?

For obvious reasons I omit to give my name and address, as I have already suffered sufficiently, though unjustly, at the hands of the Surrey benches.—Yours truly,

A SURREY VICTIM.

### ROAD IMPROVEMENT IN DEVON.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I beg to enclose a copy of a circular letter which we are sending round in order to obtain financial support for a piece of work which it is worth the while of motorists to support. The plans have been approved by the Barnstaple Rural District Council and forwarded to the County Council of Devon, who have referred the matter to the Road Committee. The road coming from the south would allow the avoidance of that dangerous hill at Countisbury and make a good and practicable access to the beautiful scenery at Lynmouth and Lynton. There can be little doubt of its being followed by other road improvements which will cause this neighbourhood to cease to be a terror to motorists. It is to be hoped that a good many may see their way to sending a contribution, which after all will be well saved in tyres and brakes by the proposed new road. I would wish your kind help in this matter, as I am sure that your widely-read journal can do a great deal for us.—Yours truly,

EVAN B. JEUNE.

[We refer to this subject in our Comments.]

### PETROL GAUGES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In visiting the recent Show I was much interested in finding a number of useful petrol gauges by means of which one can tell at a glance how much spirit there is still left in the tank. Whether it is due to the fact that in the opinion of the majority of manufacturers the dashboard of the car is already sufficiently encumbered with fittings, there has hitherto been no general tendency to supply a visible tell-tale of the amount of petrol contained in the tank. It is nothing unusual for the present day car to have a reservoir with a capacity of thirty gallons or more; but, as a matter of fact, it is this great capacity that is responsible for the majority of instances in which the fuel supply is allowed to run out. Several manufacturers have provided against this proneness to forget on the part of the one whose duty it is to keep the tank full, by providing an auxiliary tank holding a gallon or so—just sufficient to enable one to continue the journey to the nearest agent. Sometimes the auxiliary supply takes the form of a tank within a tank, and in other cases it is entirely independent of the main source of supply. Useful as this arrangement is, it may seem doubtful if, when the score of expense is concerned, the balance would not be largely in favour of the adoption of some simple form of gauge.—Yours truly,

W. J. MCALPIN.

CLEMENT-TALBOT CARS.—"R. C." writes: "Could any readers of the *M.C.J.* give me any information as to the reliability of the Clement-Talbot cars; are they light on tyres, how many miles on a gallon of petrol will they do, and are they good hill climbers?"

MANGANESE STEEL SHEETING.—In reply to the query of a correspondent in our issue of the 8th inst., we learn that manganese steel sheeting is supplied by Hadfield's Steel Foundry Company, Sheffield.

## CLUBS AND ASSOCIATIONS.

### SCOTTISH.

THE Scottish A.C. are arranging for a series of examinations for Driving and Mechanical Proficiency Certificates to be held on the following dates in 1907:—Glasgow, January 15th; Edinburgh, January 17th; Dundee, January 25th; Aberdeen, January 26th; and Inverness, February 9th. Particulars of these examinations may be obtained by our readers in Scotland from the Secretary, Scottish Automobile Club, 59, St. Vincent Street, Glasgow.

### SOUTHERN.

THE annual dinner of the South London A.C. was held last week at the Trocadero Restaurant, London, Mr. W. Howlett being in the chair. He placed a time limit on speakers which resulted in a series of condensed utterances, much to the taste of the large company present.

Mr. W. L. Lorkin, the hon. secretary of the club, which has nearly a hundred members, recalled the successful gatherings that had been held during the season, and Mr. Allan Vickers proposed the Motor Union, Mr. W. Rees Jeffreys replying. To the health of the visitors Mr. Staplee Firth responded, encouraging motorists with the thought that

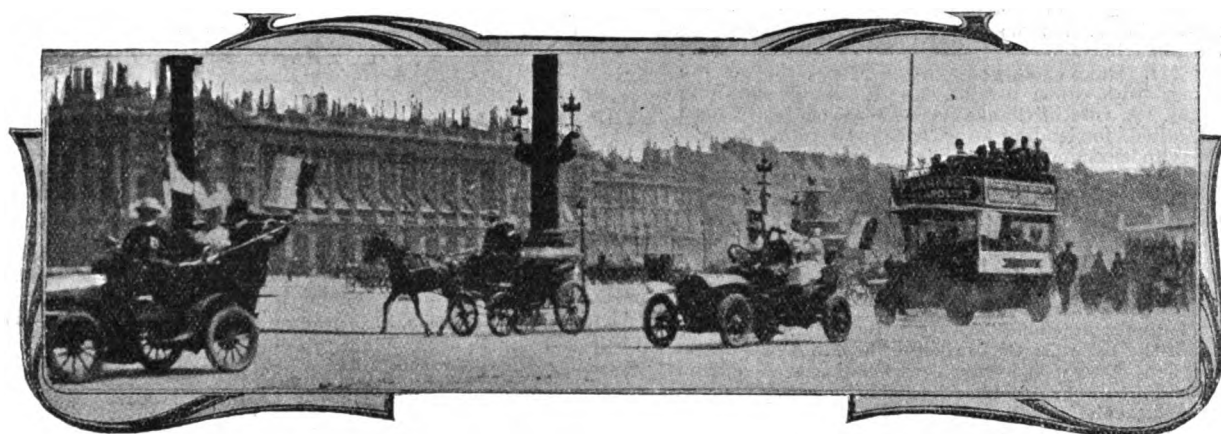
Wright, Boston, for Holland. Twenty-three new members were elected, making 184. A resolution in favour of lights on all vehicles all the year round was carried unanimously.

In the evening a dinner was held at the Black Goat Hotel to celebrate the successful formation of the club. Major J. A. Cole was in the chair, Mr. A. W. Foster in the vice-chair. Mr. Robert Todd proposed the toast of the evening. He commented on how in the early days cyclists had joined themselves into clubs for the purpose of protection. He thought this club had made a very successful start. The club could do a lot of good, and materially assist the police, who seemed to be very friendly in Lincolnshire. The Chairman, who responded, referred to the decision of the club as to "cut-outs" and other unnecessary noises, which they intended to do their best to abolish. Mr. Godfrey Lowe, hon. sec. of the Lincolnshire A.C. and vice-chairman of the Lincolnshire M.C.C., proposed "The Centres," which he said would be of enormous value to the club. Mr. A. Mettham, hon. sec. of the Grantham centre, responded.

Mr. A. A. Padley proposed "The Motor Union and Auto-cycle Club." He thought the Motor Union had fully justified its formation. He thought there was no sensation equal to motor-cycling, if the machine was in good order. It was as much superior to riding in a car as was riding a good hunter or sitting in a carriage. Major Cole responded for the Motor Union. Mr. Straight responded for the Auto-cycle Club and suggested work for the new club. Mr. C. Nelson, Mr. J. T. Coleman (chief constable of Lincoln), Capt. H. E. Newsom, Dr. J. H. Pim and Mr. Wilkinson also spoke.

### NOTTINGHAMSHIRE.

THE committee of the Nottinghamshire Automobile Club have arranged a highly attractive programme for the winter months, and the scheme was detailed to the members by the popular president, Mr.



On the way to the Paris Salon.—A snapshot in the Place de la Concorde.

the opposition they were encountering was but a repetition of that which greeted the advent of railways sixty and seventy years ago.

### MIDLAND AUTOMOBILE CLUB.

THE annual meeting of the Midland Automobile Club was held at Birmingham on Saturday, Mr. Thomas Clayton presiding. It was reported that seventy-seven new members had joined during the year, making a total of 277. The committee recorded that no application had been made in any part of the Midland Counties for any special speed limit. The income from subscriptions amounted to over £400, and there was now a substantial balance. The rules were altered to permit of grants being made to charitable objects. Mr. Phillip S. Foster was re-elected president, Mr. T. H. Ryland hon. secretary, and Mr. C. P. Type hon. treasurer.

### LINCOLNSHIRE MOTOR-CYCLE CLUB.

THAT motor-cycling flourishes in Lincolnshire is evident from the success of the Lincolnshire Motor-cycle Club, started on October 3rd by Mr. G. J. Wilkinson, who has been appointed hon. secretary. Already there are very close upon 200 members.

On Wednesday of last week there was a very largely attended meeting of members at the Spread Eagle, Lincoln, and the hon. secretary reported the successful formation of centres at Grimsby, Grantham, and Spalding, and that he was in correspondence with riders at Stamford, Boston, and Louth, with a view of starting centres there.

The rules were adopted, and it was decided that there should be one representative for each fifteen members in a centre on the general committee, and that there should be a representative from each centre of the Auto-cycle Club, the L.M.C.C. having been affiliated. For the three administrative counties the following were elected:—Mr. F. T. Man, Gainsborough, and Rev. Neville Inge, Gayton Rectory, for Lindsey; Mr. Wadsley, Bourne, and Mr. F. N. Smith, Sleaford, for Kesteven; and Rev. Father Dumons, Woodhead Spa, and Mr. S. C.

Charles Hardy, at a club gathering held in the 'Black Boy' Hotel, Nottingham, on Friday of last week. He explained that it had been arranged to hold the annual dinner on January 11th, when they hoped to have with them the Mayor of Nottingham (Ald. J. A. H. Green), the Hon. A. Stanley, M.P., Mr. J. W. Orde, and Mr. Rees Jeffreys. In February Mr. F. Coleman, who saw active service throughout the Manila campaign, would lecture to the club, and Mr. A. New would also read a paper on the "Tourist Trophy Race." The London Biograph Company would exhibit a series of automobile pictures.

### HARTLEPOOLS.

THE second annual dinner in connection with the Hartlepoons Automobile Club was held at the Grand Hotel, West Hartlepool, on Friday of last week, there being a large number of members present. Although the club was only established three years ago, it has been very successful, and there is now a membership of about fifty. Mr. George Jones, J.P., presided, and Mr. C. E. Smith occupied the vice-chair. The Chairman proposed the toast of "The King and Royal Family." Mr. Horace Maclean proposed "The Army and Navy," and Major Rickinson responded. Councillor Boanson proposed the toast of "The Visitors," with which he coupled the name of Major Tomkins. Major Tomkins (Stockton), responding, said he hoped that next year the Hartlepoons Club and the Stockton Club would commence having runs together, because it was a pleasure for two clubs to take runs into the country. Dr. Cockell (Greatham) and Mr. Pringle (West Hartlepool) also responded.

Mr. C. E. Smith, who proposed "The Hartlepoons Automobile Club," said that naturally they all liked to be associated with, or have some hand in the launching, as it were, of a successful undertaking, and he thought that the best and only proof of the success of the club was to take a glance round that festive board. They started that club in a very small way, and when they asked Mr. Jones to be president he was not a motorist, but subsequently the motor microbe got into his path. The movement only started with pleasure cars, but since then it had

developed phenomenally, and at the present time in England alone it employed thousands of workers and millions of capital. There had been many improvements since he commenced motoring seven years ago, for at that time they had a speed limit of twelve miles an hour. Parliament, however, took the matter up, with the result that the limit of twelve miles an hour was turned into one of twenty miles an hour. He hoped that that limit would be abolished, and that the good old law which punishes a man for driving to the danger of the public would soon be brought into force again. The members of the club had had a year free from accidents, which, he thought, spoke volumes for the drivers and owners of cars in the Hartlepool.

The Chairman replied, mentioning at the outset that since he was elected president he had got the motoring fever, and had purchased a car. With regard to legislation, he said there was no doubt that something would be done in the future, but he did not think it would be so drastic as forecasted some time ago, because there were so many members of Parliament who were motorists. There was no doubt that a great deal of the opposition they had to face could be done away with if when they were motoring they would remember that there were other people on the road besides themselves.

The toasts of "The President," "The Secretary," "The Treasurer," "The Entertainers," and "The Press" were also honoured.

### BIRMINGHAM MOTOR-CYCLE CLUB.

AFTER a discussion on ignition systems opened by Mr. E. W. Winckle at the Birmingham Motor-cycle Club, a vote was taken, from which it appeared that a majority of the members were in favour of magneto ignition for motor-bicycles, only two of those present voting for accumulators. In his opening speech Mr. Winckle described the various ignition systems, beginning with the ordinary accumulators, with plain coil and trembler coil, followed by the low-tension and high-tension magneto machines. He also mentioned a plug that was brought out some time ago, which required neither accumulator, coil, nor magneto. Mr. Duke followed with a description of the troubles generally met with when using accumulators, and speaking in favour of magnetos. A vote of thanks was awarded to the United Motor Industries, Limited, for lending an Eisemann magneto machine and coil for a single-cylinder engine, and similar machine and coil for a four-cylinder engine; and to Mr. J. L. Norton, of Bradford Street, Birmingham, for sending a Simms-Boech magneto.

The fourth annual dinner of the club was held at the Colonnade Hotel, Birmingham, on Wednesday.

### MID-STAFFORDSHIRE.

THE first annual dinner in connection with the Mid-Staffordshire A.C. has been held at the Swan Hotel, Stafford. The Rev. S. Wickham Jones presided, and there were also present the Mayor (Councillor Andrews), Dr. Nesfield Cookson, Messrs. C. H. Riley, A. Wenger, E. W. Breton (deputy chief constable), R. Meade, F. Riley, R. Silvester, W. H. Peach, A. Amies, L. W. Potts, W. Seers, J. F. Wiltshaw, C. Heald, W. H. Scott, W. H. Riley, G. Brindley, H. Bird, J. H. Mottram, C. W. Miller, H. Charrington, T. A. Batkin, and T. Bailey. Letters of apology for inability to be present were received from the President (Lord Shrewsbury), Lord Ingestre, Mr. H. D. McLaren, M.P., Sir Alex. Henderson, Capt. the Hon. G. A. Anson, and others. After dinner Mr. Potts proposed "Success to the Mid-Staffordshire Automobile Club and Motoring generally," and the Rev. S. Wickham Jones, in responding, said that since the formation of the club in March, 1905, the membership had been doubled. They had held hill-climbing contests at Milwich, after which the members had tea together at the Crown Hotel, Stone, and at Oakamoor, when the members were entertained at Moor Court by Mr. T. A. Bolton. The members had also been invited to a meet at Ingestre, where, in the absence of the President, they were received by Lord and Lady Ingestre. The members had run their cars at Stafford for the benefit of the Hospital Saturday Fund and raised £10 11s. 6d., and at Stone about £7 was realised. The chairman, on behalf of the members, presented the hon. secretary (Mr. H. Charrington) with a handsome spirit tantalus and salad-bowl in recognition of his services to the club since its formation. Mr. H. Charrington acknowledged the gifts in suitable terms. Mr. C. H. Riley proposed "The Visitors," to which the Mayor, Messrs. E. W. Breton, W. H. Peach, and W. Seers responded.

### YORKSHIRE.

THE seventh annual dinner of the Yorkshire Automobile Club has been held in the Hotel Metropole, Leeds. There were over a hundred guests, and Mr. A. W. M. Boaville (vice-president of the club) occupied the chair. The chairman, in proposing the toast of "The A.C.G.B.I., the Motor Union and affiliated clubs," spoke of the good work the various clubs had accomplished.

Referring to the roads and taxation questions, the Chairman said he saw something of the other side of the question, because, as well as being a motorist, he was a member of various councils. In the old coaching days the highways were supported out of the toll money, and thus those who used the road paid for the road. When the railways came, through traffic on the roads ceased and the toll-bars were abolished, the roads being maintained by parish authorities. The

first thing that awoke the slumbering road was the tinkle of the bicycle bell. If motorists were to be taxed, as he supposed they would be, was it not time they began seriously to think whether the management of the roads was right? This was a difficult problem, but it would have to be faced. If they were to be taxed, let them pay the tax to some purpose, so that they might avoid any ill-feeling with the road authorities.

In responding, Mr. E. H. Hepper advocated the lighting of all vehicles, and the carrying of a rear light on all vehicles. Clubs like theirs, he contended, were doing the most to stamp out the road hog. No amount of police traps and fines would accomplish this. Mr. Gordon Learoyd (Huddersfield) also responded.

### AUTOMOBILE ASSOCIATION.

IN view of the festive season the executive of the Automobile Association have instructed their patrols, who will be on duty for five consecutive days, not to look too closely for the A.A. badge when called upon for help. This concession naturally cannot last for an indefinite time, but it is hoped that every motorist not already a member of the A.A. who may benefit by it will include membership of the Association among his New Year's resolutions.

LAST week the Chatham and District Motor Club held their first smoking concert.

THE members of the North-East Lancashire A.C. have presented their hon. secretary, Mr. A. Birtwistle, with a silver tray in recognition of his recent marriage.

COL. BOWLES, J.P., the chairman of the North London A.C., has invited the members of that flourishing organisation to hold their gymkhana next year at his residence, Forty Hall, Enfield.

### COMPANY NEWS.

#### NEW COMPANIES REGISTERED.

CAVE RIMS.—£5,000. To take over from Mr. C. B. Cave-Brown-Cave and Mr. J. B. Nicholson the business of manufacturers of and dealers in rims for motor-cars and vehicles carried on by them in Chesham, or elsewhere, as the Cave Quick-change Tyre Rim Syndicate. First directors, Messrs. J. B. Nicholson (chairman), C. B. Cave-Brown-Cave, and H. C. Walker. 72, Victoria Street, S.W.

STEVENSON WHEEL COMPANY.—£10,000. To adopt an agreement with Messrs. T. Stevenson, S. Stevenson, and D. Stevenson, of Glasgow, and to carry on the business of wheelwrights. The first directors are Messrs. T. Stevenson, S. Stevenson, B. B. Tuke, and W. Wright. The three first-named or the survivor or survivors of them, may, while holding half the ordinary shares, nominate two directors. The said T. and S. Stevenson are the first nominees. A. du Cros or his executors may, while holding 37½ per cent. of the ordinary shares, appoint one director, the said B. B. Tuke being the first so appointed.

#### COMPANY MEETINGS.

THE DAIMLER COMPANY.—An extraordinary general meeting has been held at Coventry to pass a resolution for increasing the borrowing powers of the company, which were limited to £60,000, of which £49,800 was outstanding in respect of debentures. Mr. E. Manville (chairman), who presided, said that debentures amounting to £10,200 had been redeemed, and that left them with a margin which was quite inadequate for a business of the size of the Daimler. He, therefore, moved, "That the power of borrowing money conferred upon the directors by the articles of association be extended to an amount equal to the nominal amount of the issued capital of the company for the time being." Captain Longridge (director) seconded, and the motion was carried unanimously.

PULLMAN, LTD.—The general meeting of R. and J. Pullman was held on Tuesday, Mr. E. E. Pullman, managing director, presiding. A greatly improved balance-sheet was presented, the profit shown amounting to £4,484. Reference was made to an early removal of the London address, and Mr. T. Croysdale, one of the directors, said that the non-skid introduced by the firm had become a valuable adjunct to their business. The report and balance-sheet were adopted and a dividend of 6 per cent. declared on the preference shares. Messrs. G. J. Nesbitt and A. Heiron were re-elected directors, and a vote of thanks to the chairman and his colleagues concluded the proceedings.

#### REPORTS AND BALANCE SHEETS.

THE report of Singer and Co. to August 31 states that the profits from all sources amount to £13,557 5s. 7d., and, after allowing for depreciation on plant, machinery, stock, patents, lands, and buildings, and also for directors and trustees' remuneration, there remains a net profit of £9,620 7s. 3d. After paying debenture interest for twelve months to August (£8,000), there remains £1,620 7s. 3d. in reduction of last year's deficiency. The motor department did not, up to the end of the financial year, show the improvement the board had anticipated, but in the interval the efforts which have been going on have resulted in the production of a new car, for which large orders have been received. In order to deal with the demand it has become necessary to provide an additional working capital of at least £20,000. This it is proposed to arrange for in connection with the Singer Motor Company, which was



registered in 1903 with a nominal capital of £1,000, of which fifty-seven shares, all held by Singer and Co. or their nominees, have been issued.

**PAGE BROTHERS.**—£2,000. To take over the business of motor and cycle manufacturers carried on by E. A. Page and C. L. Page at Brixton. Managing directors, Messrs. E. A. Page and C. L. Page. 162, Acre Lane, Brixton, S.W.

**THE British Motor Body Company (Ltd.)**, Bannermill Links Road, Aberdeen. Capital £5,000, divided into £1 shares. The subscribers include Messrs. Claud Hamilton, Alexander Fergusson, H. Prosser, H. G. Rennie, N. Clement Boyd, Robert D. Fraser, C.A., G. A. Lombazis.

**ROLLS-ROYCE, LTD.**—Applications for 100,000 Preferred Ordinary shares in Rolls-Royce, Ltd., have been invited during the past week.

### AN ENGLISH MOTOR RACING TRACK.

THE offices of the Brooklands Automobile Club, which has been licensed by the A.C.G.B.I. to hold motor race meetings on the new track near Weybridge, are at Carlton House, Regent St., W., and the committee, from among whom the stewards at each meeting will be appointed, comprises:—The Earl of Lonsdale (President), Lord Montagu of Beaulieu (Vice-President), the Duke of Beaufort, General Sir Redvers Buller, G.C.B., Viscount Churchill, G.C.V.O., Earl of Dudley, G.C.V.O., Earl of Essex, Col. H. C. L. Holden, Major J. F. Laycock, Lord Northcliffe, Mr. J. W. Orde, Mr. H. Owen, Mr. C. D. Rose, M.P.,

The Byfleet Plate of 550 sovs., for cars with engines of a cylinder dimension 110 to under 135 mm. Course about ten miles.

The Naval and Military Plate of 450 sovs., for cars with engines of a cylinder dimension 45 to under 60 mm. To be owned and driven by commissioned officers of His Majesty's forces on the active list. Course about six miles.

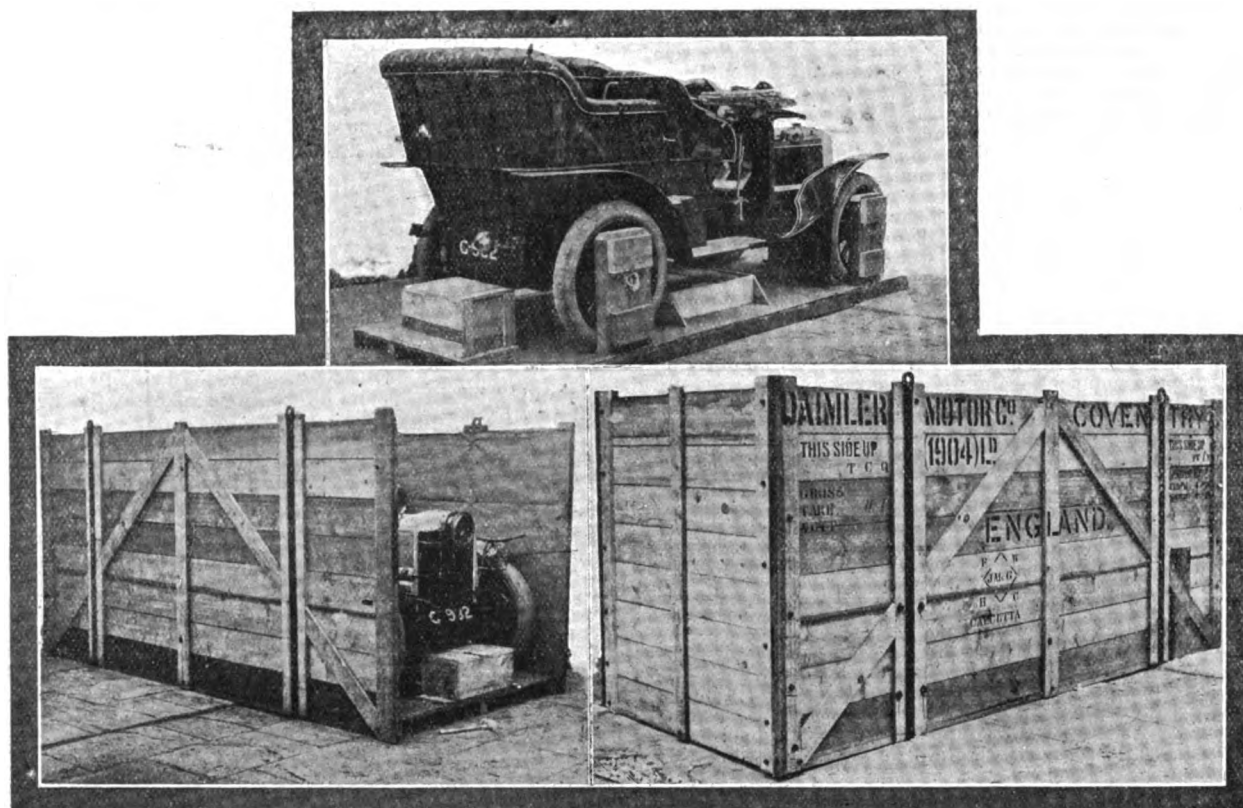
The First Montagu Cup of 2,100 sovs., for cars with engines of a cylinder dimension 155 to under 235 mm. Course about thirty miles.

The Marcel Renault Memorial Plate of 550 sovs., for cars with engines of a cylinder dimension 85 to under 110 mm. Course about twelve miles.

In all cases, except in that of the Montagu Cup, where the weight is specified as being 2,600 lbs., the weight is described as 3,000 lbs. The entrance fees are on a graduated scale, ranging from ten to 150 sovereigns, according to the promptitude with which they are made.

### THE RESPONSIBILITY FOR ACCIDENT.

IN the Civil Court at the Leeds Assizes the claim by William Harwood and Robert Willerton, Sheffield, who sought to recover damages from Reuben Thompson, owner of the motor-car garage, Sheffield, for personal injuries arising from a motor-car accident, has been tried. The plaintiffs hired a motor-car from the defendant for a



The Photographs herewith illustrate three stages of the Daimler System of Packing Cars for Foreign Shipment. The work is carried out with great care, and after many years' experience no case is on record of any damage in transit.

Earl of Sefton, Hon. Arthur Stanley, M.P., H.S.H. Prince Francis of Teck, Lord Tollemahe, Capt. J. H. Greer and the Duke of Westminster. Mr. H. Brown is the secretary of the club.

The committee have provisionally reserved the following dates for race meetings in 1907:—May 18th, June 13th, 22nd, and 27th, July 6th, 13th, and 27th, August 10th, September 14th and 28th, October 19th, November 2nd.

Plates will be offered at first, but subsequently it is intended to have frequent sweepstakes, and, when sufficient experience of racing on the track has been gained, handicap races and selling plates will be organised. The range of dimensions selected for different races will vary constantly, but each race identified by a name will be run under the same conditions of weight and dimensions whenever that race is repeated. Of the races announced below the committee intend that the Montagu Plate shall be repeated at least four times.

The races for which the entries close on April 2nd, 1907, and which it is hoped will be run at the May meeting, are as follows:

The Horsley Plate of 300 sovereigns, for cars with engines of a cylinder dimension 60 to under 85 mm. Course about three miles.

The Gottlieb Daimler Memorial Plate of 650 sovs., for cars with engines of a cylinder dimension 120 to under 125 mm. Course about fifteen miles.

run into Derbyshire, the car being driven by the defendant's chauffeur. The plaintiffs alleged that the driver travelled at an excessive pace, with the result that, in endeavouring to take a sharp corner, the car ran up an embankment. The plaintiffs were thrown out, and both seriously injured on the shoulder, ankle, and ribs. The plaintiffs, in evidence, said they frequently told the driver to moderate his pace, but he declined to do so. Mr. Ellison, for the defence, stated that the accident was solely due to the breaking of the steering gear, this preventing the car from taking the corner. The jury found for the plaintiffs, and awarded Harwood £130 damages, and Willerton £80.

### POLICE TRAPS.

READERS who become acquainted with police traps during the Christmas season are invited to favour us with particulars of the same, so that we may warn others.

TRAPS have lately been established on some of the roads outside Glasgow. There is one in the village of Fenwick, on the road to Kilmarlock.

THE police have lately displayed considerable activity on the Ilkley to Bradford road.

## CASES UNDER THE MOTOR-CAR ACT.

### RECKLESS DRIVING.

Mr. Paul Taylor has had before him at Marylebone Police-court, Charles Williamson, chauffeur to Mr. W. H. Lever, M.P., who was summoned for driving at a speed dangerous to the public, also for failing to give warning of his approach. About six o'clock p.m. on November 21st the coachman to Dr. Henderson was at Haverstock Hill in charge of a pair-horse carriage. Having set down his master on the west side, and seeing the road clear, he turned his horses and got three-quarters across the thoroughfare when he saw the motor-car coming down the hill behind him at a tremendously fast pace. The next moment the defendant's car dashed into the space between the carriage and the kerb. The carriage was turned completely round, the horses reared and then bolted, and the coachman was thrown from his box, and received serious internal injuries. The defence was that the car was going at the moderate speed of fifteen or sixteen miles an hour, but the night was dark. The carriage turned unawares, and he (defendant), to avoid the carriage, tried to pass him on the near side. The magistrate fined the defendant £5, with £2 9s. costs.

### A QUESTION OF IDENTIFICATION.

At Marlborough Street Police-court, London, on Saturday, George Brown was summoned, before Mr. Denman, for driving a motor-car in a manner dangerous to the public. Mr. E. F. Barker prosecuted on behalf of the Commissioner of Police. Thomas Hale, a carman in the employment of the Great Western Railway Company, deposed that while he was driving a pair-horse van along Oxford Street in the afternoon on November 21st, close to a refuge, a motor-car going in the same direction tried to pass between his van and the refuge. There was not sufficient room, and the car "caught" his off-side horse, threw the animal on its knees, causing injuries which necessitated it being kept from work for about fourteen days. The car passed out of sight "like a flash of lightning." Constable Hancock, D division, said that owing to information received he, on the day in question, went to old Cavendish Street, where he saw a motor-car. The defendant was the driver, and along with him was Mr. Ralph Grigg, the owner of the car, which was then standing still. When the defendant was asked if he knew there had been a collision he said the driver of the van pulled out after seeing the front of the car pass. The defendant, on oath, said he was not driving the car at the time in question. His employer was driving. Mr. Denman, in giving his decision, said he thought when the constable arrived upon the scene Mr. Grigg ought to have told that officer that he was driving the car at the time. As it was shown that the defendant was not driving the car at the time the summons against him would be dismissed. Mr. Barker asked for a summons against Mr. Grigg, which was granted.

### PUBLIC MOTOR SERVICES.

At a meeting of the Society of Motor Omnibus Engineers, held at the Hotel Cecil, London, on Monday, Mr. A. A. Campbell-Swinton said there were 789 motor-omnibuses running in London last month; each omnibus carried on an average 800 passengers a day. The motor-omnibuses in London were therefore carrying 184,000,000 passengers per annum, and were taking £1,000,000 per annum, or £4 gross earnings per omnibus per day.

THE Fulham Borough Council has come to an arrangement with the London General Omnibus Company, Ltd., the London Road Car Company, Ltd., the London Motor Omnibus Company, Ltd., and the London and District Motor 'Bus Company, Ltd., to accept one-half of the cost of reinstating any street lamps knocked down or damaged by motor omnibuses belonging to them.

THE shareholders of the London Motor Omnibus Company, Ltd., have received a synopsis of a scheme, recommended by the Board, which aims at an important amalgamation of the motor-omnibus services. It is proposed that the undertaking of the London Motor Omnibus Company "Vanguard," the London and District Motor 'Bus Company "Arrow," the Motor 'Bus Company "Pilot," and the London and Provincial Motor 'Bus and Traction Company "Arrow," shall be combined in a new company, with an authorised capital of £1,200,000. The name suggested is the "Vanguard" Motor Omnibus Company.

THE conference of Metropolitan authorities to which reference was made on page 916 of our last issue, and which was sitting as we went to press, finally adopted a resolution expressing the desirability of securing more efficient supervision of motor traffic in London.

IN the Court of Appeal, before Lords Justices Vaughan Williams, Moulton, and Buckley, the matter, Attorney-General v. Mersey Railway Company, heard some days ago, has again been mentioned. Acting on behalf of the Birkenhead Corporation, the Attorney-General had applied to Mr. Justice Warrington for an injunction to restrain the Mersey Railway Company from running omnibuses in Birkenhead which not only conveyed passengers to their railway stations, but accommodated "pick-up" passengers who were not going to the station. His lordship granted the injunction on the ground that the business of omnibus proprietors was neither incidental to nor consequential upon the business of a railway company. From that decision the defendants appealed last week, and, conditional upon their giving an undertaking to abandon the "pick-up" traffic, the Court said the injunction would be discharged. The matter was adjourned to allow the parties time to consider the

position, and when the matter was mentioned again it was stated on behalf of the railway company that they were prepared to give an undertaking that the omnibus service should be run as a service for railway passengers, and as far as was reasonably practicable it should be confined to passengers going to and from the stations. In these circumstances the Court discharged the injunction, except in so far as it referred to the cost of the original application, and made no order as to the costs of the appeal. The buses referred to in the case were motor-buses.

### CHAUFFEUR v. EMPLOYER.

MR. ARTHUR ROBERTS was sued in the Westminster County Court by a chauffeur for the recovery of £7 17s. 6d., salary said to be due in lieu of notice. Mr. J. S. Merton, for the defence, said that the plaintiff was dismissed in consequence of negligence while in Ireland. He ran Mr. Roberts's car into a cow, and damaged the lamps, and later on, in Glasgow, he ran into a Corporation tramcar and did damage to the extent of £30. After that he ran into a wagon, and smashed up a second car. His Honour gave judgment for the defendant in respect of the claim for salary, and said he could not conceive how the plaintiff had been induced to bring the action. As to the claim for certain items which the plaintiff had expended, and which the defendant admitted, there would be judgment for the plaintiff.

### ROAD REPORTS.

KENT.—There are no repairs contemplated in the Foles Cray district of Kent for the next six months at least.

HERTFORD.—With the exception of about a furlong on the Hitchin road, the authorities in the Baldock district have finished their repairs for this season. They never take in hand more than about 300 yards at one time on the main roads and put the roller on immediately. About April or May they will be laying about nine furlongs of water mains on the Stevenage road, but it will not be necessary to divert traffic as the roads and streets are very wide. Since the King has passed this way no less than seven times during the past six months, the main street may well be termed the "King's Highway."

LEICESTERSHIRE.—Two short lengths of main roads in the Coalville district will be under repair during the course of the next week or two, just at the entrance to Coalville from Leicester, on the Leicester and Ashby main road, and the centre of Hugglescote, on the main road leading from Market Bosworth to Coalville.

MIDDLESEX.—It is not anticipated that it will be necessary to carry out any extensive repairs on the main roads of the Brentford district during the next few days.

ACTON.—There is only one main road in the Acton district. This is wood paved and under the charge of the Middlesex County Council, being kept continuously in repair under a contract.

"DAIMLER SUCCESES IN 1906" is the title of a very handsomely got up pamphlet which the Daimler Motor Company, Ltd., has just issued. The successes of this car during the past season have been so numerous that it is not surprising to find the booklet extend to close upon forty pages, the interest being increased by the numerous illustrations which accompany the text.

## TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London; W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee if any, required for reproduction should be stated in each case; otherwise no liability will be accepted.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment or some is directly specified in forwarding, and the terms arranged before publication.

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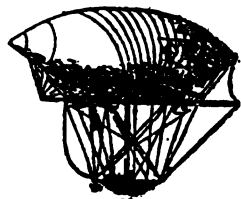
## NEW YEAR'S GREETINGS, 1907.

Good wishes we send in the form of a sonnet,  
And hope that you'll ne'er have a bee in your *bonnet*.  
That your joys and your pleasures may ever be such,  
Of despair, and of sorrow, you'll ne'er feel the *clutch*.  
Disappointments and cares may you meet without fear,  
May you never feel tired, never get out of *gear*.  
That as time passes onward you'll find there's no need  
To go racing through life at the very *top speed*.  
Then remember, sincerity's better than gush,  
And a bird in the hand is worth two in the *bush*.  
If you've illness, don't let it e'er get a fixture,  
But obtain for yourself at once the *right mixture*.

You'll find, too, no doubt, that it is most essential,  
That your manner is good, sometimes, *differential*.  
May you ever succeed now in making your mark,  
May nothing and no one e'er *retard* your *spark*.  
Now we hope that your joys will increase more and more,  
That of good things you'll be an *accumulator*.  
Then may you face bravely hard times and bad weather,  
And remain to the end in capital *feather*.  
In conclusion, we wish that your cars, every sort,  
May run very well in the manner they ought.  
Of disasters and punctures may you have no fear,  
May you have, from the first to the last, a good year.

L. B.

## COMMENTS.



UNDER the auspices of the Aero Club, the Aero Club Institute is being formed to encourage the study of aeronautics in all its branches, and to examine and report on proposals for practical aviation. Now that the public interest in the navigation of the air has been thoroughly whetted, and inventors are giving the matter serious study, we commend the new Institute to the support of our readers. In addition to the objects already mentioned, it will also endeavour to assist members in competing for the prizes arranged by the Aero Club, and will provide a meeting place for all at work on the problems that are arising in connection with the new movement. The subscription has been fixed at a low rate, and further particulars can be obtained from Mr. H. E. Perrin, the secretary of the parent organisation, at 166, Piccadilly, W., who will also send information to persons interested in the Aero Club Section of the International Motor Car Exhibition at the Agricultural Hall, London, which will inaugurate the automobile season of 1907.

### Organisation.

THE necessity for the organisation of motorists may be less urgent than was the case five years ago, but its importance is almost as pronounced. Hence we would suggest that among the New Year's resolutions which our readers will probably make should be one to join one or other of the societies that exist for the defence of motorists or the advance of the movement. Especially is this desirable in the provinces, where the existence of a virile association of motorists may prevent the imposition of speed limits and lessen the prejudice of the police. And yet there are many places where motorists have held aloof from the organisation formed for their behalf and protection. At Huddersfield, for example, there are more than 300 owners of automobiles in and about the town, yet only just over 100 of them belong to the very active local branch of the Yorkshire A.C. This is all the more surprising when the good work of the Centre is recounted—their efforts having been directed towards creating a good feeling between the townsmen and themselves, as

well as making useful suggestions to the Corporation with regard to the provision of notice-boards, &c.—proposals which, we have lately learned, have been adopted by the authorities. All these things are for the good of the motor-car movement as a whole, and what has been done in this area of Yorkshire has been carried out elsewhere. Hence the view that it is one of the first duties of the motorist to become one of the organised body which constitutes the Movement.

### Ten mile Limits.

THE year, which has been singularly free from applications from local authorities for the restriction of speed limits, closes with the issue of two ukases from the Local Government Board which will come into force with the New Year. Recently, the Guildford Town Council applied for such a limitation, and an inquiry was duly held. The result has just been made known, the petition of the authorities having been acceded to so far as several thoroughfares are concerned, notably in the London road, from the point where it joins the High Street, for a distance of 140 yds.; the High Street; the Town Bridge; and portions of the Portsmouth, Farnham and Epsom roads, nearest the main thoroughfare. Motorists journeying southward on and after Tuesday next should remember the ten mile limits in the vicinity of Guildford.

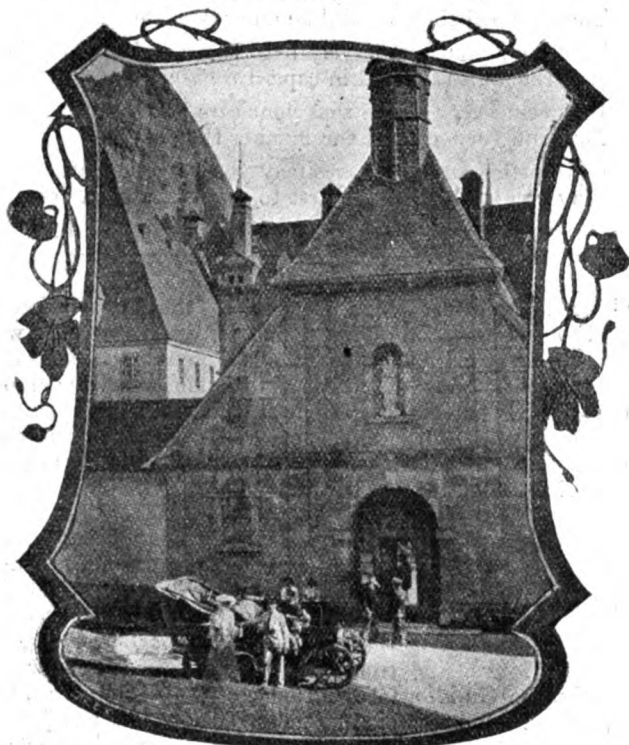
### Speed Limit at Newmarket.

CONSEQUENT upon repeated complaints of the danger to racehorses, their riders, and the public owing to the speed at which many motor-cars pass through Newmarket Urban District, especially the High Street and the approaches to the racecourse and training grounds, application was recently made to the Local Government Board through the West Suffolk County Council to impose a speed limit of ten miles per hour from the Bury Road Toll Bar, through High Street to the Cambridge Road Toll Bar, Newmarket, a distance of three miles. A public inquiry was subsequently held. The Local Government Board, however, has just issued its sanction to the speed limit, but it is understood that it will not come into operation until the councils have notice-boards erected, which will probably be early in the New Year.

It will be remembered that although the automobile organisations gave evidence at the inquiry, they did not seriously oppose the suggestion for a speed limit owing to the exceptional circumstances of the case.

### Glaring Headlights.

THE Council of the Chambers of Agriculture have been considering the report of the Royal Commission on Motor-Cars, expressing general agreement with the same, with the exception that they are opposed to any relaxation of the speed limit, and believe that the increase which has been noticed of late in the cost of road maintenance should be met by a further tax being imposed on automobiles. They have also been considering the glaring lights with which many cars illuminate the road, frightening horses which are travelling in an opposite direction—so it is alleged. One of the leading speakers drew attention to the necessity for a cover to slip over the lamps on the approach of other vehicles; but this idea of sudden transference from light to darkness is based on a somewhat erroneous conception of the remedy. The only satisfactory solution is to



Touring in France. At the Gates of the Monastery of the Grand Chartreuse.

be found in those devices which secure a brilliant lighting of the road surface itself, whilst being unaccompanied by the glare straight ahead. Fortunately lamp manufacturers generally are fully alive to the necessity of meeting this new need, and many excellent examples of really efficient headlights, where the light is not sufficiently blinding to prove a danger to other travellers, have been brought out during recent months. As in the case of cars, the objectionable features of headlights will gradually be eliminated, if, instead of wholesale condemnation, the critics of the automobile will exercise a little patience, and give encouragement where efforts at improvement are made.

### The T.T. of 1907.

WE have received a copy of the Regulations for the International Tourist Race of the A.C.G.B.I. for next year, a feature in which is the offer of special awards for cars which are entirely of British manufacture. The distance of the race is to be within the 150 and 300 mile limit, and the cars will be required to run on an allowance of one gallon of

spirit with a specific gravity of 0.715 to 0.725 at 60 deg. Fahr. for every 25 miles. This will also be supplied for practising purposes if desired. In view of last year's experience ballast will have to be carried in the form of lead instead of sand and must be secured before the race begins. Although next year the cars will be started in the order of the receipt of the entry, the committee reserves the right to decide the order of starting by ballot in subsequent years. The entrance fee has been fixed at £25 per car if received before May 1st.

### The Chassis and the Body.

IN past years much discussion has taken place with regard to the "imitation touring bodies" which have been fitted to cars competing in the event, and on the last occasion one private owner withdrew his entry when he went to Manxland and saw the class of bodies with which chassis were allowed to be fitted. We trust that the committee will see that regulation 10—"the body shall be substantially constructed"—is really adhered to by entrants. This rule also provides that "the body shall be easily removable, by undoing not more than six bolts or hinges, and this removal of the body shall not entail disconnecting any part of the ignition apparatus, mudguards, lubricator connections, fuel pipe work, the fixings of any tank, or any pipe connection to the tank." Efficient mudguards are also to be fitted to front and rear wheels, and must be flat and set without splay. The steps should be continuous with the mudguards, and steps and mudguards must be attached to the chassis only. The width of the front mudguards shall not be less than 10 in., and of the back mudguards and footboard not less than 8 in. No part of any mudguard or footboard shall be less than 8 in. from the ground when the car is fully loaded. Efficient silencers must be fitted to all cars, and no form of auxiliary exhaust release will be allowed to be fitted. With regard to the dimensions of the chassis, it is required that the track shall not be less than 4 ft. 6 in., the distance from the dashboard to the front edge of the back tyres shall be at least 5 ft. 3 in. The platform behind the dashboard must be not less than 7 ft. 6 in. long, and the body must cover that area, while a clearance of at least 8 in. must be maintained from the ground when the car is fully loaded.

### Motor Launches on the Thames.

THERE are no fewer than 400 motor-launches registered with the Thames Conservancy Board, at last week's meeting of which it was reported by the General Purposes Committee that they had considered the question of the arrangements to be made under the Thames motor-launch by-laws for the inspection of petrol motor-launches prior to the granting of certificates of compliance with structural requirements. They were of opinion that a careful examination by an expert of undoubted authority would be required, especially at the inception of the system, when alterations of existing installations would probably be necessary in many of the vessels now in use, and questions of a highly technical character might arise. Sir Boverton Redwood was prepared to undertake the inspection. The charge of £500 which it is expected the inspection will take will fall on the Conservators, as they have no power to require the owners to pay the inspection fee.

### A Year Book.

As compactly printed as in previous years, and with every care taken to secure the needful accuracy in such a publication, the "Daily Mail" Year Book for 1907 constitutes a useful handbook on the questions of the day. As might be expected, the references to motor and road questions are fairly complete, although we do not understand why the Automobile Association and some other organisations connected with automobilism have been omitted from the list of societies while more space has been given to the Road Club than has



been allotted to the A.C.G.B.I. The membership of the Motor Union is set down as 11,000; "an increase during 1905 of 4,000." Surely there should be no difficulty in bringing this a little closer up-to-date, and, in view of the tests we have applied to other sections which we have found faultless, it is unfortunate that a glance at the motor-car section should have revealed this weakness. We have, however, nothing but praise for the synopsis of the findings of the Motor Car Commission; the lucid statement with regard to traffic in London and the problem of the highways; as well as the chapter by the Rev. Arundel Whetton, who has managed to find a new phrase in connection with the movement when he says that "the Post Office has decided to motorise their coach services as readily as possible."

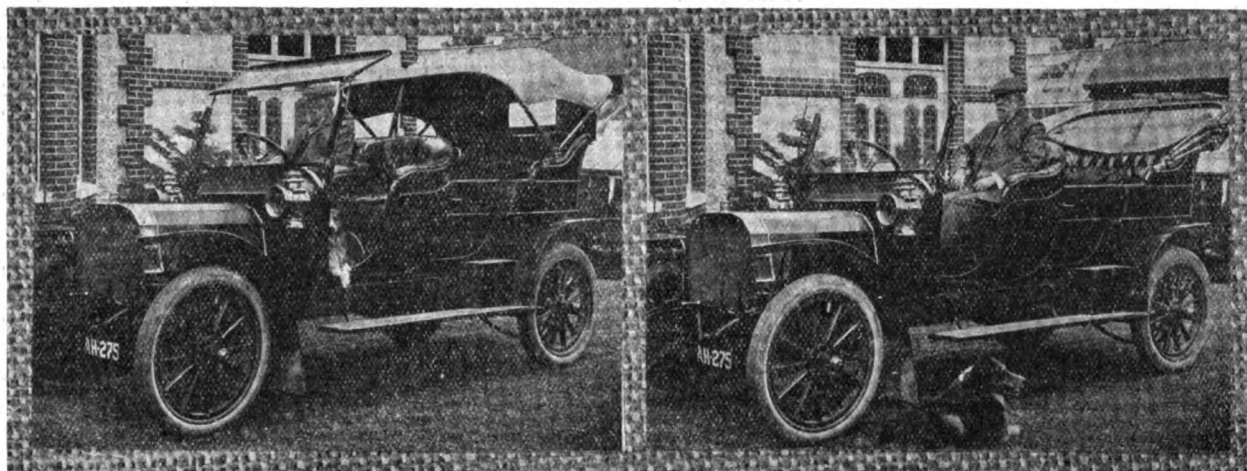
#### Distinctions for Drivers.

THE idea that medals or diplomas should be given to those drivers who remain for certain periods of service in the same employ is one that is likely to be favourably considered by the executive of the A.C.G.B.I., to which it has been referred by a committee. We believe that the present intention is that these awards should only be made to those drivers who hold mechanical or driving certificates of the Club, a fact which should secure an even greater importance being attached

enterprise, with the representatives of the Government playing the part of "observers" or travellers. Surely they can do something more than this.

#### Protection from Wind and Rain.

MR. ERNEST ESTCOURT, of Wroxham, Norfolk, is a pioneer motorist, and was a most regular attendant at all the earlier meets and tours of the Automobile Club when the cosy Whitehall Court premises promoted the social instinct among members in an infinitely better degree than is possible in a larger club. He was always demonstrating little improvements and ever ready to place them at the command of others. Now he sends us particulars of his plan for sheltering from wind and rain while driving, and the illustrations herewith will assist our readers to a clear idea of the principle involved. It will be noticed that the main feature of this wind shield is the sloping glass. This is always in use by Mr. Estcourt. Should a sudden storm come on, the occupants of the back seat can always put up the hood without stopping the vehicle. The sloping top screen will be found sufficient protection for the front seat, and it is seldom that anything else will be required; but an extension of the Cape cart hood can be fixed between the screen and hood in a few minutes. This forms a very snug arrangement. The important point in the construction of the device is to have the



Two Views of the Adjustable Glass Screen on Mr. E. Estcourt's Car

to these examinations than has hitherto been the case. Regard will also have to be paid to the condition of the driver's licence, and this may sometimes mean an official review by the Club authorities of the evidence given against a driver in any case in which he may be unfortunate enough to incur a magistrate's displeasure, for to accept endorsements on licences as evidence of the man's ability or character would be obviously unfair.

#### Professors of Automobilmism.

"SLOW, but sure," is the most accurate form of reference to the technical education movement now going on in this country with regard to automobilism. In Spain the young King has accelerated the pace somewhat, and has appointed a Professor of Automobilmism in the School of Arts and Crafts in Madrid. Possibly similar encouragement may be given in Britain when a more insistent demand is made, and it would certainly be to the national advantage if this branch of engineering received more distinct recognition from the authorities at the Universities. Research work is still wanted in many directions, and many technicalities are ready for investigation in the laboratories of the Universities. The subject is a real "live" one, and some of the money, that is now devoted to ancient science might well be applied for modern movements. At present all trials and tests have to be undertaken by private

sloping glass screen not higher than on a line with the driver's eye. The slope of the glass entirely obviates all danger of reflection from the lights of the rear, and the general plan seems a very good one. We shall be pleased to hear from other readers who have made equally interesting and useful accessories for their cars; while general suggestions on the subject would doubtless be read with profit.

#### The Motor-Bus Amalgamation.

AT the extraordinary general meeting of the London Motor Omnibus Company, Ltd., on Friday of last week, Mr. A. T. Salisbury-Jones, the chairman explained the scheme in which the new company would have a nominal capital of £1,000,000 in preference and ordinary shares and £200,000 in debentures. The new company will have a fleet of 600 motor-buses, as compared with the 300 to 400 now running by the four concerns included in the amalgamation. This should, on the basis of the experience already gained, enable them to carry 200,000,000 passengers a year, and secure an income of a million sterling. At the meeting of the Motor 'Bus Company, Ltd. which was constituted about ten months ago, Mr. S. Wheeler, the chairman, mentioned that their garage in Shrubland Road, Dalston, is capable of accommodating 140 buses, fifty of which have been delivered, and about a score are coming forward

every month. Mr. A. A. Campbell Swinton presided at the meeting of the London and District Motor 'Bus Company, which has fifty motor-buses and a garage not far from the Fulham Road, capable of housing 200 motor-buses. Mr. Swinton subsequently took the chair at the meeting of the London and Provincial Motor 'Bus Company, which, although only running ten 'buses at the present time, has a hundred on order, the chassis being made by Messrs. Armstrong, Whitworth and Co. In the end the various gatherings declared in favour of the amalgamation, which should certainly make the problem of the metropolitan motor-buses a very interesting one, having regard to the presence of other competing companies against one so well situated as this will be for the organisation and administration of its men and machines.

#### The Car as a "Jiffy."

THERE is little that is new in Lady Violet Greville's fascinating article in the "Rapid Review" on how the motor has revolutionised Society. The cars "came, saw and conquered. The earliest were built for"—and by, Lady Greville might have added—"enthusiasts, the next for millionaires who wanted expensive toys, but the succeeding ones served for ordinary ones with purses not so long." That is the stage at which motor-cars have arrived, killing the "Liver Brigade" that was wont to ride in the Park, and causing the boatmen on the river to complain of lack of custom. The distinguished authoress rushing describes the joys of speed, and in an excess of enthusiasm declares that "Romance comes with the motor, facilitating quick-travelling elopements. The youth snatches up his bride and conveys her in a jiffy from her parents." Really we must protest against motor-cars being designated by such a word—the incursion of which into Lady Greville's vocabulary is indeed a startling sign of the times.

#### Bills in Parliament.

AT the last meeting of the Committee of the Motor Union the secretary submitted a list of private Bills to be introduced into Parliament which he had had prepared from the notices appearing in the "London Gazette." It was resolved to take steps to obtain copies of the more important Bills and also agreed that the examination of these Bills, to see whether they contained any provision restrictive of automobilism, is a very important matter. The committee would be glad if any members of the general committee who are interested in this department of the Union's activity, would communicate with the secretary, with a view to their names being added to the committee. Local clubs, too, should see the way in which private Bills may affect their districts.

#### Motor Union Insurance.

THE action of the Motor Union in forming its own insurance company for the exclusive benefit of its 14,000 members has been followed with great concern in automobile circles. That interest will be stimulated by the publication of the insurance prospectus of the company. The insurance scheme provides that the Motor Union shall be directly represented upon the board of management, with the result that its representatives have been able to secure for members some unique insurance facilities which the Union had been unable to obtain through existing agencies. The policies of the company, the issue of which will commence on New Year's Day, are free from limitations, and cover the car when driven not only by the owner or his paid driver, but when being driven by any person licensed to drive a car. An important feature of the policy is designed to secure that a car disabled in an accident shall be upon the road again within a few days. This result is secured by: (1) Giving the assured authority to cause repairs to the value of £2 10s. to be carried out without waiting for the company's sanction; and (2) paying special compensation of £1 per day if the repairs to the

car are not completed within fifteen working days from the date of the acceptance of the estimate for such repairs by the company.

#### Motor-Boat Trials.

A JOINT meeting of the special committee of the Motor Yacht Club and the Society of Motor Manufacturers and Traders was held on Wednesday of last week, when further alterations were made in the rules for the reliability trials for 1907. The position of those manufacturers who declare the price of their boats is safeguarded by an addition to the rule which renders the guarantee "subject to market fluctuations in the price of material." A provision has been made for the safeguarding of any boats that may be berthed outside the dock, and a penalty imposed on any competitors who commit a breach of the rule of the road. Various other alterations will be found which will simplify and at the same time make certain rules more comprehensive. Classification has been entirely revised, rendering it much easier for the general public to distinguish between the different classes. The scale of marks has been greatly enlarged, and a new heading, "Design and construction of hull," introduced. Competitors will be required to be in dock by mid-day, so that the judges may make a preliminary examination of the boats, though on payment of a fine late arrivals will be admitted up to a certain time.

#### Provincial Gatherings.

So much interest has been taken in the provincial gatherings of the Motor Union that the first notes which motorists should make in their new diaries are the following, with reference to the meetings of that organisation in the country:—May 18th, Lincoln; July 20th, Southport; Sept. 14th, Leicester. Several other places gave invitations, but, after due consideration, the foregoing were selected for the honour. Southport will thus have the distinction among seaside towns; Lincoln will introduce strangers to new fields of antiquarian interest, and the city will afford some hill-climbing tests in ordinary traffic; while Leicester will present the picture of a modern industrial town that has always proved friendly to our movement. At all these towns the resident motorists are well organised and the meet should prove highly popular.

THE Wolseley Company's new garage in Manchester is now available for members of the Motor Union on favoured terms.

MESSRS. FRISWELL (1906), LTD., have instituted a general agency department for the purpose of supplying any make of car, taking any secondhand car in part payment. Not only has there often been difficulty in disposing of old cars to advantage, but also in selecting the new one. By the new plan motorists will be able to quickly dispose of their old cars, taking Peugeot, Westinghouse, Standard or any other type of car in exchange with, of course, the necessary money payment to make up the purchase price.

LADEN with Christmas parcels, the Birmingham to Worcester motor mail, which came to grief on a steep hillside some time ago, was again in trouble on Friday of last week, when it collided at Marlbrook, near Bromsgrove, with a furniture van. Both vehicles were badly injured, the motor-car sustaining damage to its engine, besides having its bonnet and lamps smashed. Repairs were effected at Bromsgrove, and the mails were taken on to Worcester after several hours' delay.

THE new repair works of Messrs. Panhard and Levassor at Acton Vale have separate departments for body repairs, wheelwrights' work, and magneto repairs. The company undertake repairs to cars of any make or type, and will continue the work of lengthening short chassis, so that they will take long, roomy, side-entrance bodies. Engines taken in for overhaul will be run and tested on the brake before being put back into the frame, and the large piece of ground set aside for future extensions is at present circled by a track on which cars can be tested.

## SOME REMARKS ON PRE-IGNITION.

THE treatment of the subject of pre-ignition leads into many channels. It is necessary to discuss the fouling of the combustion chamber, which is probably the most common cause of this annoying phenomena; improper cooling, due to numerous causes, each of which leads into a separate field of discussion; and compression and carburation. In fact, it may be said that pre-ignition is at present the limit placed upon internal combustion engine efficiency. There is a certain amount of heat, and only a small percentage of it can be utilised for power. And why? Because heat, as handled in the gas engine, is an unruly, unmanageable element. It cannot be confined or stored, or its intensity prolonged. It is generated instantly and departs instant. If there is an infinitesimally small crevice, it will blow through to the atmosphere; if there is a cold or cool cylinder wall, it will dodge work by shrinking to the original volume of the unexploded gas; if the gas is ignited between surfaces in too close proximity, combustion will lag and be incomplete at the opening of the exhaust, overheating the motor and outlet pipes; if the gas is too rich in fuel the same thing will happen, and if too rare it gives a slow burning mixture, which not only fails to produce power, but pops back into the inlet pipe and carburettor.

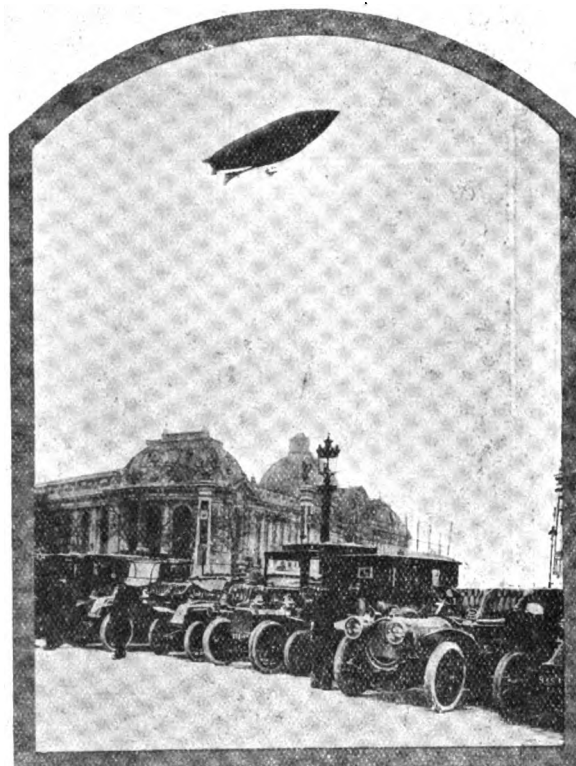
There is no settled rule in regard to the most advantageous compression—both low and high pressures have their advocates. In the more recent text-books 90 lbs. gauge is laid down as the limit for petrol motors. Beyond this pressure pre-ignition is supposed to appear and reduce the efficiency of the engine. Apparently pre-ignition is regularly present in some motors working under a full head of gas at high speed. With compression exceeding 90 lbs. gauge it is next to impossible to run on the slow speed without knocking. Observe one of these high compression motors. Watch the driver when the speed of the car drops below ten or twelve miles an hour; see the change-speed lever go a notch lower down. The speed of the motor must be maintained at a point where the inertia of the flywheel will overcome any back pressure, the result of pre-ignition. It is my theory, remarks a writer in the "Motor Age," that at 90 lbs. compression and a wide-open throttle a certain amount of pre-ignition will occur. It may not be noticeable at high speed; it probably is not, because the charge may necessarily be fired by the spark before pre-ignition occurs. Take the case of an overheated motor, which continues to fire after the current is switched off. It never runs at any great speed; its revolutions are slow. This demonstrates one of two things—either the cause for the self-ignition is not sufficiently energetic to lead to rapid propagation of the flame, or pre-ignition occurs later than the spark would fire the charge normally.

It is believed that the greatest harm coming from pre-ignition is from over-rich mixture. There is but one carburettor on a four-cylinder motor. Its proper adjustment would not be at all difficult provided the four cylinders were uniform. But how often is heard the assertion, even by makers, that "every multiple motor has its weak cylinders." What does it mean? It means that compression in all cylinders is not uniform. The irregularity may be occasioned by a difference in volume of clearance space; leaks around valves or rings, or lack of uniformity in the operation of the valves. Or irregular operation may result from faulty timing or coil adjustment, a difference in the space between the sparking plug points or leaky electrical connections, which cause one or more cylinders to fire out of time.

When these irregularities occur recourse is too often to the carburettor as the quickest and easiest remedy. There is a leak past the valve or rings in one cylinder, allowing a percentage of the gas to escape during compression. Lower compression requires richer mixture to fire, with the result that the weak cylinder does not fire. The motorist opens the throttle and gives all four cylinders more gas; the weak cylinder immediately begins firing and the operator considers his adjustment successful. But it is not. He has made his mixture right for the weak cylinder and wrong for the three normal ones. True they work,

but they do not develop their full power. Moreover, the mixture, being richer than is needed in the three good cylinders, will not stand the heat of compression. Pre-ignition is the result, evidenced in this case by knocking under full throttle at high speed. The majority of supposedly loose connecting rods may be remedied by overhauling the motor and securing even compression.

It is remarkable how cool a motor will run, even at the limit of compression, when all cylinders are perfectly tight. The fuel in the mixture can then be reduced to a minimum. When the proportion of petrol in the mixture is just right, combustion is complete; the gases burn, expand quickly, do their work, and when the exhaust valve opens leave no abnormal surplus to waste. It may be laid down as a rule that there is a fixed amount of heat in a quantity of liquid fuel. If properly mixed with air so that the time required for complete combustion is in proper relation to the piston speed of the motor, it will be economically employed; if the proportions of fuel and air are wrong, and the mixture so rich in petrol as to cause it to be so slow burning that it is not perfectly consumed by the time the



The "Patrie" Air Ship passing over the Grand Palais, Paris.

piston reaches the end of the stroke, then combustion continues out past the exhaust valves, and into the silencer, with consequent loss of both fuel and power. The average motorist does not realise the importance of perfect compression and regular firing. Without uniform compression the motor will never develop its maximum efficiency, nor will it ever run smoothly and sweetly. Either the weak cylinders will miss fire, or the normal ones will pre-ignite, knock and overheat.

THE Prosper Lambert Company, of Nanterre, France, is reported to have secured an order for 1,000 12-h.p. double-cylinder motor-cabs for service in Paris.

ACCORDING to "Answers," "ladies living in nice houses in the country, but with small incomes, have splendid opportunities now for making money by providing luncheons for motorists. The village inn does not satisfy the demand of car owners. Motoring makes them hungry, and what they want is a really good meal, well cooked and served. Ladies willing to cater for motorists should advertise in the journals devoted to motoring. They would find the venture a paying one."

B

# Motoring in Berlin.



1. One of the Motor 'Buses of the Berlin General Omnibus Company.
2. A Motor Cab easily outdistancing a horse-drawn vehicle.
3. Engine Troubles.

4. In the Friedrichstrasse, Berlin.
5. At the Brandenburger Thor, Berlin.
6. One of the many powerful "droschkas" which ply for hire in the German Capital.

[Allgemeine Automobil Zeitung.]



# The Paris Motor-Car Exhibition.

(Continued from page 950.)

## Some Swiss Cars at the Show.

Numerically Swiss motor-car builders made a much bolder display at the *Salon* than did British makers, among the vehicles represented being the Saurer, Orion, Stella, Lucia, Helios, Millo, and Turicum.

### The Turicum Voiturette.

One of the novelties in the voiturette section of the Show was the "Turicum" two-seated car exhibited by LA FABRIQUE D'AUTOMOBILES TURICUM, of Uster, Zurich. Two models are made, one fitted with a 6-7-h.p. single-cylinder engine, 110 mm. bore by 110 mm. stroke, and the other with 10-12-h.p. four-cylinder motor, 80 mm. by 80 mm. Both are air-cooled on novel lines; as will be seen from Fig. 47, the cylinder heads are surrounded by a horizontal chimney of aluminium, in the forward end of which is fixed a large fan, driven by a belt off the engine crank shaft. A similar arrangement is adopted in the single-cylinder motor, the makers stating that it gives excellent results in practice, they having had no cases of overheating even on the steepest hills. The transmission, too, is a departure from the usual practice, being by friction, a plan which has already

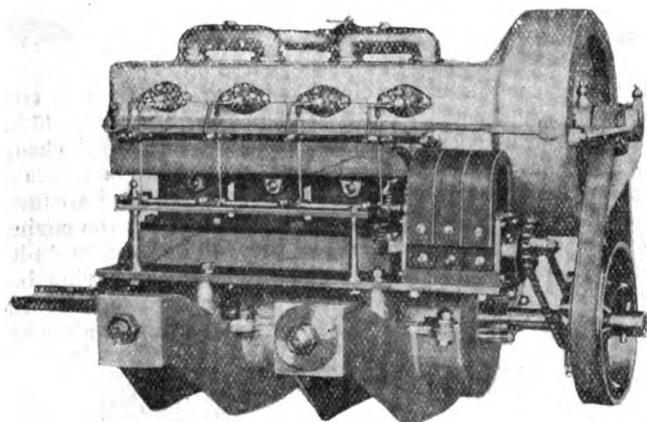


Fig. 47.—The Turicum 10-12-h.p. Four-Cylinder Air-Cooled Engine.

been adopted on the Maurer-Union, Frick, and Armadale cars. The engine shaft is extended to about the centre of the frame and carries on its end a large disc; at right angles to this is another disc free to be moved laterally on a cross shaft; the latter has a slight to and fro movement, so that when the position of the sliding disc has to be changed it can be brought out of contact with the fixed one. By means of the gear any desired speed between zero and maximum can be obtained, while when the sliding disc is brought over the centre of the other a reverse motion is obtained. The final drive is by a single side chain. The springs, again, are somewhat of a novelty, and consist of a long thin flat spring wound round several times so as to form a circle, which, when under loads, assumes an oval shape. The road wheels are of the artillery type with tubular steel spokes. The frame of the car is of wood and the ignition is by low tension magneto. As will be seen, the "Turicum" is certainly interesting from the point of view of novelty, and, so far as it goes, appears to be well made. Whether it is likely to give good results in practice on English roads can, however, only be verified by a practical trial.

### The Millo and Saurer Cars.

One of the most interesting of the Swiss exhibits was that of the SOCIÉTÉ DES AUTOMOBILES MILLO, Zurich, who are building both four and six-cylinder chain-driven vehicles. The chassis shown was a 40-50-h.p. four-cylinder, and was an excellent example of modern automobile construction. The cylinders are separately cast; dual ignition—magneto and accumulators—are

provided, while the fly-wheel fan is supplemented by one behind the radiator. The clutch is of the disc type, the change-speed gear is "gate" controlled, while a special point is in the simple means provided of adjusting the tension of the driving chains. The feature of the 30-35-h.p. car exhibited by M. ADOLPHE SAURER, of Arbon, is the system which enables the engine to be used as a brake, reference to which was made in our report of the 1905 Paris Show. In connection with the petrol supply,

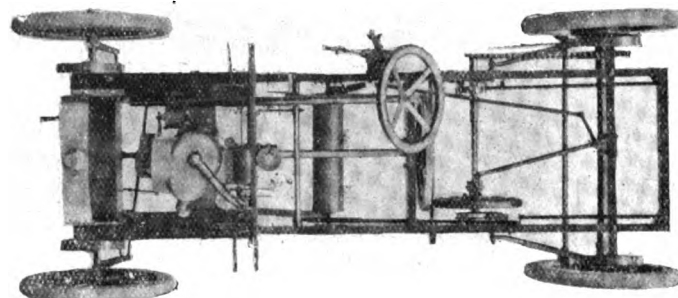


Fig. 48.—Plan of the Turicum 6-7-h.p. Friction-Driven Car.

which is on the pressure-feed system, a small supplementary reservoir is provided on the dashboard, which always contains sufficient spirit to start the motor by gravity, so obviating the necessity of hand pumping.

### The Stella and Helios Cars.

The Stella car is made by LA COMPAGNIE DE L'INDUSTRIE ET MECANIQUE, of Secheron, Geneva, a characteristic feature being the simple design. The engine is a four-cylinder one of 14-18-h.p., having low-tension magneto ignition and a special form of automatic carburettor. The transmission is by a cardan shaft to a live axle. The frame is considerably narrowed in the front to give a very wide steering lock. It will be noted, too, from Fig. 49 that the headlight brackets are bolted to the front dumb irons. The SOCIÉTÉ DES AUTOMOBILES HELIOS, of Zurich, showed an 18-24-h.p. live axle car. The engine is of the four-cylinder type, the cylinders being cast in pairs with large water-jackets; the crank shaft, too, is *desaxe*. Low-tension magneto ignition is employed.

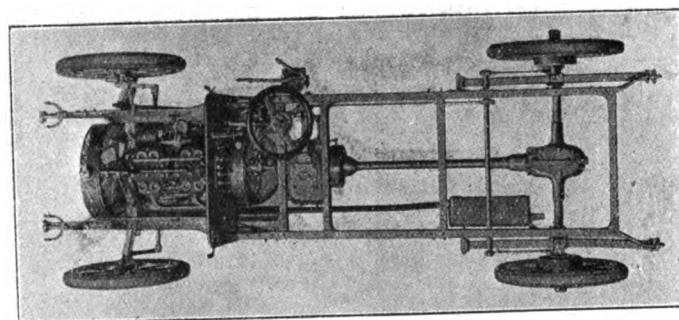


Fig. 49.—Plan of Chassis of Stella 14-18-h.p. Car.

### The Lucia and Martini Cars.

The Lucia car, which is made by Messrs. PICKER, MOCCAND AND CO., of Geneva, follows the standard lines of chain driven vehicles. The engine, which is of 24-30-h.p., comprises four cylinders with the valves all arranged on one side. Ignition is by high tension magneto, while the clutch is of the multiple disc type. The gear-box is placed well to the rear to give a short chain drive. The MARTINI AUTOMOBILE CO., LTD., of St. Blaise, had on view a new 14-22-h.p. car with live axle

and a 24-32-h.p. chain driven vehicle, very much on the lines of last year's model. We note, however, that a leather-faced cone clutch replaces the multiple disc one formerly fitted.

#### The Renault Cars.

For the 1907 season Messrs. RENAULT FRERES are building four models—8-9-h.p. double cylinder, 10-14-h.p., 20-30-h.p., and 35-45-h.p. four-cylinder. A view of the latter is given in

A new form of lubricator is provided, the sight feeds being adapted to give three rates of oil flow according to the adjustment; they cannot, however, be closed entirely as hitherto, so that so long as the engine is running a supply of lubricant to the bearings is ensured. The clutch is of the leather-faced cone type; it abuts against a flange connected with the flywheel, having a series of slits in the internal periphery. These slits

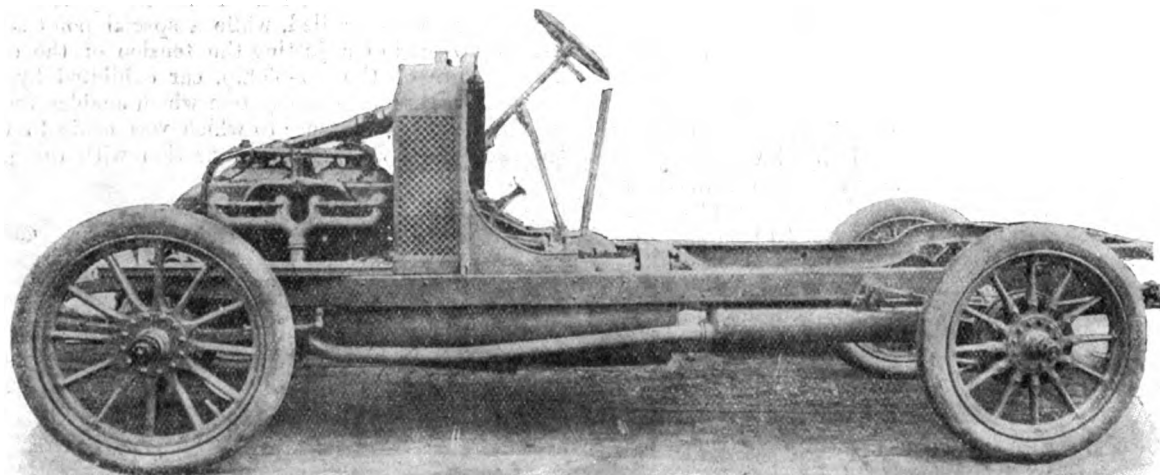


Fig. 50.—Chassis of Renault 35-45 h.p. Car.

Fig. 50. The 8-9-h.p. vehicle represents the type now being largely adopted in Paris and London for cab service. Referring to the four-cylinder models, we find that these are all provided with mechanically-operated valves. The ignition is by Simms Bosch high-tension magneto located at the front end of the engine. The automatic carburettor has been improved, a piston moving in a bath of spirit replacing the screw, which was found to occasionally stick. In the 10-14-h.p. car the throttle is controlled by a pedal, while in the other models the action of the latter is assisted by a pull-up and rotatable lever on a sleeve

act as springs, so that as the clutch is let in, the drive is taken up without any shock. The 10-14-h.p., 20-h.p., and 35-45-h.p. cars are all provided with a double-sleeve four-speed change-speed gear, driving through a cardan shaft on to a live axle. Half-compression devices operated by the left hand are fitted to the two larger cars to facilitate the starting of the engines. The suspension, except in the case of the 8-9-h.p. and 10-14-h.p. vehicles, is on new lines, the rear transverse spring having been abandoned in favour of three-quarter elliptic springs. In order not to interfere with the carriage body the rear shock absorbers,

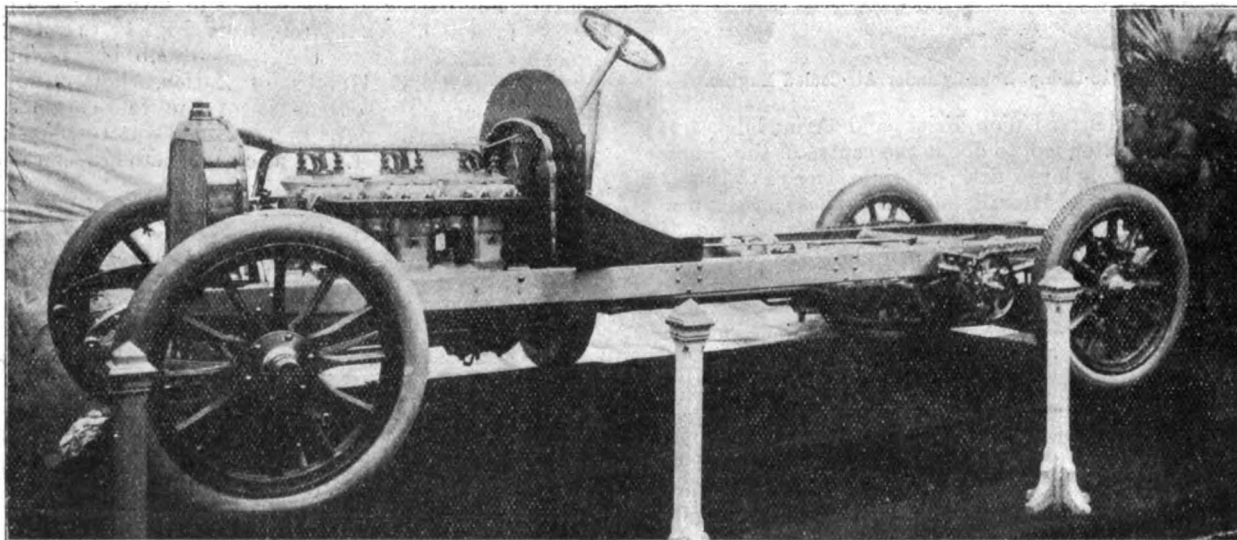


Fig. 51.—Chassis of Leon Bollee Six-Cylinder Car.

surrounding the steering column. The sleeve in turn rotates a vertical rod through worm gearing inside a casing on the dashboard, the rod finally engaging, by means of an eccentric on its lower end, a projection on the throttle pedal. The radiator, which is located in front of the dashboard, consists of a large number of small vertical tubes, the circulation, as usual on Renault cars, being by thermo-siphon. Vanes are formed on the outer surface of the flywheel to act as an air-inducing fan.

fitted in conjunction with the springs, as also the brake rods, are now arranged inside the frame. Provision is also made whereby the brakes can be adjusted without the use of tools. The 10-14-h.p. car is provided with a new self-starting device, which consists of two opposed cylinders, mounted just below the front of the motor, and fitted with pistons, the rods of which are mounted in guides, and formed on one side as racks, which engage a pinion on the end of the crank-shaft. Compressed air

is admitted to each cylinder from a steel reservoir, the air having been pumped into the reservoir by a small plunger pump actuated by a crank and connecting rod on the front end of the motor cam-shaft.

#### The Leon Bollée Cars.

The LEON BOLLÉE COMPANY, of Le Mans (Sarthe), for whom the Victoria Carriage Works, Ltd., are the British agents,

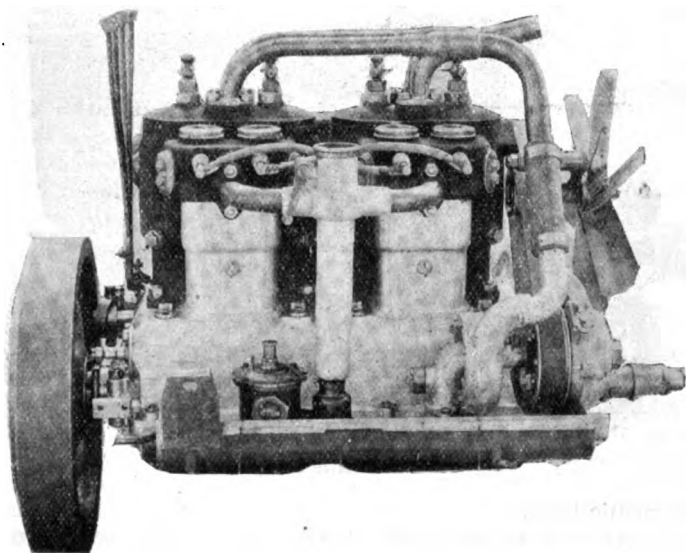


Fig. 52.—The Leon Bollée 20-30-h.p. Four Cylinder Engine.

are turning out quite an extensive range of cars for 1907, viz., 16-24-h.p., 20-30-h.p., 30-45-h.p., and 45-50-h.p. four-cylinder, and 30-45-h.p. and 60-75-h.p. six-cylinder, one noteworthy feature being the considerably reduced prices at which they are being offered. The small car is quite a new model, it being the first Leon Bollée vehicle with a live axle; the 20-30-h.p. is made with either cardan shaft or chain transmission, while the others are all driven by side chains. As will be seen from the illustration of the 20-30-h.p. engine (Fig. 52), the cylinders are cast in pairs and have the valves arranged on each side. It will also be noticed that the valve stems, springs and tappets are enclosed by means of readily detachable aluminium covers, the parts not only being protected from dust, oil, and dirt, but any noise they emit is muffled, so adding to the silent running qualities of the vehicles. The standard ignition is by high-tension magneto, but provision is made for fitting accumulators as a reserve. The special type of double jet carburettor is retained, but has been modified in that one or both can be brought into action as required by means of a lever on the steering wheel. The method of controlling the engine speed is interesting; a *manette* on the steering wheel regulates the throttle in the usual way; secondly, the clutch pedal is so connected up that as the clutch is withdrawn the speed of the motor is automatically cut down; while, thirdly, the engine can be accelerated by a small pedal, even when the clutch is not engaged. An interesting feature of the engine lubrication system is an arrangement by means of which any excess of oil can be run off or the base chamber entirely emptied. The clutch, which is of the leather-faced cone pattern, is mounted in such a way that to a small extent it is free to float upon the clutch shaft, a special arrangement of springs permitting a gradual engagement. The main clutch spring is carried horizontally beneath the clutch-shaft. The four-speed change gear is controlled by a "gate" lever with a special locking arrangement for the gears not in mesh. Altogether the 1907 Leon Bollée cars have a pleasing appearance, they being free from unnecessary complication, as may be seen from Fig. 51, which gives a view of the new 30-45-h.p. six-cylinder vehicle.

#### The Darracq Cars.

Messrs. A. DARRACQ AND CO. had, as usual, a varied exhibit, ranging from a new 7-9-h.p. single-cylinder two-seater to a 20-28-h.p. vehicle, all having transmission by a cardan

shaft and bevel gear to a live axle. A feature of the new 7-9-h.p. and 8-10-h.p. vehicles is the frame, which is of special design, the sides being extended upwards to form part of the body. The valves are mechanically operated, and the carburettor is provided with an extra automatic air inlet. The change-speed gear gives three speeds forward and a reverse, with direct drive on top, controlled by a lever on the steering column. A 10-12-h.p. double-phaeton was also exhibited; this vehicle, which is fitted with a twin-cylinder engine 100 mm. by 120 mm. stroke, shows but few changes as regards the mechanical details. The frame has, however, been slightly increased in width to allow more room in the body. Passing to the new 20-28-h.p. car, several departures from the usual Darracq practice are embodied in this model. The four cylinders, which are cast in pairs, are 112 mm. bore by 120 mm. stroke, the valves being all operated off a single cam shaft. The ignition is by coil and accumulators, although the motor is so arranged that a low-tension magneto can be added if desired. The clutch is of the leather-faced cone type, four flat springs being introduced under the leather to ensure a better grip. A universally jointed shaft connects the clutch with the gear-box. The latter is adapted to give four speeds forward and a reverse, controlled by a lever working in a "gate," this being an entirely new feature in Darracq cars. The clutch pedal is so connected to the throttle that as the clutch is withdrawn the speed of the engine is automatically cut down, and it may be added that ball-bearings are fitted to all parts except the engine. A car of similar power, but fitted with only three speeds, controlled by a lever working in a quadrant of the Panhard type, is also being made. The great centre of attraction at the stand was, however, the new 40-h.p. six-cylinder car, the motor with which is illustrated in Fig. 53. The cylinders, which are cast in three pairs, are 100 mm. bore by 120 mm. stroke. Ignition is by high or low tension magneto, as desired, a reserve set by accumulators being also provided. Four speeds and a reverse are provided, the control being by means of a single lever working in a "gate." Ball bearings are used throughout, except on the engine. The usual trio of brakes are provided, these being of great power. The car is being built in two

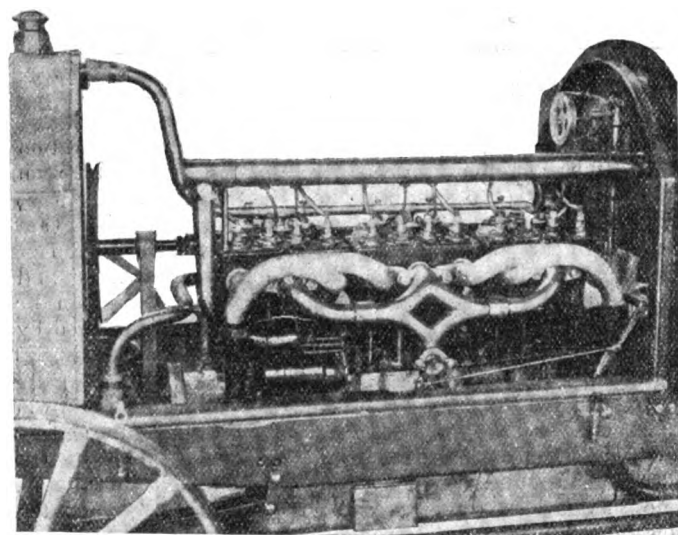


Fig. 53.—The Darracq 40-h.p. Six-Cylinder Engine.

lengths, one having a wheel-base of 10 ft. and the other 10 ft. 8 in., to allow roomy side-entrance bodies to be fitted.

#### The Radia Cars.

LA SOCIÉTÉ L'AUTOMOTRICE gave pride of place at their stand to a chassis of the latest 30-35-h.p. Radia car, which compared well with any in the Salon. The vehicle is on the orthodox lines of chain-driven cars. The four-cylinder engine has the valves operated off two cam shafts, the gear driving the latter being enclosed. The ignition is by low tension magneto; the mixture is furnished by a special form of automatic car-

burette, provided with hand and foot controls, the centrifugal governor having been discarded. The power is conveyed through a special form of cone clutch to a gear-box giving four speeds and a reverse, the shaft between the clutch and the change-speed gear being provided with two universal joints. Four brakes are furnished, two on the differential shaft and one on each of the hubs of the rear wheels. The Radia Company are also building 12-14-h.p. and 20-22-h.p. four-cylinder cars on similar lines.

#### The Lutece Car.

M. R. GACHET, Paris, who is represented in England by Messrs. Teste and Lassen, exhibited a new car known as the "Lutece." The vehicle is of the live axle variety, and is fitted with a four-cylinder engine of 14-h.p., the details throughout being on modern lines.

#### The Rossel Cars.

In addition to four sizes of four-cylinder vehicles, Messrs. F. ROSSEL AND CO., of Sochaux near Montbéliard (Doubs), are building three models of six-cylinder cars for the 1907 season

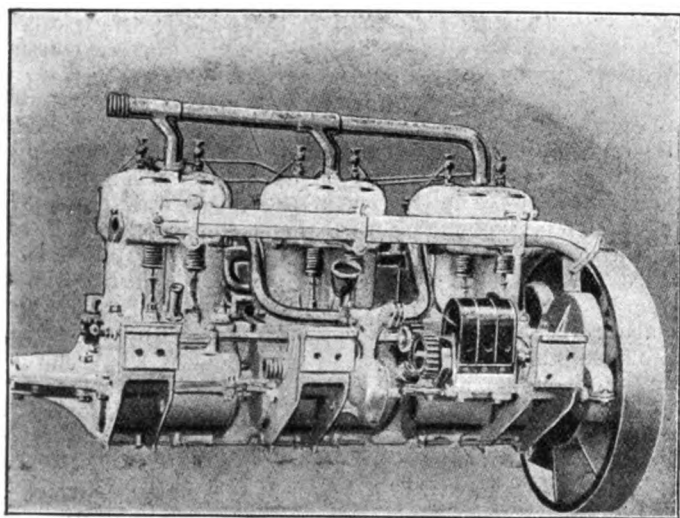


Fig. 54.—The Rossel 30-40-h.p. Six-Cylinder Motor.

ranging from 30-40-h.p. to 60-80-h.p. We give an illustration of the 30-40-h.p. engine in Fig. 54, from which it will be seen that the cylinders (110 mm. bore by 110 mm. stroke) are cast in pairs with the valves arranged on opposite sides. The cam shaft driving gears are enclosed and located at the fly-wheel end of the engine, although in the 40-50-h.p. four-cylinder and 60-80-h.p. six-cylinder they are placed forward. The governor has been abandoned, the speed of the engine being controlled by hand and foot levers acting on the throttle. The transmission is through a multiple disc clutch of the Hele-Shaw type to a gate-controlled change-speed gear, and thence by side chains from the differential shaft. The engine lubrication is maintained by a pump, as is also the pressure in the petrol tank of the 40-50-h.p. four-cylinder vehicle, which is an entirely new model. A somewhat novel method of exhibiting a chassis was adopted by Messrs. Rossel, it being fastened to a wall with the engine at the bottom. The Rossel cars are of high grade construction and deserve to be better known in England.

#### The Cornilleau-Sainte-Beuve Car.

Although not a new-comer, one of the most interesting cars in the Show was the 20-30-h.p. vehicle exhibited by Messrs. CORNILLEAU AND SAINTE-BEUVE, now represented in England by Messrs. Straker and Squire, Ltd. The four cylinders of the engine are all in one casting; the valves are arranged on opposite sides, their springs and rods, as well as the low-tension magneto tappets, being entirely enclosed in extensions of the castings, access to the parts being through large detachable doors. Other features of the vehicle are—variable lift to both the inlet and exhaust valves; a change-speed gear in which the sliding

pinions are loose on the shaft until partly meshed with the fixed pinions, the completion of the meshing bringing dog clutches into action; and the live axle, which has a spring drive in the large bevel wheel. A very complete system of piping in the crank case for lubrication of the big ends of the bearings by pump feed is also among the many good points of this vehicle.

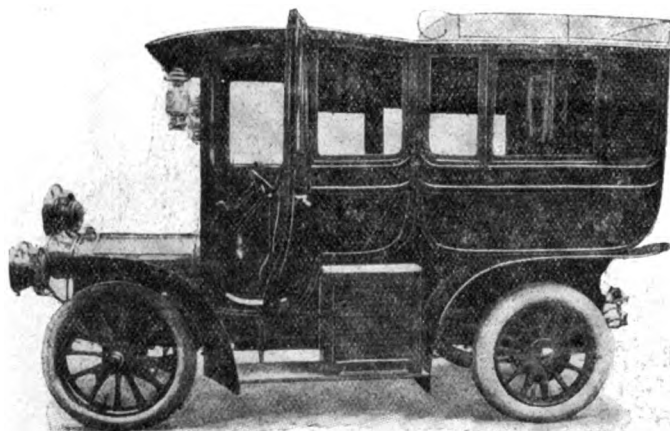


Fig. 55.—The Brillie Diligence.

#### The Brillie Cars.

In addition to industrial vehicles, LA SOCIÉTÉ DES AUTOMOBILES EUGÈNE BRILLIE is turning out some excellent examples of high-powered touring cars, one of which we illustrate in Fig. 55. The engine, which is of 35-45-h.p., comprises four separate cylinders with the valves all worked off a single cam shaft, the inlets being in the cylinder heads and actuated by tappets. A feature of the ignition, which is by high-tension magneto, is that it is automatically advanced and retarded. The inlet and exhaust pipes are also interesting, the main portions being cast in one with the cylinders, and connected together by short brass tubes. A water-jacket is also provided to the exhaust collecting chamber. The clutch is of the disc type and the transmission is by a cardan shaft to a special design of live axle.

#### The "Unic" Cars.

Messrs. GEORGES RICHARD AND CO., represented in England by Messrs. Mann and Overtons, Ltd., had a large stand, on which were shown several of the "Unic" 10-12-h.p. two-cylinder



Fig. 56.—The Unic 12-14-h.p. Four-Cylinder Motor-Cab.

12-14-h.p., and 16-20-h.p. four-cylinder cars, all having cardan shaft transmission and live axles. The 10-12-h.p. vehicle has already been described in the *M.C.J.*, and represents the type adopted by one of the leading motor-cab companies in London. The engine dimensions are slightly larger, but otherwise the alterations are confined to matters of detail. The great novelty on the stand was the chassis of the new "Unic" 12-14-h.p. four-



cylinder car, which has been specially designed for town use. The cylinders, which are 75 mm. bore by 110 mm. stroke, are all in one casting. The valves are mechanically actuated off a single cam shaft, the ignition is by high tension magneto, and the water circulation by pump and honeycomb radiator. The carburettor is located close to the explosion chambers, so that the length of the inlet piping is reduced to a minimum. A leather-faced cone clutch provided with a stop to facilitate changing gear is employed. The frame suspension is by three-

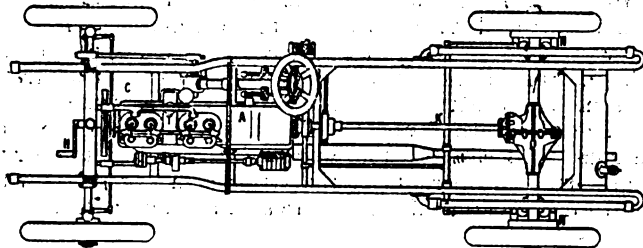


Fig. 57.—Plan of Chassis of Motobloc 16-22-h.p. Live Axle Car.

quarter elliptic springs. The four cylinders of the 16-20-h.p. are cast in pairs, and are 87 mm. bore by 110 mm. stroke. A good feature is the arrangement for automatically retarding the ignition when starting the engine. The vehicle is made in two models, the gear-box of one giving three forward speeds and the other four, in addition to the reverse. The Unic cars have earned an excellent reputation both for simplicity and reliability, which will doubtless be more than maintained by the 1907 models.

#### The Motobloc Cars.

LA SOCIÉTÉ DES AUTOMOBILES MOTOBLOC, of Bordeaux, are now building four models, all with four-cylinder vertical motors, viz., 16-22-h.p., 24-30-h.p., 30-40-h.p., and 60-h.p. The cylinders, although cast in pairs, are separate except as regards the water-jacketed portion. A feature of the engine is that the flywheel is located in the crank case between the two pairs of cylinders. The valves are all mechanically actuated off a single cam shaft, the inlets being located in the cylinder heads and operated by tappets and rocking lever. The latter are mounted on an eccentric rod controlled by a lever on the steering wheel. By revolving this rod the height of the rockers is raised or lowered and a variable lift imparted to the inlet valves. A special form of automatic carburettor furnishes the mixture, and the ignition is by Nilmeliore high-tension magneto; the latter is placed directly under the footboard, being carried on a bracket cast on the gear-box, and driven by a jointed shaft. A notable point in the Motobloc system, from whence the name is derived, lies in the fact that the engine and change-speed gear form practically one block, the crank chamber being extended to form the gear-box. The clutch is of the metal-to-metal type, and the pedal which operates it is so connected up to the carburettor that as the clutch is withdrawn the speed of the engine is automatically cut down. All the cars over 24-h.p. are provided with "gate" controlled change-speed gear, a special locking arrangement securing the selector rods not in operation. The 16-22-h.p. car (Fig. 57) is made with either a live axle or side chain transmission, the others all being chain driven. We understand that a new company is being formed to introduce these cars into England on a larger scale than hitherto.

#### The Imperial Car.

A new car hailing from Belgium is the Imperial, made by M. A. G. PIEDBOEUF, of Liege, who showed a 24-30-h.p. vehicle. The four-cylinder engine (110 mm. bore by 130 mm. stroke) has interchangeable valves ranged on one side. Ignition is by magneto, accumulators being also provided as a reserve. The carburettor is of the firm's own automatic design, and the clutch, which is of the multiple disc type, is so arranged that when it is disengaged the speed of the engine is automatically cut down. The change-speed gear is of the "gate" controlled pattern, with direct drive on top speed through the cardan shaft and bevel gear to the rear live axle.

#### The Rene Legros Two-Cycle Engine Cars.

M. RENE LEGROS, of Fecamp (Seine Inferieure), who has long devoted attention to the perfection of the two-cycle engine, in which an explosion takes place in each cylinder at each revolution of the crank shaft, and to whom belongs the credit of running the first vehicle fitted with such a motor in a long reliability trial, exhibited an interesting 30-h.p. four-cylinder car. In the two-cycle engine the base chamber is usually employed as a receptacle for the incoming charge. M. Legros, however, uses a very long hollow piston surrounding a smaller fixed piston. In place of a central connecting rod two are furnished to each cylinder, one on either side, thereby allowing for the fixed piston. A feature of the arrangement is the provision of a rotary valve, which acts both as an inlet and for the transfer of the mixture from the compression space to the combustion chamber. As the hollow piston rises a charge of mixture is drawn through this valve and along a passage into the compression space formed between the two pistons. On the descent of the hollow piston this charge is delivered through the rotary valve to the induction pipe and into the combustion chamber through the usual automatic valve. On the compression stroke the space between the two pistons is again charging itself with mixture from the carburettor, and upon the explosion stroke a fresh charge enters at the top of the cylinder, the burnt products being forced out at two ports in the lower end of the cylinder walls, uncovered by the travel of the piston towards the end of its stroke. The ignition is somewhat novel, two magnetos being provided, one for each pair of cylinders. As regards the transmission, this is through a Hele-Shaw disc clutch and cardan shaft and bevel gear on to a live axle, a special form of universal joint being used.

#### The Scar Car.

LA SOCIÉTÉ DE CONSTRUCTIONS DE AUTOMOBILES DE RHEIMS (Rayet, Lienart and Co.), Witry-les-Rheims, represented in this country by the Central Motor Car Company, Ltd., exhibited the 18-20-h.p. Scar car, the main features of which have already been dealt with in the *M.C.J.* It may be mentioned, however, that the engine, which is rated at 18-20-h.p., has four separately-cast cylinders, 90 mm. bore by 100 mm. stroke. The valves are mechanically actuated off separate cam shafts, the inlets being provided with a variable lift obtained by means of wedges sliding between the cams and the valve push

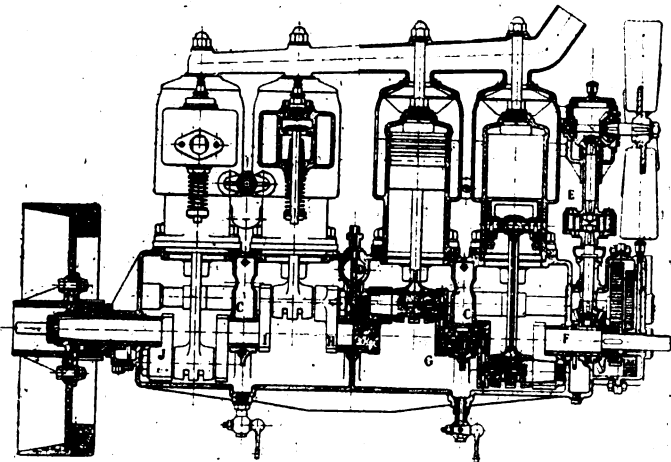


Fig. 58.—Section of Scar 18-20-h.p. Motor.

rods, and controlled by a lever working on a fixed sector above the steering wheel. The ignition is by means of a gear-driven high-tension magneto, while the water circulation is on the thermosyphon principle, no pump being employed. The radiator is of the framed ribbed-tube type, a current of air being drawn through the same by means of a fan, which, as will be seen from Fig. 58, is not belt-driven as usual, but is operated off the crankshaft through bevel gearing. The clutch is of the leather-faced cone type. The operating spring does not surround the clutch shaft, but is located to one side in such a position that its tension can

be readily adjusted. From the clutch the power is transmitted by a short jointed shaft to the gear-box, and thence by a cardan shaft and bevel gear to the rear live axle. Three speeds and a reverse, with direct drive on the top speed, are controlled by a single lever. It may also be mentioned that the crankshaft is of the built-up type.

#### The Peugeot Cars.

The 1907 productions of the PEUGEOT Co. include 9-h.p. single-cylinder live axle, 10-12-h.p. double cylinder chain trans-

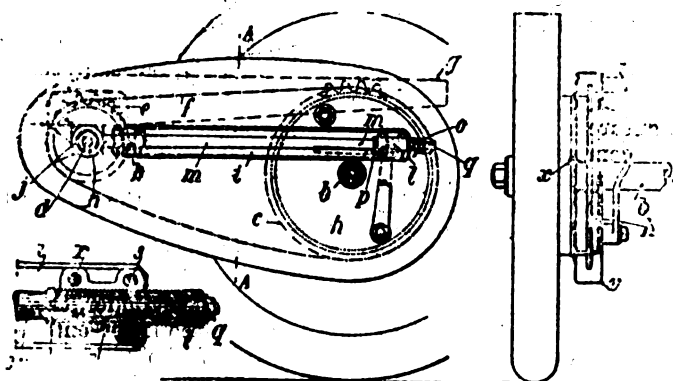


Fig. 59.—Details of New Radius Rods and Chain Adjustment on Peugeot Cars.

mission, 12-h.p. four-cylinder driven by chains or cardan shaft, and 18-h.p., 28-h.p., and 50-h.p. four-cylinder, with side chains. Compared with last year, the smaller cars show little change. In the larger vehicles, however, there are a number of modifications, which Mr. C. Friiswell, the British agent, pointed out to us. The motors have the four cylinders cast in two pairs, and all the valves mechanically actuated, the inlets being on one side and the exhausts on the other. Low-tension magneto ignition is employed, provision being made for fitting the high-tension system by coil and accumulators as a reserve. Attention may also be drawn to the fact that the magneto, which is gear driven, is so arranged that it may instantly be removed from its place whenever necessary. The oil reservoir has been removed from the dashboard, and the engine crank-case is now served with oil periodically by a foot pump, which is situated just in front of the driver's seat, in such a position that it can conveniently be operated by the heel of the right foot. The familiar type of square bonnet has, we notice, been changed to one of more graceful design. On the 50-h.p. car the clutch is of the metal-to-metal type, a single segment passing three-quarters of the way round the inside of a drum in the flywheel. One end of the segment is fixed, and the other is made to open outwards by means of a compensated lever. On the other vehicles a leather-faced cone-clutch is employed, this being disengaged by the pressure of two ball-bearing rollers upon a collar, the arrangement being such that when the clutch is engaged there is no contact between the actuating mechanism and the clutch shaft. The shaft which connects the clutch with the gear-box is so constructed as to compensate itself to any want of alignment between the two parts. The change-speed gear is adapted to give four speeds forward and a reverse, the single controlling lever working in a "gate." The gear-box is separate from the differential shaft, which latter is placed well to the rear to permit of a short chain drive. All the brakes are of the internal-expanding metal-to-metal type, that on the cross shaft being enclosed in the differential case. The clutch and brake pedals are of new design, with provision for adjustment to suit different drivers. Special attention may be drawn to the improved method of adjusting the tension of the driving chains, which is now effected from the rear of the chassis. Fixed to the brake drums *h* at the rear are specially-shaped radius rods *i*; two collars *k* and *l* are provided on the latter, that at the rear being split and tapped, as shown in section in the bottom left hand portion of Fig. 59. The second main component of the arrange-

ment is a rod *m*, which carries at its forward end an eye-piece, *n*, free to move round the bearing *j* of the differential shaft *d*. The front end of the rod is free to slide in the collar *k*; at the other extremity it is carried in an externally-threaded sleeve *o*. To adjust the chain tension, the bolts *r* and *s*, which not only hold the two parts of the collar together but the latter to the radius rod *i*, are slackened. By means of a spanner or wrench the specially-shaped end *t*, on the sleeve *o*, can be turned, drawing with it the rod *m*, by means of the shoulder *p* and the nut *q*, the distance between the differential shaft *b* and the rear axle *d* being thus altered. While the rod, *m*, maintains the chain at an equal tension—it being free to rotate in the collars *k* *l*—it can follow any movement of the rear axle due to bad roads. The new arrangement not only considerably facilitates the work of tightening the driving chains, but also permits of the latter being provided with a gear case, the adjusting device remaining unenclosed.

#### The Astahl Cars.

LA SOCIETE L'ECLAIR showed an interesting series of moderate priced cars known as the Astahl, the London agency for which has been secured by the Century Motor Company, of Willesden. The 6-h.p. and 8-h.p. models are fitted with De Dion engines, while the 10-12-h.p. is provided with a four-cylinder motor, all in one casting. The water circulation is either by pump or on the thermo-syphon system as desired. A high tension magneto is provided on the large car, as is also a Grouvelle-Arquembourg carburettor. The transmission is through a cone-clutch, three speed-gear box and cardan shaft to a live axle. Ball bearings are used throughout, except on the engine, while a noticeable and useful feature is that the engine, clutch, and gear-box and differential are so arranged that each can be dismounted independently without interfering with the other parts.

#### The De La Buire Cars.

LA SOCIETE DES AUTOMOBILES DE LA BUIRE, of Lyons, are now turning out three models of four-cylinder vehicles, 15-h.p., 24-h.p., and 35-h.p., as well as a six-cylinder vehicle of 50-h.p., all having live axes. The engine has the four cylinders cast in pairs, with the valves on opposite sides. A special form of automatic carburettor is employed, this being so arranged that the petrol supply can be entirely cut off and cold air admitted direct to the cylinders. The ignition is by high-tension magneto. The clutch is of the expanding metal band type; two diagrammatic views of it are given in Fig. 60, from which it will be

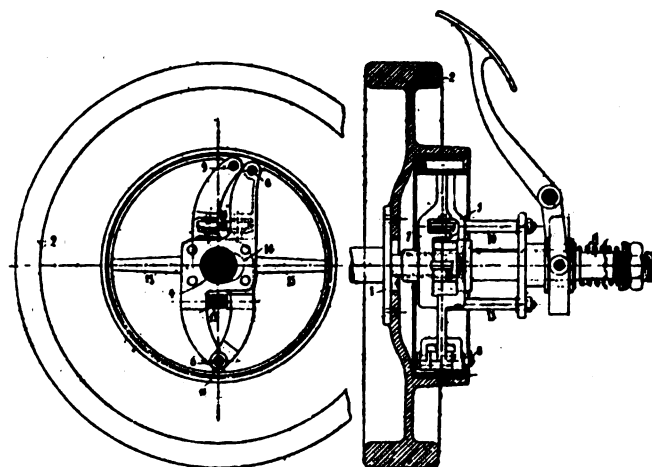


Fig. 60.—Front and Transverse Sectional Views of De la Buire Metal-to-Metal Clutch.

seen that the ends of the band are attached to two arms 6 and 9 pivoted below at 8. Carried on a sleeve on the clutch shaft are two specially-shaped wedge pieces 10 and 13, these being so designed that as the pedal is released the wedge 10 is interposed between the upper part and opens the arms 6 and 9, and consequently expands the band. To declutch the pedal is depressed, bringing the thick portion of the wedge 13 between the lower

portion of the arms, and so contracting and freeing the band from the flywheel. The 15-h.p. and 50-h.p. have three and the 24-h.p. and 35-h.p. four forward speeds and a reverse, with direct drive on top speed, controlled by a lever working in a "gate."

#### Some Small French Cars.

A noticeable feature of the *Salon* this year was the large number of small cars on view, many of which are fitted with a new four-cylinder engine having the cylinders all in one casting. The Alcyon, Werner, Reyrol, Mistral, and Zedel vehicles have already been referred to, while others which may be mentioned are

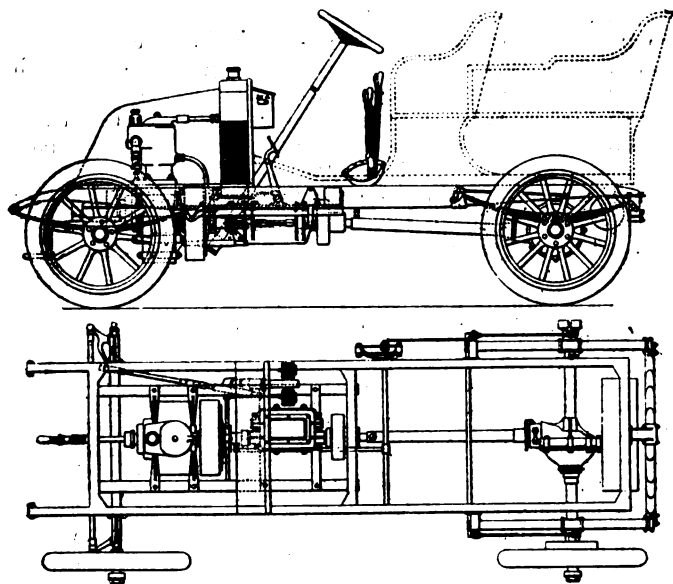


Fig. 61.—Elevation and Plan of the Bailleau Light Car.

the Eureka, the Mira, the Demeester, the Chameroy, and the Delage. A neat little two-seated car was shown by LA SOCIÉTÉ AUTOMOBILES "OREL," of Argenteuil, France. The car is chain-driven and is provided with a two-cylinder engine, 84 mm. bore by 100 mm. stroke, rated at 8-9-h.p. Three speeds and a reverse are controlled by a single lever, the drive on top speed being direct. Ample brake power is provided, and with wheel control, push pedals, and other up-to-date fittings the car should meet the requirements of a large number of those looking for a little runabout at a moderate price. A 10-12-h.p. car with all four cylinders in one casting is also being made by the Orel Co. A single-cylinder two-seated car, on novel lines, was displayed by M. MOUILLESEUX-TARRISSE, of Suresnes, the feature lying in the friction drive, which is arranged on different lines than hitherto, being on the back axle. The cardan shaft, instead of terminating in a bevel pinion, carries on its rear end a flat disc in contact with a corresponding one mounted at right angles on the left portion of the axle. No differential is employed although the axle is in two halves, a special spring arrangement being provided to allow one portion to slightly over-run the other. By altering the position of the sliding disc on the axle any desired speed between zero and the maximum can be attained. The car is, undoubtedly, a simple one, and as a little runabout will no doubt give good results.

#### The Bailleau Car.

M. BAILLEAU, of Longjumeau, who has devoted considerable attention to the construction of light cars, shows a small 8-h.p. single-cylinder vehicle (Fig. 61) which is supplied either as a two-seater or with a tonneau body. The frame is of pressed steel construction, and is supported on the axles by the usual longitudinal springs, a transverse one at the rear being also provided. The water circulation is on the thermo-siphon system, the radiator, which is provided with a fan, being located in front of the dashboard, as in the Renault cars. The gear-box is adapted to give three speeds and a reverse, with direct drive on

the top speed to the rear live axle by means of a cardan shaft and bevel gear. Ball bearings are used in the gear-box and on the back axle, and, with metal-to-metal brakes and other adjuncts of large vehicles, the little car should appeal to a large clientele. M. Bailleau is also making a 6-9-h.p. twin-cylinder car and a larger vehicle with a 16-h.p. four-cylinder engine.

#### The Parant Car.

In one of the side galleries an interesting car was shown by Messrs. PARANT FRÈRES, of Neuilly, the steering-gear, clutch and change-speed gear all being of a special design. The chassis on view was of 24-30-h.p., and had side-chain transmission. As regards the clutch, this is of the metal-to-metal type, and comprises a disc held by, but free to move slightly in the fly-wheel, and gripped when engaged by shoes, which are expanded by wedge-shaped pieces controlled by the clutch pedal. The change-speed gear is of the type in which the pinions are always in mesh, the feature being that the gear wheels on both shafts run loosely. The bosses of the same are provided with a series of internally-cut teeth in which correspondingly-shaped sliding members on the two shafts engage, the power being transmitted by the pair of pinions, which become fixed, according to the position of the change-speed lever. On the top speed the drive is direct, none of the pinions, although in mesh, rotating.

#### The Sizaire-Naudin Light Car.

The Sizaire-Naudin two-seated car, which was introduced a year ago, continues to attract considerable attention, interest in the novel vehicle being increased by reason of its excellent performances in the recent voiturette trials in France. Beyond the fact that the frame is now of armoured wood, and that the engine is of slightly higher power, little or no change has been made, and as we gave a very full description of the machine about twelve months ago, we need only refer to the principal features. The two side members are not connected together at the rear, but are provided with stay rods about the centre of the frame, and at the front end are attached to a cross steel bridge, on a projection from which a semi-elliptic spring is supported, as shown in Fig. 63. It will be seen from the latter that the usual front axle and side springs are done away with, the cross bridge terminating in vertical sleeves in which the pivots of the steering wheels are not only free to turn in the usual way, but also to rise and fall against the action of the spring. The rear suspension is also on novel lines, the axle being connected to a point slightly behind the centre of the frame by bow-shaped plate springs. The motive power is supplied by a single-cylinder engine developing 8-h.p. at 1,200 revolutions per minute. The carburettor is of the automatic air-regulation variety, while the advance and retard of the ignition is automatically varied by means of a small centrifugal governor. The water circulation is on the thermo-siphon system, no pump being used. With the

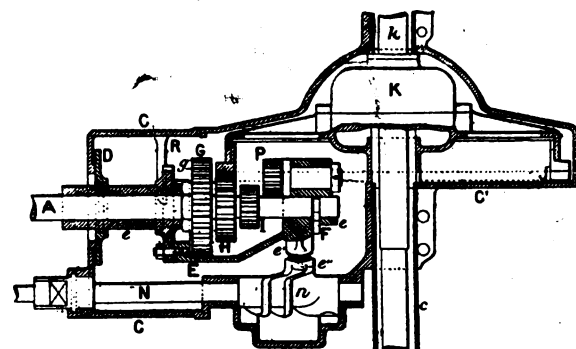


Fig. 62.—Sectional Plan of Sizaire-Naudin Change Speed Gear.

exception of a short one from the contact maker, there are no ignition wires about the car, the proximity of the motor to the coil enabling the connection between the latter and the sparking plug to be made by means of a spring piece. The clutch is of a special metal-to-metal type, and consists simply of a flat disc which fits close up to and against the inner face of the flywheel. The transmission is another feature of the vehicle; no gear-box,

in the usual sense of the term, is employed, a cardan shaft conveying the power to the rear live axle. The gear (Fig. 62), which gives three speeds forward—all direct—and a reverse, is all contained in the differential casing. The cardan shaft has on its end three pinions, the largest of which is only 4 in. diameter and the smallest 35 mm., or less than 1½ in., any of which can be brought into mesh by a cam device with the large crown wheel. The teeth of the latter are of special shape, the whole

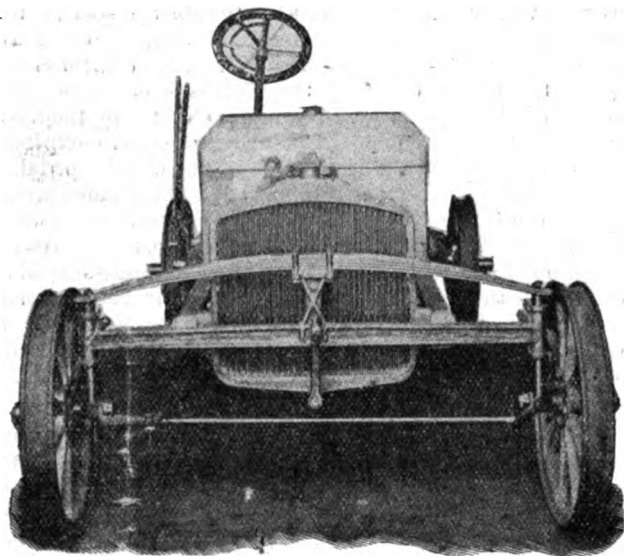


Fig. 63.—Front View of Chassis of Sizaire-Naudin Car.

forming rather a circular rack than a gear wheel surrounding the differential gear. The cardan shaft is so arranged that it moves laterally to a sufficient extent to allow for the variation in diameter of the three pinions. The vehicle is made by LES ETABLISSEMENTS SIZAIRE ET NAUDIN, for whom Messrs. Gauthier and Co. are now the British agents.

#### The Civelli de Bosch Car.

The UNIVERSAL MOTOR COMPANY, LTD., of Billancourt, Paris, had on view a neatly designed 8-10-h.p. car named after the managing director of this new company. The engine is a double-cylinder one with Simms-Bosch high tension magneto. The transmission is by a cardan shaft to a live axle, the characteristic feature of the vehicle being the location of the three-speed change-gear immediately forward of the differential casing. A transverse spring is fitted to the rear of the frame, which latter is of pressed steel. Altogether the new car forms an interesting addition to the growing list of vehicles for motorists of moderate means.

#### The Clement-Bayard Cars.

The 1907 models of the CLEMENT-BAYARD Co., of Levallois, comprise 8-10-h.p. and 10-12-h.p. two-cylinder, and 10-14-h.p., 12-16-h.p., 14-18-h.p., 18-24-h.p., 20-24-h.p., 24-30-h.p., 35-45-h.p., and 50-60-h.p. four-cylinder. The 12-16-h.p., 18-24-h.p., and the three most powerful cars are chain driven, while the others have live axles. The vehicles, well known for their reliability, are all on modern lines, the larger models having multiple-disc clutches and gate controlled speed-gear. Perhaps the most interesting of the cars on view was the new 10-14-h.p. car which has been introduced to meet the demand for a four-cylinder car at a moderate price, and which comprises a number of special features. In the first place the four cylinders (75 mm. bore by 90 mm. stroke) are all made in a single casting, which forms at the same time the top half of the crank-chamber; the bottom half is in one piece with the gear-box, which is adapted to give three speeds and a reverse. This construction greatly simplifies the work of erection and, consequently, the cost of production. The water circulation is on the thermo-siphon principle, no pump being employed. The radiator is mounted in front of the dashboard, as in the Renault cars, a friction-

driven air-inducing fan being also provided. All the valves are mechanically actuated, while ignition is by high tension magnetic. The final transmission is by a cardan shaft and bevel gear to a live axle. The rear suspension of the frame is on somewhat novel lines; the rear side springs are supported by dumb irons in the usual way, but, instead of being anchored to brackets on the frame at the forward end, are shackled to halves of transverse semi-elliptic springs supported on a cross member. We also note that the steering and control gear is all arranged for the driver to sit on the left instead of on the right.

#### The Antoinette Car.

One of the most novel exhibits in the *Salon* was that of LA SOCIÉTÉ "ANTOINETTE," of Puteaux (Seine). In the first place we may refer to a 360-h.p. twenty-four-cylinder engine, which is of the V design, a dozen cylinders, in groups of four, being arranged on each side of the crank shaft. The engine, which is designed for marine use, only weighs between 11 and 12 cwt., or about 3-2-3 lb. per horse-power. From a motoring point of view interest was chiefly centred in a 32-h.p. eight-cylinder chassis, the engine being on the lines of that exhibited by the Adams Manufacturing Company at the recent Olympia Show. The transmission is on exceedingly novel lines, obviating, as it does, the use of a clutch, change-speed gear or differential, the function of which is performed by two hydraulic clutches—one at each end of a cross shaft towards the rear of the frame. The shaft is driven by a cardan shaft and bevel gear off the engine, and in turn is connected with the rear road wheels by side chains. The clutches are controlled by valves and a sliding screw by means of which any desired amount of slip can be allowed to take place, and the speed of the car varied from zero to the maximum by means either of a pedal or side lever, which act simultaneously on both valves. The latter are also so connected up with the steering gear that they can be actuated separately to give the necessary difference in speed when turning corners, so obtaining the action usually afforded by the differential. The reverse is obtained by means of a small gear-box located in the position usually assigned to the clutch, and containing a pair of pinions providing forward and backward motion by the engagement of jaw clutches.

#### The Robinet Tandem Voiturette.

A somewhat novel two-seated four-wheel vehicle (Fig. 64) was shown by Messrs. F. ROBINET AND CO., of Nantes. The

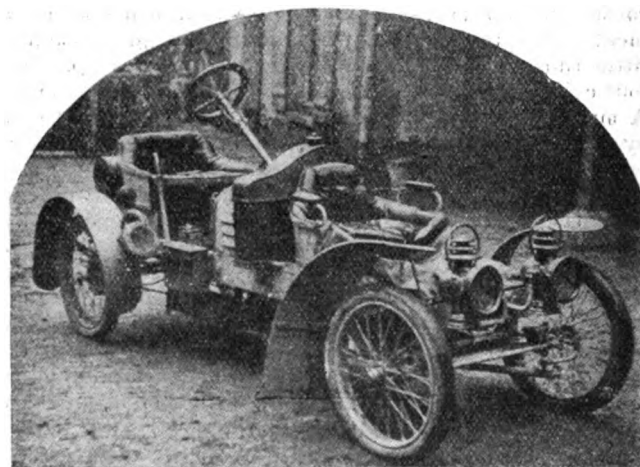


Fig. 64.—The Robinet Tandem Voiturette.

motive power is supplied by a Deckert 10-h.p. two-cylinder V engine, which together with the radiator is located in the centre of a long narrow wooden frame with a seat fore and aft. The transmission is by chain, two speeds being provided by a Boz'ier gear. The vehicle weighs complete less than 6 cwt., and should be a speedy little machine.

(To be concluded.)



COMPLAINTS of motorists driving through Bromley (Kent) at too great a speed seem to be well founded, and we support the Kent A.C. in suggesting a moderation of pace through that district.

IT is reported that a Nonconformist place of worship at Horsted, Keynes, Sussex, is being built with a garage for the convenience of those of its members owning motor-cars.

FROM the Daimler Motor Company, Ltd., comes a copy of the "Daimler Instruction Book," which should prove indispensable to owners and drivers of Daimler cars, as it contains in a very small compass a series of valuable hints, by following which the cars can be kept *au point*.

IN connection with the motor public service that is now succeeding so well at Osaka (Japan), several automobiles making daily runs of 100 miles, we learn that the Swinehart solid tyres are being employed. The rear tyres on one machine stood 17,000 miles of wear before requiring to be replaced—and that in public service.

SOME excitement was caused at Paris *Salon* on Tuesday last week when it was reported that the first of the new Mercedes 70-h.p. six-cylinder cars had arrived. The vehicle, however, proved to be one of the special racing cars built for the 1906 races, but which were eventually replaced by four-cylinder vehicles, and not a "six" touring car.

THE "Peel" motor companion is a neat leather pocket case with compartments for licences, cards, &c., brought out by Messrs. T. De La Rue and Co., whose "Bexhill" motor companion is another similarly good pocket case with various compartments for cutlery and fountain pens, scent bottles, &c., in addition to the usual fittings of such a compendium.

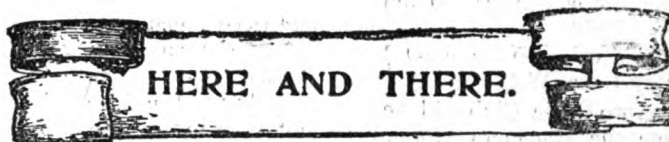
THE Earlsfort Terrace Rink, in Dublin, extended its reputation during the Irish Fortnight of 1903, when it was an important rendezvous for motoring visitors. At length its permanent acquisition for automobile purposes has taken place, having been secured by the Dublin Auto-car Company, which will have little difficulty in adapting the premises to the purposes of a motor garage and workshop.

A NEW list for 1907 has been issued by the Shrewsbury and Challiner Tyre Company, Ltd. In addition to the tyres recently referred to in our columns, full particulars are given of the motor sundries, &c., for which the firm act as wholesale factors. These include lamps, horns, jacks, plugs, pressure indicators, &c., and a full list will be sent on application, headquarters at Ardwick Green, Manchester.

IGNITIALITIES is the title of the new catalogue of the Electric Ignition Company, Ltd., of Sparkbrook, Birmingham. Among the specialities described and illustrated is the E.I.C. sparking plug, the success of which is due to the patent taper construction and the double insulator which makes a short circuit through the mica impossible, and other good devices of a similar kind. Coils, charging sets, switches, contact breakers, &c., find illustration in this excellent catalogue.

MOTORISTS who live in London will find the new two miles to the inch Ordnance Survey map of St. Albans of great assistance. Another most useful map which is just being issued has Andover for its centre. It is on the same scale, and takes in the country between Salisbury on the south, Lambourne on the north, Devizes on the west and Reading on the east, including the district known to the police as "Hand-over." Mr. T. Fisher Unwin is the present publisher of the Ordnance Survey maps.

THE Surrey County Council have discussed the motor-car problem on a report from the Highways Committee approving generally of resolutions from the County Councils of Cheshire and Westmorland as to motor-cars on public highways. Sir W. Chance objected to cars going at express speed, while Mr. S. J. Du Cros said that the Ripley road was fast becoming a motor track, and that the dust was a greater nuisance than ever. In the end the report of the committee was referred back for further consideration.



ACCORDING to a cable received last week from Melbourne a Coventry Humber car secured first place in the Victoria Automobile Club Trials with a consumption test of seventy-six miles on two gallons of petrol.

THE Rex Motor Manufacturing Company, Ltd., of Coventry, have sent us a copy of the new catalogue they have just issued, giving full particulars and illustrations of the 9-h.p. Airex twin cylinder side-entrance car they have recently introduced.

A NEW company is, we hear, being formed to be known as Colin Defries, Ltd., which will shortly open showrooms in the West End of London for the sale of Porthos cars, the sole British agency for which has been acquired by Mr. Colin Defries.

THE accompanying illustration shows Mr. and Mrs. Charles J. Glidden starting on another stage of their journey from Boston to Mexico city on their Napier car. The party left Boston on November 1, and drove by road to New York, Philadelphia, Baltimore, and Washington, where Mr. Glidden received from President Roosevelt a message of greeting to be conveyed to President Diaz of Mexico by automobile. The car was driven back to New York by road and on to Albany,

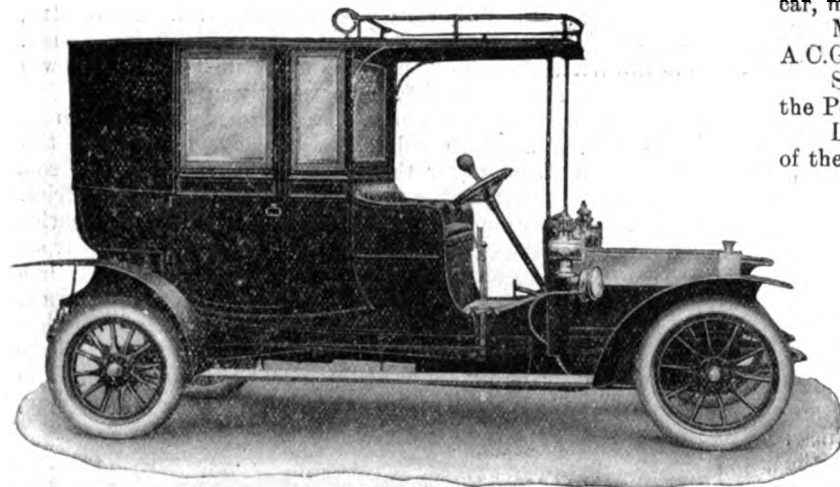


Buffalo, Cleveland, and Chicago, thus making a total of 35,357 miles which Mr. Glidden has travelled on the same vehicle on which he started his long trip. The photograph from which the picture was reproduced was taken on the 22nd ult., after the car had had steel-rimmed railway wheels substituted for the road wheels and the steering locked by means of a cross-bar. The schedule on the rail was made up for an average of twenty-five miles an hour and from 200 to 250 miles daily, no driving being done at night. The car will be driven under the control of a railway conductor, and will be treated as a special train by the operating department and train despatchers. Mr. S. F. Edge informs us that he has since received a cable from Mr. Glidden despatched from Alamogordo, in Texas, about 1,500 miles from Chicago, and stating that up to that point the drive had been in every way successful, although the journey had included the climb up a mountain rising 9,000 feet in twenty-two miles.

A FIRE has occurred at the Empire Motor Garage, Burton Street, Nottingham.

MR. R. T. LANG sends us a neat office calendar—a capital reminder that his office is at 27, Chancery Lane, W.C.

THE next quarterly trial of the Auto-Cycle Club will be held on the 26th prox., starting from the Chequers Hotel, Uxbridge.



The 12-15-h.p. Arrol-Johnston Double Landulet built for Mrs. Camille Courage, of Ascot.

WE hear that Messrs. C. Friswell, Ltd., have secured the sole selling agency for the six-cylinder cars built by the Standard Motor Company, Ltd., Coventry.

THE car presented by Madame Melba to her son, Mr. G. N. Armstrong, on the occasion of his marriage to Miss Ruby Otway last week, was a 14-23-h.p. Mors, fitted with a luxurious body.

THE High Tension Company have removed from Hanway Street, W., to larger premises in Addington Square, Camberwell, S.E., where they will also undertake repair work and have facilities for garaging sixty cars.

THE Clayton Parish Council has petitioned the chief constable of East Sussex to prohibit motor-bicycle races on Sunday at Clayton Hill, on the Brighton Road. A councillor stated that it was almost impossible to hear anything in Clayton Church because of the noise made by the motor-bicycles.

AT the distribution of prizes in connection with Pembroke Technical Schools, Ringsend, Dublin, Sir William G. D. Goff, on behalf of the Irish A.C., said that that organisation would do what it could to obtain employment for those who obtained the Club certificates after passing through the course of instruction at the schools.

A PROMINENT French manufacturer of motor-cars bought an Adams-Hewitt light car for his own use at the late show at Olympia, on the understanding that if the vehicle proved satisfactory he would purchase eight more for selling purposes, as he manufactured heavy machines only. An order for the remaining eight has just been received by the Adams' Manufacturing Co., Ltd., who are to be congratulated on the success of their vehicle in such a stronghold of the automobile as France.

SIR JOSEPH CAUSTON AND SONS, LTD., issue blotting pads and diaries of quality and utility beyond the ordinary range of such publications. The "Mercantile" pattern is a good one, with diary, date remembrancer, and a pad for memoranda combined with the usual thickness of blotting leaves. Folding over when not in use, it should provide a useful addition to the equipment of the busy man's desk. The "Universal," "Legal," and "Commercial" are other diaries associated with Messrs. Causton and Sons' name in which the convenience of the user has been carefully considered.

IN Peter Street, Manchester, Mr. T. Garner has a large motor-car depot.

MR. LESLIE BUCKNALL proposes to make a balloon trip to Russia.

THE Gillingham (Kent) local authorities are providing a motor car for the use of their surveyor.

THE King of Portugal has just placed an order for a Peugeot car, making the fifth he has had of this make.

MONDAY next is the latest date for entries for the A.C.G.B.I.'s side-slip trials.

SEVERAL of the leading motor-bus concerns have adopted the Peter Union tyres.

LORD BATTERSEA has ordered a 40-h.p. six-cylinder Napier of the latest type.

WE are informed by Brooke Motors (London), Ltd., that the Hon. E. A. Guinness has placed an order for a second Brooke car.

AT Spalding a new garage with inspection pit and other adjuncts has been erected by Mr. A. Beales, who has been appointed local repairer to the leading automobile organisation.

THE Surveyor to the Ongar Rural District Council is thinking of utilising the motor-cycle for the more rapid performance of his official duties.

A NOTICEABLE feature of the Paris Salon was that the gear boxes of many of the chassis on view bore the Renault licence plate. It will be remembered that Messrs. Renault Frères claim the master patent for the direct drive, and that a number of the leading concerns in France agreed to pay a royalty—hence the plate in question. Although the validity of the patent in this country has not yet been established, there is an action pending.

THE Metallic Manufacturing Co., Ltd., of Ardrossan, have issued a list of their "Halax" motor-car washers and ignition plugs. The corrugated metallic joints are filled with the firm's oxeloid manganite paste, while vulcanised fibre and asbestos millboard joints are also illustrated in the catalogue. In their plugs only chemically pure mica, free of all traces of metallic oxides, is employed, so that perfect insulation is obtained.

WE illustrate herewith one of the latest productions of Reo Motors, Ltd., of Broad Sanctuary, Westminster—a 16-20-h.p. landulet, with extension over the driver's front



The Reo 16-20-h.p. Landulet.

glass. The vehicle, which is excellently finished, having regard to its moderate price, is provided with a horizontal double opposed motor, a planetary type of change speed gear giving two forward speeds and a reverse, and final transmission by a single chain.

## CONTINENTAL NOTES.

### Public Services in Germany.

Arrangements are in hand to inaugurate a public service of motor-cars between Peledorf and Spindelmühl. A company has also just been formed at Briesach to establish a public motor-car service between that town and Schellstadt.

### Military Motor-Cars for Bulgaria.

A deputation of the Bulgarian military authorities recently visited Vienna to inspect the various motor-vehicles employed in the Austrian army. Visits were also paid to the works of several manufacturers of vehicles suited for use in connection with military purposes.

### The Scheveningen Motor Week.

It is again proposed to hold a motor week at Scheveningen (Holland) in June next. The programme will include a flower fete, a series of standing kilometre speed trials for touring cars, and a tour to places of interest in the district.

double pistons. The vehicle is to be driven by Mr. Colin Defries, the British concessionaire for the Porthos cars.

### The Touring Car Race for the Kaiser's Prize.

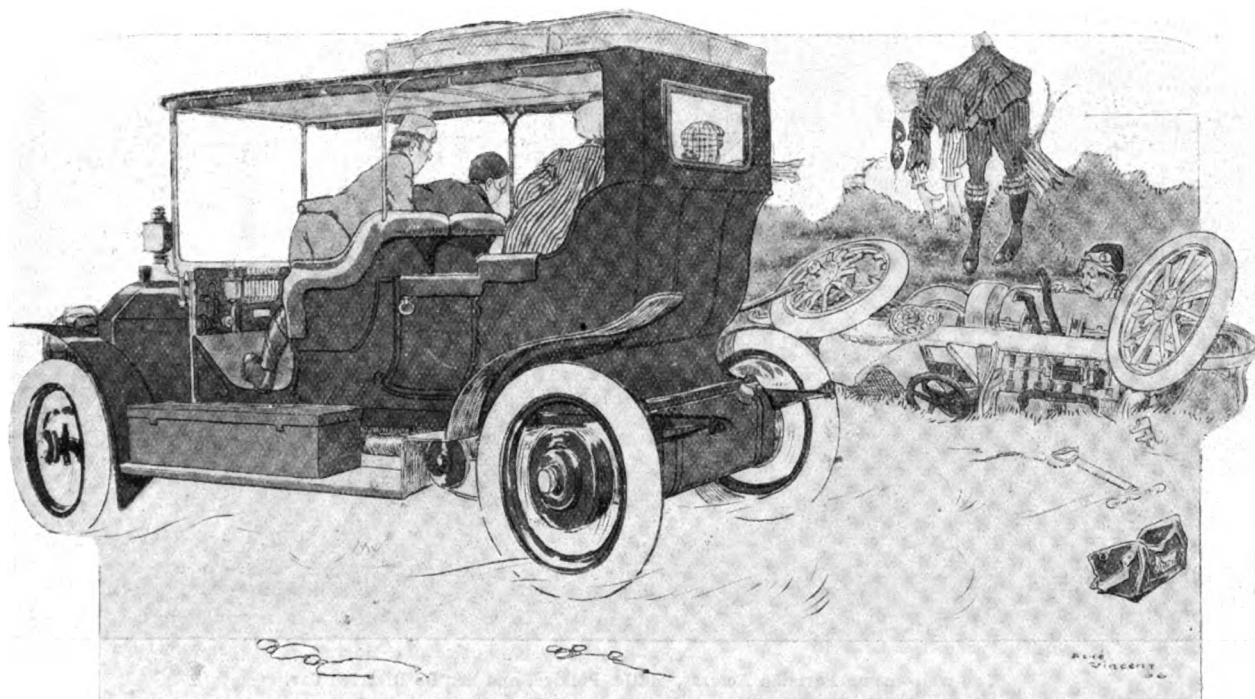
Up to Saturday last sixteen entries had been received for the touring car race for the Kaiser's prize to be held in Germany in June next. They include three Fiats, three Opels, three Benz, three Metallurgiques, three British Daimlers, and a Mors. The entry list closes on the 31st inst.

### The Trial of Engine-starting Appliances.

The trial of self-starting devices for petrol motors, organised by the Académie des Sports (Paris), and for which fourteen entries were received, has resulted in the first place being taken by the Lecomte apparatus, the Delahaye being second, Saurer third, Erlatti-Bossut fourth, and Lemasle fifth.

### The A.C.F. 1907 Grand Prix Race.

Much discussion has taken place over the 1907 race for the A.C.F. Grand Prix owing to one of the Parisian dailies publishing a report that the contest would not be sanctioned by the



From a Sketch in]

Passing Motorists to man in the tree: "Do you want any help?"

[L'Omnia.

### Sanitation and Motor-Cars.

The General Council of the Seine has decided on the establishment of five disinfecting stations on the outskirts of Paris. In connection with the same several special motor-cars are to be purchased for the rapid conveyance of clothing, bedding, &c., requiring disinfection.

### A Race Meeting at Calais.

The Calais section of the Automobile Club du Nord de la France proposes to organise a motor race meeting near Calais at the conclusion of the Ostend week next year. It is intended to hold a series of flying kilometre speed trials on the level, and also a hill-climbing competition over the same distance, but from a standing start.

### A 180-h.p. Racing Car.

We understand that the Porthos Company, which made its debut at the recent Paris Salon, is building a special six-cylinder racing car for next year's event. The engine will develop no less than 180-h.p., the six cylinders having

Government. The French Club at its last meeting decided to settle the question by sending a deputation to M. C'émenceau, the Minister of the Interior, to obtain his consent to the race.

### Miscellaneous Items.

The Dutch annual automobile exhibition is to be held in Amsterdam, from the 15th to the 24th February next.—The Automobile Club du Grand Duché de Luxembourg is being formed at Luxembourg.—The Motobloc Company are building six special racing cars for next year's events.—Following the example set by British manufacturers during the Olympia Show, quite a number of trade dinners were held in Paris during the past week. Among the firms there entertaining their friends were Peugeot, De Dietrich, Motobloc, Darracq, &c.

THE Prince's Road Garage has been opened at 137A, Upper Hill Street, Liverpool, by White's Carriage Company, Ltd., who have appointed a skilled engineer to take charge of the repair department. Cars will also be received at any of the company's various branches in Liverpool for storage.



## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices, 87-88, Charing Cross Road, W.C.]

### ROAD IMPROVEMENTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—No one will deny the public spirit of Mr. Evan Jenne and those associated with him in the effort to improve the road communication in the Lynton and Lynmouth district, but the matter is of too national importance to be dismissed by private generosity. Nor can it be deemed as merely within the province of the local authorities. We motorists are in the habit of seeing more of the country than the ordinary person, and can, therefore, take a wider view than most people. Hence the demand which has been so well voiced by the Hon. Arthur Stanley and others for a central road authority to maintain existing roads and suggest new ones.

This latter aspect of their work is perhaps the most important that can be tackled. By means of the motor-car economy of time is secured in getting from place to place. This is

my views, I would point out that in the present state of things such improvements will never be made unless private enterprise sets the pace.  
—Yours truly,

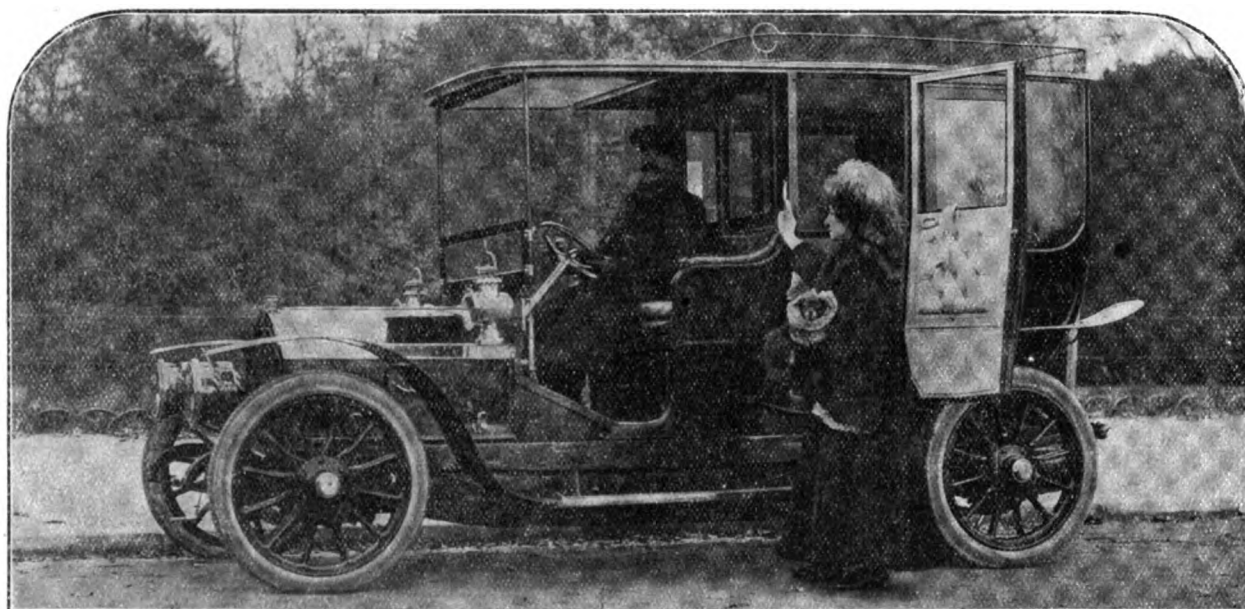
DEVONIAN.

### FOUR v. SIX CYLINDER CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—There is an interesting discussion going on at the present moment in your journal between Mr. Edge and Mr. Jarrott. I presume you do not wish to confine the discussion to the above-mentioned two gentlemen. Is it not always a question as to what you are selling whether a thing is the best or not? For it must be apparent to everyone that Mr. Edge must talk all he can about six cylinders and Mr. Jarrott four cylinders, and you would not expect them to do otherwise. Hitherto the cost of a six-cylinder car has been beyond the ordinary motorist, but now that one of these can be obtained for £450, including side-entrance body, the argument should be at an end. Therefore, I suggest that you put the editorial comment "this correspondence must now cease," and just tell the public that Messrs. Friswell, Ltd., can supply a 15-h p. Standard six-cylinder car at £450, and more powerful ones at proportionate prices. I do not pretend to enter into any discussion as to the merits or otherwise of the six-cylinder car, and will conclude by saying that "you pay your money and take your choice."  
—Yours truly,

F. GUY LEWIN.



The well-known Parisian Actress, Mlle. Polaire, and her De Dietrich Car.

important to the man who seeks pleasure; but it becomes essential to the man on business. And many commercial travellers are learning the value of the automobile, either in car or cycle form, in this connection. But unless the roads from leading centres are made on Euclid's principle of the shortest distance between two points, full advantage cannot be taken of the speedy vehicle. The same argument applies to such hills as Porlock. They are prohibitive to many vehicles that are satisfactory under ordinary conditions and the provision of alternative routes should be regarded as a matter of urgency.

Now I have a suggestion to make to the Roads Improvement Association, or perhaps the active Automobile Association may see its way clear to accept the proposal. Why cannot we have a survey of a typical part of the country with a view to mapping out the shortest routes between various important places? Then we should ascertain where unnecessary mileage has to be traversed and proposals for the making of shorter tracks could be devised. If this were done it should prove useful ammunition in the campaign towards a central road authority, providing advocates with instances of likely advantages resulting from the provision of alternative routes to those now in use.

By this means the public would be shown how impossible it is to saddle many localities with the cost of such improvements, which, after all, would be most useful to people from a distance. This is one factor that must be kept to the front. All share in the convenience of such local improvements and consequently it is reasonable to argue that the cost should be national and not have to be provided by private generosity. At the same time I would urge generous support to Mr. Jenne's appeal, for, although such advice may appear inconsistent with

### THE FUEL QUESTION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to the article in the *M.C.J.* of the 8th inst. respecting the investigations now being instituted by the Motor Union into the fuel question, I note particularly that portion which gives the views of Mr. J. F. Bennett with regard to his method of constructing a carburettor for the consumption of paraffin in motor-car engines. It may be of interest to the Motor Union and Mr. Bennett to know that as a result of a deal of study and experiment of the ways and means of constructing a carburettor that will satisfactorily carburette any grade of spirit (including alcohol) of whatever density and in any temperature, and that would give satisfactory results with paraffin, I arrived at exactly the same conclusions as Mr. Bennett, viz., that the only satisfactory method was to spray the paraffin or other fuel on to a heated surface, and to effect this by the automatic action of the engine.

The method which I have adopted for achieving the ends enumerated above in a carburettor which I have recently patented is practically identical with that described by Mr. Bennett. My carburettor consists of a single jet the orifice of which is covered by a needle valve which is capable of adjustment. Over the jet is placed a hollow chamber which is in communication with a jacket encircling the carburettor. The jacket is divided into two sections or compartments, one section being fed with exhaust gases from the engine. On the entry of the exhaust into one compartment, its passage being obstructed by the division plates, its course is turned into and through the hollow chamber over the jet, from which it emerges into the second half of the jacket and out into the



atmosphere, or preferably through another tube into the silencer. Normally, provision should be made to pass a sufficient quantity of exhaust gas through the carburettor to raise it to a high temperature, and a regulator provided to reduce the heat to that which is found to be correct for the requirements of the fuel which is to be carburetted.

I have used this carburettor for petrol, alcohol and paraffin. With petrol of any grade I have had splendid results. I found it necessary when working with alcohol, to first start with petrol or to use some external means of warming the carburettor, only a very small amount of heat being necessary to effect a start. In actual running, the results I obtained from alcohol were in every way equal to petrol; the engine (air cooled) kept cooler, the speed on the level was quite equal to that obtained from petrol, and the power on hills slightly superior. With paraffin it is necessary to first start on petrol. The latter can be shut off immediately the engine is started, and in actual running I have found that as used in my carburettor there is no practical argument against the use of paraffin, no fouling of valves took place, and I was never once stopped through dirty plugs. I shall be pleased to furnish a sample, drawings, or any other particulars concerning this carburettor to the Motor Union Committee if they think it worth while giving their attention to same.—Yours truly,

CHAS. E. PILCHER.

### A DARRACQ CAR QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be much obliged if, through the medium of *M.C.J.*, you could tell me if I can improve a 12-16-h.p. Darracq by fitting a wipe roller contact maker, instead of a make and break. My engine is very hard to start and I do not seem to get full power from it. Which contact maker would you recommend? I think everything else seems all right. Yours truly,

D. G.

[A roller contact would, without doubt, improve the running of our correspondent's car somewhat, and would also be a great advantage in facilitating the starting of the engine. It would, of course, need a trembler coil, unless the existing coil be fitted with an auto-trembler. A good type of suitable roller contact is that made by Messrs. Lacoste. We have used one of this type for the past two and a half years without trouble.]

### SOLID TYRE EXPERIENCES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—If "Tramp" will have wheels of larger diameter fitted to his car—40 in. diameter minimum—shod with about 3 in. solids, he will be able to drive on good country roads up to thirty miles per hour, and will scarcely be able to detect any difference from pneumatics except in a little increased road noise.

On the very bumpy roads in and about London he will have to drive considerably slower than with pneumatics. Provided his springs are good he will do no damage to his car in any way, and will find, moreover, that he has to a great extent solved the dust nuisance problem.

The type of solids is, I think, immaterial, provided the rubber is good and resilient; those fitted with side flanges are, in my opinion, the best.

As long as the pneumatic tyre trade is such a profitable one the public will be misled by these fables of terrible vibration and great reduction in speed.—Yours truly,

J. BRYANT.

### THE LEON BOLLEE CAR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I believe it is the impression among some automobilists in England that the Leon Bollée car is somewhat complicated and difficult to understand. This may have been the case with the first models introduced into Great Britain about five years ago, but surely it is time such an erroneous idea should be dispelled. As a user of a Bollée car I made a special point of visiting the Bollée stand at the Paris Salon and was much struck with the absolute simplicity of the 1907 models; in fact, after inspecting every other chassis in the Show, I came to the conclusion that the Bollée was certainly the simplest of the many high-class chassis exhibited.

I do not wish to enter into any description of the car or to enumerate the new features—important as they are—for 1907, but simply to give my impression of the vehicles shown at the Paris Exhibition. May I say, in conclusion, that I had a run on the new 18-24-h.p. model, and for extreme silence without loss of power I consider it second to none of the cars I have ever tried.—Yours truly,

W. F. LOWNDES BUTCHER.

### BRITISH AND FOREIGN AUTOMOBILE INDUSTRIES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to Mr. Manville's letter in a recent issue, his deductions with regard to the rate of increase in the importation of foreign motor-cars are perfectly correct. I would like to point out, however, that your correspondent has entirely left out of account the importation

of "parts"—the very next item in the monthly returns—which jumped from only £717,348 in the first ten months of 1905 to £1,598,686 in the same period of the current year. I may be wrong, but I am under the impression that motor-cars comprise only complete vehicles and that "parts" include chassis. If the latter are included with cars, then, in view of such a large importation of parts, all I can say is there must be a large number of so-called British built cars parading under false colours. In any case, taking cars and parts together—and this is the only proper way—they show at present no tendency to decline, and I for one think that Mr. Manville will, a year hence, be sorry he made such a rash prediction.—Yours truly,

VERACITY.

### SIMPLIFICATION IN VALVE MECHANISM.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to Mr. S. Cunningham's letter in a recent issue of the *M.C.J.*, I quite agree with him that there is still room for improvement in the valve mechanism of petrol engines. Curiously enough, I came across an engine at the Paris Salon last week somewhat on the lines of what your correspondent suggests. It was shown on the stand of the Vulpes Co. The cam shaft is not longitudinal, as usual, but is placed transversely and operated by worm gear off the crank shaft. A special cam is provided at the end, which, by a novel arrangement of levers, operates both the inlet and the exhaust valves at the desired moment. I have not seen the engine at work, but, so far as one could see, the arrangement is a practical one.—Yours truly,

A YORKSHIRE AGENT.

### IMPRESSIONS AT OLYMPIA.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I venture to send you a few of the things I noted the Show had not proved. The elimination of the change-speed gear. Far from it. In a good many cases three speeds have been abandoned in place of



The 35-h.p. Daimler Car recently completed for Col. Wellcome, and on which he is shortly touring through France, Italy, Spain and America. The body, which is of the "Royal" type, is painted dark green with vertical lines of a lighter shade. The interior of the limousine is upholstered in buff cloth trimmings as used on the French State Railways.

four. The rapid growth of the six-cylinder. At first sight one might be led to suppose that the six-cylinder is fast growing, but in reality this is not so. A few new firms have included it in their list, because they considered it up-to-date, but the majority of these hasty additions exhibited were very poor specimens, no details being thought out at all. The universality of the metal clutch. Not a bit of it. Our old friend the leather clutch is still very strongly in evidence, and if it is properly designed it is half the trouble and worry of the plate varieties. The evil of the chain drive. In small cars the chain drive may truly be said to be dead, but not so in large cars. A few of the largest and best houses adhere to the chain drive, and seem likely to for some time to come.—Yours truly,

RAMBLER.

### TOURING IN BRITTANY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to the concluding remarks in that most interesting account of a three weeks' holiday in Brittany, by Mr. G. C. Ashton-Jonson, in the *M.C.J.* of the 1st inst., I think this gentleman is a little too sweeping in his remarks on the catering of the cross Channel steamers. Admittedly I know nothing of the Southampton-Havre service, so of that I say nothing, but with the Dover-Calais, Folkestone-Boulogne, and Newhaven-Dieppe routes I am fairly well acquainted; with the last named very well indeed. Allow me unbiassedly to inform your correspondents that the catering in every way on the Newhaven-Dieppe route leaves absolutely nothing to be desired. The food and drink is good, plentiful and cheap; the stewards are attentive and the serving is quick. For all and every reason I can heartily recommend the Newhaven-Dieppe route to your readers; the railway service on either side the Channel is good and comfortable, the steamers are fast

safe, and commodious; the scenery of Sussex in England, and of the Valley of the Seine and Normandy in La Belle France, is the prettiest of any route to Paris. I advise automobilists to use the Brighton road to Brighton, and thence take the Newhaven road through Rottingdean, which, though hilly, has better surface than the Lewes-Newhaven road. Yours truly,

ALAN A. L. HICKMAN.

## SIDE-SLIP AND THE FIXING OF NON-SKIDS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—There are plenty of non-skid devices about, and yet we still hear of accidents due to side-slip, and frequently in cases where some non-skidding arrangement has been in use. Now a good many people are still ignorant of one or two facts about side-slipping. We generally find a car fitted with either one or two non-skids on the back wheels. But what about the front? Often none at all! Now the fact of a car, particularly a vehicle with a heavy body, having non-skids on the back wheels is rather conducive for the slipping of the front wheels, i.e., although the front wheels may be turned to negotiate a corner, the car still continues straight on, which is most dangerous, as failure to bring the car to an immediate standstill means a collision with a wall, or a run over a hedge, or some other equally unpleasant accident. No, the front wheels should most decidedly be protected, and a really good plan is to arrange the non-skids diametrically opposite, one, say, on the left front wheel, the other on the right back. Two are, from a side-slip point of view, better than one, on the back wheels, as it is possible to get a side-slip with only one, but this rarely happens unless reckless driving is indulged in. Two non-skids on the back wheels of a live axle car have their objections, as there is no slip on the road at starting, and there are no chains to absorb the first shock.—Yours truly,

HILLORSEA.

## THE AGENCY QUESTION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The attempt recently made to draw up a series of restrictions with which to hedge the agent as though in a kind of compound has apparently collapsed for the present. But the present seems an opportune time for considering the general question of motor-car agencies and the dictatorial policy adopted by many makers with regard to the way in which the agent shall sell the cars at his disposal.

It is often difficult enough to sell cars without any restrictions, but when we are proscribed for exhibiting at shows which are likely to be useful means of publicity there seems a good reason for the "turning of the worm." In many places the agent builds up a new business with one or more types of cars, popularising them in many ways; then suddenly the agency is transferred and no thought of compensation seems to enter the mind of the principal. This and other hardships are real and tangible, and possibly some agents in and about London who recognise the injustice and feel keenly on the subject may take up other points in connection with the matter.—Yours truly,

A. B. C.

## MASCOTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It was with feelings of the keenest interest that I read in your issue of the 20th October (only just received here at Cape Town) the intensely interesting letter of Mr. C. M. Holloway informing your readers of the startling fact that he had managed to tame a black cat sufficiently enough to accompany him on his motor as a mascot; such information I feel sure is valuable, and as such will be read with world-wide interest, and without doubt, the thanks of all motorists are due to Mr. Holloway for having enlightened us on the matter. I regret, however, to be obliged to ask Mr. Holloway to allow me to have a share in being one of the first to have a black cat as a mascot, for not so long ago I took with me for a ride a black Hottentot woman, only my experience was not quite as good as that of Mr. Holloway, as, owing to a slight difficulty with a tree stump, my mascot fell out, both with my car and myself. Would it be too much to ask Mr. Holloway to keep us further enlightened as to further progress with his mascot (I nearly said *mosCAT*, Mr. Editor, but refrained in time), seeing that any information on this score will no doubt prove useful to many a motorist like myself, at the moment.—Yours truly,

MASCOTLESS.

THE SPEEDWELL CARS.—A correspondent at Haslemere, a doctor, writes:—"I must say that I find my 10-12-h.p. Speedwell car much more serviceable than were the two horses. Since I have had it, it has never failed to carry me where I wished to go. We have had no stoppage except for one puncture."

NON-SKID EXPERIENCES.—With reference to the letter of C. D. L. with regard to non-skids, Mr. A. Roberts, of the Roberts' Non-Skid Tyre Tread Manufacturing Company, Gripwell Works, St. Mary's Row, Birmingham, writes, that he will be pleased to place his own experience at the service of our correspondent if the latter will write him.

## CLUBS AND ASSOCIATIONS.

### HUDDERSFIELD BRANCH OF Y.A.C.

THE Huddersfield Branch of the Yorkshire Automobile Club has held its annual meeting under the presidency of Mr. W. H. Jessop.

Mr. E. G. Learoyd presented the third annual report, which stated that the membership had been increased from sixty-nine at the commencement of 1905 to ninety-seven at the beginning of 1906. At the present time it was 115. The hill-climbing competition passed off successfully, and Mr. Singleton succeeded in winning the cup for the best all-round performance. After an allusion to the infirmity ride, on July 27th, when seventy patients and twenty nurses were taken out, the report continued that a request had been received from the Meltham Convalescent Home authorities to take the patients in the home upon a similar excursion, but it was not thought wise to undertake an additional event of that nature for the present. The committee had recommended to the Huddersfield Corporation that they should place signposts at the corners of the various main roads in Huddersfield, and it was hoped that the proposal would be approved. The finances of the club were in a satisfactory condition, a balance of £19 14s. 4d. being carried forward. The receipts totalled £151 9s. 9d.

The Chairman, in proposing the adoption of the report and balance-sheet, said he wished to acknowledge the work done by the committee, every member having taken a deep interest in his work. He thought that they had reasons for complaining that the owners of motor-cars did not realise the advantages of being members of that club. The report did not enter into details of the work actually done for the benefit of the motorists of the town, but he might say that during the year they had to watch carefully not only local affairs, but also legislation. Motor-car owners in Huddersfield ought to recognise these facts by becoming members. During the last year there had been an increase of eighteen members, but there were only 115 members out of something like 317 motor owners in and about the town. Outside motor-car owners benefited indirectly by the efforts of the association. Mr. Arthur Dawson seconded and the motion was unanimously carried.

The election of officers resulted as follows:—President, Alderman W. H. Jessop, J.P.; vice-presidents, Messrs. Horace Broadbent, Elton Crowther, H. A. Crowther, D. S. Crowther, A. Dawson, H. Dickinson, E. W. Fisher, J. H. Kaye, J.P., and A. Mallinson; chairman of committees, Mr. Arthur Dawson; secretary and treasurer, Mr. E. Gordon Learoyd; committee, Mr. H. R. Carr, Mr. J. D. Crowther, Mr. J. Hilton Crowther, Dr. Edwards, Mr. Albert Kaye, Mr. E. Lawton, Mr. R. V. Middlemost, Dr. Prior, Dr. Rogerson, Mr. F. Sutcliffe, Mr. T. Shires, Mr. F. H. Wilson, and Mr. C. S. Middleton (the last named representing the motor-cyclists); auditors, Messrs. E. Lawton and J. D. Simpson; representatives on the Y.A.C., Messrs. F. H. Wilson and E. Gordon Learoyd; representative on the Motor Union, Mr. Alex. Mallinson.

On behalf of the members the Chairman then presented a motor timepiece to Mr. E. G. Learoyd in recognition of his services as hon. secretary of the club from its formation. Credit must be given to Mr. Learoyd, he said, not only for the foundation of the club, but also for his able services since. The work had been a great tax upon his time and energies, but he had proved himself an enthusiast in automobilism.

Mr. Learoyd, who was greeted with the singing of "For he's a jolly good fellow," thanked the members very much for the gift and the kind remarks concerning himself. He felt somewhat proud of that club. The other day he went to the dinner of the Yorkshire Club at Leeds, and, with the exception of Huddersfield, there was not one of the six affiliated clubs that had more than forty members. He believed, however, that the other clubs assisted the Yorkshire Club more than Huddersfield, and although the Huddersfield members had better cars generally than the members of the Yorkshire Club, yet they did not seem to care for joining in competitions.

### THE MOTOR VAN, WAGON AND OMNIBUS USERS' ASSOCIATION.

A MEETING of the executive committee of the Association was held at 1, Albemarle Street, Piccadilly, W., recently, when the following provisional report of the sub-committee appointed to deal with the probationary inspection of vehicles during first month of active service was submitted:—Although the motor-wagon is gradually becoming general for purposes of transport, and purchasers have a choice of many excellent types, the difficulty is still experienced by those who commence to substitute mechanical transport for their horse-drawn vehicles, in knowing what type of vehicle is likely to best suit their requirements. In such cases, not only is initial advice desired in specifying the conditions which they require to be fulfilled, but also in judging how far the conditions of sale of a vehicle are really complied with, and, moreover, as to the actual working of a commercial motor vehicle under service conditions, with a view to possible further purchases. The Motor Van, Wagon and Omnibus Users' Association are

prepared to undertake to supply all professional advice necessary to enable members to purchase vehicles best suited for their purpose, to supply them with standard specifications, and after the purchaser has made his own selection, if called upon by the purchaser, to carry out a standardised series of tests under service conditions, and further, to report on the working and extent to which the conditions laid down have been adhered to by the manufacturer. The particulars of these tests will be furnished to the purchasers only, and are not to be used for purposes of advertisement, except by resolution passed by the executive committee.

After some remarks, it was moved by the chairman, and agreed, that the scheme be approved in principle and circulated to the members for their suggestions.

#### SOUTHEND.

ALTHOUGH the club has only been in existence a short time, the membership is already a large one, derived not only from Southend, but from Shoeburyness, Leigh, Chelmsford, and the intervening districts.

Capt. J. R. B. Newman is the president, Dr. F. Silva Jones, a vice-president, and at the last committee meeting Mr. J. B. Carruthers was appointed chairman of the committee, Mr. F. W. Hertridge, delegate to

#### THE C.T.C.

WHETHER the Cyclists' Touring Club should be enlarged to include motorists and tourists generally is a question Mr. Justice Warrington, sitting in the Chancery division of the High Court of Justice, was asked to decide last week on a petition under the Companies (Memorandum of Association) Act, 1890. Mr. Eve, K.C., and Mr. Kirby appeared for the club, and Mr. Gore Brown, K.C., and Mr. T. B. Napier for dissentient members. Mr. Eve explained that this was a petition by the club, which was a company registered under Section 23 of the Act of 1867. They were registered in 1887, having been in existence as a more or less voluntary club since 1882. The amendment of the articles now proposed was to enlarge the club so as to include in it not merely those persons who toured on bicycles, tricycles, or vehicles of that description, but also those who used motors and horses for touring purposes. The club began for bicyclists only, and in 1882 it had 6,705 members. In 1895 the membership reached 16,343. In 1896 the total was 34,655 and in 1898 they had reached 60,449 members. About that time motor-cars began to supersede cycles, and by 1900 there was a drop of 4,000 members. By 1905 the membership had gone down to 35,785, while at the present time it was only 32,500. The annual subscription had always been small, the maximum being 5s., with 1s. entrance fee, which had alway



An Austrian Method of Hauling Home a Disabled Car.

the Motor Union, and the hon. secretary, Mr. A. Warnery, to the council of the Auto-Cycle club. Various social events have been organised for the early months of the New Year.

THE annual dinner of the Manchester Motor Club, which has now nearly 300 members, was a great success.

ON Wednesday, Boxing Day, the Sheffield and District A.C. met opposite the local Town Hall, for a run to the "Hop Pole," at Ollerton.

THE Leeds Motor Cycle Club will hold a competition on the 5th prox., in which the rider completing a run up a hill in the time previously estimated will be adjudged the winner.

THE next meeting of the Institution of Automobile Engineers will be held at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W., on January 16th, when a paper will be read by Mr. F. L. Martineau on "Accessibility and Cleanliness, and the best means of obtaining it."

MR. L. M. WATERHOUSE will read a paper on "Electric Circuits of Motor Boats and the Use and Construction of Accumulators" before the members of the British Motor Boat Club, on the 17th prox., and Mr. A. F. Evans will read a paper on the "Commercial Marine Oil Engine" on January 31st, 1907.

carried to a reserve fund, now amounting to £10,000. This had been increased by £5,000 or £6,000 balance of unexpended income. A postal vote of members had been taken as to the admission of all tourists, and of 12,657 answers received 10,443 were in favour of the council's proposal and 2,214 against. Some 18,000 to 20,000 members had not voted at all. At the meeting in Newcastle eighty-three members were present, when seventy-seven voted for the resolution and one against. The other five did not vote. The confirmatory meeting was held in London, and 368 members attended, when 210 voted for and 157 against. A poll was demanded, and 173 voted for and 156 against.

After a two days' hearing the judge said he was not satisfied that the alteration was for the interest of the members of the club generally, nor could he take the view that the voting had really expressed the opinion of the club as a whole. But the main ground for his decision was that the proposed change did not come within the Act at all. Motoring increased the risk of cycling, and one of the objects of the club was to protect its members against that very danger. It could only do so by taking measures against another class of its own members. It was impossible to combine the business of catering for and protecting the rights and interests of cyclists with that of catering for and protecting the interests of motorists, and the petition must be dismissed with costs.

## CASES UNDER THE MOTOR-CAR ACT.

### THE BRAKESMAN ON TRAILERS.

**MOTOR LURRIES.**—Several drivers employed by manufacturing firms in Manchester have appeared before the justices at the Manchester Court for breaches of the "Use and Construction" Order of the Local Government Board, made under the Motor Car Acts of 1900 and 1903. Steam power is coming largely into use for the removal of heavy goods by road from mills and works outside to warehouses in the city. Frequently a steam motor lorry has coupled to it a heavily laden "trailer." Under the order referred to the trailer, apart from the motor, should carry a brakeman to operate the brakes, but the practice seems up to now to have been for the one brakeman in attendance to ride beside the driver. This fact was remarked upon by the City Coroner at the inquest on a child who was killed recently by being run over in the street by the trailer of a motor-lorry. One of the defendants summoned last week was Charles Turton, of Hulme. He is employed as a motor driver by a firm of manufacturers in the city. He was taking a load of cloth along Oldham Road, on the morning of December 4th, on a trailer, when a policeman noticed that the trailer was unprovided with a brakeman. The defendant's name was taken by the officer, and he was summoned. The facts were admitted, but the manager for the defendant's employers contended that in such a case the order was impracticable. There were, he said, two men with the motor, the driver and a brake-man, who rode together, the fact being that there was no provision at all for a man to ride on the trailer. If the letter of the order must be observed the brakeman would require to ride on top of the load, and every time the brake was applied he would have to descend a ladder. In the majority of cases where trailers were used, the manager added, the same conditions prevailed. The presiding magistrate, Mr. C. Hughes, said it was a technical point, but the police were not to be blamed for the action taken. Personally he did not think the Act meant that there should be a third attendant. No fine would be imposed, but an order would be made for payment of the costs. The manager thanked the Bench, and said that representations would be made to the Local Government Board with a view to having the order annulled. He thought, upon consideration, they would assent to that.

### THE AERO SECTION OF CORDINGLEY'S EXHIBITION.

THE Executive Committee of the Aero Club have drafted the rules and regulations which are to govern the competition at the Royal Agricultural Hall next April (6th to the 13th) for the three best working models of an aeroplane, for which the proprietors of the "Daily Mail" have offered £250. This sum will be divided as follows:—First prize, £150; second prize, £75; third prize, £25.

The conditions of the competition are appended:

The prizes are offered for model flying machines weighing when in flight not more than 50 lb. No machine weighing, when in flight, less than 2 lb. to be eligible for the first and second prizes. Minimum flight under its own power to be 50 ft. in a direct line, measured on the ground. The starting point to be not more than 5 ft. above the ground. Independent power may be used for starting. No portion of the machine, during flight, to have any contact with the ground. No gas to be used to assist in lifting power.

The judges in awarding the prizes will take into consideration:—1, length of flight; 2, practicability; 3, stability; 4, steering power, horizontal and vertical; 5, speed; 6, excellence of design; 7, excellence of construction; 8, method of commencing flight; 9, available lifting power.

The judges reserve the right to make practical tests of the models, both under cover and in the open. They reserve the right not to award the prizes if in their opinion the models are not of sufficient merit. No entrance fee or charge for space is made, and full particulars may be obtained from the Secretary, Aero Club, 168, Piccadilly, London, W.

### COMPANY NEWS.

#### NEW COMPANIES REGISTERED.

**NEWHEY MOTOR COMPANY.**—£5,000. To acquire the business of Newhey's Midland Garage, Station Street, Birmingham. First directors, Messrs. C. J. Newhey (managing director), E. G. Newhey, and W. B. Kent. Station Street, Birmingham.

**BERNA MOTORS.**—£20,000. To carry on all kinds of trading, manufacturing, and financial business in connection with motor-cars, &c.

**NEW IGNITION SYNDICATE.**—£6,000. First directors, Messrs. A. W. Fenton, W. J. L. Sandy (managing director), and H. T. Middleton, 6, John Street, Adelphi, W.C.

**CATERHAM AND DISTRICT MOTOR COMPANY.**—£15,000. To acquire the business of owners of tractors, traction engines, and motor vehicle, haulage contractors, &c., carried on by Messrs. A. Ostlere, A. Bevit, and G. C. Barber, at Caterham, as the Caterham Traction Company, and to adopt agreements (1) with the said vendors, and (2) with Mr. J. Goode. Minimum cash subscription, £3,000. First directors, Messrs. A. Ostlere, B. M. Goode, and E. W. Sawyer. Alderman's House, Bishopsgate Street E.C.

**MOES (ENGLAND).**—£1,000. To acquire the sole agency in the United Kingdom and its colonies and dependencies for motor chassis and cars made by the Société Anonyme d'Electricité et d'Automobiles Moes, Paris, and to adopt an agreement between the said Société, the Roadway Autocar Company, Ltd., and Messrs. Charles Jarrott and Letts, 45, Great Marlborough Street, W.

**J. W. GREENWOOD.**—£5,000. To adopt an agreement with Mr. J. W. Greenwood, and to carry on the business of proprietors or hirers of motor-cars and other vehicles.

**S. M. CAR SYNDICATE.**—£30,000. To acquire certain patents and rights relating to (a) improved means for automatically regulating the stroke of the pumps of steam generators, (b) improvements in liquid fuel burners, and (c) other improvements in motors and like engines, and to adopt agreements (1) with Mr. R. H. Edmondson and Mr. G. J. Shave, and (2) with the Albany Manufacturing Company, Ltd. First directors, Messrs. J. H. Edmondson, G. J. Shave, F. Lamplough, and A. O. Cook. Cumberland Park, Willesden Junction, N.W.

### ROAD REPORTS.

**CHELMSFORD.**—At last week's meeting of the Chelmsford Rural District Council, the surveyor was instructed to make experiments with regard to the efficient repair of the roads.

**LINCOLNSHIRE.**—A portion of the Casterton road (the main road between Stamford and Grantham), near the Stamford borough boundary, will be repaired in the new year, Mr. F. Ryman, the surveyor, expecting to commence the work in about two months' time. The road will be steam rolled as the granite is laid.

**PATCHING** on the main roads outside the town of Louth is now in progress, and, not having a steam roller, is worked in by the traffic. The main streets in the town are of tar macadam, which proves a great boon to motorists, and it is the intention of the Borough Council to carry out more of this work every summer.

**SUSSEX.**—A conference of councils at Hassocks has approved of a scheme to cut a new road through the South Downs to obviate the dangerous gradient at Clayton Hill, on the London and Brighton road. The road is to be a mile and a quarter in length, and the estimated cost of the work is about £13,000. Locally it is hoped that effect will be given to the scheme by the East Sussex County Council and that Brighton Town Council will contribute towards the cost.

**TORQUAY.**—No road repairs out of the ordinary will be undertaken at Torquay for some little while.

**TYNEMOUTH.**—The Tynemouth Corporation have informed the Automobile Association that they intend to bring before Parliament a new Water Bill. As the work proposed will involve certain alterations in the roads of Northumberland, the Association has been requested to state whether it had objections to make to the proposed changes. If any member living in this district has objections to the Tynemouth Bill the Committee will be glad to give expression to his views.

**UCKFIELD.**—Both the roads leading into Uckfield from the directions of Eastbourne and Tunbridge Wells are up for repairs, and it is impossible for motorists to avoid loose stones.

**UXBRIDGE.**—The Uxbridge Council have decided to lay tar macadam over a distance of about a third of a mile in the centre of the town. The stretch of tarring on Hillingdon Heath in the summer was very successful in abating the dust nuisance, and now that the roads are heavy and muddy, it is the cleanest stretch near that locality.

**YORK.**—There are no extensive repairs contemplated in the city of York that will be of any inconvenience to through motor traffic during the next few weeks.

### PUBLIC MOTOR SERVICES.

**MR. T. F. RICHARDS** has asked the Home Secretary whether he was aware that it was becoming a common practice to compel motor-omnibus drivers to drive their omnibuses on the piecework system, and whether, in the interest of public safety, he would, at an early date, introduce legislation that would secure a *maximum* working day at this work of nine hours per day. Mr. Gladstone replied to the effect that motor-omnibus drivers in some instances received their full rate of pay for the performance of a fixed number of journeys per day. For lost journeys some deduction is made. He understood that the hours of work of motor drivers averaged about nine and a half daily, except in the case of the Vanguard Company, who on one route employed their drivers for thirteen and a half hours a day, giving them one day's rest in three. The average day on this route was thus one of nine hours.

ON Wednesday of last week a motor-bus, after skidding on the tram lines in Great College Street, Camden Town, N.W., turned into a shop and completely wrecked the front of the establishment.

THE local authorities of Romford and Harrogate have each decided not to apply for powers to run motor-buses, it being thought that such should be reserved for private enterprise.

A NEW time-table for the winter season has just been issued by the Dartford and Farningham Motor-Bus Company, of which Mr. S. H. Smith is manager.



# THE Motor-Car Journal.

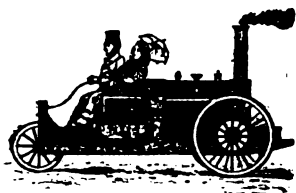
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## COMMENTS.



**A** NOTHER step towards the attainment of perfection in motor-buses will shortly be taken. This should be in the direction of discouraging in a practical way the tendency of such vehicles to describe wanton curves in the public streets. Entries for the Side-slip and Skid Prevention Competition of the A.C.G.B.I. closed on Monday, and about forty devices

will take part in the forthcoming trials. A full list of these appears on page 1001, and we would suggest to the judges that they should not exercise their powers with regard to the elimination of devices without test in too stringent a spirit. When the Regulations were issued we expressed the view that the opinion of the judges as to the suitability of the inventions should not be regarded as final. If upon their preliminary inspection of drawings the subsequent examination were to depend, some injustice might unwittingly be done. It will be far better to give a practical test to all the entries, so that the correspondence that frequently follows such competitions may be avoided in the present instance.

### Motors in Australia.

ELSEWHERE we make reference to the Dunlop Reliability Trial which has been held in Australia. Our correspondent at Melbourne writes that while it would appear, on the face of it, a trade affair, "it must be said, in justice to the promoting company, that it aims to further automobilism. The motor is still in the open stage here, and not at all seriously regarded by many citizens. The Dunlop Company have induced the Automobile Club of Victoria to take more than ordinary interest in it. Indeed, the company have intimated more than once that as soon as the young club feels itself strong enough numerically and financially it will be pleased to hand over the trial, as an annual affair, to it. The contest cost the company £400 this year to conduct. Cars were sent over the various routes previously, and the cross-roads, junctions, dangerous turns and bad crossings were suitably marked by specially prepared signs, and all at the expense of the promoters. It may seem strange, but it is the exception rather than the rule for any county to have finger-posts at the junctions."

### Testing Eyesight.

ACQUAINTANCE with the rule of the road and ability to drive a car are important factors in obtaining a certificate of the A.C.G.B.I. To these will have to be added a third, if the alarm of the "British Medical Journal" extends to 119, Piccadilly. In an article on "Vision Testing in the Public Services," the "British Medical Journal" of this week discusses several papers read at the Section of Ophthalmology of the British Medical Association. One of these, by Mr. Arnold Lawson, condemns the Snellen's test types as unsuitable for dealing with recruits for the Army, and on this point the "Journal" thinks he is convincing, adding, "If the test is undesirable when dealing with recruits, still less can it be

desirable in the testing of engine-drivers, and in what has not yet come into existence, but cannot come too soon, the examination of candidates for an automobile driver's certificate." The "B. M. J." thinks that Mr. Lawson's alternative method of examination may well be seriously considered by the authorities, and hopes that his general criticisms will not be forgotten when we have advanced so far as to insist upon the vision of would-be motorists being gauged." Defective vision, increased by strain and fatigue, and with its accompanying incapacity for judging pace and distance, is, our contemporary thinks, undoubtedly responsible for many of the daily-occurring accidents. This article is certainly a curious commentary on the Motor Car Act, 1903—which, by the way, expired on Monday—under which the halt and the blind have been licensed as capable of driving automobiles. The idea of testing and gauging eyes and ears, and generally subjecting everybody to periodical examination, is now being advocated by experts of every kind. What would some of the old heroes of speed, of whom Mr. C. Jarrott writes in his latest volume, have thought of the idea that they should not participate in the race until their eyes had been tested?

### A World's Record.

SHOULD Mr. S. F. Edge succeed in his effort to complete a run of nearly 1,500 miles in twenty-four hours on the Brooklands racing track, the occasion will be a memorable one, and should give the new racecourse world-wide renown. He intends, as soon as the new track near Weybridge is available for the purpose, to have a twenty-four hours' run of sixty miles an hour on a 60-h.p. six-cylinder Napier in order to demonstrate the absolute reliability of the touring car, even when driven continuously at a high rate of speed. This should quicken public interest in the attempt to popularise motoring as a sport for Britishers. Meanwhile, comes the letter from Mr. J. Edgar Lound, who points out that the Brooklands track has, so far, been mainly the result of private enterprise, and that the trade, upon which, after all, the success of the venture will greatly depend, has hardly been considered. On the other hand, we have heard it urged that the public should be persuaded that the enterprise is a sportive rather than a commercial affair—so that there seems ample room for the discussion for which he asks.

### An English Riviera.

BEYOND the police traps that serve as barricades to some of the districts of the south of England, is the pleasant seashore where motorists love to foregather. When the lanes are not tinged with blue and when big boots of an official order are not objects of interest on the path, travellers journey thither from the Metropolis in safety; otherwise there are dangers on the way. We mention this point for the benefit of Councillor G. H. Warne, of Worthing, and those who are operating with him in the endeavour to unite the towns of Brighton, Hastings, Eastbourne, Worthing, and Bexhill, in an effort to attract the visitors who now go to the Continental Riviera. Eastbourne and Worthing have already experienced the delights of flower fetes; Hastings has had its motor-car gymkhana, and Bexhill and Brighton have seen the fleetest cars draw the crowds from neigh-

bouring places. Having considered these things, and remembering that the Sussex County Automobile Club has imagination and public spirit, Mr. Warne is hopeful that something may be done to make the quintette of towns we have mentioned attractive to the motorist, appealing to his love of sport in the hope of keeping some of his expenditure on this side of the Channel. The idea is laudable and patriotic, and although the south coast cannot hope to rival the balmy air of the Riviera, where luscious fruits were picked in the open on Boxing Day, something may be done to promote the prosperity of our holiday resorts; but, and this must be fully recognised by the authorities, the way to the sea coast must be cleared of police traps and other obstructions inimical to the welfare of the districts in which they are set.

#### Illicit Commissions.

Now that the Act for the better prevention of corruption has become law, the opinion is being expressed that it may tend to a reduction of that quest of secret commissions which seems the main object for which some folks have conceived an affection for the motor-car and all its works. Of the existence of this evil in our industry there is no manner of doubt. We recently heard of the son of a public man, who persuaded his parent to buy a certain make of car, and then went to the agent for "my share in the business." Whether the new law will rehabilitate the conscience of such a youth is dubious, but the fact that it will render the transaction somewhat risky may prevent the multiplication of such instances. The new Act consists mainly of three clauses, which assign punishment for the giving or offering corruptly of bribes or commissions in every form; for the accepting or asking such corrupt inducements; and for the use of any false accounts or other documents intended to deceive the principals interested. Its penalties on conviction include fines in money and imprisonment, with a maximum of £500 and two years respectively. Such an Act is but little likely to be enforced by individual effort; and a Secret Commission and Bribery Prevention League has been formed with offices at 58, Coleman Street, E.C., to admit of collective effort in a manner analogous to that of the Society for the Prevention of Cruelty to Children, which has made effective the legislation dealing with that subject; and in that of the Mansion House Railway Rates Association, which has been of benefit to the trading community at large.

#### Motor Fuel.

Thus far the most important witness on the supply aspect before the Fuels Committee of the Motor Union has been Dr. Dvorkovitz, whose further views on the matter are given on another page. When before the Committee on the last occasion the expert showed experiments with six samples of motor spirit, whose range of specific gravities were from the lightest to the heaviest of benzines. All evaporated except one of specific gravity .750, which had not been properly refined, whereas one of the same specific gravity (.750) which had been properly refined completely evaporated, leaving no trace of oily substance on the white paper. He remarked that he had a sample of .694 gravity, representing the old standard at which supplies of motor spirit used to be obtained, also a sample with a specific gravity of .720, a good average of the petrol now sold; but it was to the samples whose specific gravity ranged from .739 to .785 that he particularly desired to draw attention. He pointed out two samples of .750 specific gravity, a white sample having been redistilled in his own laboratory from the one possessing a yellow tint. All the samples shown he regarded as equally suitable for use by the motorist, with this difference, that the heavier the specific gravity the greater the calorific value per unit volume, and accordingly it requires a slight adjustment in the direction of increasing the air supply in order to ensure complete combustion. The motorist could easily make this adjustment, and if he would

throw aside prejudice Dr. Dvorkovitz believes he would find it just as satisfactory to use heavy as light spirit.

#### The Roads of England and Wales.

LOCAL government is becoming an increasing means of expenditure, and the returns just issued by the Department over which Mr. John Burns presides contain some figures of interest to those who travel along the roads—by motor vehicle or any other form of carriage. The financial year of the L.G.B. ends on March 31st, and the balance-sheet is issued within four or five days of the end of the calendar year in which they close. The total length of the main roads maintained by English and Welsh local authorities was 27,380 miles; other than main roads 95,001 miles of highways were kept up by rural district councils. To repair, maintain, and, in some cases, remake these roads, an expenditure of £3,373,128 was entailed. That motorists have paid their contributions to the expenses of local government is evident from another part of the report, in which we learn that 1,249 summonses for reckless driving were issued during the twelvemonth ended March 31st, under the Motor-Car Act, 1903, as well as 502 prosecutions for exceeding the legal limit—to say nothing of the frivolous charges in connection with lights on cars and similar matters.

#### Glaring Headlights.

OUR reference last week to the devices lately introduced with a view to reducing the glare of headlights on approaching towns and other places where such a change is desirable has evidently not been overlooked by many of our provincial readers, who will be further interested in the reference to the new devices that were on view at the Paris Salon—at the conclusion of our report on the exhibits in the present issue—a report which we are glad to recognise has been of considerable assistance to some of our journalistic confreres. Reverting to the glaring headlights, it may be noted as a subject of discussion at the Boxing Day meeting of the Stockton Chamber of Agriculture. It was said that the searchlights had got beyond the purpose of being a mere signal of approach. The huge acetylene lamps created such a blinding glare that other road-users could not see anything but them, and many horses would not face them. Mr. T. B. Bainbridge said the Central Chamber, of which he was a member, were of the opinion that the penetrating power of the motorists' lamps should be reduced. This would conduce to safety in a twofold sense, as car drivers would not be able to travel at the speed they did at present at night. No resolution was adopted; but undoubtedly the country is looking to motorists to support the enterprise of those makers of lamps who are working towards a mitigation of the nuisance—for such, to use a mild word, it is in many districts.

#### In South Africa.

Now that South Africa is entering into the calculations of British makers of motor-cars, we would emphasize the warning which an United States Consul has just given to American manufacturers endeavouring to cater for the market. For use on the Rand, a car on general touring or runabout lines is suitable, but for use on roads which intersect the veldt, and frequently on the veldt itself, special features of construction, such as extra strong springs and well raised bodies, to admit the "negotiation" of spruets and water-courses, are essential. For use in any part of South Africa, aluminium bodies are very popular, as wood, unless exceptionally well seasoned, warps badly under the sub-tropical sun. The proposal to provide motor-roads in South Africa is said to find extensive favour, for it is estimated that they can be constructed at a cost of £500 per mile, as against £4,000 per mile of railway, and that motor vehicles would carry passengers and mails more expeditiously and with greater economy than a railway.

**Signs on the Road.**

CARE must be taken lest a multiplicity of signs on the roads leads to confusion. Both the Automobile Association and the Motor Union are engaged in the useful work of having villages named in such a way that passing motorists may easily learn their whereabouts, and each of these organisations is looking after the provision of warning signs to motorists on the public roads. Mr. Leveson Scarth, the chairman of the Signs and Notices Committee of the Motor Union, has extolled the action of the Berkshire County Council in this matter, that public body having erected about 450 caution posts at dangerous corners, cross roads, and other places where unusual care should be taken. Extremely dangerous cross roads in Berkshire are indicated by white crosses being placed below the ordinary plates. The latter are 2 ft. by 10 ft. and are riveted to white posts. A note of warning may, however, be struck ere these signposts become general. What is really wanted is a uniform system like that which is in vogue in France, where special diagrams have been prepared, indicating the special character of the danger to be encountered. These mean the same thing

**Progress in Ireland.**

GOOD sportsmen as they are, the speedy qualities of the motor-car have always appealed to the Irish people, who are likely to be interested in the Motor Exhibition that opens in Dublin to-day (Saturday). This is the first show of the kind held in the city, and its inauguration speaks well for the vitality of the Irish Automobile Club, of which Sir Horace Plunkett is the president and Sir William Goff the chairman. When the idea of the show was first suggested its success was more than problematical; but, thanks to the efforts of Mr. Edward White, the energetic hon. secretary of the club, and a sub-committee, consisting of Mr. Hum Bland and Mr. J. C. Percy, J.P., the project has been developed to a good degree of success. It is a sign of the times that Ball's Bridge, where the exhibition will take place, has hitherto been associated with the horse, so that the two rival means of locomotion will have a common platform from which to advocate their claims. In these columns it is unnecessary to dwell upon the importance of the road to the development of the car; but we would suggest to our Irish readers that not until that is fully recognised by the road



The Automobile Association's new Road Signs.—Reproduced from a flashlight photograph taken in the snow at Hatfield last week.

wherever they appear, and thus prevent the confusion that must result from any haphazard ideas being allowed adoption.

**Chauffeurs and their Hearts.**

A NOVEL and, at the same time, an important point with regard to the engagement of chauffeurs has arisen at the Newcastle County Court. Dr. Drummond is a medical practitioner of that northern city, and, like most wise doctors, economises time and, we trust, reduces expenses by using a motor-car on his rounds. His driver was ill two or three months ago, and on his recovery from pneumonia the doctor found he was suffering from heart disease, and was physically unfit to drive a motor-car. Under the circumstances, therefore, he gave him prompt dismissal. But the chauffeur claimed for a week's notice and sued the doctor for wages in lieu thereof. Dr. Drummond made defence that owing to the state of his heart he was physically unfit to drive a car. Hence the dismissal, which Judge Greenwell agreed was justified on the medical grounds advanced by the doctor. The case is of more than local interest.

authorities of the Emerald Isle will the country have the full advantage of the automobile.

At the Queen's Head Hotel, Shrewsbury, an examination for the A.C.G.B.I.'s certificates will be held on the 17th inst.

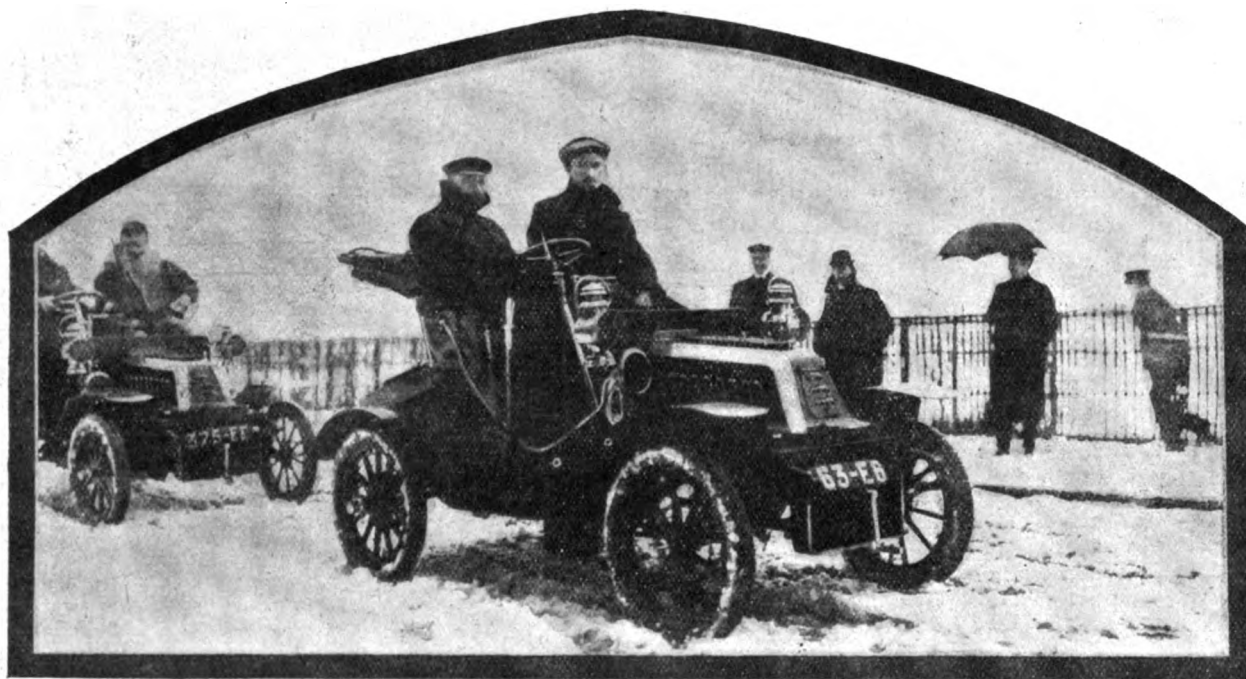
In London the motor-bus has completely vindicated its claim as the successor of the horse vehicle. The latter broke down almost completely under the terrible conditions of Boxing Day, and the strenuous efforts of horses to struggle up ice-covered inclines were really pitiable. Motor-buses went bravely on in the snow, the half-frozen surface furnishing an excellent surface for the tyres which skidded not. Here and there drivers complained of trouble with the lubricating oil; otherwise they were not seriously disturbed by the unusual condition of things. But following the snow came the brown compound of mud and snow which made a Strand of Slush of the principal artery of London, and enabled the vehicles to splash the pedestrians as they literally ploughed their way through thawing snow and dissolving salt. Still it was a triumph for the motor-bus, as the passengers of the new trams of the L.C.C. were fain to admit.

## IN THE SNOW.

MANY motorists had a new experience last week, when we were regaled with an Old Time Winter—almost a novelty in this very modern century. Fortunately, the motor-car is not rendered *hors de combat* by the changing temperatures incidental to our British climate, and again demonstrated that it is more than a fair-weather vehicle. In the country the motor-car was largely used for conveying parties to festive gatherings, and in hilly districts must have saved much suffering to its equine rival. But some enthusiasts had cool adventures after the snow of Christmas night, and when Boxing Day dawned, with its white coverlet shrouding roads and hedges, it was very difficult to distinguish the highway from the footpath. Our letter box has been filled during the last few days with eulogies of the behaviour of motor-cars during the period of Arctic weather, and we shall be glad to have news of any interesting experiences which may have occurred to readers. On Boxing Day Mr. R. M. Wright, of Lincoln, drove his 15-h.p. Humber car over 100 miles with an average of six inches of snow lying on the ground. This was accomplished in a most satisfactory manner, no difficulty being experienced in any way what-

behind to stop immediately. The action of putting on the brake and clutch was momentary; but at the same instant a long sagging trolley wire, which had been invisible to the driver owing to its lying parallel with the top of the wind screen, came across and struck Mr. Edmunds and his companion, Mr. Rawlings, across the cheek, carrying away Mr. Edmunds' cap. Luckily, Mr. Edmunds' son, besides giving the warning shout, reached forward and lifted the heavy copper wire, thus causing it to miss the chins of the occupants of the front seat. The whole incident only took a fraction of time, and even as it was the trolley wire was a couple of feet behind the car when the party stopped. The party afterwards proceeded to Purley and up the Caterham Valley to Oxted. The snow here in some places was very deep, some ten or twelve inches; but the car behaved well, and by means of a pair of Parson's Grippa chain non-skids was enabled to negotiate the slippery roads with ease and comfort. Apart from the shock of the accident, fortunately no damage occurred; but this would show that the driver must be very careful with a wind shield in judging of the distance of parallel objects.

Very trying have been some of the adventures of the motor mail vans. The motor parcel mail van travelling between York



Motoring in the Snow near Paris on Boxing Day.

ever. The tyres fitted to the wheels of the car were Palmer cord ribbed, and it was quite easy, with the usual complement of four passengers, the car being fitted with hood and glass screen, to maintain an average speed well up to the legal limit of twenty miles an hour.

On Boxing Day, while motoring with a party of friends, Mr. Henry Edmunds had a narrow escape from what might have been a very serious accident. He and his party, on his Daimler car, were running over the snow-covered roads from Clapham, via Mitcham and Beddington, and just after crossing the railway bridge at Beddington, before going on to Purley, they were warned by two men that the gale and storm had brought down some of the electric trolley, telephone, and telegraph wires on the newly-equipped road leading from Croydon to Epsom. On receiving this warning Mr. Edmunds pulled up his car and proceeded cautiously. On approaching the road he saw the great amount of damage that had been caused by the storm. Many of the posts carrying the wires were lying across the track, and the supports of the trolley wires were bent and twisted. Proceeding very slowly, where there appeared to be a clearance, he was just able to cross the road when his son shouted from

and Leeds was snowed up at Whinsmoor, near Scholes, being completely buried. A private motor-car also came to grief at the same place. One early morning last week the motor mail which runs between London and Bishop's Stortford, when in the heart of Epping Forest, crashed into a snowdrift with such force that it was nearly buried. A snow plough and several horses were used for some hours in an ineffectual attempt to get the van out.

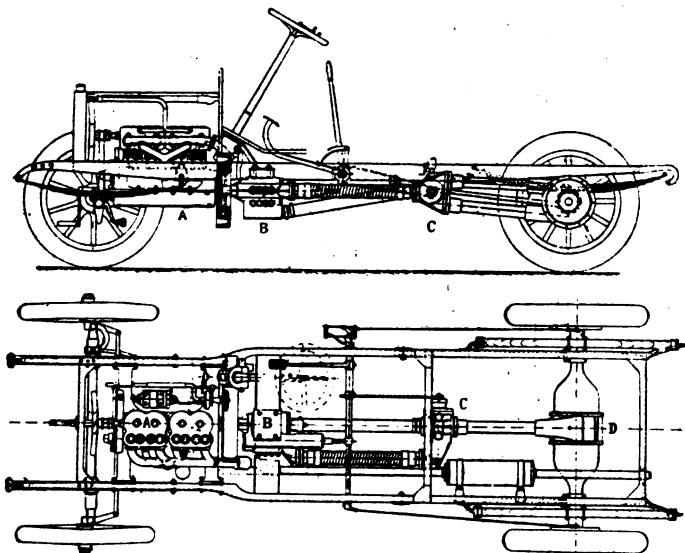
In many parts the main road between Preston, Lancaster, and the North was blocked, and, owing to deep drifts of snow, only a narrow track was available for traffic. Vehicular traffic was almost suspended, and several motor-cars which, for a while, fared better than horse vehicles, had to be dug out of the snow. Boxing night, at Ripon, Sir John Barran's motor-car became embedded in the snow. Two motor-cars stuck in the snow on the moors near Inverwick, Berwickshire, and the occupants took five hours to walk a distance of three miles against the storm to a farmhouse. In North Staffordshire motorists got embedded in the snow, and in several cases the cars had to be dug out.

ON the 17th inst. a large sale of Darracq cars will be held at the Motor House in the Euston Road.



## THE PITTLER HYDRAULIC TRANSMISSION FOR MOTOR-CARS.

CONSIDERABLE interest has lately been aroused in a somewhat novel system of hydraulic transmission of the engine power to the road wheels of a motor-car, on which Herr von Pittler, of Leipzig, has been at work for some years, and which he has now brought to such a state of perfection as to permit of it being put on the market as a practicable idea. Various references to the new departure have from time to time appeared in the German automobile journals, but the



Figs. 1 and 2.—Elevation and Plan of Car with Pittler Hydraulic Transmission.

information given has been of such a brief and incomplete description that we have preferred to delay reference to it until such time as something of a definite nature could be given. Our silence can, however, now be broken, for on Monday last we had an opportunity of inspecting a working model of the hydraulic pump and motor invented by Herr von Pittler, which has been brought over to this country by Mr. Chr. Lorenzen, hitherto connected with the Beaufort Motor Company, Ltd., but who is now largely devoting himself to the introduction and application of the Pittler system in Great Britain. Even now, however, it is deemed too early—mainly owing to questions of patents—to make known the full details of the mechanism employed, so that we have first to explain that while Figs. 1 and 2 show the general arrangement as applied to a motor-car, the views given in Fig. 4 are reproduced from photographs of an early form of the Pittler hydraulic pump, and are used only to show the principle on which it works, this principle being still retained in the latest apparatus, in which, however, the scope and capacity have been increased, necessitating a fresh design.

Referring to the illustrations (Figs. 1 and 2) showing the elevation and plan of the chassis, it will be seen that while the engine A is retained in the usual position, the clutch, gear-box, and the system of transmission between the latter and the rear road wheels—either side chains or cardan shaft—as well as the differential gear and pedal-operated brake, are all dispensed with, their place being taken by an oil-pump or compressor B, and two oil-driven motors D contained in the rear axle casing, connection being made between B and D by a system of pipes. It is by the use of the two motors D that a differential is rendered unnecessary, the spindle of each motor being connected through a universal joint to one half of the rear live axle, as shown in Fig. 3. Dealing first with the oil pump or compressor, and bearing in mind the reservation we have made with respect to the illustrations, it will be seen that the pump spindle carries at its centre a disc, on which four diametrically-opposed slots

are formed, and in which what are termed sliding pistons, consisting of machined metal bars, are free to move axially—that is, to and fro, parallel with the spindle. This movement is controlled automatically by the specially-shaped internal surfaces—forming variable inclined planes—of the extension of the side walls of the pump casing, the motion being such that when the pump spindle is rotated by the engine in the direction of the hands of a clock, the space between the sides of the central disc and the specially-shaped walls of the casing becomes, for a portion of the revolution, smaller on the left hand side, and on the right correspondingly and proportionately larger, the pressure on both sides of the slides being thus balanced. In action the piston sucks oil into a gradually increasing chamber, and forces it under great pressure through a gradually decreasing chamber into the delivery pipe. The to and fro motion of the sliding pistons is arranged in such a way that they follow one another up, so preventing any dead point, and giving a steady flow to the oil. The design of the oil motors on the axle is very similar to that of the compressor—the principle on which they operate is the same, although their capacity is collectively eight times greater.

As already mentioned, the full details of the pump B (Fig. 1) now used have not yet been made known. We learn, however, that it has a variable output divided into several units. Although not the actual figures, we may take one of three units, which may be of equal or of different volume. On starting the car from rest, when the resistance is, of course, at a maximum, the whole power of the engine is concentrated on one of the units, so that the pressure of the oil is greatly increased, although the rate of flow is slow. As the resistance decreases another unit of the pump comes automatically into operation, the pressure being correspondingly reduced and the speed increased, the process continuing until all the units are in operation, and, with the three-way cock full open the car is travelling at full speed. *Vice versa*, as the resistance increases the units gradually drop out of action one by one, so reducing the speed of the flow but rendering the pressure much greater until the power of the petrol engine is all concentrated on one. A pedal can also be provided whereby the number of pump units in action can be regulated as desired, and the power exerted by the oil motors varied independently of the three-way cock C (Fig. 1). The latter serves a manifold object: it can be controlled either by a pedal or a lever on the steering column, and by its means the flow of oil to the motors D, and consequently the speed of the car, can be regulated, the oil after performing its work finding

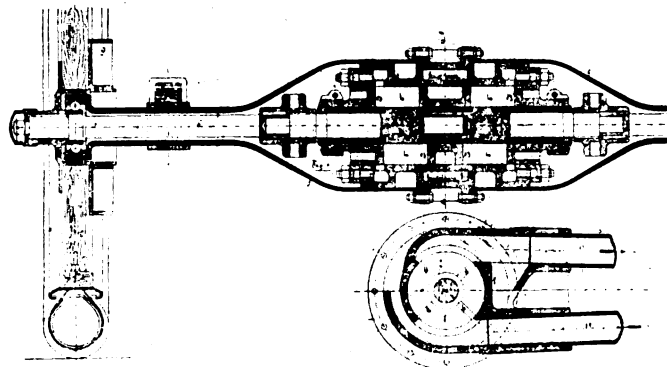


Fig. 3.—Part Sectional views of Rear Axle with Pittler Transmission.

its way back to the compressor. As the cock is closed a braking effect is also obtained, the degree varying in accordance with the position of the tap, the sudden closing of which would be sufficient to lock the rear wheels, owing to the compressing action of their motors on the oil in the pipes to the rear of the cock. Finally, the latter can be turned to a third position, in which the flow of the oil both through the compressor and the motors—which are all arranged to run equally well in either direction—can be reversed, causing the vehicle to travel in a backward direction.

While the actual working pressure of the oil varies from 375 to 1,800 lb. per sq. inch, the piping employed in connection with the system is capable of withstanding 4,500 lb. pressure, or just over 2 tons. Should, however, the resistance to the oil pressure become too great, the oil flow can be by-passed in the piping by means of a safety valve provided in connection with the compressor. Ordinary lubricating oil is employed in the transmission system, a small quantity of glycerine being added to prevent any chance of the liquid freezing in extremely cold weather. The amount of oil contained in the pump, piping and motors, in the case of a large car, is, we are informed, from 2½ to 3 gallons. On the question of the heat generated in the oil and the consequent loss of power, Mr. Lorenzen informs us that this does not exceed from 20 deg. to 27 deg. F. above that of the atmosphere, this result being achieved by the relative slow rate at which the oil is circulated. As will be seen, the pump or motor are not dependent for their action on valves, nor is there any external mechanism. Furthermore, no stuffing boxes are needed or used, one end of the pump being closed by a "capsule" and the other made oil-tight by a hardened steel disc, which is held tight by the internal pressure against the end casing. Working in oil as they do, the pump and motors require no attention as regards lubrication, and it is claimed

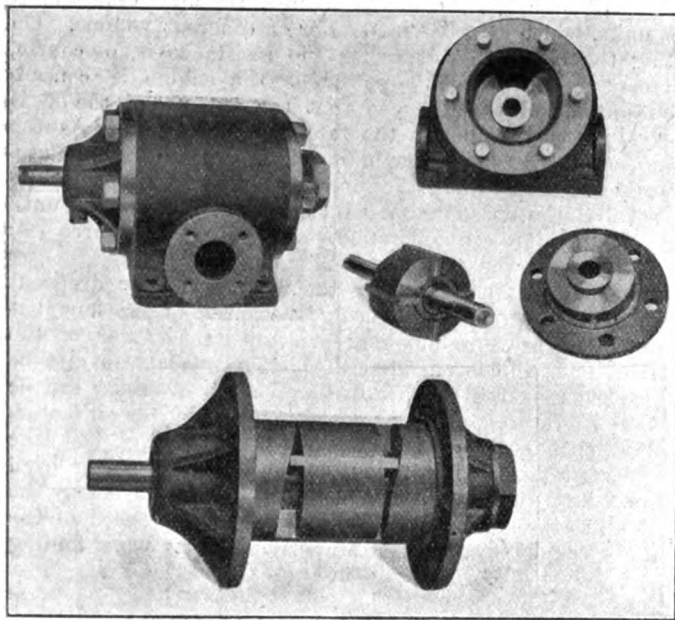


Fig. 4.—General and Detail Views of Pittler Oil Compressor.

that the wear is inappreciable; in fact, it is intended to guarantee them for a period of five years.

Extensive tests, when working with a pressure as high as 1,500 lbs. per sq. in., are stated to have shown the system to have an efficiency of 92 per cent.; that is to say, all but 8 per cent. of the power taken to drive the pump and motors was given off by the latter, and this with a smoothness and noiselessness of action that has probably not hitherto been obtained in petrol cars. Another feature of the arrangement is the relatively small dimensions of the pump and motors, while the weight does not exceed that of an ordinary change-speed gear-box. We understand from Mr. Lorenzen that a motor-bus, in which the hydraulic system of transmission will be fitted, is in course of construction, and is expected to be running in London in about six weeks. In this the oil pump will be located close to the rear axle, thus reducing the length of piping, the engine driving the pump through a long shaft.

While we are not so optimistic in our views of the new system as to consider it is entirely going to supersede the present methods, yet there can be no question that it is in the line of progress, and will undoubtedly take a prominent place in automobile construction in the near future. It is, however,

not merely in connection with motor-cars that the Pittler arrangement can be employed; it is also contemplated to utilise it as a rotary steam engine, in which in the one casing the full expansive force of the steam can be taken advantage of. The system, too, is one which can be adopted in all cases where power is required. As we have already mentioned, Herr von Pittler has been engaged on its development for several years; it has, however, now been taken up in Germany by a powerful syndicate of engineers and capitalists, and we understand that a company is also in course of formation to acquire the British rights. It is not proposed that the new concern shall build motor-cars, but only the compressors and motors, and to supply the same to automobile builders and other users, and also to grant licences for their manufacture under royalty. In conclusion we may add that the chassis fitted with the Pittler hydraulic transmission will probably form one of the novelties at the forthcoming Exhibition at the Agricultural Hall.

### SOME USEFUL NOTES.

MISFIRING sometimes occurs with magnetos when the spark is advanced too far, i.e., if the spark happens to be advanced a little further than usual. This difficulty is usually remedied by bringing the platinum points just a shade closer together.

WHEN a valve has been ground a sufficient number of times to allow the face of the valve to get much below the edge of the seat, it is time to renew it, as under these conditions there is a tendency on the part of the valve to stick in its seat and fail to open on the suction stroke of the motor.

THERE are some really good detachable non-skids on the market, and if used properly they give little or no trouble. Tyres fitted with a detachable non-skid device of the "Durandal" type should always be kept well inflated, and the security bolts should also be screwed down tight from time to time.

MANY motorists have trouble with their acetylene lamps merely because they will not give them the comparatively small amount of attention necessary to keep them clean and in proper working order, the lamps and generator being often blamed when they are not at fault. Passages must be kept clear, old carbide should not be allowed to accumulate, and the glass and reflector should be well polished.

THE function of sight feeds is to enable the motorist to tell at a glance whether the lubricator is working properly. In many cases, however, a row of sight feeds is so located that it is impossible to see what is going on in it except by close inspection when the car is standing still. Very often a strip of white cardboard behind the feeds will make the matter much easier, and, in fact, there are several lubricators on the market whose makers have grasped this idea, and furnish a white enamelled metal strip, which is screwed to the dashboard behind the sight feeds.

IN the regular use of a car there usually occurs a very gradual loss of compression, the progress of which is not at all evident to the sense of feeling, when starting the engine up by the ordinary handle, because the change is so slow. The piston rings wear so that their ends do not come together, they lose their resiliency or are stuck in their grooves by an accumulation of carbonized oil. There is also a tendency for valves to gradually become leaky through long use. The exhaust valves particularly are likely to become warped by the intense heat of the escaping charge or to scale or pit, and thus in time to seat imperfectly. All these actions result in a lack of tightness on the part of the cylinder, and, while the volume of gas drawn into it during each suction stroke is as large as ever, there is an escape of mixture during both the compression and exhaust strokes, a reduction of the pressure at compression, a corresponding reduction of the explosion pressure and a diminution of power generated during the cycle.

# The Paris Motor-Car Exhibition.

(Concluded from page 974.)



The Scene outside the Grand Palais the day following the closing of the Salon.

THE Ninth Annual Paris *Salon* was brought to a successful conclusion on Sunday, the 23rd ult. Throughout the day the huge Grand Palais was packed with visitors, and in the evening great interest was shown in the Tombola. It may not be generally known that every visitor to the show received a numbered ticket entitling him to participate in the draw for the hundred or so prizes—ranging from a motor-car to a repair outfit—which are annually offered by various firms in connection with the exhibition. We have not space to print the whole list of prize-winning numbers, but, in case some English visitors hold the lucky numbers, we give the first six:—

No.	Winning No.
1. De Dion Light Car ... ..	103158
2. Galliette Electric Voiturette ... ..	49606
3. Cottureau Bicycle ... ..	189573
4. Plasson Bicycle ... ..	377829
5. Globe Bicycle ... ..	491710
6. Bath Heater ... ..	140388

## The F.N. Car.

A newcomer from Belgium was the F.N. 12-16-h.p. four-cylinder car shown by the FABRIQUE NATIONALE D'ARMES DE GUERRE, of Herstal, Liege, whose F.N. motor-cycles are well known in England. The general arrangement of the car is on the usual lines of live-axle vehicles; the more noteworthy characteristics are found in the engine, the crank shaft of which is *desaxé*; the base chamber is of cast iron instead of aluminium, as usual; it is so arranged that the lower half can be removed without disturbing the bearings. The clutch is of the leather-faced cone type, while the three-speed change gear is controlled by a "gate" lever and gives a direct drive on the top speed.

## The Delahaye Cars.

Among the French cars deserving of more notice than they have hitherto received in this country are those of the DELAHAYE Co. For the 1907 season four sizes are being made—10-12-h.p.

two-cylinder and 18-h.p., 25-h.p., and 50-h.p. four-cylinder. In the larger sizes the engine has the cylinders cast in pairs, with the valves arranged on opposite sides. The exhaust from the engine passes into a water-jacketed collecting chamber, to which the main exhaust pipe is connected. Two systems of ignition are provided—high tension magneto and coil and accumulators. The clutch is of a special design; it is of the leather-faced cone type, the novelty being found in the method of securing the leather to the cone. The latter is cast with eight depressions on its outer surface. The leather band is drawn into these depressions by bolts, the heads of which are below the surface of frictional contact. The two ends of the leather are held by a bolt of special form, the head of which is wider than the others. It is claimed that this method of attachment enables the leather to be firmly held, and to be easily removed for renewal purposes, when this becomes necessary. The change-speed gear is adapted to give four speeds and a reverse, with a direct drive on top speed, controlled by a single lever working in a special form of "gate." The final transmission in the 10-12-h.p. car is by cardan shaft, while the others are driven by side chains. Interest at the Delahaye stand was centred in the chassis of a 45-60-h.p. car built for the King of Spain, in which a number of special features have, in accordance with the order, been introduced. In the first place the frame is higher from the ground than usual, in order to preclude the possibility of the flywheel striking any road obstruction. Secondly, no fewer than six brakes are provided; there is the ordinary foot brake, working on a drum immediately behind the change-speed gear-box; a second pedal actuates a brake fixed in front of the differential casing; while a hand lever controls the usual pair of brakes on the hubs of the rear road wheels; finally, another pair of brakes are fitted to drums inside the sprockets on the differential shaft, these being operated by a lever on the left on

the car and intended to be controlled by the Royal owner of the vehicle. Furthermore, the steering has been rendered extraordinarily safe, cross connecting bars being provided both in front as well as behind the front axle, these being operated from the base of the steering pillar by two separate and substantial arms.

#### Petrol Motors.

Quite a number of firms in France are now devoting attention to the supply of petrol engines for motor-car builders. Notable among these are the ASTER COMPANY, whose produc-

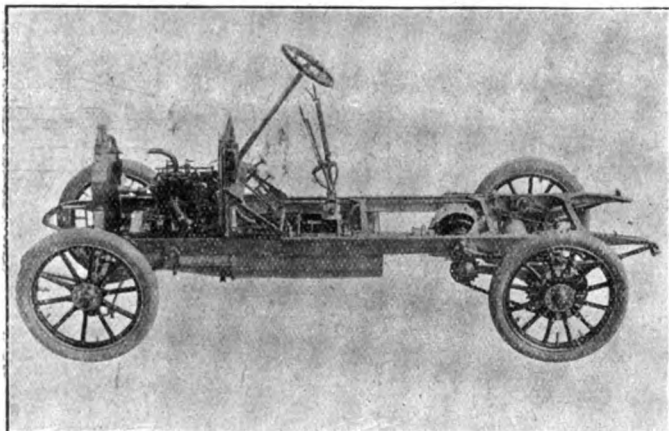


Fig. 65.—Chassis of new Peugeot 10-12-h.p. Car. (See page 972 last issue.)

tions are too well known in this country to need description at this time. Messrs. MARTIN AND LETHIMONNIER, Paris, exhibited the "Sultan" four-cylinder engines, which are made in three sizes—12-16-h.p., 24-h.p., and 35-h.p.; Messrs. BALLOT AND Co.'s productions range from 12-14-h.p. double-cylinder to 40-50-h.p. four-cylinder. M. J. FILTZ, of Neuilly, exhibited specimens of the Filtz two and four-cylinder engines, in which the valves are all located in a chest at the side, and are operated off a single cam shaft. The base chambers, while in one casting, are so made that the oil for the splash lubrication of each cylinder is practically contained in its own receptacle. The BUCHET COMPANY, of Levallois-Perret, which gained a reputation at an early period in the development of automobile engines, as builders of extremely light and powerful motors, exhibited a double-cylinder V-motor for tri-car use, a 12-h.p. four-cylinder motor (70 mm. bore by 76 mm. stroke) with suction inlet valves. Messrs. A. PRIMAT AND Co., of Asnieres exhibited an improved form of their somewhat novel alterno-rotary motor. We give a general view of the 20-24-h.p. four-cylinder engine in Fig. 66. There are altogether four curved cylinders formed in a single casting, within which work pistons of corresponding form, each having its own combustion chamber. Only one of the pistons is provided with a connecting rod, the lower one on the right. The power developed in the other cylinders is transferred to the crank shaft by connecting them in pairs by two bridge pieces, the latter being in turn attached to an arm, the whole forming a kind of I shaped piece which can oscillate on a central spindle. The action in each cylinder is similar to that of a four-cylinder motor, each having its own sparking plug, inlet and exhaust valves. The principal claims made for the arrangement are its light weight and small size, the engine occupying a much smaller space than the usual engine with four vertical cylinders.

#### Shock Absorbers and Dampers.

Shock absorbers for use in connection with the springs of motor-cars were shown by quite a number of concerns. Time was when the Truffault device practically held the field; now there are a dozen or more of arrangements which, although not on identical lines, have a similar object in view. The Edo, which made its appearance a year ago, consists of an archimedean screw supported in a bracket on the frame, arranged to rise and fall in a similar bracket on the axle, the construction

being such that the screw can only return slowly, so preventing any sudden rebounding of the springs on rough roads. The "B P" *amortisseur* or shock damper of Messrs. BERNARD AND PATOUREAU is fitted in connection with the spring shackles, a short rod projecting down from the latter and terminating in a cap, the periphery of which presses against a small air tube held between it and an upper cap. M. SANS, of Brussels, displayed an *amortisseur* which consists of two arms, one attached to the frame and the other to the springs; that from the frame terminates in a small drum, and the one from the springs in what is, practically, a small brake band. As the spring rises, the two parts are brought into frictional contact, allowing the rebounding action to be retarded. The hydraulic principle is employed in the device shown by Dutrieux-Lamelin, of Quesnoy, Nord. Attached to the axle is an arm connected to a form of paddle, perforated and shrouded, which moves radially in a fan-shaped casing set on the frame. The fluid in the casing passes from one side of the paddle to the other through small apertures, diaphragms on one side preventing the rapid return of the paddle after it has been quickly turned by an upward movement of the axle. Other shock absorbers on view included the Catex of Messrs. C. Rey and Co., Levallois-Perret, the René Mullion, the Gardy-Batault and the Dumond. The latter, which is made by M. G. Dumond, Paris, was shown fitted to the Westinghouse cars; it comprises an oil-containing inverted cylinder, supported by a bracket on the rear axle. Within the cylinder works a piston, the upper end of the rod of the latter being bolted rigidly to the side member of the frame.

#### Some Tyre and Non-Skid Exhibits.

The tyre section of the *Salon* formed quite a large exhibition of itself, and it is evidence of the great extent of the French motor industry that so many firms are now catering for the demand for tyres. Among those displayed were the Continental, Michelin, Dunlop, Peter Union, Gaulois, Hutchinson, Le Persan, Clincher, Jenatzy, and Boland. A new comer was seen in the Electric made by the Société Industrielle des

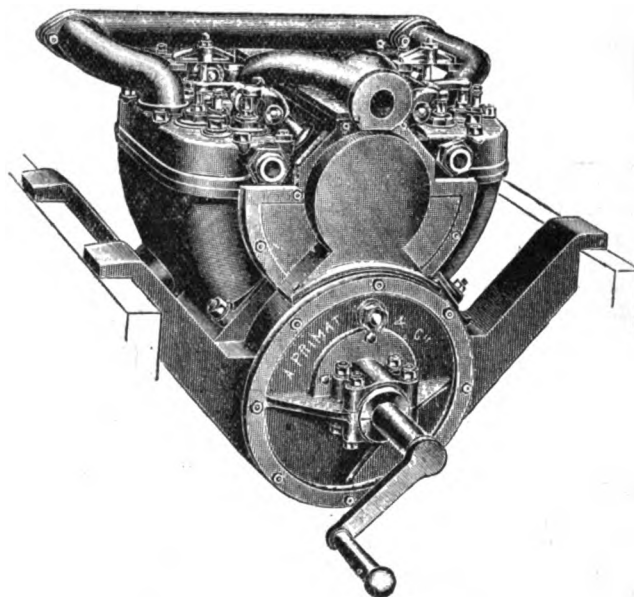


Fig. 66.—The Primat Four-Cylinder Motor.

Telephones, of Paris, in which compressed rubber, made by a special process, is employed, the method resulting, it is claimed, in a tyre which is more durable and less liable to puncture than the ordinary variety. One of the principal novelties in this section of the Show was the tubeless tyre of the Société des Bandages Souples Sidor, of Paris, in which the elasticity of the air is replaced by that of a bunch of specially-made steel springs R (Fig. 67), held in place by strong canvas T, in which light chains Ch are circumferentially woven. The whole of the



foundation of the tyre is impregnated with compressed rubber, and is surmounted by an ordinary beaded-edge cover C, the tread of which is substantially made. The cover is held in place by security bolts and a locking rim A, the latter carrying a wooden ring B which limits excessive deflections in case of violent shocks. The makers of the Sidor tyre claim as a result of exhaustive trials that it is as resilient as the ordinary pneumatic, and that its life is from 15 to 20 per cent. longer.

As in England, considerable interest is being shown in the new Elastes tyre, demonstrations of which were given by the

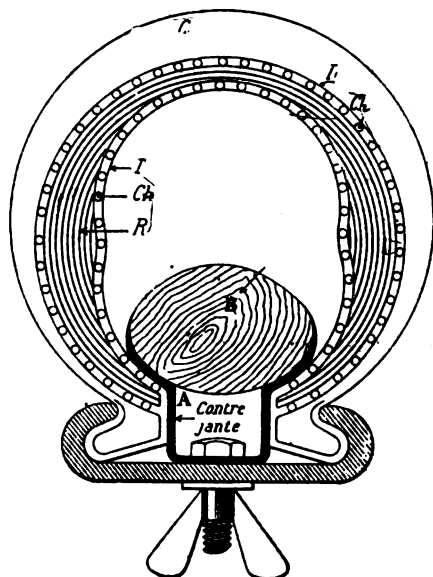


Fig. 67.—Section of Sidor Tyre.

**FRENCH ELASTES COMPANY.** Another elastic filling for the inner tubes of pneumatic tyres in place of air, on the lines of Elastes, is "Repgerton," made by the REPGERTON COMPANY, of Boulogne-sur-Seine. It is claimed that a tyre thus built up has all the resiliency of the ordinary pneumatics, with none of their disadvantages, the trouble of punctures and inflation being entirely dispensed with. The idea is certainly one which merits attention, as, even if there is a slight loss in resiliency, the freedom from punctures, and the fact that there is no fatiguing tyre-inflating work to do, will more than counterbalance this.

Chrome leather covers are now being largely used in place of those of rubber, this no doubt being an outcome of the use of such leather on studded non-skid bands. The well-known Samson band is being kept well to the front, and appears to occupy a leading position in France as well as in this country. M. E. HERAULT, Paris, showed a non-skid band in which the metal tread is permanently united with the cover; THE ETABLISSEMENTS FOUILLOY, Paris, make the "Royal," and also a detachable band known as the "Fouilloy"; Mr. C. DUFOUR, of Charenton (Seine), manufactures the "Marquis" band; and M. FORTIER-BEAULIEU JEUNE, of Roanne, the "Optima." Other non-skids on view included the Lempereur, Durandal, Houben, De Fornier, Desclee and Beau.

#### Spring and Elastic Wheels.

A number of spring wheels were exhibited in one of the galleries, prominent among them being the Cosset, of the SOCIETE DES ROUES ELASTIQUES, Paris, which is built up of a series of semi-elliptic single-plate springs. Messrs. PELTIER AND THUAULT, of Sceaux-Robinson, France, exhibited a wheel in which a dozen helical springs are interposed between an inner rim, to which the spokes are fixed, and an outer one carrying a solid rubber tyre. To prevent any side deformation of the springs due to the load, half of them are provided with central supports. The wheel exhibited had, we were informed, been used on a car weighing over a ton and which had travelled over 12,000 miles, and which had only required the renewal of the rubber tyre.

The feature of the wheel of LA SOCIETE DE LA ROUE SOLEIL, of Paris, is the elastic rubber hub, which, as will be seen from Fig. 68, consists really of two distinct concentric hubs of steel, the outer one of which receives the spokes, and the inner one of which forms the bearing. The two hubs are connected by a series of rubber washers, which are fixed at their inner and outer edges by means of steel washers and bolts to the inner and outer hubs respectively. The small hub is suspended within the large one, the rubber washers operating exactly like a solid tyre—that is to say, vertically under compression for supporting the weight of the vehicle, and tangentially under traction for transmitting the driving effort. Transverse strength is insured by means of two cross braced parallel metal flanges formed integral with the small hub, and comprising between them only the space absolutely necessary for the motion of the outer hub in a vertical plane. The small rubber washers must support a considerable weight, and they heat, therefore, very quickly. It is with the object of diminishing this heating, which is destructive to the rubber, that a series of washers are employed instead of a single one, provision being also made for the circulation of air between and through the washers. The outer rim of the wheel is fitted with a solid rubber tyre in the usual way.

Fig. 69 gives a sectional view of the wheel made by Messrs. GARCHEY AND CO., of Paris, which has a non-deformable rim and an elastic rubber hub. It is similar in principle to the Soleil wheel, with the difference, that the driving effect, instead of being transmitted by means of the rubber ring, is conveyed by special devices. To the hub is fixed by means of a rim Q a rubber disc K, located between two sheet metal flanges J, fixed to the two ends of the hub, and which carry on their inner side two circular guides G. Within this wheel body is located an annular sheet steel disc P, which, by means of an inner circular flange T, rests on the rubber disc K and carries on the outside the rim to which the solid rubber tyre B is fixed. The driving of the plate P from the hub and the flanges J is effected by means of the bolts A, which are surrounded by rubber rollers

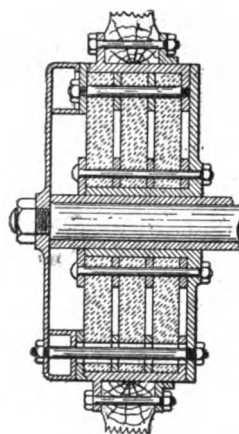


Fig. 68.—Section of Hub of Soleil Wheel.

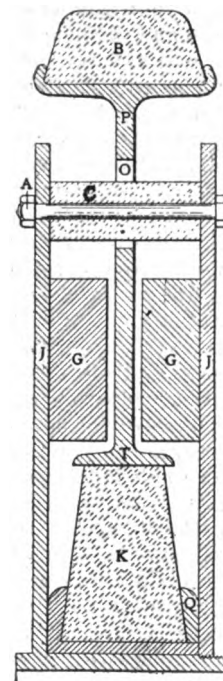


Fig. 69.—Section of Garchey Wheel.

C, free in the circular openings O near the circumference of the plate P. These rollers at the same time limit the vertical motion of the plate in case of violent shocks. The elastic medium K and the driving media A and C are thus separate and distinct. A motor-bus fitted with the Garchey wheels was used for demonstration purposes during the course of the *Salon*.

**Ignition Specialities.**

One of the striking features of the Show was the popularity of magneto ignition, with the result that both the Simms-Bosch low-tension and the Eisemann high-tension systems, which formerly held the field, and which are still the most favoured types, have now a large number of competitors. In the Breguet high-tension machine shown by the MAISON BREGUET, of Paris,

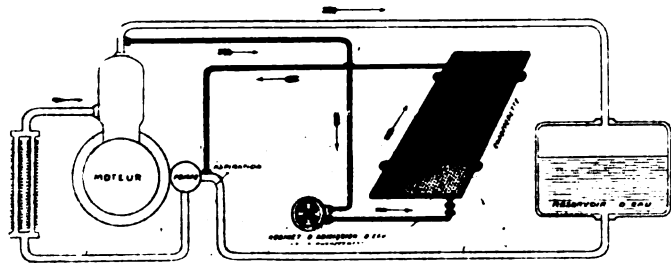


Fig. 70.—The Bleriot Foot Warmer.

there are four sets of field magnets mounted in the form of a hollow cylinder through which the armature with four pole faces rotates on ball bearings. The armature has a primary and a secondary winding, and four distinct breaks of the magnetic field are obtained at each revolution of the armature shaft. A simple form of high-tension distributor is used. It is claimed that, no matter how slowly the armature is revolved through the magnetic field, the spark given off at the plug is always constant in heat and size, so that no difficulty is encountered in starting engines provided with it. The Unterberg magneto of Messrs. UNTERBERG AND HELME, of Carlsruhe, Germany, is of the high-tension type, the novelty lying in the fact that it is provided with a spring device, by means of which on starting the engine the armature is rapidly rotated to give the necessary spark. Once the motor is in operation the spring coupling is automatically disconnected, the apparatus afterwards working as an ordinary high-tension magneto. Other magnetos on view included the Nilmeli of Messrs. Bassée and Michel; the Kesselring, made by Messrs. F. Kesselring and Co., of Schaffhausen, Switzerland; the Hydra; the Nieuport of M. E. Nieuport, of Suresnes; the Lacoste, of Messrs. J. Lacoste and Co., of Paris, and the Gianoli, of M. L. Gianoli, of Paris. Coils, accumulators, contact makers, &c., were shown in almost bewildering variety, while sparking plugs, both with mica and porcelain insulation, appeared to be as numerous as the different makes of cars, old friends being seen in the Luthi, Benoist, Dary, Oleo, Hydra, and Pognon, the latter being now entirely controlled by Bougie Pognon, Limited, London.

Among the novelties in the ignition accumulator section was that known as "L'Energique," shown by Messrs. COMMELIN, VIAU AND Co., Paris, and for which many advantages are claimed. It is stated that it may be charged and its acid solution poured off without in any way disturbing the charge, which allows for easy transport and a great reduction in weight for carriage. With or without its acid, it is said to retain its charge indefinitely, and it is claimed to be proof against short circuits. For exciting it requires a compound stick to be added to each cell, each of which sticks is capable of releasing a given portion of the charge, and when that has been consumed the cells retain the balance of charge until other sticks are added, to the full capacity of the accumulator. It is further claimed that the voltage is quite regular, and is maintained until the cell is fully discharged. Each cell contains two peroxide of lead positive plates, and a basket-shaped negative plate of lead and antimony.

**Miscellaneous.**

There was hardly any component part of a motor-car which was not exhibited in great variety, steering gears, lubricators, silencers, water circulating pumps, radiators, all coming under this heading. Headlights and lamps, too, were displayed in all sizes and shapes by an increasing number of firms. At the stand of Messrs. DUCELLIER we met Mr. André Godin, the

British agent, who pointed out to us the new models of the well-known Ducellier lamps, both of the acetylene and paraffin variety. A feature of the latest type of generator is that provision is made for cutting off the water from the carbide at any time, and the generator kept charged for use when required. Another new lamp shown is provided with a duplex flame. M. L. BLERIOT, represented in this country by Messrs. WELDEN AND BLERIOT, had, as usual, an extensive display of lamps, the new features of which have already been dealt with in the *M.C.J.* The latest introduction by Messrs. Bleriot is a chaufferette or foot warmer, which is arranged to be fitted in connection with the engine cooling water circulation. As will be seen from Fig. 70, the water is taken to the warmer by a branch pipe from the top of the motor, and back to a junction near the pump. The chaufferette is made of copper, and contains an incongealable liquid, so that it may be used in the coldest weather. The arrangement is well adapted for use in landaulets and other covered cars.

**Some British Accessories.**

Among the British exhibits in the accessory section we noticed the speed indicators, motor watches and clocks, &c., of Messrs. S. Smith and Sons, London, the multiple disc clutch of the Hele-Shaw Patent Clutch Company, Liverpool, the Stepney spare wheel of Messrs. Davies Brothers, of Llanelly, and a large array of motor components and specialities, including the Harvey Frost vulcanizers, by Messrs. Brown Bros., Ltd. The Renold, Brampton, and Coventry motor-chains were also to the front, not only at the stands of the respective French agents for the same, but also on many of the cars on exhibition.

**The Grouvelle-Arquembourg Specialities.**

Messrs. GROUVELLE AND ARQUEMBOURG, who are the largest makers of radiators in France, again drew attention to their combined water tanks and ribbed-tube coolers, which are made in a variety of forms to meet the desires of manufacturers requiring a shape that will give a distinctive appearance to their cars. A year or so ago the honeycomb radiator gave signs of sweeping the board, and it is to the competition of the *nid d'abeilles* that the great improvement in the ribbed-pipe variety is due. The result is seen in what is known in France as the *cloisonne*

radiator, which is ousting the honeycomb form. Other specialities of Messrs. Grouvelle and Arquembourg include centrifugal water-circulating pumps, radiator fans, the G. A. carburettor, which has already been described in the *M.C.J.*—a remark which also applies to the Girip tyre inflator—a device by means of which the tyres are automatically inflated with the exhaust gases of the engine, which, before entering the inner tube, are passed through a small purifier. The firm also showed a chaufferette, or foot-warmer, an arrangement which will be greatly appreciated by those motorists who use their cars as



Fig. 71.

much in cold as in warm weather. It consists of an oblong box with stamped brass top, which latter is intended to be fixed in and level with the floor of the rear part of the car. The foot-warmer can be operated either by means of a branch from the pipes of a pump-driven water-circulation system or from the exhaust. Provision is made that a steady temperature is maintained in the device, which can be put out of operation at any time by means of a small valve. Another interesting apparatus is a speed regulator; this consists of a throttle valve in conjunction with which is a diaphragm acted upon by the suction of the engine; in conjunction with it push buttons are provided on the steering wheel, by means of which all the air can be cut off, or a supplementary air valve opened.

Messrs. BOAS, RODRIGUES AND Co., of Paris, exhibited the B.R.C. lamps and headlights, included among which was one with a double burner, arranged to give either a large or small flame according to whether one is driving in the country or in town.

## Automobilism in 1906.

**P**ROGRESS has been the keynote of the Automobile Movement during the year just closed, and the signs of the times which were noted in our Review of 1905, a twelvemonth ago, have been emphasized by the events of 1906. In fact, there has been a roseate hue in every aspect of the Motor Car World—financial prosperity was reflected in the state of employment in the factories of the firms and companies whose success has given the industry a standing in the commercial world; municipal recognition has been seen in the provision of notice boards, &c., in many towns, and the general content with the existing regulations in place of the objectionable recourse to restricted speed limits once threatened in several places; and legislative sympathy has been shown by the disposition in all quarters to accept the reasonable findings of the Royal Commission and ignore the inflammatory diatribes of the Highways Protection League and other bodies that have sought to alarm the public with statistics of the killed and maimed culled from the columns of the sensational Press.

In looking back upon the twelvemonth the issue of the Report of Viscount Selby's Commission stands out as an event of more than usual importance, for it is generally regarded as likely to guide the policy of the Government in the new legislation shortly to be produced. This proposed the abolition of the present general speed limit and the institution of other limits in certain districts; the allocation of the revenue from the taxation of cars to the improvement of roads under the direction of a Central Department; sundry alterations in licence plates; the possibility of the conviction of owners of cars as aiding and abetting offences when with their drivers; the simplification of the law with regard to manufacturers' marks; the increase of taxes on automobiles, and a discretionary power to magistrates as to the endorsement of licences. Later in the year, during what is known in the general newspaper world as the Silly Season, a certain journal gave credence to the rumour as to there being a likelihood of taxation by horse-power being proposed by the Government in the new legislation. The Royal Commission had specifically reported against the substitution of the horse-power system as a basis of taxation; but, despite this, the idea was revived, entirely supplanting the Sea Serpent story for the time being. It is understood that some motorists went so far as to append their signatures to a declaration against the notion, and that documentary proof of this remains in Coventry unto this day. Anyhow, the absurdity was dispelled by Mr. Walter Runciman, M.P., at the Motor Union gathering in November, since when the motor world has been regaled with a succession of protests against the cynicism of the worldly Press.

An interesting official recognition of the motor-car was made in August when the Motor Volunteer Corps were transformed into an Army Motor Reserve, which has already justified the change, giving the new arm of the service a prestige which could not be obtained under the old dispensation.

Club life has been well developed during the year and

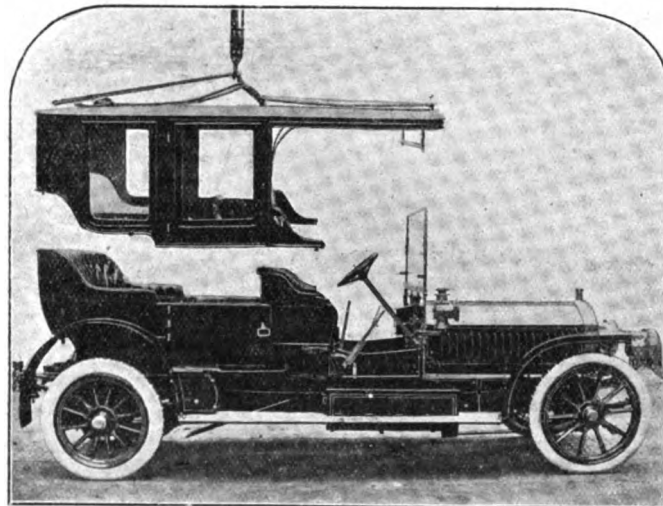
close upon 15,000 motorists are now reckoned in the membership of the four score and more clubs that watch the progress of the movement, while the work of the Motor Union in focussing the opinion of the automobile world at its National Conference in November, the efforts of the Automobile Association to render the roads safe from the trapping activities of the police, and the endeavours of the Road Improvement Association to improve the condition of the roads, are all worthy of mention. In the latter direction great success has attended the propaganda against the dust nuisance, and many authorities now recognise the provision of dust-laying preparations and the proper maintenance of the roads as a necessary part of their duty to the community. Mention must also be made of the removal of the headquarters of the Institute of Automobile Engineers from Birmingham to London. The A.C.G.B.I. has been very active in organising the Tourist Trophy Race, which was won by the Hon. C. S. Rolls on a Rolls-Royce car, the Berliet being second and a Darracq third. The Club also carried through a Town Carriage Competition, the gold medals in which were secured by representatives of electric (the Oppermann and the Electromobile vehicles) petrol (Wolseley), and steam (White).

Motor-buses have come much to the front, particularly in London, where the amalgamation of four leading companies is now being effected, and where seven hundred vehicles are in service. The outcry against their noise and smell resulted in the police taking stringent action, drawing several from the road. At Manchester local feelings proved too much for a line of buses that was started, and all the vehicles were withdrawn. Elsewhere, notably at Torquay, private enterprise has succeeded, and steadily the public service motor vehicle is becoming an acknowledged factor in locomotion; the motor-cab is also now coming forward in larger numbers.

Financially 1906 has been remarkable, the many companies now in the industry being well conducted, and their share quotations being a regular feature of the Stock Exchange. The publication of the Daimler, Humber,

Darracq, and Argyll balance-sheets aroused public interest in their doings, and the formation of the Charron and Rolls companies, as well as those to popularise the Stepney spare wheel and the Cave rim, are evidences of the new expansion in the motor industry.

Socially, the year has had its pleasant side, the peripatetic meetings of the Motor Union having given a zest to club life in Bath and other centres, while the Blackpool meeting enabled a combination of sociability and record breaking, in the course of which some good runs were credited to the Darracq cars, Mr. A. L. Guinness' performances on his 200-h.p. machine being notable, as were also those of Mr. Huntley Walker on the 80-h.p. machine. Here, too, recognition may be paid to the advance of the motor-car in other sports than of its own. Never before were so many cars seen at Henley; at Goodwood the Automobile Association's scouts protected its members from the police traps, and at the fashionable Ascot meeting on four successive days the cars present were 420, 441, 747, and 404 respectively.



The above illustration depicts one of the latest six-cylinder Napier Cars fitted with a detachable limousine body so that it may be used for either touring or town use.

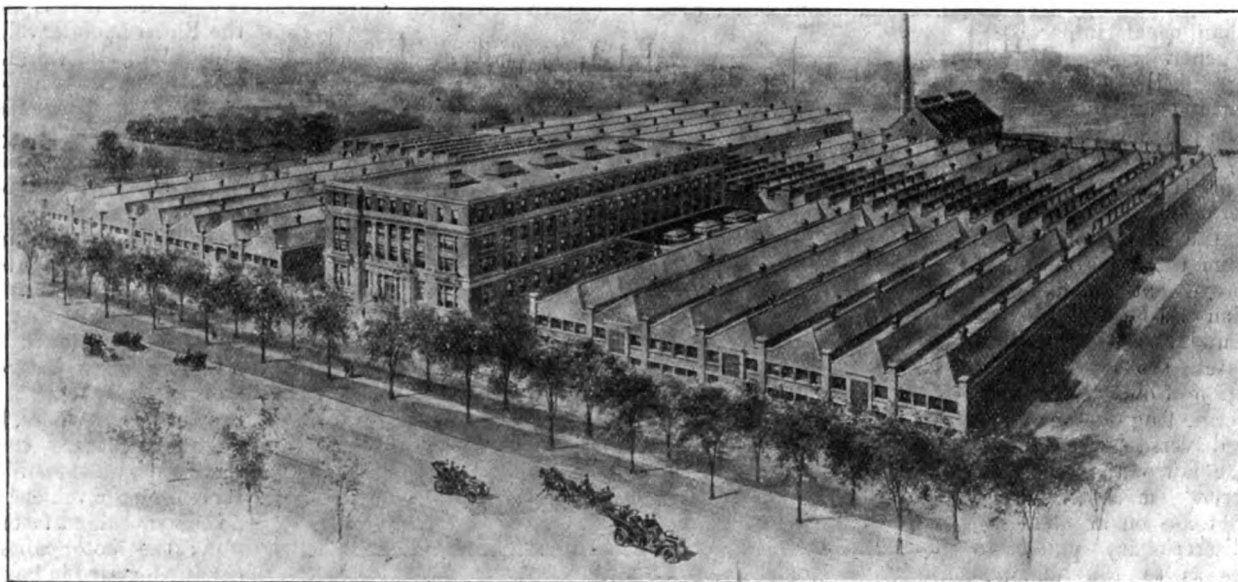
When used as an open car, the vehicle is provided with a Cape cart hood so arranged that it can be readily detached. As regards the removable limousine top, great care has been paid to the design of this, so that when in position it is not only perfect in appearance but is as air-tight and dust-proof as a fixed body.

The increasing cost of petrol led to the subject being reviewed by the Motor Union at one of their provincial meetings and the appointment of a Fuels Committee to take the evidence of experts and come to some conclusion as to the possibility of further enhanced prices being charged. It was also charged with the task of ascertaining the value of likely alternatives, and the evidence on this point, which was published in the *M.C.J.* of the 8th ult., is typical of the practical way the matter has been handled. It is to be hoped that the thoroughness with which the committee has initiated the matter will be maintained, and that the results will be of a really useful character.

Simultaneously with the development of the motor-car has been an improvement in the roads of the country—one of those results of the services of the new locomotion which must be reckoned as a national advantage. Many districts in the south have adopted some of the new dust-laying materials which have been introduced, and in Surrey, where antipathy to the motor-car seems of a more intensive nature than elsewhere, £2,000 has been expended in experimental work. At Tunbridge Wells the Borough Surveyor successfully treated 10,000 square yards of main road surface with tar, and at Woodbridge, in Suffolk, a treatment of calcium chloride was equally effective. Latterly

## THE WHITE COMPANY.

WHEN Sir Conan Doyle wrote "The White Company" he—ardent motorist though he is—never imagined that that title would become the adopted designation of a concern that manufactures and sells a motor-car of high degree. Such, however, is now a realised fact, and those who have been in the habit of writing to "White Steam Cars" in the street called Kingly, off Regent-street, W., will now please address themselves to the White Company—Mr. F. Coleman still being at the steering wheel for Great Britain. The White steam car is developing a history of its own. Originally produced by the White Sewing Machine Company as a kind of side line, less than 600 examples of a 6-h.p. car were produced in 1901-2. The makers had the advantage of a standardised factory organisation, and in the two years following the output was doubled and the power of the car increased. 1905 was a year of great advance, for over 1,200 of the 15-h.p. cars were turned out, and last year the capacity of the existing facilities was reached with a total of more than 1,500 18-h.p. steam cars. Something had to be done to meet the demand for the 30-h.p. and 20-h.p. machines which are to be the type for 1907, and a new corporation called the White Company has been formed, which will take over the



The New White Steam Car Factory at Cleveland, U.S.A.

similar steps have been taken by Lancashire authorities, and, from the Road Reports published regularly in the *M.C.J.*, it is evident that the importance of the subject is being generally recognised. The Essex, and several other county automobile clubs, have been in correspondence with the surveyors and other officials to secure due attention being given to the trimming of hedges and lessening of the awkwardness of many sharp curves—a useful piece of work likely to increase the safety of our roads.

These few reflections on some of the outstanding features of general interest do not take account of the technical advance, which was, however, so recently detailed in our report of the Olympia and Paris shows. Nor do they recall what we have previously written with regard to the tendencies of the future. But they testify to the progress the industry is making, and the fact that 1906 has been a year of general advance—an advance of so solid a character that we look for its continuance and expansion in 1907, in connection with which we would now wish all our readers a HAPPY NEW YEAR.

STEPS are being taken by the Motor Union to test the legality of the toll charged on the Langston bridge between Hayling Island and Havant.

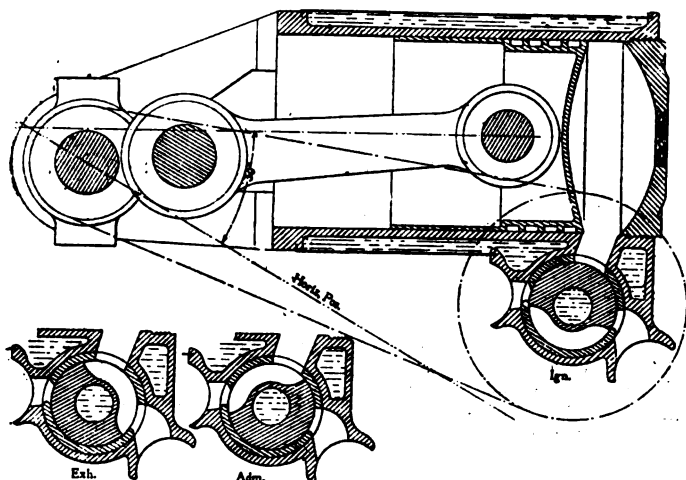
entire automobile business hitherto conducted by the White Sewing Machine Company. The new concern is organised under the laws of the State of Ohio, with a capital stock of 2,500,000 dols., and is held by the same interests that control the White Sewing Machine Company. The officers of the new company are Messrs. Windsor T. White, president; Rollin H. White, vice-president; Walter C. White, second vice-president; George W. Kelly, secretary; F. M. Sanderson, treasurer. In Cleveland a site of 35 acres has been secured, upon which 11 acres of building are being erected without delay to meet the great demand for the continent of Europe, as well as of America, for the White steam car.

MONTH by month we have recorded the steady increase in the number of automobiles imported into the United States. This, together with the registration of cars taken abroad, has necessitated the occupancy of a bonded warehouse at New York, and the work has now outgrown the capacity of the building. To meet the situation the United States Treasury Department has sanctioned the erection of a large garage specially adapted for the purpose, the necessity for which is apparent when it is said that 95 per cent. of all the motor vehicles taken into the United States are entered at the port of New York.



## THE DURYEA ROTARY VALVE ENGINE.

At the recent Olympia Show we were shown the drawings of a new petrol motor, in which the usual inlet and exhaust valves, together with their necessary cam shaft and operating mechanism, are dispensed with, their place being taken by a rotary valve located in the cylinder heads. Strangely enough, at the exhibition lately held in New York, Mr. C. E. Duryea, of the Duryea Power Co., exhibited a three-cylinder engine on somewhat similar lines. As will be seen from the accompanying illustration, the arrangement comprises a single revolving shaft, driven by a silent chain off the crank shaft, having three approximately flat cuts, which form the port spaces,



Sectional View of Duryea Engine with Rotary Valve.

120 degrees apart, each port space being designed to accommodate one cylinder. The cutting of the ports in the single piece shaft is designed with the purpose of ensuring absolutely correct timing of the valve action. The three cylinders are made in one casting, and have single water-jacketed ports on the underside of the cylinders, each serving both for the inlet and the exhaust. The rotary shaft is adapted to take three positions, each of which—inlet, ignition and exhaust—is shown in the illustration; in the first there is a practically straight and unobstructed passage of the gas from the carburettor to the cylinder through the short cylinder port, with consequent small wall area. The passage of the incoming charge against the hot cylinder head and igniting device is supposed to prevent the mixture from becoming diluted by the residue of the preceding charge. The next position of the shaft is called the ignition position. When at this point the cylinder port is closed and the wall area and contents become very small, while the surfaces of the valve and valve bushing in contact are large. This method is claimed to ensure freedom from leakage, and the position of the motor, inclined, as in all Duryea cars, is such that the piston movement throws any oil that might be on top of the piston into the port, thus lubricating the valve, particularly at the compression dead centre, where the pressure is highest and the need for tight fitting most essential. When the valve is in the exhaust position there is a practically free passage for the escape of the hot charge. The ports are three inches in length, and are designed to operate quicker and quieter than ordinary poppet valves. The valve is kept cool by water passing round the ports as well as through the centre. The valve bushings are removable, so that in case of damage by the presence of any foreign substance passing through the valve and scoring the surface the valve and bushing may be removed without interfering with the cylinder casting. The contact maker is attached to the valve shaft on the outer side of the chain sprocket, while the water enters and leaves at the opposite end. Mr. Duryea has been experimenting with this form of motor for over a year, and claims that it has many practical advantages over the ordinary type of four-cycle engine.

## HERE AND THERE.

SIR THOMAS DEWAR has acquired one of the new 18-24-h.p. Britannia cars.

THE Earl of Onslow is reported to have purchased a 16-20-h.p. Ader limousine at the Paris Salon.

A SPECIAL clutch dressing oil will shortly be put upon the market by Messrs. R. and G. Pullman, Ltd., of Westbrook Mills, Godalming.

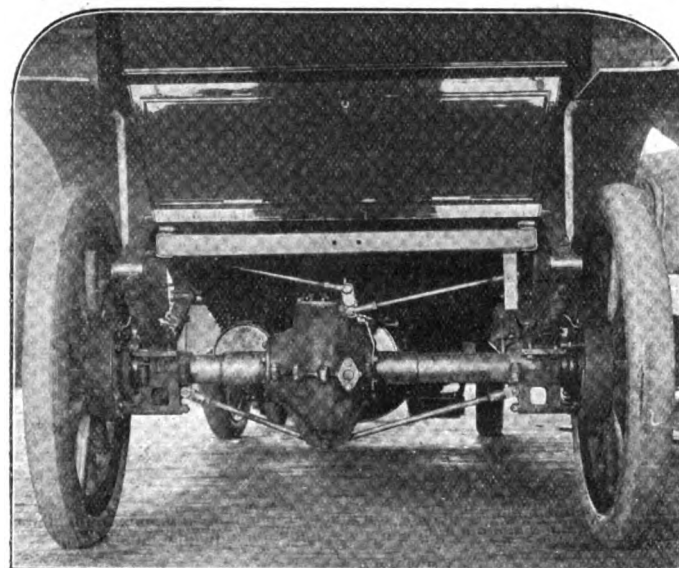
THE North Eastern Garages, Ltd., which has branches at Harrogate, York, Darlington and Newcastle-on-Tyne, are sole agents for Fiat Motors, Ltd., in Yorkshire.

It is reported that the Buckeye Manufacturing Company of Anderson, Ind., U.S.A., are building a huge friction-driven racing car for the Florida Beach meeting. The engine will, it is said, be of 250-h.p.

MESSRS. BEMROSE AND SONS, LTD., of Derby and London, have issued a capital series of calendars for the wall, each day's date being torn off as the year advances. Artistic and literary excellence are combined with good printing and clear figuring.

THE COUNTY CHEMICAL COMPANY, LTD., foreseeing the possibilities of a shortage of the supply of carbide, have laid in heavy stocks at their London, Manchester and Glasgow depots, whilst no less than 80 tons are being stored by them at their storehouse on the Manchester Ship Canal, to which 300 tons further will be added in the near future.

ALTHOUGH the fire which occurred at the premises of the Anglo-American Motor Car Co., Ltd., in Heddon-street, W., on Christmas morning, threatened to assume serious proportions and necessitated the attention of thirteen engines, no damage was done to the showroom and workshop, the fire being confined to the upper floors, and Mr. F. S. Bennett informs us that the company is able to attend to the requirements of Cadillac owners without delay.



View showing the Patent Side Swing Parallel Motion Radius Rods, with Elliptic Springs, as fitted on the Arrol-Johnston Landaulet Chassis.

SIR OLIVER LODGE, referring to a three months' residence in Italy at the meeting of Birmingham Law Students recently, said that in the country he found that the rule of the road was in a confused state. The French system had been in vogue, and now the English system was being introduced. The latter prevailed in the towns, and the French system chiefly in the country, so that, having regard to the speed with which the motor-car travelled from town to country and vice-versa, correct driving was often a difficult matter.

A MOTOR ambulance is to be placed on a site near St. Bartholomew's Hospital by the City of London authorities. It will be in direct telephonic communication with fifty-two call boxes.

THE overheating of one of the pipes in the Coronet factory of the Humber Company, at Coventry, is said to have been responsible for the fire that occurred there on Christmas Eve. Despite the serious nature of the fire the management is in no way disconcerted and another factory in the vicinity has been secured so that work is practically uninterrupted. Within a few days the output in cars will be up to its normal state. The result will be that there will be no appreciable effect on the deliveries of the Humber cars.

THE latest production of Reo Motors, Ltd., is a 16-20-h.p. chassis adapted to receive a delivery van body. The steering and control gear is placed well forward in order to allow full advantage to be taken of the length of the frame to fit as large a body as possible.

DURING the last season the demand for "Continental" motor-cycle belts increased, the advantage of these being that they do not require the constant attention that leather belts generally demand.

PENNINGTON, whose brief career in this country will long be remembered, has re-appeared at Milwaukee, U.S.A., where he is reported to be about to produce a 16-h.p. car to sell at £60!

THE offer of some goods stolen from their warehouse to the firm's manager for sale has led Messrs. Bransom, Kent and Co., Ltd., to trace a quantity of motor accessories which had been pilfered from their premises in Great Eastern Street, E.C.

THE present is a seasonable time for drawing attention to a portable smokeless stove which is being marketed by the Domestic Inventions Company, of 119, New Bond Street, W. This is of the well-known upright cylindrical form, and, fed with the "Famed Fuel," will burn for twelve hours without attention. The stove gives off neither smoke nor flame, so that it can be safely employed in any private motor house or public garage. In fact, it constitutes a valuable adjunct to the equipment of either place, giving out a considerable volume of heat at little cost. The "Famed Fuel" is a chemical compound which burns with very little draught and yet gives efficient results. The stoves are made in various sizes, ranging from 3 ft. by 8½ in., giving an approximate heating power of 1,500 to 2,000 cubic feet, to that of 4 ft. by 13 in. with a heating power of from 4,500 to 5,200 cubic feet. Easily regulated, the stoves of the Domestic Inventions Company should prove of service to the many motorists with whom the warming of their motor houses has been a difficult problem.

PRIZES for those engaged in motor body making and the allied trades are offered by the Worshipful Company of Coach Makers and Coach Harness Makers for drawings of a light motor-car body suitable for a medical practitioner, and also for sketches of a three-quarter landaulet motor-car body. These have to be delivered at the Hall of the Company, Noble Street, St. Martin's-le-Grand, London, E.C., on or before April 14th of the present year.

THE Mayor of Coventry, speaking in the local police court, has expressed the wish that "some motorists would have more regard for the public safety."

MR. W. T. BERRY has a motor garage in the High Street, Skegness, and anticipates good business in the year upon which we have entered.

DURING the visit of the South African football team to Manchester a Ryknield motor-bus was placed at the disposal of the visitors by Mr. William Stanway, the Manchester representative of the Ryknield Motor Company.

THE Inland Revenue authorities are reminding motorists that now is the appointed time for taking out motor licences—a fact that should not be overlooked by those liable to the payment of duty.

THE Rolledge Auto Polish is an excellent preparation for cleaning, preserving and waterproofing the leather and enamelled parts of motor-cars. The experience of Messrs. E. Brown and Son in such work is very extensive, and their special polish for motor-cars is giving extremely good results.

MESSRS. WALLACH BROS., whose name will be familiar to our readers in connection with the Stern-Sonneborn Oil Company, have removed from 57, Gracechurch Street, to Royal London House, Finsbury Square, E.C.

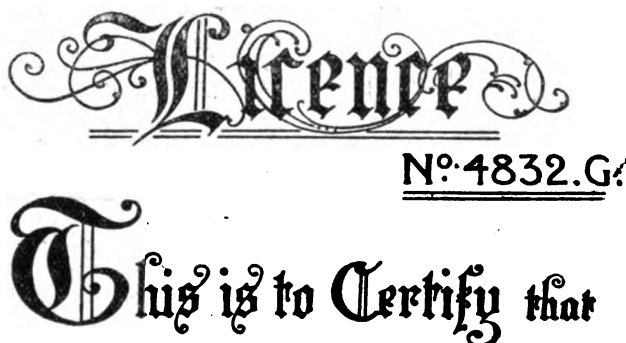
THE first provincial gathering of the Motor Union for 1907 will take place on Whitsun Saturday, at Lincoln, on the invitation of the Lincolnshire Automobile Club, which is arranging an interesting programme, further particulars of which will be published in our columns in due course.

AMONG the handy little tools lately introduced by Messrs. G. T. Riches and Co. is a small hand-driven grinding machine, arranged to be fixed to a bench; it will be found to be extremely useful in small private workshops or garages, as will also the bench drill supplied by the same firm.

DURING the past two years and nine months we have had fitted to the rear wheels of one of our small cars a pair of Palmer cord plain tread tyres, 750 by 90, and during this period have covered about 10,000 miles thereon. The tyres now show very little wear beyond a thin skin of rubber peeling off on the tread. There are no gasches or cuts and we have never suffered a puncture.

MESSRS. JARROTT AND LETTS, LTD., have sent us a photograph of a handsome 24-h.p. De Dietrich limousine they have recently delivered to Sir Robert Harvey. The vehicle is upholstered in fawn cloth, with silk blinds, and has comfortable inside seating capacity for five people. It is fully equipped for touring, having a luggage box at the back, a tyre box on the roof, and mahogany boxes on each side step.

MESSRS. MILLINGTON AND EVERITT, of Free Church Lane, Cambridge, have lately introduced a handy little tool for assisting grinding in exhaust valves. The valve is placed in its seating with the necessary grinding powder, the tool is slipped on to the stem, and, by means of a slot in the under-part of the tool which engages with the small cotter in the valve stem, is made to rotate, enabling the valve and its seating to be trued in a minimum of time.



is hereby entitled to drive a Motor, whether he understands it or not, to the common danger of the Public whether they like it or not.

#### A few of the Rules to be observed.

No two Motors going in the SAME direction, and at the SAME pace, to pass one another.

No Petrol to be scented, its natural odour being ABLE sufficient.

Horns to be blown in VIOLENT jerks as it stirs up the liver and is consequently conducive to health.

Should the Motor break down in a lonely spot the language used to be optional.

All Foot Passengers and Policemen to be CAREFULLY Driven into, as there are plenty more, especially the latter, the world is full of them.

Each Motorist to bury his own dead.

(Signed) E. RUNEMDOWN.

Sec. Sec. to "The Automobile Deadly Tragedians Society."

Above we reproduce one of the Christmas greeting cards with which we have been favoured. It is unique in its way—although we would dissociate ourselves from its rulings.

## CONTINENTAL NOTES.

### An Italian Touring Contest.

At the last meeting of the Automobile Club of Turin it was decided not to hold the annual hill-climb up Mont Cenis, mainly on account of the difficulty experienced in obtaining the Government sanction. In its place a reliability trial of touring cars of from 12 to 16-h.p. is to be held, from the 18th to the 23rd June next. The competition will consist of five daily runs of about 220 miles, all starting and finishing in Turin. All repairs and adjustments are to be made on the road, and minimum and maximum speeds of respectively 22 and 25 miles per hour will be required. On the last day, those cars which have not been penalised in any way will be subjected to a hill-climbing test.

### Encouraging Drivers.

With a view of encouraging cleanliness and neatness in *mecaniciens* and motor-car drivers generally, the "Auto," of Paris, is organising an elegance and appearance competition for the 20th inst. There will be four categories:—1, electric vehicles; 2, petrol and steam cars; 3, motor-cabs; and 4, delivery vehicles; which are to parade in the Bois de Boulogne. There both the cars and their drivers will be inspected by the jury, who will allot two cards to each competitor—one for the car and one for the driver—the number on the same varying, in accordance with their decision, from 0 to 10. Drivers gaining from eight to ten points will be awarded a silver medal, while bronze medals will be given to the others who secure not less than six marks. As regards the cars, the awards will not be based on the luxurious design and finish of the same, but on the way they have been looked after by the driver, silver plaques being given to those securing eight points and over, and bronze plaques to those gaining at least six marks.

### The End of the Paris Salon.

Social proceedings in connection with the *Salon* were wound up by a great banquet held at the Grand Hotel, Paris, on the 24th ult., at which the President of the French Automobile Club, Baron von Zuylen, the Minister of Commerce and Industry, the former President of the Republic, M. Loubet, and nearly all the prominent men and leaders of the automobile world were present. Numerous speeches were made, but the topic of greatest interest, and which most of the speeches favoured, was that of automobile races in the future.

### The Motor-car in Military Operations.

The Automobile Club de la Sarthe, of Le Mans, France, is about to undertake a noteworthy experiment to demonstrate the value of the motor-car in time of war. Presuming that a mobilisation order has been issued by the Minister of War, an effort is to be made to convey the order by motor-car from Paris to Le Mans, and to distribute copies of the same in the 385 communes of the Department all within a period of twelve hours. At Le Mans a battalion of cyclists and motorists will await the arrival of the order from Paris, ready to convey the copies of the same to the outlying towns and villages and obtain a receipt therefor from the local authority.

### Another Airship Prize.

Following the example of the "Daily Mail," M. Marquet, the leaseholder of the Ostend Kursaal, has decided to offer a prize of £8,000 for an aeronautical race between Ostend and Paris. Both aeroplanes and dirigible balloons will be eligible for the contest, which has been set down for any Sunday in August, 1908, or for the Sundays in every August until the prize is won. The sole conditions are that the distance be covered within twenty-four hours, and by no other means than propulsion from the car. The Paris "Matin" has been entrusted with the organisation of the contest.

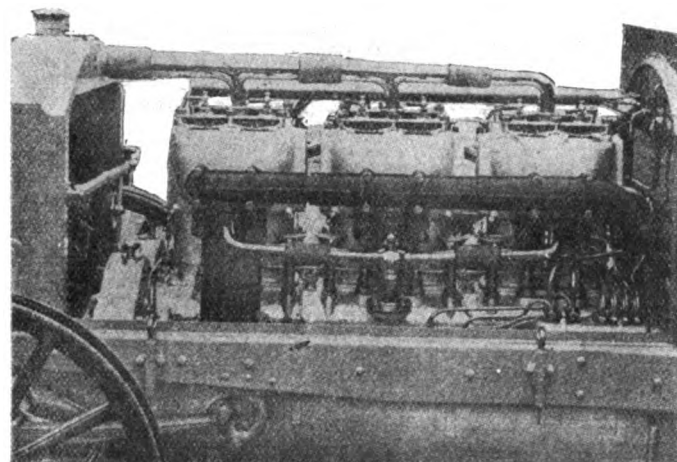
### The Touring Car Race for the Kaiser's Prize.

The race for touring cars for the Kaiser's prize, which is to be run off on June 14 next, promises to be an exceedingly interesting event, and one of a thoroughly international

character. So far no less than ninety-two entries have been received, in which total Germany is represented by thirty-one cars, France by twenty-two, Italy by twenty, Belgium by nine, Switzerland and Austria three each, and Britain by four, the latter comprising three entered by the Daimler Motor Company, Ltd., Coventry, and one by Messrs. S. F. Edge, Ltd.

### The Mercedes Six-Cylinder Car.

We are able this week to publish an illustration of the motor of the new Mercedes 70-h.p. six-cylinder car. As will be seen, the cylinders are cast in pairs and have the valves arranged on opposite sides, and the ignition is by both high and low tension magneto. The flanges carrying the ignitors for the low-tension system are smaller than hitherto, and are now attached to the cylinders by two bolts. The cam shaft gear wheels are enclosed in an aluminium casing immediately beneath the fan behind the radiator. The crank chamber is divided into two halves; the upper portion being provided with detachable covers to permit the big ends to be inspected. The lower portion of the base chamber, which forms an oil well only, is held up to the upper section by bolts, and can be removed without disturbing the crank shaft or its bearings. The carburettor is of the improved "Soden" type, referred to in connection with the 1907 35-h.p. model in our report of the Olympia Show. The diameter of the steering wheel has been increased, the segment on which the control levers work being independent therefrom

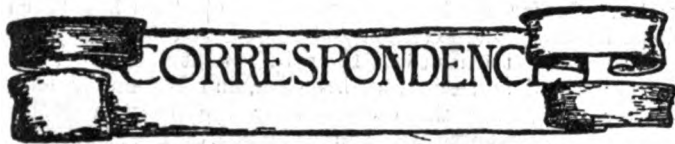


The New Mercedes 70-h.p. Six-cylinder Engine.

The change-speed gear provides four forward speeds and a reverse, with direct drive on top gear. The old wire rope connections from the side lever to the rear brakes have been discarded for rods located within the frame.

### Miscellaneous Items.

A course of weekly lectures on motor-cars and their component parts is being inaugurated at the University of Bordeaux.—At a recent meeting of the Société des Voitures Electriques Krieger, it was announced that the company had orders on hand for 1906-7 for 257 vehicles. The manufacturing programme for 1907 comprises 450 cars, of which 300 will be electrical and 150 will be of the petrol-electric type.—The King of Italy is offering a silver cup as a prize for a special race to be held during the Brescia week.—It is proposed to hold an automobile week, at Hyeres, in the south of France, next spring.—The Prince of Schwarzburg Sondershausen, in Thuringia, is reported to have issued a decree excluding motor-cars from his Principality while he himself is within its borders.—The Grand Prix de l'Automobile Club de France for the best decorated stand at the recent Paris *Salon* was awarded to the Brasier Company.—The Mont Ventoux hill climb will, it is reported, not be held this year.—It is stated that a company is being formed in Vienna to establish works in Austria for the construction of motor vehicles on the Fiat system.



[Letters to the Editor should be addressed to the offices,  
27-33, Charing Cross Road, W.C.]

#### FOUR v. SIX CYLINDER ENGINES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I read with considerable surprise that Mr. Jarrott is still seeking to draw me into a correspondence with reference to the merits of six v. four cylinder cars. It has seemed to me that the day for this controversy has entirely passed. There are now one hundred manufacturers copying Mr. Napier's six-cylinder principle, and it is quite immaterial to me whether one concessionaire more or less believes in the six-cylinder principle.

If Mr. Jarrott's four-cylinder principle is so much better, then I am surprised that at Shelsley Walsh, the six-cylinder Napier, with a cylinder capacity of only 471 cubic inches, completely paralyzed the two De Dietrich cars which ran, one with a cylinder capacity of 487 cubic inches, and the other with an enormous engine having 732 cubic inches, driven by Mr. Jarrott himself. If for a competition of this sort he could not with this huge engine beat the little six-cylinder Napier, I am quite satisfied that he cannot beat it for all round general points, such as quietness and smoothness of running, ability to run fast and slow on the same speed without using the clutch, and general durability. It is no use for him, however, to continually flog a dead horse, viz., the powerful four-cylinder car; it has been a splendid friend to all automobilists, it will be still for small vehicles, but for big cars with powerful engines for those who require the latest and best mechanical device, the six-cylinder has come to stay, and



Caricatures by "Mich." of the "Auto." of some French motorists at the Table of Honour at the Banquet given by the A.C.F. last week to celebrate the closing of the Salon. Reading from left to right they are: The Marquis de Dion; M. Ruau, the French Minister of Agriculture; M. Loubet, the ex-President; M. Gustave Rives; M. Doumergue, the Minister of Commerce; the Baron de Zuylen; Commander Lasson; and General Dalstein.

I am only sorry that Mr. Jarrott should be lagging behind in his ideas of modern motor-car progress.

I am glad to hear that he does consider it is possible for good motor-cars to be manufactured in Great Britain, and that when he wrote some two years ago saying that motor-cars manufactured in this country were not as good as many of their foreign rivals, he did not really mean that we could not manufacture them in this country. Personally, I cannot understand his subtle difference of what he actually said in words and what I understood him to say. They both seem the same to me. However, it is quite satisfactory to know now that even Mr. Jarrott agrees with me that Great Britain can make perfect motor-cars. The next thing will be when he agrees with me that six cylinders are better than four for powerful cars. It is something to have converted him to the British manufacture idea.—Yours truly,

S. F. EDGE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Having noticed a letter in a recent issue of the *M.C.J.* respecting the comparative qualities of four and six cylinder cars, I should like to give an account of my own personal experience. During the last five years I have driven several of the best-known makes of cars, including some fitted with six cylinders, and for my choice, were I about to purchase a new car, I should without hesitation select one fitted with a good four-cylinder engine. From my experience of automobile mechanism, I am quite prepared to argue in favour of any well-designed four-cylinder chassis, providing the balancing of the engine is as near perfection as possible.

Now, although I do not for one moment contradict the statement that a six-cylinder car is slightly more flexible than one fitted with four, I merely wish to claim a few advantages for the latter. First of all, I am inclined to say there are few who would venture to argue that the extra complications prevalent in six-cylinder cars, and the very few advantages which they possess, are really worth the increased purchase price fixed by the makers. The last car I drove was a four-cylinder chassis of 35 brake horse-power, built by a well-known foreign auto-

mobile firm, and without exaggeration I can say that this car was more reliable, economic, lighter on tyres, and satisfactory in every way than any six-cylinder car I have ever driven. On top gear this car could be driven at about six or seven miles an hour without slipping the clutch, and was extremely free from vibration, and I feel sure that at present the vehicle for the motoring public is "a car with four cylinders."—Yours truly,

RUPERT FOULKES.

#### WANTED, A PARAFFIN CARBURETTOR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Will any of your readers inform me through the *M.C.J.* if they know of a good carburettor for using either paraffin oil or petroleum? If there is one on the market, what is the price, and what are the arrangements for heating the oil to the requisite extent? Being much heavier oils than petrol, some method of heating must be necessary. Can such carburettor be made to start with using petrol and then turning on the heavier oils afterwards? Full information will be of service to most motorists now that petrol is going up in price, and possibly may, if brought into ordinary use, be a means of bringing down fictitious prices of petrol. To bring a carburettor of this kind into common use, it must be reasonable in price and satisfactory in its working.—Yours truly,

MOTORIST.

[A full description of a carburettor designed to use paraffin as fuel, while starting on petrol, was given in the *M.C.J.* of October 6th last. Full particulars of the device can be obtained from Mr. G. L. M. Dorwald, 30, High Street, Wandsworth, S.W.]

#### THE BROOKLANDS RACING TRACK.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In common, probably, with every other motor firm in the kingdom, the Beaufort Motor Company has received a copy of the prospectus of the Brooklands Automobile Racing Club, together with a preliminary

list of the races and an invitation to compete therein. Essentially the club is a private enterprise that by a judicious and even lavish expenditure initially has every prospect of becoming a governing, or shall I say the governing, factor in automobilism. In fact already, before seemingly the ground whereon the track is to be constructed has been cleared, the Automobile Club has delegated to the Brooklands Club a great part of such authority as the former possesses.

Now, Sir, during the last few weeks a large section of the press has been publishing glowing descriptions of the unfinished track and has been wholeheartedly supporting the scheme, but from the trade, upon whose support the success of the Brooklands undertaking entirely depends, has come never a word.

Might I suggest, Sir, that, in the interests of the industry and of the trade, the subject is one eminently worthy of discussion in your columns, and that the views of those who are in a position to enter for and make a success of the races cannot but be of value.—Yours truly,

J. EDGAR LOUND.

#### LIVE AXLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Many an otherwise good car has been spoilt by a defective live axle, and, now that this form of axle is generally admitted to be the most mechanical and the most satisfactory in use, perhaps some of your experienced readers will give their opinions of the various kinds in vogue. What is known as the "Deauville pattern" is evidently favourite. In this, as is well known, the wheels run on sleeves. There are other kinds, of course, such as those on the Aries and Bolide cars. The new Porthos car is rather different in that the interior solid axle is stationary while the sleeves turn the road wheels. What particular advantage can be gained in this method I do not quite see. Then we come to the De Dion axle, which consists of two cardan shafts with the joints on each very close together. This axle has undoubtedly contributed in a large measure to the success of the De Dion cars. In the other types the balance gear is subjected to all road shocks. It seems



ome that the best form of live axle, whether for heavy or light vehicles, is that in which the balance gear is entirely independent of the weight-carrying axle and in which the live axle is flexible without too acute angles being liable to occur from the oscillation of the car.—Yours truly,

E. H. OWEN.

### NON-FREEZING ENGINE COOLING SOLUTIONS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—There must be many motorists who have adopted some non-freezing solution for the water circulation system of their engines in winter, to prevent the danger of cracked cylinders. I have seen glycerine, wood alcohol, and calcium chloride all recommended, and as this is my first winter since becoming a motorist, I am somewhat undecided as to which to try. I am sure that there are many besides myself to whom it would be helpful if those who have used any of these solutions would send you the results of their experience for publication in the *M.C.J.*—Yours truly,

NEW BROMPTON.

### MOTORISTS AND HOTELS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I feel sure that as the columns of your valuable paper are always open for the ventilation of the complaints of travellers against extortionate charges of some hotel keepers, your readers will perhaps be interested to know of the reception my party received at the Victoria Hotel, Sidmouth, where we arrived in the small hours of Christmas morning. Pressure of business prevented me from leaving London till very late on Christmas Eve, thus causing a correspondingly late arrival at Dorchester, where we were detained for some time while ascertaining by telephone that we could obtain the necessary accommodation at Sidmouth. We hoped to reach the latter place by about midnight, but tyre troubles, due to the great number of patches of sharp flint stones, so delayed us that it was not until after three o'clock on Christmas morning that we arrived at the comfortable and very well situated Victoria Hotel, Sidmouth. There the courteous manager of the hotel, his engineer, and a large staff of servants were awaiting our arrival, and last, but not least, a very much appreciated supper was already prepared. I think that motorists will be interested to know of this civility and attention of the manager of the Victoria Hotel, Sidmouth, to a party of motorists, all of whom were quite unknown to him.

Let me add a word of warning to motorists who meditate touring in that part of Devonshire. Great caution is necessary when descending the very steep hills, especially so at night, as right angle turns at the steepest parts are by no means uncommon.—Yours truly,

H. H. P. DEASY.

### A DARRACQ CAR QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Replying to "D. G.'s" query in the last issue of the *M.C.J.*, your correspondent might fit a wipe contact to the present Darracq commutator disc, if he cuts the projecting piece that holds the present blade and substitutes a vulcanite block to hold a stronger blade made out of spring steel. The vulcanite disc should be lined with brass and have a cog on for contact. He will then find the car easy to start and have more power by using good trembler coil and having the engine timed properly.—Yours truly,

G. W. WATERLOW.

### CHARGING ACCUMULATORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—A supply of direct current electricity, 200 volts at ten amperes, is available at my house, and I write to ask if you can give me instructions how to charge my ignition accumulators off the same. Thanking you in anticipation.—Yours truly,

R. SINGLETON.

[To charge ordinary ignition accumulators you do not require more than three amperes as a rule, so that ample current will be available and reduction of the voltage from 200 to five volts at the terminals of the accumulator is the chief consideration. To do this it is necessary to pass the current through some resistance, and the simplest form is the incandescent lamp, as it is made to take 200 volts, and by inserting an accumulator in circuit with such a lamp the current is slightly reduced and the accumulator receives the same current through it as the lamp takes, whilst the lamp saves the accumulator from receiving too much current. The necessary apparatus is as follows:—

On a teak base board fit from two to eight lamp holders, the number being dependent upon the charging rate of your accumulators; four lamps of 16-c.p. being required for each ampere of current, so that you would want eight lamps for a two ampere current. These lamp holders must be connected up in parallel and the end connections taken to terminals. The latter will have to be marked positive and negative, after the lamp board has been fixed on the circuit, as it is absolutely necessary for the accumulator to be always connected up so that the

positive terminal is connected to the corresponding positive on the board, and the negative to the negative. A switch should also be fitted, and a safety fuse. The whole apparatus should be made by an electrician, as it is impossible to give full details of what is a simple affair if properly arranged, but far from simple if erroneously fitted.]

### SUBSTITUTES FOR THE HORN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I would be glad if some of your readers would kindly give me their experience in the use of sirens working off the fly-wheel, and also of electric hooters. What are the troubles they are liable to and do they often get out of order, and is there much trouble in putting them right?—Yours truly,

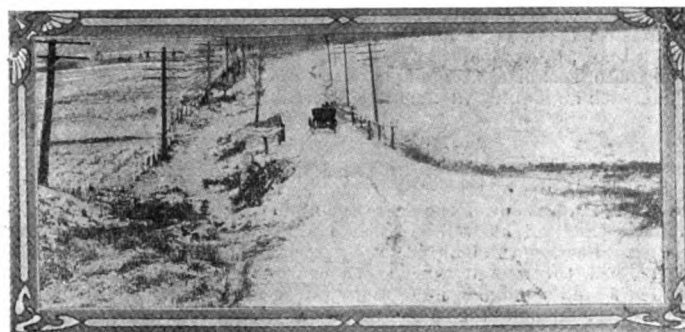
A. FIELDING.

### NON-SKID EXPERIENCES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The letter of "C. D. L." in a recent issue of the *M.C.J.* suggests a difficulty which faces the motorist who is just beginning to motor. The number of non-skids, real and alleged, that are now on the market is legion, and who can tell which is the most effective? We have the metal studs and the rubber pieces that project; now I hear of a form of device in which holes of the shape of the rubber studs are cut into the band so that the latter presents a very different appearance to those generally employed.

This plan seems to open up new possibilities, for it must be confessed that makers of non-skid bands have followed each other's ideas with strange similarity, only one or two makers finding original paths of invention. Personally I have been well satisfied with the ordinary type of non-skid—leather band and studs—and my experience has been the reverse of "C. D. L.'s." Used on my car in the greasy streets of London I found the non-skid a safe precaution and cannot understand the cause



The Lost Track.—A Scene in the Highlands.

of his misfortune. Perhaps other readers may give their views on the matter, and I should be particularly pleased to have the opinion of those who have tried the new form to which I have referred.—Yours truly,

A. B. MANNING.

### OVERCOMING VIBRATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—My 6½-h.p. Beeston Number car runs practically without vibration up to, say, fifteen miles per hour, but going faster than this the vibration is tremendous. The vehicle goes up most small hills on top speed. How can I make the car go up to, say, twenty miles per hour as well as she goes fifteen? Would a large fly-wheel do this; if so, what size, or what would you suggest?—Yours truly,

ERNEST TAYLOR.

[We very much doubt if a larger flywheel would overcome the excessive vibration our correspondent complains of. What we would suggest is to add somewhat to the counterbalance; but even with this the vibration may not be entirely overcome, owing to the increase in engine speed. Failing this, some of the existing balance might be taken away, but the correct balance can only be obtained by experiment.]

### IMPROVEMENTS IN MOTOR-CAR CONSTRUCTION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—If those who have been in close touch with the development of the car ever since its inception were to be asked what they considered the greatest improvement brought about in that time, it is not difficult to conceive that the answer would be the betterment of material. It may appear strange at first sight to place this before improvement in construction and design, for material is nearly always to be had of as high a grade as the user is willing to pay for. At least, such is the assumption of the average observer. But five years ago the steels now employed in automobile construction were not to be had at any price. Of course,

there was plenty of good steel available—more than enough of it to build the strongest car that ever ran on wheels, but what of the weight? An increase of dimensions was hardly permissible, for in some of the earlier cars the latter were already in excess of the dictates of reason, yet the parts gave way. What the designer wanted was lighter axles and bearings, gears and shafts, but without an improvement in the quality of the metal composing them it would have been folly to have reduced their weight or size. What single improvement can be compared with this sweeping change that has made the car body what it is? The pressed steel frame has taken the place of cumbersome built-up affairs, the automatic valve has disappeared in favour of mechanical operation, the cardan shaft transmission has produced more silent running, bodies and tyres have been improved, and so with everything else; nothing has been overlooked. But all these are details that would not have helped makers much had not better material made it possible to build a 40-h.p. car of the same weight or less than the 12-h.p. of a few years ago.—Yours truly,

NOVOCASTRIAN.

### PRESSURE FEED FOR CARBURETTORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice a distinct tendency, especially as regards large cars to adopt pressure feed in connection with the petrol supply to carburettors. There are, however, several disadvantages inseparably connected with the use of petrol under pressure. In cars with long wheel base it is quite common to find twenty or thirty feet of piping for the fuel system alone. One length of ten or more feet conveys the pressure from the exhaust pipe to the tank; in between there is a valve of some kind which often is the cause of trouble. Then there is the length of pipe from the petrol tank to the carburettor. The tank itself is usually only eight or nine inches above the ground, and as it is rarely protected in any way, it may be damaged or even punctured by stones being thrown up against it from the road. It seems strange that so many makers should use a system which is so awkward and contains so many weak points. If the petrol tank is located in the right place, there is no reason why the spirit should not feed steadily and regularly to the carburettor by gravity. Again, it would be interesting to know how pressure feed compares with gravity from the point of view of fuel consumption. So far as I know, no comparative tests have been made of the two systems. Perhaps the Technical Committee of the A.C.G.B.I. may think well to include such an inquiry in the scope of its labours.—Yours truly,

R. V. PARKER.

### ACETYLENE LAMPS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Your recent reference to glaring headlights suggests that the care of the lamp is one of the neglected studies in connection with automobilism which might well be considered more thoroughly than is now the case. Because the lamp is not a part of the motor mechanism, some are inclined to treat it with scant courtesy, and even experienced chauffeurs are quite ignorant of many minor methods for improving the light and economising the cost of maintenance.

The other day I was told that several owners of cars are in the habit of dissolving a few pieces of lump sugar in the water used in the carbide generator in order to keep it clean and so enhancing its life. Certainly my own experiments have shown that half a dozen pieces of sugar to a gallon of water do increase the capacity of the latter for absorbing the spent lime and preventing it from clinging to the bottom and sides of the generator. If other readers have heard of equally simple means of adding to the cleanliness or efficiency of acetylene, I, in common with hundreds of other motorists, will be glad to hear.—Yours truly,

T. CAPTEN.

MESSRS. MANN AND OVERTONS, LTD., write:—"A rumour was current about a month ago that M. Brasier had left the 'Société de Construction d'Automobiles Le Treffe a Quatre Feuilles' to rejoin the Mors Company. We beg most emphatically to contradict the rumour, and shall be obliged if you will give publicity to our contradiction."

BROOKE MOTORS.—As there appears to be some misunderstanding with regard to the actual scope of Brooke Motors (London), Ltd., Mr. E. J. Steel, the manager, asks us to state that the position is that they have been appointed the sole selling agents for the world for Brooke motor vehicles and parts thereof other than the commercial type. Messrs. Brooke have decided to devote their factory at Lowestoft solely to the manufacture of cars of the six-cylinder type.

THE PRUNEL CAR.—"P. C." writes:—"I would be obliged if, through the medium of the *M.C.J.*, some reader could tell me the makers of the best and most economical up-to-date automatic carburettor suitable for a 12-h.p. two-cylinder Prunel car."

ON the morning of the 21st ult., between Henley-on-Thames and Hounslow Barracks, one of the drivers of the Electrical and Motor Company, of Bridge Street, Banbury, lost a Stepney spare wheel, size 810 by 90, complete with cover and tube. Should any of our readers have found this the firm at Banbury will be pleased to know and to pay all expenses of its return, &c.

A CORRESPONDENT writes that a temporary repair of a leaky honeycomb radiator can be made by mixing litharge and glycerine to a paste consistency, plastering up both sides of the radiator where damaged, and allowed to dry.

Owing to the pressure on our space several important letters are held over till next week.

## CLUBS AND ASSOCIATIONS.

### LADIES'.

SINCE October the following ladies have been elected members of the Ladies' Automobile Club:—Mrs. Baldock, Miss M. Hoadley Dodge, Baroness von Eckardstein, Miss Amy Ferguson, the Dowager Countess of Lonsdale, Mrs. W. Madocks, Lady Katherine Morgan, Mrs. Paul Nelke, Mrs. E. Pease, Miss J. F. Schreiner, Lady Scott Gatty, Mrs. H. Stock, Miss M. Walton, and Mrs. D. H. McLean. The course of lectures given at the club last winter by the club engineer proved popular. The committee, therefore, have arranged for a somewhat similar course to start on Wednesday, January 23rd.

### HEREFORDSHIRE.

FROME'S HILL climb will be held on May 3rd, under the auspices of the Herefordshire A.C., when the prizes will include six gold, five silver and five bronze medals and five certificates, as well as a trophy of the value of £105.

Colonel Holden's formula, as adopted by the A.C.G.B.I., will be used for handicapping, and entries will close April 18th. No steam cars are eligible, nor cars of which the cylinder diameter in inches squared and multiplied by the number of cylinders exceeds 125.

The results, it is hoped, will be known immediately after the contests, and the prizes distributed at the dinner held the same evening. Mr. Wilfrid Groom, the hon. sec. of the Herefordshire A.C., Mitre Hotel, Hereford, will be pleased to afford further information to intending competitors.

### SCOTTISH.

THE Scottish A.C. has just selected the following hotels for appointment as official headquarters in the places named:—Alexandra Hotel, Inverness; Marine Hotel, Troon; Dreadnought Hotel, Callander; Alexandra Hotel, Oban; Lovat Arms Station Hotel, Fort Augustus; Caledonian Hotel, Inverness; Grant Arms Hotel, Grantown-on-Spey; Station Hotel, Boat of Garten; Cairloch Hotel, Ross-shire; Royal Hotel, Portree; Tarbet Hotel, Loch Lomond; Royal Hotel, Edinburgh.

ALTHOUGH Mr. G. J. Nearing is resigning the captaincy of the Blackpool Motor Club, consequent on his removal to London to join the firm of Huntley Walker and Co., Ltd., he will retain his membership.

## CASES UNDER THE MOTOR-CAR ACT.

THREE cases of motorists exceeding the ten mile speed limit in Richmond Park have been heard by the Kingston County Bench, fines of £3, £4, and £5 being inflicted.

### IDENTIFICATION MARKS.

AT the Bromley (Kent) Petty Sessions, Charles Cooper, of Carshalton, Surrey, was summoned for driving a motor-car with the front identification plate thereon obscured. He pleaded guilty and was fined 10s. and 8s. costs.

### ROAD REPORTS.

YEovil.—At the last meeting of the Yeovil Rural District Council the surveyor (Mr. J. R. Burnell) presented his estimate for the roads for the year ending March 31st, 1908. He pointed out that every road in the district would require more material. The motor traffic, he said, pulled the roads to pieces everywhere, and during the last month he never knew the roads so cut up. In making his estimate for the maintenance of the main roads, he found it necessary to increase quantities of materials on some of the lengths of roads. He suggested that two steam rollers be hired at once, for he considered that extra material would be required before the winter was over.

LINCOLN.—No special road repairs are to be carried out at Lincoln at present. During the last six months Mr. R. A. MacBair, the city surveyor, has largely extended the substitution of tar for ordinary macadam, but recent weather has delayed the last work in that direction contemplated by the authorities. It will be completed at the earliest opportunity.

PRESTON.—Local discussion is growing in the borough of Preston with reference to the dangerous height of some of the tramway lines above the stone setts that form the roadway. Not only the safety of motorists but that of every other class of traffic is being jeopardised.

PLYMOUTH.—Motorists in the west country will be interested in knowing that no main roads in the borough of Plymouth will be under any extensive repairs for some time to come.

## AN AUSTRALIAN CONTEST.

THE motor reliability contests held about Melbourne from November 12th to the 19th, 1906, resulted in a win by O. Camphin in his 12-h.p. Darracq car, who covered the total distance of 1,011 miles in 39 hours 58 min., and lost only three points, owing to his having been forced to tighten a nut during the first day's run. With this trifling exception, Camphin completed the whole of the six days' runs without requiring to stop once. His car was shod with Continental tyres.

One of the lessons of this test is that low horse-power cars are more suitable for Australian roads. Another is that in many instances cars built for the perfect surface to be found in Europe are too light for use in that colony. In three instances frames were found to have been fractured, in four the coils broke down, and in two the springs gave way.

Following is the result of the trial on the total points lost out of 1,000 points credited at the start of the contest:—

Name.	Points lost.	Total time.	Non-stop runs. Six possible.
1, Mr. O. Camphin, 12-h.p. Darracq ...	3	h. m. s. 39 58 0	5
2, Mr. T. Rollason, 10-h.p. De Dion ...	36	45 7 0	4
3, Mr. W. R. Grimwade, 14-16 h.p. Tarrant ...	40	37 23 30	4
4, Mr. A. G. Hampton, 6-h.p. De Dion...	45	50 26 0	2
5, Mr. R. Edols, 12-16-h.p. Talbot ...	60	37 36 30	5
6, Mr. F. B. Roche, 8-h.p. De Dion ...	65	47 34 30	3
7, Mr. F. E. Fay, 6-h.p. De Dion ...	141	52 26 30	2
8, Mr. Guy G. Madden, 10-12-h.p. Humber...	321	43 47 40	3
9, Mr. C. B. Kellow, 40-h.p. Napier ...	712	39 14 30	2

Mr. O. Camphin becomes the holder of the Dunlop Cup, the Garland Cup, and a gold medal; Mr. T. Rollason, in addition to the second prize, obtained the Dunlop Plate for the best performance by an amateur driver.

## COMPANY NEWS.

## NEW COMPANIES REGISTERED.

**WARRINER, LIMITED.** Capital, £1,000. To carry on the business of motor-car, motor-omnibus, cycle and flying machine manufacturers. Secretary and registered office, H. Sampson, Riverside Works, Doncaster.

**THE BRITISH MOTOR BODY COMPANY, LIMITED,** of Bannermill, Links Road, Aberdeen, has been registered with a capital of £5,000.

## COMPANY MEETINGS.

**MR. GEORGE SINGER** presided at the annual meeting of Singer and Co. last week, and said, in moving the adoption of the report, that it was better than that presented last year. It would have been even more satisfactory except that the motor department remained in an experimental stage longer than was expected. This stage was now at an end, and cars were now being made for which there was a ready demand. The mistake in making a style of motor-car which was not popular had been overcome, but it was necessary to have more working capital to execute orders for the new style of car. The directors had provided for £20,000 capital under the working agreement with the Singer Motor Company, a subsidiary concern formed three years ago. After some discussion the directors' report was adopted.

**ASTER, LTD.**—At the annual general meeting of Aster, Ltd., held on Monday, it was decided to adopt the directors' recommendation and distribute 15 per cent. on the ordinary shares, after paying the 6 per cent. preference shares, for the year ending September 30th last.

## THE QUALITY OF PETROL.

THE following extracts, supplementary to those already published from the evidence of Dr. Dvorkovitz before the Fuels Committee of the Motor Union will be of general interest. It was impossible to judge of the quality of petrol which is capable of giving the best results by simply taking its specific gravity. The various kinds of petrol at present sold for motor-car purposes are a mixture of a number of hydrocarbons or chemical compounds which consist of carbon and hydrogen. Now the proportion between the carbon and hydrogen in these various hydrocarbons depends to a certain extent upon the sources from which the crude petroleum is obtained, but the ratio of the two varies very little, this being 84.5 per cent. carbon and 15.5 per cent. hydrogen in Pennsylvanian crude oil, and 86 per cent. carbon and 14 per cent. hydrogen in other crudes. Therefore the calorific value of the various benzines obtained from the above crudes must be very close one to another.

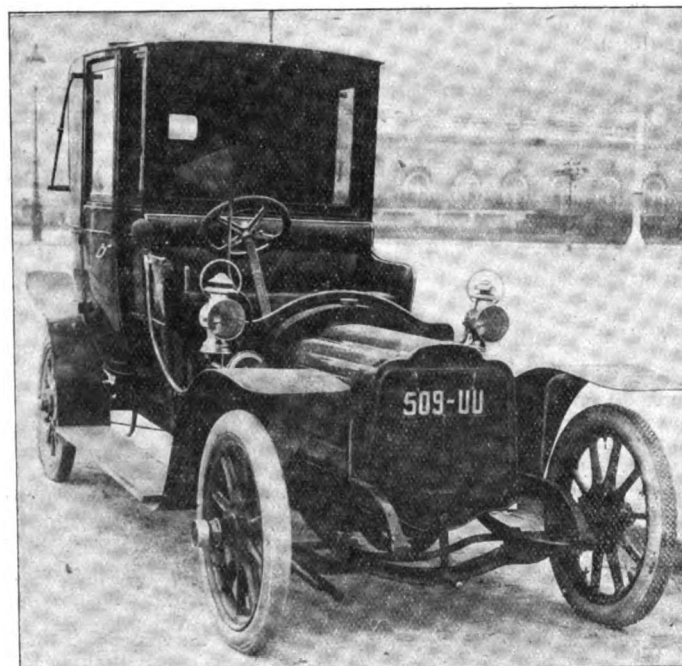
The specific gravity does not affect the calorific value. Let us take Pennsylvanian oil. The lowest liquid hydrocarbon obtained from the Pennsylvanian oil is known as Pentane, which has a specific gravity of 0.628 and a boiling point of 100.4 Fahr., while the highest liquid hydrocarbon of the benzine series is called Octane, having a specific gravity

of .703 and a boiling point of 257 Fahr. Here is a very great difference not only in the specific gravities, but in the boiling points, yet their respective values from a calorific point of view are practically the same, Pentane having 83.4 per cent. carbon and 16.6 per cent. hydrogen, whilst Octane possesses 84.2 per cent. carbon and 15.8 per cent. hydrogen. The above figures therefore conclusively prove that the specific gravity of any spirit may be a matter of quite secondary importance in deciding the question as to the suitability or otherwise of various motor spirits.

The chief deciding point for the motorist should be the temperature at which the vaporisation of benzine will take place. Once the motorist knows this, then he can most assuredly depend upon it that his spirit will give complete satisfaction. If motor spirit will evaporate entirely in the air without leaving any trace of oil matters, then such spirit should most certainly be considered as satisfactorily answering all the requirements of the motorist, no matter what its specific gravity is. It stands to reason that if a spirit under ordinary air exposure will entirely evaporate, still more so will it when drawn in by suction or used under air pressure.

## PUBLIC MOTOR SERVICES.

THE Willesden Urban District Council has granted licences for the storage of petrol to bus companies within its area as follows:—The Victoria Omnibus Company, Leinster Road, Carlton Vale, 1,000 gallons; the London Power Omnibus Company, Langton Road, 6,000 gallons;



One of the new 15-h.p. Mors Cars, fitted with a three-quarter landaulet body and cardan shaft transmission. The change-speed gear is controlled by a single lever with gate action, and the drive is direct on the top speed.

and the London General Omnibus Company, Dollis Hill, 1,395 gallons of petrol.

**MESSRS. D. MACBRAYNE, LTD.**, have inaugurated a new motor service between Fort William and Ballachulish.

FOR driving his motor-bus recklessly along Piccadilly a "Union Jack" driver has been fined 20s. and costs.

THE prospectus of the Caterham and District Motor Company, Ltd., which intends to run a motor service for passengers and parcels, has been issued. The capital is £15,000.

**MOTOR-BUSES** are being introduced into Liverpool by the Woolton Motor Omnibus Company.

## THE SKID PREVENTION COMPETITION.

THE following entries have been received for the Side Slip and Skid Prevention Competition:—The Dunlop Rubber Company, Limited; W. H. Newman; Henry Bird; The Hartridge Tyre Syndicate, Ltd.; Liversedge and Son, Ltd.; H. B. Molesworth (two entries); The Reiloe Tyre Co., Ltd.; H. W. Southworth; A. W. Tidbury; The Westminster Industrial and Finance Developments, Ltd.; T. S. Jones; T. A. Cotton and L. Brierley; E. H. Whiting; Arthur J. Maginnis; Edmond Levy; E. W. Hart; Nursey and Marr; E. C. Kingsford; W. H. Lusson; J. Horace Reeves; George Prosser; A. P. Stokes; Walter Sully and P. H. Shailer; William Lowry; W. Waters; Mayfair Motor Company, Ltd.; The

Non-skid Syndicate (two entries); The Parsons Non-skid Company, Ltd., (two entries); Charles Beaven; Morley Agar; Frank Candy; The Compensating Gear Company, Ltd.; L. F. Sachs; George B. Winter; The Wallis Non-skid; P. C. Hedges; Harry Evans; W. Dederich; and Mark Vivian.

### AN ACTION ABROAD.

THERE has just been concluded in Vienna a case of interest to motorists generally, particularly those who purchase cars from makers abroad who have no *locale* in this country. Mr. Gerald Higginbotham, of Macclesfield, was the plaintiff, and Herr Jellinek Mercedes the defendant.

Dr. Kranz, of Vienna (instructed by Messrs. Barclay and Co., of Macclesfield), in opening the case for Mr. Higginbotham said that his client was an English gentleman interested in motor-cars and motor races, and in March, 1905, ordered a racing car from the defendant at the inclusive price of £1,800. Mr. Higginbotham paid £800, being a third of the price, when giving the order, and the balance was to be paid when the car was delivered. The plaintiff contended that the defendant agreed to deliver the car to him immediately after the contest for the Gordon Bennett race at Royat in 1905 had been run, and that it was agreed between him and the defendant that one of the latter's cars should then be delivered to Mr. Higginbotham. It was required for the specific purpose of competing in the English speed trials which were to be held at Brighton and Blackpool in 1905. He attended the Gordon Bennett race at Royat, and immediately after it was over he applied to the defendant's agent to hand him over the car in order that he might take it with him to England, and he thereupon tendered the balance of £1,200. The defendant's agent, however, said that he had not authority to hand the car over, and that in any case the race had disclosed a number of points in which improvements should be made, which they would like to carry out before the car was delivered.

A long correspondence took place between Mr. Higginbotham and the defendant until ultimately the former cancelled the order in writing, and demanded the return of the £800 deposit together with interest from the date of its deposit. The defendant refused to comply with this reasonable request and set up the proposition that he was entitled to deliver the car at any time after the Gordon Bennett race which would suit his own convenience.

Dr. Newmann, on behalf of the defendant, emphasised his own view of the law, and Mr. Higginbotham was then examined and cross-examined at length and under great difficulty, having regard to the necessity for every question and answer being translated both to the witness and to the judges, but after a two days' trial, in which Mr. Higginbotham's evidence was in no way shaken, the judges decided that in the absence of any evidence by the defendant, Herr Mercedes, Mr. Higginbotham had established his claim, but on the urgent application of Dr. Newmann they fixed a further day for taking the evidence of the defendant, Herr Mercedes, on commission at Nice, and promised to re-open the case after this had been done. This evidence was duly taken and a day for further considering the case was then fixed by the court at Vienna.

Before the day arrived Herr Mercedes offered to supply Mr. Higginbotham with an up-to-date racing car for 1907 in fulfilment of his contract, but the plaintiff declined all overtures for a settlement, saying that he was not intending to race in 1907 and that the motor-car would consequently be useless to him, and that he should accept nothing less than the return of the deposit of £800. The day before the date fixed for the further consideration of the case the defendant consented to repay the £800 deposit, and as Mr. Higginbotham had thus succeeded in enforcing the claim to which he had throughout maintained he was both legally and morally entitled, the money was paid and the proceedings terminated.

### A PATENT ACTION.

MR. JUSTICE PARKER in the Chancery Division of the High Courts of Justice has given judgment in the action by Mr. John Gwyer Stroud, of Bristol, against Messrs. Humber, Ltd., of Beeston and Coventry, in which plaintiff alleged that defendants had infringed a patent granted to him in 1905 for an invention relating to improvements in transmission change speed and reversing gear for automobile vehicles. Defendants denied infringement of any valid patent and pleaded anticipation. After a long hearing his Lordship said the only question that he had to decide was as to the validity of plaintiff's patent. The facts were that plaintiff in the summer of 1905 purchased from the defendants a car in which he found the transmission change speed and reversing gear unsatisfactory. Thinking out a locking device he took out a provisional specification. He sent his car back to defendant's works at Beeston and went down and described his device to Mr. Pullinger, asking him to fix it to his car. Mr. Pullinger agreed, and later on wrote to plaintiff:—"The locking arrangement you explained to me I am having worked out to the best of my ability. I am not very good at working out other people's ideas." The car was duly delivered to the plaintiff with his locking device on it, and plaintiff complained that since then defendants had been using his device on other cars made by them. The complete specification was filed in February, 1906, and defendants objected that it was invalid, as plaintiff was not the first and

true inventor, and the invention was not new. Defendants relied on three anticipations: Maybach, Grieg, and James and Hornsby. Having examined all these specifications he found that each of the four characteristics of the plaintiff's locking device was to be found in one or other of the locking devices in the specifications of the prior patents, and all were practically found combined in Grieg's. Having come to the conclusion that these characteristics were not new, considered either separately or in combination, the only question that remained was whether plaintiff had so adapted or simplified known mechanism as to produce what was substantially a new thing. After carefully considering the evidence he had come to the conclusion that plaintiff had not, and that any departure by him from what was known before required no exercise of inventive faculty. The action therefore failed, and must be dismissed with costs.

### CLAIMS AGAINST MOTORISTS.

IN the London Sheriff's Court a jury have awarded £175 damages, with costs, to Henry Webb, L.B. and S.C.R. carriage examiner, of Wandsworth, against Harold Pennell, formerly director of a Wandsworth motor establishment, living at Marine Parade, Brighton. In March the plaintiff was walking along the pavement in St. John's Road, Battersea, when the defendant, in trying to avoid two little girls, ran his motor-car first into a refuge and then on to the pavement, pinning Webb against the wall. He lost twenty-five weeks' work, and on resuming was given employment at £1 a week, instead of £1 8s. The action was undefended.

A MOTOR-CAR turning out from Broad Street, Birmingham, into a side street on August 15th, knocked down and injured a man named Frederick Walter Edge, who at Birmingham Assizes, before Mr. Justice Phillimore, last week, was awarded £120 damages against the Quadrant Cycle Company, Ltd., the owners of the car. It was urged for the defence that the car, which was being tested, skidded owing to the greasy state of the road.

### AN AMERICAN ODE TO THE MOTOR-CAR.

O winged horse! O steed of steel!  
Long centuries thy coming have awaited.  
Into thy vitals hath been poured  
The deep distilment which the Sun-God made  
Ages ago, when, in the morn of Life,  
He kissed the tropic forests with his heated breath,  
And Bloom and Beauty hid themselves in sleep  
Till Time should make them fitted for thy need.

O thou new King of Time and Space!  
In the hot furnace of forgotten fires  
Were forged thy nerves of steel, thy heart of iron,  
Awaiting but the magic touch of man  
To fit thee for thy true and destined place  
In the procession of the triumphs of the ages.  
Go forth upon the Earth in benediction.  
When Sunrise Bell calls toiler forth to new day's work,  
Be thou present to transport him and his burden.

When weary man in city street has spent his vital force,  
Be thou present to carry him to country lane,  
To flower and field and forest green,  
Where tides of life and health set in again,  
To music from the rippling brook and singing birds.  
Again, and yet again, and thrice again, I greet thee,  
O thou last, best gift of all the gods to man.  
On thy countless missions of peace and helpfulness  
Speed onward to Time's latest day,  
O thou Emancipator of the Human Race!

WINTHROP E. SCARRIT.

### TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.



# THE Motor-Car Journal.

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## COMMENTS.



ONE of the many interesting incidents of the visit of the King and Queen to Chatsworth House last week was the automobile excursion they enjoyed on Saturday when they paid a visit to Lord Burton at Rangemore Hall, Burton-on-Trent—a delightful drive of forty-two miles. Five motor-cars started from Chatsworth at about half-past eleven, with members of the house party, and a sixth car followed with spare tyres and appliances—a sort of repair shop, to put in order any motor-car which might require attention. This relief was not wanted, for all the cars completed the double journey in perfect smoothness. The Queen rode with the Duchess of Devonshire and the Marquis de Soveral in Mrs. Arthur Sassoon's 60-h.p. Napier. The King, accompanied by Mr. Arthur Sassoon, was seated in his Daimler; and in the other cars—his Majesty's Mercedes, and Earl De Grey's and the Countess of Gosford's—were Prince and Princess Henry of Pless and several other members of the party. The condition of the roads was not all that could be desired. A hard frost had been succeeded by an extremely rapid thaw, and the cars, which sped along with an interval of about one hundred yards, caught up a film of limey mud and covered the backs and windows of each. At the entrance to the borough of Derby Lord Burton met his guests, and from this point onward to Rangemore his lordship piloted the motor procession to the Hall. By way of Monk's Bridge they journeyed to Rangemore, which was reached at 1.15 p.m. The return journey was commenced about half-past three. Chatsworth House was reached at five o'clock.

### Mails by Motor.

THE postal headquarters at Norwich introduced motor mail vans on New Year's day between the city and some of the principal towns in the county. The cars, which are all coloured in postal red, are fitted with 14-h.p. engines, and can carry a ton at a speed of ten miles per hour. They will convey mails from Norwich to Wymondham, Dereham, and Fakenham; from these centres there will be connecting services, and the motor mail vans will also perform the journey in the reverse direction. The result will be to give the public much later postings to the country, in some cases the time being postponed by two and a half hours, while in the country the mails will arrive earlier than is possible with horsed mail carts, and the hours of posting will also be extended.

### An American Invasion.

SOMETHING like an organised invasion of the Old World by the New has been thought out by the fertile mind of Citizen George Dupuy, a member of the New York Motor Club. The idea is to hold a road competition over about 4,000 miles of France, Spain, Austria, Germany, Belgium and England, for the American Gold Cup given by a group of millionaire motorists. The scheme as planned is to take place in June and July of the present year, and three hundred people are to be allowed to take part in the great motor cavalcade, which will comprise fifty or sixty cars of a dozen of

the leading vehicles of American make. It will be a demonstration of the American touring car, forming a combination of pleasure and publicity, that the originators of the plan hope will appeal to the minds of the motor-car manufacturers of the United States. The itinerary as provisionally sketched is to go from New York to Havre by steamer, and then by road to Paris and over the Pyrenees into Spain to see bull fights. Then back into France a trip will be made to Nice and Monte Carlo *en route* for Italy and the other countries of the Continent already mentioned. That portion of the trip will conclude at Calais, whence steamer will be taken to Dover and road to Liverpool *via* London, Coventry, and Birmingham. Such an excursion should prove a very delightful and somewhat dusty undertaking.

### Motor Ambulances in Crowded Areas.

EVIDENTLY the view that we have always taken as to the decided advantages that would result from the adoption of the motor ambulance in the suburban areas of great towns is recommending itself to the authorities in crowded areas. Already we have recorded the acquisition of a motor ambulance by the City of London authorities, and the provision made for its telephonic association with the rest of London. But, according to Dr. Waldo, the coroner for Southwark, such appliances should be provided all over London. During the course of an inquest held at Southwark it was stated that it took considerably over half an hour to get the deceased man to Guy's Hospital on an ambulance, and Dr. Read said it would undoubtedly be a great boon to have a motor ambulance in Southwark, as such a large number of accidents occur in that district. It would ensure prompt treatment, which would be an immense advantage. The adequate equipment of all great towns in this respect is only a matter of time.

### Tar v. Dust.

MATTERS are developing rapidly with regard to the competition for a tar-spreading machine which is to be conducted by the Roads Improvement Association, the A.C.G.B.I., and the Motor Union, acting jointly in the management of the trials. After due consideration, the three bodies mentioned have agreed that tarring has, so far, proved itself to be the best palliative for laying dust. Unfortunately, the present systems of applying the remedy are expensive, involving the use of an excessive quantity of material, and being attended by minor disadvantages. Hitherto the general practice has been to remove the loose dust from the surface of the road, apply hot tar, and brush it into the interstices of the road surface by manual labour. The road is then covered with sand to prevent the tar picking up on the tyres of passing vehicles. A second coating is required after an interval of six weeks, but in subsequent years only one coating is usually necessary. This system has been applied to many miles of main roads in Kent, Surrey, Middlesex, and Hampshire, and on a smaller scale in other districts. The cost of thus treating a road of an average width of eight yards with two coats of refined tar is between £60 and £90 per mile, or about £60 per mile if a period of three years is taken. The cost of materials and labour must be lessened considerably if there is to be a wider applica-

tion of tar to roads. If a mechanical apparatus can be constructed, either in the form of a horse-drawn cart or mechanically-propelled vehicle, that would spray the tar upon the road, the labour factor can be reduced very considerably. Such an apparatus should apply the tar more uniformly and cause it to penetrate to a greater depth, and as the quantity of tar required would also be much less, the economy would be undoubted. Hence the value of the forthcoming competition, which will be carried out as far as possible upon ordinary roads of varying characteristics. Vehicles may be either horse-drawn or mechanically-propelled, but, other things being equal, preference will be given to mechanically-propelled vehicles. Entries will be received by Mr. Rees Jeffreys up to March 31st, and among the judges who have been appointed are the county surveyors of Kent, Middlesex, and Hampshire, and the city engineers of Liverpool and Birmingham.

### Horse v. Automobile.

THE automobile is the best friend of the horse, relieving him from many burdens that have hitherto been regarded as the lot of the equine. In the early days it was fashionable to decry the motor-car as the foe of the horse; now public opinion has veered round, and the President of the Illinois States Veterinary Medical Association, at a convention of horse doctors at Chicago, has been giving statistics from the bureau of



The above illustration is reproduced from a photo sent us by the Adams Star Cycle Co., of Wellington, New Zealand. It depicts a 16-h.p. Minerva, driven by Mr. Donald Kemsley, in difficulties at Hastings, Hawkes Bay, N.Z., during the course of a heavy flood.

animal industry, which showed that since the operation of the automobile became so general throughout the States horses have regained strength, a better breed is being realised, and that its worth has advanced more than 100 per cent. in the last five years. This should be satisfactory news to those who love the horse, and who are glad to know of the increased regard with which he is now treated; as opposed to the old-time notion that the horse was mainly "a beast of burden."

### The Horse at his Zenith.

In connection with this matter the returns lately issued by the Board of Agriculture may be referred to as affording documentary evidence as to the state of things in Great Britain. The figures for 1906 show that the number of horses is less by 3,752 than it was in 1905, when the total reached the highest figure yet recorded. The reduction is mainly in agricultural horses and in the unbroken horses of under one year. This latter category is useful to our purpose in indicating the condition of horse breeding in this country. During the seven years preceding 1906 there was a steady increase in the number of unbroken horses under one year of age, and the horse-breeding industry was holding its own despite the advance of the automobile. But now this has been stayed

and the officials of the Agricultural Department call the attention of horse breeders to the position, saying that "if the reduction of young stock in 1906 is to be regarded as significant, it may perhaps indicate that a limit has been reached, and that the development of mechanical means of road locomotion is beginning to check the breeding of horses in Great Britain."

### The Brooklands Track.

THERE will be no lack of racers on the Brooklands racing track, and already Messrs. S. F. Edge, C. Jarrott and J. E. Hutton have shown willingness to return to the racing arena, while Mr. Colin Defries has issued a challenge with his Porthos car, acceptance of which by Mr. Edge would add to the delight of the motor world. Anyway it is evident that there will be no lack of sport, and when matters crystallise somewhat we may be able to draw up an interesting programme. At present, however, the contests appear to be hedged about with so many conditions that some of the parties are disinclined to accept. Why not let each challenger have his day on the track and do his best; and then let as many as can race side by side in the spirit of the old charioteers striving all they know to gain the mastery? That, at least, would give the British public something new to talk about.

### Exemptions from Revenue Duty.

OUR readers have doubtless been supplied with the yellow paper with which the Inland Revenue authorities make known the exactions they require at this season of the year from those who own motors, carriages, &c. The amounts of the licences are clearly set forth and generally known, but, in view of the more general adoption of the motor vehicle for purposes of trade, the exemptions may usefully be set forth. Licences, we would therefore remind our friends, are not required for a motor, or vehicle drawn by a motor, which is constructed and adapted for use and is used solely for the conveyance of any goods or burden in the course of trade or husbandry, and whereon the christian name and surname and place of abode or place of business of the person or the name or style and principal or only place of business of the company or firm keeping the same shall be visibly and legibly painted in letters of not less than one inch in length; or for any carriage or motor used without payment for the conveyance of electors to or from the poll at any Municipal, County Council, or Parliamentary election, and not otherwise used during the year; or for carriages or motors kept but not used at any time within the year. This latter clause will answer some of our correspondents who have written us on the subject.

### Motorists and Cyclists.

THE embittered discussion that a short time since raged in the pages of some of our contemporaries has led the Cyclists' Touring Club to publish, for the benefit of its members, a summary of the provisions of the chief Statutes that have a bearing upon the behaviour of motor-car drivers. In commending this to the club, Mr. E. R. Shipton says if the member be a motorist, and a considerate one, he will gladly read, mark, learn and inwardly digest the code of offences of which he is never likely to be guilty; if he be an anti-motorist he will note with delight that when he witnesses a wilful infringement of the rights of other sections of the road using community, he has many remedies lying ready to his hand should he decide to put the law in motion. In this connection it is interesting to note that one of the members of the Rights and Privileges Committee of the C.T.C., who is both a motorist and a cyclist, recently succeeded in obtaining a conviction against a motor-car driver who raised a blinding dust, and totally obscured the view of himself and other road-users, on the Portsmouth road between Esher and Cobham in September last. He took the number of the car, and reported the facts at the nearest police station, with

the result that a summons was issued for "driving to the common danger." He also attended at the hearing of the summons and gave evidence, when the driver was fined and had his licence endorsed. This is probably counted "for merit" in the official ranks of the C.T.C.

#### Motoring on a Railway Track.

MR. GLIDDEN'S Napier has piled up a mileage of 36,657 miles in thirty-six countries without once having broken down. The latest adventure of this inveterate globe trotter was to drive his vehicle 6,714 miles on the track of the railroad companies from Chicago to the City of Mexico. Five minutes' delay would have disarranged the entire work of the trains. Freight and passenger trains were met on side tracks about every ten miles, and it was the motorists' good fortune not to delay for one moment the immense traffic moving on the American and Mexican railroads, all but 220 miles being single track. Where the traffic was exceedingly heavy they ran as an extra with special rights and given some very close meeting points. Not having a loud whistle, slow downs and stops were necessary to allow section men to remove their small cars or

lost twenty-five minutes; but, as the mileage increased and the ground continued to rise, so the snow continued to accumulate. By the time the Cray Waterworks were reached the car had to be lifted over two large snowdrifts at least four feet high in some parts. When Brecon was left behind a blinding snow-storm was met, with a strong wind driving the snow under the hood to the passengers in the back seats, and compelling Mr. Sutton to drive, or rather crawl, on low speed with the clutch pedal in use every other second. The road in some places was four feet deep in snow, and so well was it covered that it was impossible to prevent driving over ditches and common in turns. With darkness coming on, it was necessary for the two male passengers to get out and push the car through the mountains of soft snow. The trip across the Beacons by motor will be a lasting memory with all the occupants—more especially the ladies, who, knowing that the Common is over ten miles long, without a house anywhere near, and how impossible it would be to walk to the nearest hostel, were quite resigned to their fate to spend the night in the car—which would certainly have been the only thing open to them had the machinery broken down or a less competent driver been at the wheel. After several hours' struggle, however, civilisation was



A Popular Winter Pastime at Caux, Switzerland.

jacks from the rails, and caution was required on some sharp curves to relieve the strain on the wheels, which, with the exception of the steel rimmed tyres, were ordinary automobile wooden spoke wheels. The only parts of the car relieved from the usual wear and tear were the springs and frame, but the engine and transmission was obliged to maintain throughout the journey a lively pace.

#### On the Brecon Beacons in a Snowstorm.

FOUR days after the heavy fall of snow at Christmas, when the streets of the towns were beginning to get "slushy," the ordinary mortal might be forgiven for thinking that the country at least would be passable, but the experience of Mr. Ernest Sutton, of Messrs. Sutton Brothers, the motor agents, of Swansea, demonstrated that the roads at 1,200 to 1,500 feet above the sea level cannot be depended upon. His 10-12-h.p. Humber car, with himself, Councillor W. Tarr, Councillor H. G. Solomon, and two ladies on board, started off and travelled the first eight miles gaily. A puncture in the front tyre caused the first stop, another at the end of thirteen miles

reached, a light in a chapel was seen ahead, and never was a little country chapel more appreciated from the outside than on this occasion. Hirwain and Glyn Neath were soon reached in the slush, and Host Jones, of the Angel Hotel, Pont Neath Vaughan, with the aid of a huge fire and some home-cured ham and fresh eggs, soon revived the half-dead travellers, and the journey was continued; before Swansea was reached again, just before midnight, an inlet and an exhaust valve smashed and the radiator was bulged in, but "home" had been reached without loss of life, and everyone was indeed thankful to turn into bed to remain for a few days to shake off the effects of Motoring under climatic difficulties.

#### Motoring in the Parks.

IN consequence of many complaints on the part of the residents in and around the Regent's Park, London, of the annoyance and inconvenience caused by the reckless driving of motor-cars through the Park after nightfall, instructions were given to the gate-keepers by the Crown Estates Paving Commissioners to prevent, as far as possible, the entry of motor-

cars at night, unless they were proceeding to houses near the Park. These instructions have now been withdrawn; but the nuisances complained of are said to be real and serious, and, unless they are abated, it may become necessary to frame a permanent regulation for the exclusion of cars at certain times. The matter having been brought to the notice of the Motor Union, that body has assured the First Commissioner of His Majesty's Works that he will have the co-operation of motorists generally in putting a stop to the nuisance of which complaint is made, and we would urge our readers to co-operate with the authorities in putting a stop to any reckless driving in the Regent and other parks in and about London.

#### Motor Volunteers in Ireland.

THE remarks of Lord Grenfell in declaring the Motor Show open in Dublin will be appreciated by all who are interested in the encouragement of the automobile section of the Army. As Sir William Goff subsequently observed, his Lordship, probably more than most men in Ireland, is closely identified with the motor movement, for, largely owing to his exertions, the Motor Service Corps, which had taken the place of the old Volunteer Corps, had been put on a firm basis and a branch had been extended to Ireland. Of this a great many members of the Irish Automobile Club are officers, and its success is as assured as its utility is acknowledged. Lord Grenfell in his speech said he, as commanding the Forces in Ireland, had been assisted greatly in his military inspections by the Motor Volunteer Corps. He gave to Sir William Goff, Colonel Chaloner Knox, and the members of the corps the sincere thanks of himself and the members of his staff for the enormous use they had been to them in their work in Ireland. They had always found that no weather and no distance would deter them, and he was glad to have the opportunity that day of rendering his thanks.

#### Motorists to be Taxed for the Roads.

It would appear that common sense is penetrating into the bucolic mind as expressed at the deliberations of rural councils, and that reason may ultimately prevail. The Filey Urban District Council have passed a resolution in favour of the revenue derived from the proposed taxation of motor-cars being devoted to the improvement of public roads. Not only this, but the Council is urging Yorkshire M.P.'s to support its view whenever proper opportunity offers. Mr. Gervase Beckett, M.P. for the Whitby Division, and Mr. Luke White, M.P. for the Buckrose constituency, have both expressed themselves in accord with the views of the Filey people, who are but echoing the sentiments of motorists in the matter. If we are to be taxed, it is to be hoped that some such wise disposition of the revenue thus obtained will be made.

#### Points against the Motor Car.

A SOMEWHAT novel policy is being adopted by the Automobile Club of America in setting forth the main objections that can be urged against motorists in cities, and asking all who drive to direct their attention to avoiding such unpopular features as far as possible. At the meeting of the Board of Governors of the club, Mr. Winthrop E. Scarritt, a former president, presented a long report dealing with these subjects, from the standpoint of their disastrous effects upon motorists, as well as upon the public, and with reference to several possible methods of obviating them. He spoke of the smoke nuisance, the needless tooting of the horn, or the blowing of the siren whistle; the dust nuisance, and the habit of keeping the flaring acetylene headlight burning when such lights are not only unnecessary to the automobile in the city streets, but are an actual annoyance and possible source of danger to pedestrians and horsedrawn vehicles. Here probably are the main points of opposition that can be raised against the motor car. It will be seen that motorists themselves are doing all they can to lessen the occurrence of these disadvantages.

#### Chauffeurs' Illicit Commissions.

IN our correspondence columns Mr. S. F. Edge refers to the view of his solicitor with regard to the Prevention of Corruption Act, 1906, in stopping the requests of chauffeurs for illicit commissions on goods obtained by them for their employers. This view entirely coincides with what we have previously written in these columns, and we trust that the publicity that has been given will have its effect in arresting what has become not only an irritating nuisance, but almost amounts to blackmail in some directions. Now that chauffeurs know the illegality of requests for commission and presents for themselves when they do business on other people's behalf there should be a speedy end to the evil, or trouble may ensue.

#### A Profitable Business.

ALTHOUGH there has been a lull in the activity of the police against motorists in many districts, the business of trapping owners of motor-cars is still a profitable one in many counties. At a meeting of the Huntingdonshire Standing Joint Committee, on Monday, the Chief Constable reported that during the past year 172 motorists had been proceeded against in the county. Four of the cases were dismissed, but fines were inflicted in 168 cases, the total fines, including costs, amounting to £1,276 7s. 7d. None of the proceedings were taken under the speed limit section, all the defendants being summoned for driving to the common danger. Ten offenders escaped, either by giving false names and addresses or by driving so fast that their numbers could not be deciphered.

A NEW edition of the M.C.J. Identification Card, which now gives the road signals for motorists, as well as the letters of identification in use throughout the United Kingdom, has just been published.

MR. R. J. MECREDY, writing to the Dublin press, expresses the view that a series of shows in Ireland "will help to bring us nearer to the day when a large proportion of Irishmen will purchase Irish-built cars."

THE London and North-Western Railway Company have made special arrangements for the careful handling of motor-cars to and from the steamers at Holyhead and North Wall during the Irish Motor Show.

WE hear that a Chelsea firm are about to introduce a new fuel for petrol cars; it is stated to consist of 75 per cent. of common paraffin and 25 per cent. of a new hydrocarbon. The combination is claimed to be equal to petroleum spirit, while costing considerably less.

WE note that in America several manufacturers are using Messrs. Reddaway and Co.'s camel-hair belting for the lining of brake bands—a use which the firm might well advocate in this country, where the merits of their speciality have long been demonstrated in other directions.

THE Simms Motor Manufacturing Company, Ltd., have taken the premises lately occupied by Messrs. Panhard and Levassor in Kimberley Road, Willesden, for the extension of their Welbeck works. It will be remembered that we lately announced the removal of the Panhard repair works to Acton.

To celebrate the occasion of the centenary of the establishment of the firm of E. H. Bentall and Co., and also the coming of age of Mr. C. E. Bentall, eldest son of Mr. E. E. Bentall, J.P., the head of the firm, a dinner and entertainment was given at Maldon last week. An excellent repast was served in the fitting shop of the Heybridge Works. Over 700 employees and their wives were present.

MR. W. H. STONE, of the Taunton Hiring Garage, Staple-grove Road, Taunton, sends his hiring tariff for 1907, which is well illustrated with pictures of the various departments of the works. He makes a special feature of providing cars for excursions, race meetings, &c., and among the points of interest in the list we notice that "a chaperone can be provided for ladies at half-a-guinea daily."



## THE HISTORY OF THE ROAD.

THE late Sir Francis Jeune, whose regular attendance at the early Motor Car Exhibitions at the Agricultural Hall revealed his keen interest in the new locomotion on common roads, was one of the first to emphasise the enlarged circle of social activities made possible by the coming of the car. By its adoption the country gentleman became independent of the railway, with its dreary waits and stations far distant from mansions and country estates. He was able to pay the round of visits in double quick time, lengthen his stays where fancy dictated, and generally find more enjoyment in life. The enthusiasm of Sir Francis cared not for the rough roads and undisciplined hedges of the countryside; he only felt the exultant spirit that developed with speed. And so in those early speeches which advanced the industry many stages in Society estimation he said nothing of the roads, which constitute so great a factor in automobile enjoyment.

The Romans were the most famous road makers, and their Appian Way, begun in 312 B.C., is still in use. Mr. P. C. Cowan, the Chief Engineering Inspector of the Local Government Board for Ireland, who has made a special study of the history of road making, says that the Roman roads "were composed of four layers, except when a natural foundation of rock was found. The lower layer was formed by courses of large flat stones, or, when these were not obtainable, with stones laid in mortar; the second layer was of rubble masonry, of smaller stones, or a coarse concrete; the third, a layer of fine concrete; and the finishing coat, a pavement of polygonal blocks of hard stone, jointed with the greatest exactness—the total thickness of the four layers being in some cases three feet. With a rock foundation, only the third and fourth coats were used."

France, in common with many other countries, followed this system during succeeding centuries; but the later inhabitants of Britain did not learn the lesson. Their roads frequently followed the course of a river, and, save where they continued to



Motor Wagons for Military Purposes.—Oiling up the vehicles used in the Austrian Army at Brunn.

(Allgemeine Automobil Zeitung.)

But since then the motor-car has multiplied, and the roads have shown signs of disintegration into dust. There are those who assail the modern vehicle because of the glaring lights that it shows at night and the cloud of dust that it raises by day. The onrush of the motor-car has brought into prominence the question of roads—construction, improvement, maintenance, and all the other incidental aspects of the great problem of travelling without metal tracks. This revival would astonish some of our forefathers—the men who saw the coming of the railroad and deplored the passing of the horse, who witnessed the turning from the highways, and the general triumph of the Iron King over all other means of transit in the early Victorian days.

But the whirligig of time is bringing back the prosperity of the roads, and motorists have become almost as much interested in this subject as were the Romans when they disturbed British forests to make easy the passage of their soldiery over other people's territory.

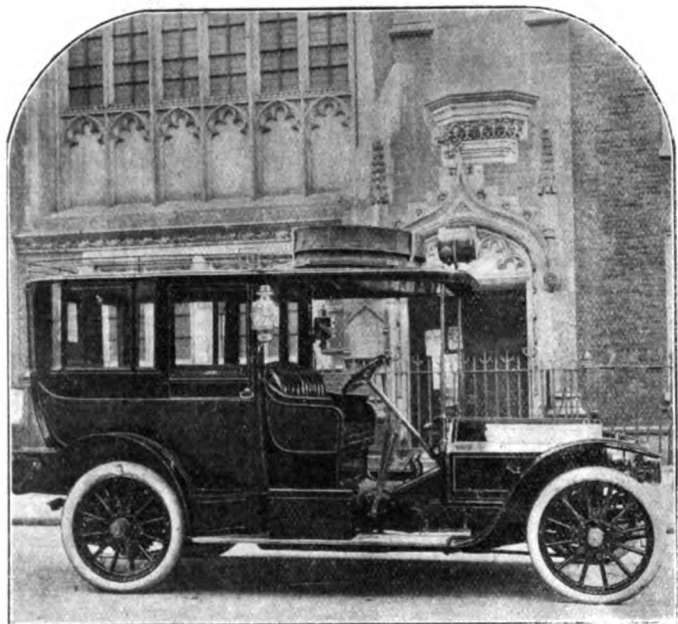
make use of the highways left by the Romans, little systematic regulation of roads took place for many centuries in our island's story.

Not much care seems to have been given to the repair of the highways. When one became worn another track was cleared alongside of it by the inhabitants of the districts who were responsible for that part of the highway within their area. The first tolls in connection with the roads were levied in 1346, but repairs were generally effected under the Statute Labour Acts, which compelled the people to give their own labours in the actual work—a policy destructive of anything like systematic organisation. In 1555 a law was enacted that inasmuch as the highways had become "very noisome and tedious to travel in and dangerous to all passengers and carriages," surveyors were to be elected to take charge of the work, calling upon the parishioners to do the labour of road repairs on four days during the year. Queen Elizabeth, who was frequently engaged on visits

by road to her nobility, must have often experienced irritating delays owing to the bad state of the highways, and probably her skrewd common sense may have had something to do with the Act passed in 1562 empowering the supervisors to compulsorily take loose stones from the neighbouring quarries to repair any roads that required such material. Trees and hedges were also cut down for a great width on each side of the road, so that the safety of users of the road should be assured from robbers who might lurk therein.

Things were left pretty much the same for a hundred years or more, when traffic was still increasing in volume throughout the country. In 1662 the hackney coaches in London had become such a nuisance that special legislation was required to deal with them. It was enacted as a general law that no vehicle was to be drawn by more than seven horses or eight oxen, and that tyres were not to be less than four inches wide. In the seventeenth century turnpikes became a feature of the road, and in the reign of George III. Turnpike Trusts were created, which first gave some sort of encouragement to good roads.

As late as the middle of the eighteenth century the roads communicating between Kensington and the City of London



The 24-h.p. De Dietrich, supplied to Sir Robert Harvey by Messrs. Jarrott and Letts. There are a number of interesting features comprised in the special limousine body with which the vehicle is fitted, among which may be mentioned the bay windows at the sides, which permit of a wider range of view to the occupants of the rear seats.

were so bad that Lord Hervey complained of the solitude in which he lived in the western suburb, there being "an impassable gulf of mud" between them and the citizens. The metropolis was less well served in this respect than the Highlands, roads for military purposes having been made by General Wade. These were a great convenience to the people, and remain so unto this day, as those who have endured the strain and stress of Scottish Reliability Motor Trials can testify. Arthur Young's travels in the later years of the eighteenth century revealed little improvement, however, so far as the greater part of the country was concerned.

Then came Telford and Macadam. The former in his system provided a firm foundation. He dug out the road and made a "bed" of rough close set pavement with six inches of broken stone which was rammed hard; over this was laid the upper crust of macadam. On these new roads, as Sir Walter Gilbey points out, "coachmakers and contractors were able to put into practical operation the improvements in vehicles which had been waiting an opportunity for development. The general

adoption of this system brought about the "golden age" of fast coaching with remarkable rapidity.

Telford and Macadam in the early years of the last century made road-making a scientific study, and much would probably have been done. But the coming of the railroad altered the direction of men's thoughts, and Dr. Samuel Smiles tells how some of Telford's plans for main roads throughout the country were abandoned "on account of a report in 1829 regarding a locomotive competition at Rainhill directing attention to the new method of travelling." Still some progress has been made in these early years. Steam rolling in the repair of roads only dates from 1864, when it was introduced into Paris, its advent to this country being even later. It is less than twenty years since the county surveyor of co. Down was the first to attempt steam road rolling in Ireland, which is still very backward in that respect.

Seeing that so many generations in the past have done little or nothing to improve the roads of the country, it is not surprising that many of the main arteries, and a larger number of the secondary ones, are unable to bear the stress and strain of the new motor-car traffic. It is unquestioned that the roads in many parts of the country cannot long withstand the disintegrating tendency of heavy traffic; they have no "bed," and require reconstruction rather than repair. The development of heavy motor vehicles will require many secondary routes to be raised to the strength of the main arteries, and Mr. W. B. Hulton, the chairman of the Main Roads and Bridges Committee of the Lancashire County Council, has declared that in twelve months £8,000 was spent in repairing damage done by this traffic on the roads between Blackburn and Preston. More than that is the dust question associated with motoring. The car has disturbed the dust on the surface, and various efforts have been made to alleviate this irritating feature of travel. At the time of the Gordon Bennett race in Ireland, Westrumite was laid with good effect in preventing the rising of the dust; during the Brighton race meeting of 1905 Tarmac gave a track along which cars travelled swiftly without the clouds of dust marking their progress. Akonia, Crempoid, Hahnite, Taafalt, and other compounds have also been employed to mitigate the nuisance. They have proved palliatives of undoubted value; but it is unquestionably the fact that the authorities throughout the country are looking more to improved construction and the devising of a "waterproof" road that should prevent the access of water below the surface, with the consequent disintegration that follows frost, rather than to continued coatings with tar and other materials. Meanwhile, the experiments of the Automobile Mutual Protection Association, in conjunction with some of the county surveyors, lead to the hope that the second decade of the modern automobile will be assisted with roads better adapted to its development.

Although the multiplicity of authorities controlling main roads prevents absolute uniformity, great improvement is going forward. On the Great North Road there are seventy-two authorities responsible for the maintenance of various portions of its length. Up to comparatively recent years there were twenty-eight highway authorities in Gloucestershire repairing roads, and the same confusion prevailed elsewhere. The Council of the county named has, however, taken all the main roads not claimed by urban authorities under control, and 1,043 miles of roads are now managed by the Gloucestershire county surveyor. Elsewhere this system of centralisation with the county area as the unit has been followed—a step in the evolution towards that national control which will be urged in the forthcoming Session of Parliament by the Hon. Arthur Stanley and his friends. This is the goal at which motorists, in common with all who have given the matter attention, are aiming, viz., the transferring of road management from countless authorities to a central organisation which shall proceed with due regard to the coming means of locomotion, viz., the motor-car that will require a good road whereon to travel, rather than the tram-car, whose metal track seems intended to keep in obscurity the want of system which has characterised our roadways in the past.

## INDUSTRIAL VEHICLES AT THE PARIS EXHIBITION.

**A**LTHOUGH as regards numbers there was a large increase in the number of exhibitors of industrial vehicles, the display in the annexe of the recent Paris Salon did not bring to light any startling feature or radical departure from what, for the moment, may be termed standard practice. Considerable interest was evinced in the new Darracq-Serpollet 30-40-h.p. steam bus. The arrangement adopted follows, generally speaking, those employed in the Serpollet steam cars, the flash generator being located under the bonnet in front, and supplying steam to a horizontal engine, comprising two high-pressure double-acting cylinders. The differential gear, which is driven by spur pinions off the engine-shaft, is enclosed in the crank chamber, the power being thence transmitted direct to the rear wheels by side chains. The burner is, it is stated, designed to use any form of liquid fuel. A 20-25-h.p. chassis on similar lines, but intended for motor lorry and delivery vans, is also being built.

A new addition to the list of petrol motor-'bus and lorry builders in France is Messrs. AMBLARD AND CO., of Dieppe.

the transmission by a cardan shaft and bevel gear to a cross shaft just forward of the central axle, the road wheels on which are driven by means of spur gearing.

The FIAT COMPANY exhibited a new type of 40-h.p. 'bus chassis, in which the engine is not under the driver's seat as formerly, but located under a bonnet in the usual way. Throughout the vehicle is solidly built, and among the improvements which may be mentioned are the adoption of a system of pressure-fed lubrication of the engine. The brake pedal and the hand lever each control two brakes, the latter, the usual pair acting in drums on the rear road wheels, while water-cooled drums are provided both on the differential shaft and on the forward end of the gear-box side shaft. The road wheels are of the disc type, being built up of two concave steel discs. An ambulance van (Fig. 1), built for the Italian Red Cross Society, was also shown by the Fiat Company. Another company which has also re-designed its motor-'bus chassis by placing the engine under a bonnet, instead of below the driver's seat, is the GERMAIN, who exhibited a vehicle fitted with a 24-h.p. engine, in which the ignition is automatically advanced and retarded. The clutch, as in the Fiat 'bus, is of the multiple disc type, and the final drive is by side chains. A feature of



The Lacoste and Battmann Lorry used by the Gaulois Tyre Company for the delivery of tyres in the Paris district.

The vehicle is designed on very substantial lines, the frame being of great strength. The motive power is supplied by a four-cylinder engine, which drives through a leather-faced cone-clutch, gate-controlled gear-box and silent chains to the rear wheels. It may here be mentioned that this type of chain would appear to be superseding the roller variety for 'bus work, for we noticed it was adopted on several of the vehicles on view. The SOCIETE DES AUTOMOBILES BRILLIE had a distinct novelty in the shape of a six-wheel motor-'bus chassis, of which an illustration has already appeared in these pages. The central pair, which form the driving-wheels and are of larger diameter than the others, is situated at about the same distance behind the front wheels as on an ordinary four-wheel chassis, the frame being extended to the rear to accommodate the extra pair of wheels. The latter, like the front pair, are connected with the steering mechanism, so that the four wheels move simultaneously to turn the vehicle. Although the chassis has a wheel base of about 17 ft. it is claimed to be capable, on account of the four wheel steering, of turning in the same circle as an ordinary four-wheel 'bus. The vehicle is fitted with a new motor of 32-40-h.p., the feature of which is the accessibility of the working parts. The clutch is of the multiple disc type and

the change-speed gear is that the single controlling lever is inter-connected with the clutch pedal in such a way that the gear cannot be changed unless the clutch is withdrawn. The gear-box, it may also be mentioned, is provided with its own oil circulating pump, it being driven by worm gearing off one of the shafts.

Several improvements are to be noted in the latest models of the German Daimler motor-'bus and lorry chassis, which, while known in this country as the Milnes-Daimler, are being imported into France by a concern bearing the title of the SOCIETE DES AUTOMOBILES COMMERCIALES. One of the principal changes is seen in the adoption of pressed steel distance rods in place of the armoured wood type hitherto employed. Messrs. DELAHAYE AND CO. had on view a double-deck 'bus with final drive by silent chains, built for the London and District Motor-'Bus Company. At this stand were also shown a single-deck 'bus, a motor-hearse, and a motor fire-engine, the latter being intended for the Paris Fire Brigade. The ARIES COMPANY are now devoting attention to motor-buses, and had on view a 24-30-h.p. chain-driven double-decker for the Compania de Automoviles Lima, for service in Peru, and a single-deck vehicle built for the Egyptian Motor Traction Company. Messrs.

BOYER AND Co. exhibited a 40-h.p. four-cylinder 'bus chassis, in which side-chain transmission is employed. A noticeable feature is the employment of shock-absorbers, which consist of plungers working in semi-spherical rubber blocks connected with the spring hangers.

A noteworthy feature of the 'bus chassis of the TURGAN COMPANY is the frame, which is of unusual strength at the point where it is narrowed to increase the steering lock. The KRIEGER COMPANY exhibited a novelty in the shape of a combination petrol-electric double-deck 'bus built for the Allgemeine Berliner Omnibus Gesellschaft, of Berlin. In addition to a 12-15-h.p. van the CLEMENT-BAYARD COMPANY had on view a 24-30-h.p. chain-driven char-a-banc, while Messrs. DE DIETRICH AND Co. exhibited a motor fire-engine and a 16-h.p. twenty-seated motor char-a-banc, the latter being built for the Cairo Automobile and Omnibus Company. The body is separated into three compartments, the forward two being for second-class passengers, and that in the rear for those travelling first class. Other exhibitors of motor-'bus chassis included Messrs. S. STRAKER AND SQUIRE, LTD., Messrs. DE DION, BOUTON AND Co., Messrs. BERLIET, of Lyons (in whose vehicle the engine is under the driver's seat), the ORION COMPANY, Messrs. DUCOMMAN, of Mulhouse, Alsace, Messrs. LACOSTE AND BATTMANN, the PEUGEOT COMPANY, M. A. SAURER, and the USINES DE PUTEAUX. Small motor-'buses for station work were also shown by the SOCIETE DES AUTOMOBILES DE LA BUIRE, of Lyons; Messrs. DELAUGERE, CLAYETTE AND Co., of Orleans, and Messrs. PANHARD AND LEVASSOR. Although not exactly in the exhibition, the WESTINGHOUSE COMPANY had running outside the first of their double deck motor-'buses, the final drive of which is by Morse silent chain.

Passing from motor-'buses to industrial vehicles, steam wagons were only shown by two firms—M. CHABOCHE, of Paris, and M. V. PURREY, of Bordeaux. The latter is the leading constructor of steam lorries in France, a large number of the same being already in use. On the platform of the wagon exhibited were mounted two trucks sliding on rails and provided with flap doors at the sides to facilitate loading and unloading. The road wheels are of the solid wood disc type with steel tyres. M. Chaboche has given up the construction of touring vehicles in favour of steam lorries and exhibited one of six-ton capacity in

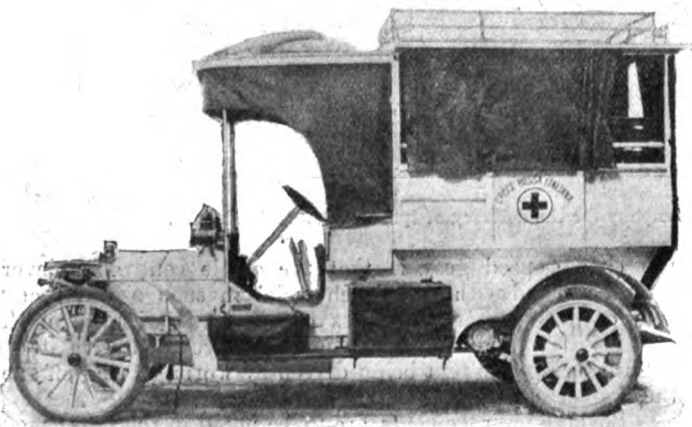


Fig. 1.—The Flat Motor-Ambulance built for the Italian Red-Cross Society.

which the coal-fired boiler is fixed in the fore part of the chassis. The engine is of the horizontal two-cylinder type, the final drive being by side chains.

Petrol lorries and vans were shown by a large number of concerns, including the ORION COMPANY, Messrs. DE DION, BOUTON AND Co., the ARIES COMPANY, the ATALIER DE CONSTRUCTION MECANIQUE, of Arras (Pas de Calais)—a new concern, of which M. Turgan is the head, this gentleman having left his old company—the BERLIET Co., Messrs. D'ESPINE, ACHARD AND Co., Paris, M. C. TANTZ, of Pont-a-Mousson, in whose 3-ton lorry a

belt is employed to connect the two-cylinder horizontal engine with the gear-box, the PEUGEOT COMPANY, the MORS COMPANY, Messrs. PANHARD AND LEVASSOR, and Messrs. MATHIAN FRERES. The vehicles shown by the latter concern are made by Messrs. A. Cohendet and Co., and are known as the Bretin. The engine is of novel design, the water jackets, which also extend round the valve chamber, being barrel-shaped and of unusually large capacity. The motor is set low in the frame and is located below the driver's floor-board.

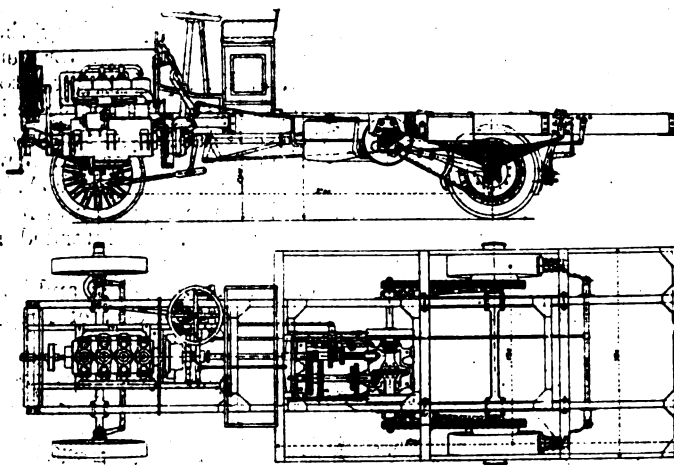


Fig. 2.—Elevation and Plan of Emress Lorry.

LA SOCIETE FRANCAISE DES CAMIONS HAGEN, of Paris, has apparently given up the special system of lever and ratchet drive employed in the Hagen vehicles, for they exhibited a new 5-ton wagon, which they have named the Emress, in which the usual system of transmission through a sliding pinion type of change-speed gear is employed. They claim, however, to have produced a gear-box which will withstand the rough work industrial vehicles are called upon to perform. We give an elevation of plan of the vehicle in Fig. 2, from which the special design of frame will be seen. The side members are quite straight, and from the rear to a point just forward of the gear-box are in duplicate, the arrangement obviating any curving of the channel steel employed to increase the steering lock, and also giving a maximum of platform area to the lorry. The four-cylinder engine is of 24-h.p., and the clutch is of the metal-to-metal type. The final drive is by side chains of a silent pattern known as the Varietur.

The Avant-Train Latil was again shown by LA COMPAGNIE FRANCAISE DE MECANIQUE ET D'AUTOMOBILES, of Levallois-Perret. This consists of a motor fore carriage which can replace the front wheels of any horse-drawn vehicle, and so convert the latter into an automobile. The engine is located under the bonnet, and is connected with a change-speed gear of the usual type, which, in turn, drives spur gearing attached to the front road wheels through transverse cardan shafts. A number of vans and lorries on this system, designed to carry from 2 to 3 tons, were on view, including one for the VACUUM OIL COMPANY. M. JANVIER exhibited his six-wheel lorry, which has already been illustrated and described in the *M.C.J.* The BROUHOT COMPANY, of Vierzon (Cher), displayed a petrol lorry for the Grand Refinaria do Rio de Janeiro, Brazil. The engine is placed under the driver's seat, and transmits the power through a cardan shaft to the gear-box, which is formed in one with the differential casing, the final drive being by side chains. The exhibitors of light delivery vans included Messrs. LACOSTE AND BATTMANN, the GILLET FOREST COMPANY, the CLEMENT-BAYARD COMPANY, Messrs. RENAULT FRERES, and Messrs. PANHARD AND LEVASSOR; while an electric delivery lorry was shown by LA COMPAGNIE FRANCAISE DE VOITURES ELECTROMOBILES.

MR. L. MYERSCOUGH has a well-equipped garage at Great Crosby, on the main road between Liverpool and Southport.



## CONTINENTAL NOTES.

### A Motor Meeting in Roumania.

A three days' motor meet has just been held in Bucharest by the Roumanian Automobile Club. The first day was devoted to a gymkhana, while on the second a series of flying kilometre speed trials on the level was held. In the under 20-h.p. class the first place was taken by L. Leonida on an 18-h.p. Rochet Schneider, in 47 2-5 sec., the same gentleman, on a 60-h.p. Gobron-Brillie, winning the over 40-h.p. category in 32 4-5 sec. The victor in the class for cars of from 20 to 40-h.p. was M. Cantacuzene, whose 40-h.p. Mercedes covered the distance in 35 1-5 sec. The third day was devoted to a race from Bucharest to Giurgevo and back, a distance of 75 miles, this being won by J. Camarchesco on a 45-h.p. Mercedes in 1 h. 29 min. 2-5 sec.

### Public Services in Italy.

An electrical motor-omnibus service on the overhead trolley system has recently been inaugurated between Spezia and Portovenere. The route, which follows the coast line, is very sinuous, with curves of 7 metres radius and numerous steep grades. The energy is furnished by the same central station that supplies the



Spezia tramway system, at a pressure of 500 volts. The cars, of which two perform the service, are fitted with 4-h.p. continuous-current driving the rear road wheels through clutches and side chains. The cars, which are electrically heated and lighted, and carry fourteen persons, were supplied by the Società per la Trazione Elettrica, of Milan. The controller allows of four speeds forwards and two backwards, as well as the electric brake.

### Motor Cabs in Berlin.

The first day of the New Year witnessed the coming into force in Berlin of a new scale of fares approved by the police authorities for the horse-drawn and petrol and electric cabs of the taximeter class. The initial or basis fare for the horse cabs has been increased to 70 pfennigs (8 4d.) for the permitted distance without extra payment, that for petrol cabs has been raised from 50 pfennigs (6d.) to 70 pfennigs, and that for the electric cabs remains at 80 pfennigs (9 6d.). In the case of both petrol and electric cabs, however, the maximum distance covered by these fares has been reduced to 600 metres, and to 300 metres for each extra length of route allowed to be traversed for an additional charge of 10 pfennigs (1 1/4d.) per section.

### Public Services in Germany.

A public motor-car service has just been established between Ludwigshafen and Bad Dürkheim. A company is also being formed to run motor-buses between Barmen and Beyenberg.

### Motor-Cars for Travellers.

The Automobile Club of Bordeaux proposes to organise, in July next, a reliability trial of motor-cars specially designed for the use of commercial travellers. It is proposed that the competition shall extend over a sufficient period to allow a distance of 3,000 kilometres to be covered.

### An Automobile Tour of Algeria.

The Automobile Club of Algeria is organising an automobile tour of the country for Easter week. The proposed programme is as follows:—First day, Algiers to Bougie; second day, Bougie to Setif; third day, Setif to El Kantara; fourth day, El Kantara to Biskra; fifth day, rest in Biskra; sixth day, Biskra to El Kantara; seventh day, El Kantara to Batna; and eighth day, Batna to Constantine.

### A Removable Rim Competition.

In connection with the forthcoming automobile exhibition in Turin, arrangements are in hand to hold, next month, a competition of removable rims for the wheels of motor vehicles, provided at least four entries are received. The trial will have regard to (1) the solidity of the system, which will be tested by a run over a difficult road, (2) the facility and rapidity with which the rim can be changed after a spin along a muddy road, (3) the exactitude of the alignment of the rim with the wheel, (4) the weight and the price. Full particulars can be obtained from the exhibition committee, 13, Via Bogino, Turin, to whom entries—for which no fee is charged—are to be sent by the 31st inst.

### Miscellaneous Items.

By order of the German Ministry of the Interior a census is being taken of the number of motor-cars in the Fatherland.—The annual automobile meeting at Cannes is to be held from the 5th to the 17th March.—An automobile club has just been formed at Chemnitz (Saxony).—The Prosper Lambert Company, of Nanterre, France, will in future be known as the Jean-Bart Company.—A chauffeurs' school, established by the Automobile Club of Milan, was inaugurated last week.—What is claimed to be the first six-cylinder car to be sold in Austria is a Brasier, which has been acquired by Herr F. Wagenmann, of Vienna.—The annual hill-climbing competition up Mont Ventoux, France, is not to be abandoned, after all, as the Moto-Club de Marseilles has decided to take the organisation of the event in hand. It will, however, be reserved to touring vehicles.

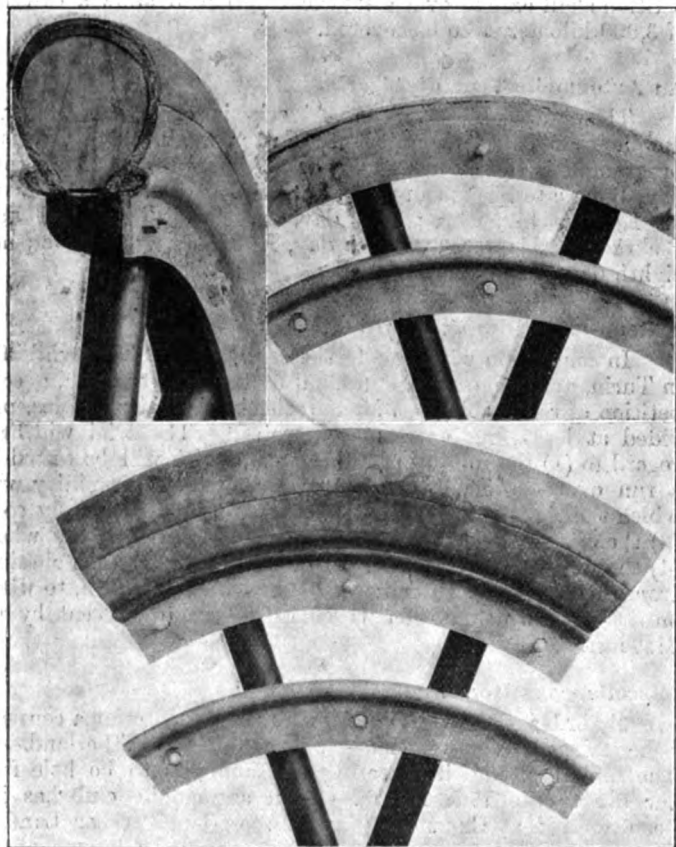
THE Daimler Motor Co. (1904), Ltd., have sent us a perpetual reminder of their well-known car in the form of an ash-tray, from which rises the outline of the Daimler vehicle—for which many thanks.

WITH the view of fostering the development of electric motor vehicles, an Association of Electric Vehicle Manufacturers has recently been formed in New York. At the first meeting, lately held, a number of interesting papers were read, including one by Mr. H. Eames, on "The Electrical Vehicle: its Past, Present, and Future," and another by Mr. H. Ford, on "Storage Batteries for Electric Vehicles."

AT the distribution of prizes to apprentices at Messrs. Atkinson and Phillipson's, motor body builders, of Newcastle, Mr. William Phillipson said that at the present time they had more orders in hand for motor-bodies than at any previous period, a fact which reminded him of a prophecy made by his father in 1895, when, in his capacity as President of the Institute of Carriage Manufacturers, he said that the carriage builders would be able to provide suitable carriages as soon as the engineers were able to deal adequately with the machinery.

## THE PATERSON DETACHABLE FLANGE RIM.

**D**URING the past twelve months quite a number of detachable and removable rims have made their appearance, all having for their object the saving of time in replacing a punctured tyre when on the road. The two classes of rim are quite distinct, the detachable being one in which the rim is made in two pieces, one of which can be readily withdrawn to facilitate the taking out of the punctured inner tube



The Paterson Detachable Flange Rim.—Above on the left is a section of the tyre rim in position, on the right the removable flange is shown detached to receive the tyre, while below the latter is in place ready for the flange to be bolted on.

and the insertion of a perfect one, and the refixing of the outer cover, without the oftentimes difficult task of inducing the beaded edge of the latter to pass over the upturned portion of the fixed rim. In the removable type, the whole rim is so fitted to the felloe of the road wheel that it can, together with the punctured tyre, be removed and replaced by another rim on which a spare tyre—inner tube and cover—are kept on the car, ready for use in case of emergency. The makers of each class claim advantages for their own particular system, the main point advanced by the "detachables" being that the number of spares that require to be carried on a long tour take up much less room than several spare rims fitted with the necessary tyres. It is, however, not our purpose on the present occasion to discuss the relative merits of the two systems, but to draw attention to a new detachable rim which has recently been devised and patented by Mr. J. H. Paterson, the managing director of the Caledonian Motor Car Company, of Aberdeen.

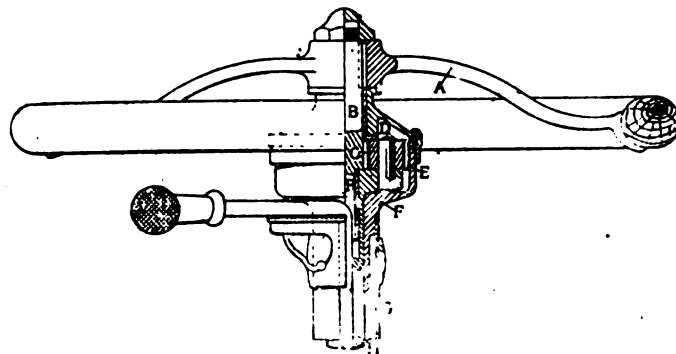
As will be seen from the accompanying illustrations, the Paterson rim is composed of two distinct portions, the fixed part on the wheel forming the base of the rim, and the permanent tyre clinch on the inside of the wheel. This is fixed in the usual manner by shrinking it on to the felloe and by screws passing through the base to the felloe. In one with the fixed portion is an inverted circular flange about  $1\frac{1}{2}$  in. deep, and of the same section steel. In the flange are fitted at regular

distances round the circle twelve or more bolts with screwed ends. The second part consists of the detachable flange, which is provided with the usual clinch to hold the bead of the outer cover, and has formed solid with it an inverted circular flange about  $1\frac{1}{2}$  in. wide. The latter has twelve or more bolt holes, to correspond with the bolts fixed to the flange on the rim proper. In the case of a puncture or burst tyre cover, all that has to be done is to remove the twelve nuts by means of a brace spanner, and draw off the detachable flange. The tyre cover will then be absolutely free, and the old air tube can be taken out and a new one inserted, or a new outer cover put on. To replace the flange after fitting a new tyre it is necessary to first see that the security studs are above the beaded edges of the cover, then inflate the air tube slightly, fit on the detachable flange, screw up the nuts with the brace spanner, and inflate firmly.

Among the advantages claimed by Mr. Paterson for his detachable flange rim are that it is adapted to take any standard make of tyre, so that replacements can be had anywhere. In case of a burst cover or punctured tyre it is a simple and easy matter of about from two to three minutes to fit a new air tube or new outer cover. The usual security studs are retained, and it is impossible to nip the air tube with the outer cover or the security studs, as, before fitting on the detachable flange, the operator can see that the air tube is above the security studs, and that the latter are above the beaded edges of the cover; while, owing to the formation of the inner and outer flange, it is an impossibility for wet or dust to penetrate inside the rim. Mr. Paterson informs us that arrangements have been made for the manufacture of the detachable flange rims with one of the largest rim manufacturers in Great Britain. They can be had in any size, and fitted to wheels or supplied loose for attachment in the usual way, in substitution of the fixed rims on existing wheels.

## THE FORD STEERING GEAR.

WHEN describing the Ford 15-h.p. four-cylinder car in our issue of October 13th last, we mentioned that an unusual feature of the steering gear is the location of the reduction gear at the upper instead of the lower end of the column, the ease of adjustment being in this way, it is claimed, increased. We are now able to give a part sectional view of the mechanism. The boss of the handwheel A is keyed to the shank B, which at the middle of its length is provided with an integral spur pinion C. The latter is in mesh with a set of small planetary gear wheels D, which latter mesh with internal cut teeth E cut in the bronze



casing F, secured to the steering pillar G. The studs H on which the planetaries revolve are fixed in a flange formed at the upper end of the steering shaft.

MESSRS. FRANK MORRIS, LTD., of King's Lynn, have lately introduced a ball thrust specially designed for fitting to the differential shafts of old-type Daimler and Panhard cars. It is claimed not only to add to the efficiency of the drive, but to keep the driving bevel pinions correctly in mesh, and consequently to reduce the noise made by the gearing.

BETWEEN 1,500 and 2,000 motor-cars are said to be in private use in the Commonwealth of Australia.

LAST year more than 70 Argyll cars were despatched to India and the Antipodes, and at present Argyll Motors, Ltd., have over 50 cars in hand for immediate shipment.

MISS JULIA NEILSON, the well-known actress, has placed an order with Messrs. H. M. Hobson, Ltd., for a 35-h.p. Nagant-Hobson car.

THE Lanchester Motor Car Company have opened a new depot in King Street West, Manchester. Mr. G. J. Crawford is in charge.

A NEW fire station is to be opened opposite the Mansion House Underground Railway Station, London, E.C. The appliances will include a motor fire engine and a motor fire escape.

THE Wheatsheaf Hotel at Daventry, which bears the date A.D. 1610, has good storage accommodation for motorists, and Mr. E. W. Killick keeps supplies of motor spirit for motorists on tour.

THE Walton-on-Naze motor lifeboat has been out daily during the past week visiting the men, lightships, and distributing seasonable literature and gifts. It is satisfactory to note that the motor ran the whole of the time without a hitch.

THE efforts to secure a re-hearing of the case against Lieut. Paton, heard by the Berkshire magistrates, have resulted in a communication from the Home Office indicating that the Director of Public Prosecutions does not see his way to take further action.

A NUMBER of the members of the committee of the Automobile Club of France paid a special visit during the recent Paris Salon to Messrs. Stern's showrooms in Paris, and inspected the Weigel chassis exhibited there. They expressed the opinion that it was as fine as anything that was to be seen in the Salon.

DURING Christmas week Messrs. Pickford and Co. had between eighty and ninety motor lorries at work, carrying parcels from collecting to distributing depots, the business of house to house delivery being entrusted to horse vehicles. Messrs. Carter Paterson and Co. had thirty motor vans at work in a similar way.

WHITTAKER'S Almanac is again before us, published in the familiar form. As a reliable record of the Government and official departments of this country and guide to those abroad this annual year book needs no commendation. The record of automobilism has evidently been conscientiously done, although the letters L. N. might have been added to the motor-car identification marks, a table of which is given. A new feature is the guide to British holiday and health resorts, following which is a directory of hotels, at many of which garages are provided for visiting motorists.

MESSRS. GAMAGE, LTD., of Holborn, E.C., are to the front just now with all sorts of handy devices to relieve motorists of the troubles which crop up in connection with motoring at this time of the year. They are showing a large stock of Crosfield's glycerine anti-freezing mixture, and are also showing motor house safety stoves, which burn "Carbotron," a patent fuel which gives neither spark or flame. Prevention of freezing by these means is to be preferred to letting the water out and running the risk of contracting cracked cylinders during such nights as we have had of late.

MR. VICTOR ASHBY, of the Motor Works, Towcester, informs us that he has just returned from the Continent, where he secured one of the new six-cylinder Mercedes cars. From the information he gathered the vehicle will be the second of the type to reach this country. The car is for Mr. E. E. Whadcoat, who already has three Mercedes—a 45-h.p., a 60-h.p. and a 120-h.p.—besides two cars of other makes. Mr. Whadcoat is a most enthusiastic motorist, yet withal exceedingly careful and considerate to other road users. Doubtless more will be heard of his fleet of cars when the Brooklands track is in trim.

## HERE AND THERE.

THE first prize in the Paris Show Tombola, a De Dion car, has been won by a Parisian working electrician.

UNDER the registered name of "Metometle," Messrs. Peter Lee and Sons, of High Street,

Glasgow, are introducing a specially prepared lubricant for metal-to-metal clutches.

THE death has taken place at Roff-y (Sussex) of Mr. J. R. Grahame-White, who was a founder member of the A.C.G.B.I.

A MOTOR garage and repair works has been opened at Hadleigh, in Essex, by Messrs. Norman and Co., of 143, Roman Road, Bow, E.

OWING to the increase in their business the Electric Ignition Company, Ltd., have put down two new gas engines to drive additional plant.

THE Ivel Agricultural Motor Company has been formed in Jersey City, U.S.A., with a capital of £200,000, to manufacture agricultural motors in America.

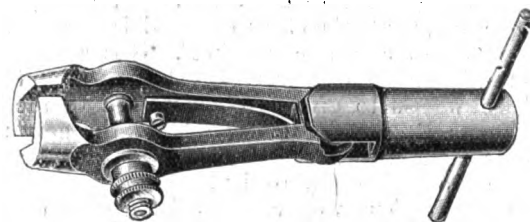
THE Right Hon. the Earl of Rosebery has lately ordered a 30-40-h.p. Fiat car. It is to be fitted with a limousine body by Messrs. Rothschild et Fils, of Turin.

ON the main road from Welshpool to Aberystwyth Mr. W. Humphrey has opened a garage with motor repair department. Its exact location is 15, Bridge Street, Newtown.

COLONEL D. KINLOCH is now arranging insurances through Lloyd's which secure the use of another car while that of the policyholder is being repaired.

AMONG the New Year greetings which reached us last week was one from Mr. C. Friswell, who is at present enjoying a holiday in Cairo. He hopes to be back in London by the end of the month.

WE illustrate herewith a useful tool known as the Auto-Adjustable Box Spanner, which has just been put on the market by Messrs. Avery and Roberts, Ltd., of Stanley Street, Liverpool.



The device can be instantly adjusted to any size and shape of nut, so that it takes the place of the usual set of box spanners, thus saving considerable weight and space in the tool box. The tool is strongly made and does not injure the nuts, owing to the jaws fitting the same perfectly; the handle is pivoted so that the spanner, which is being supplied at a relatively low price, can be easily used in otherwise inaccessible places.

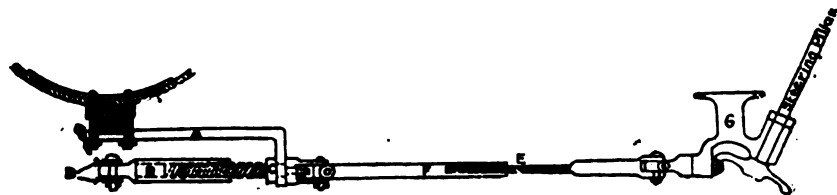
THE American Association of Licensed Automobile Manufacturers has adopted a standard size for sparking-plugs—one of 7-8 inch diameter with a straight 18 pitch thread coming up to the shoulder.

THE music-hall performer, who lately created a sensation in Paris by allowing a fully-laden motor-car to run over his prostrate body, will shortly appear on a London stage. Mr. Coram, the ventriloquist, will also introduce a motor-car into his next performance on the London variety stage.

THE value of the exports of motor-cars and parts from the United States during the ten months ending with October last is returned at £778,254, as compared with only £473,924 in the corresponding period of 1905. Great Britain was the best customer, being responsible for £213,108 of the total, Canada coming next with £163,006.

MR. L. FAWCETT has started business in Mark Street, Woodhouse, Leeds, as a motor-car agent, repairer, and dealer in all accessories for motor-cars and vans, including tyres, petrol, oils, grease, &c. The works are equipped with a complete set of electrically driven machine tools, and a speciality will be made of repairs to motor-vans.

IN a recent issue we gave some particulars of an improved form of steering gear for motor-cars which has recently been devised by Messrs. Rose and Catt, of Bournemouth, and we are now able to publish a diagram of the arrangement, which has been designed with the view of reducing the wear due not so much to the actual steering of the car, but to the constant road shocks on the wheels while travelling over uneven ground. In the "Perfect," as the improved steering gear is known, the worm or screw and quadrant are fixed to the usual steering arm which



directly operates the wheels, and the thrust is taken by a bracket firmly attached to the front fixed axle, thus locating all thrusts on the latter, the wear on the universal joints and pins being consequently reduced to that which is caused by the actual steering of the car. Even when wear does occur in these parts the wheels are still held firmly by the screw in the direction required. Additional safety is also claimed by the fact that a breakage or loss of any of the parts between the screw and the steering wheel would not allow the road wheels to lock round of their own accord, as they would be held by the screw in whatever position they were left at the time of breakage. The apparatus also lends itself to being easily made dust-proof. Referring to the illustration, A is a strong bracket firmly bolted to the front axle. The end of the nut B is attached to the ordinary steering arm D, which directly operates the wheel, the journal of the screw C being carried in the end of the bracket A. E and F are shafts for transmitting the motion from the steering pillar to the screw, each having universal joints at one end, while the other end of E is of square section, and telescopes into a square hole in F. G is a strong bracket bolted to the frame of the car, carrying the steering pillar, and a pair of bevel wheels to give a rotary motion to the shafts E and F. Messrs. Rose and Catt have fitted the gear to an old 6-h.p. Daimler car, with a short wheel base, and are open to demonstrate its advantages to builders of motor-buses, the arrangement being one well adapted for use on this class of vehicle.

FOR some time past the U.S. authorities have been testing various makes of motor-cars with a view of ascertaining their adaptability for military purposes.

MR. DUNCAN CAMPBELL is coming south from the North-Eastern Garages to assist Messrs. J. E. Hutton, Ltd., in connection with the sale of the Berliet car.

A PAMPHLET descriptive of their special Lubricating Graphite No. 635, for lubricating motor-cars and motor-boats, has been prepared by the Joseph Dixon Crucible Company, of 26, Victoria Street, S.W.

THE DAIMLER MOTOR CO., LTD., have sent us two photographs depicting the exterior and interior of the new chassis erecting shop which they are building to meet the greatly increased demand for Daimler cars. The new erection is 400 ft. long by 160 ft. wide, but a large amount of adjoining land has been purchased so that further extensions may be made.

THE modesty of Mr. H. J. Weintz, in his Preface to the "Motorist's Interpreter," published by Messrs. Hirschfield Bros., Ltd., is to be commended rather than his knowledge of what is required in such a volume. For among the terms that are absent are such details as the change-speed gear, the gear-box and the sparking plug, while the ignition tube is included in a volume that bears the date 1906. Mr. Weintz should have known that "essence" is the French term for motor spirit, and "arbre villebrequin" signifies crankshaft. His tribute to the motor-car as a means of "ruralising the townsman" deserves quotation, but the price of the work might be reduced and its length extended to the advantage of its circulation.

THE Motiphos Company have removed to 34, New Bridge Street, London, E.C., where they have extended facilities to cope with their increasing business.

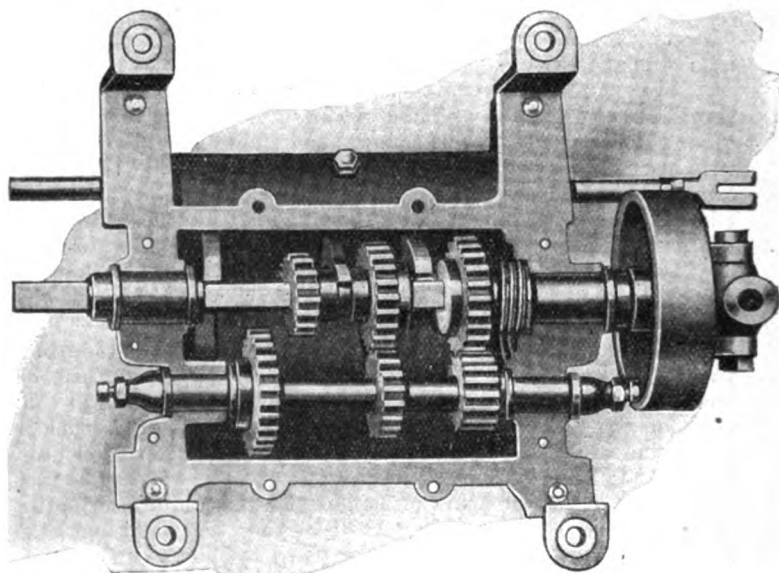
THE Executive Committee of the Aero Club of the United Kingdom, at a meeting on Tuesday, decided to issue a challenge for the next Gordon Bennett Aeronautical Cup race, and to send three competitors. The race will take place in the United States.

THE inquest on the body of John Walker, the Burmantofts carter, whose death in the Infirmary last month was the second resulting from the motor-car accident in Roundhay Road, Leeds, on August 17th, has been adjourned to the 21st, when expert evidence will be given.

THE New Leader Motor Company, of Nottingham, have just acquired the premises lately occupied by Cars, Ltd., in Shaftesbury Avenue, London, W.C., and, after the necessary alterations are made, will exhibit there a full range of New Leader cars.

SKINDLE'S HOTEL, at Maidenhead Bridge, was "merry and bright" on the first day of the year, when Mr. A. E. Major, of the Motor Car Depot of Reading (who is also the proprietor of Skindle's Garage), entertained a number of his clients and friends from various parts of the country to dinner. Motor-cars were used to convey the guests to and from Maidenhead and Taplow stations.

MR. W. H. BAXTER, J.P., of Harrogate, has had his new car fitted with a limousine inverted body by Messrs. J. Fowler and Sons, of that town. It is known as the "Harrogate" motor-car body, and embraces many conveniences for touring. There is accommodation for four passengers, three facing and one with the back to the direction in which the vehicle is travelling. The centre one of the three seats is arranged about half the depth of the seat behind the two side seats, with a chair back that can be fixed at any convenient angle to allow the passenger, when there is not a fourth inside passenger, to lie almost straight out, resting his legs on the opposite seat. The back of this seat can be brought right over to the front to form a table. Below the seats are drawers for luggage, &c. At each side of the seat next to the driver are hooks similar to the heads of golf sticks, which fit close to the body of the pas-



View of Gear Box of Aixre Car. (See opposite page.)

senger and prevent any danger of his falling off should the car be stopped suddenly. The glass wind shield, too, is of novel design, being fixed in a A position, supported by the side rods upholding the canopy. This front screen is in two plate-glass squares, which are arranged so that they can be regulated to any angle and to any amount of opening in the centre required. By this opening in the centre upon a wet day the driver can see between the two hinged pieces of glass without getting the full force of the rain.



## THE AIREX 9-H.P. CAR.

A BRIEF reference has already been made in the *M.C.J.* to the new car which, under the name Airex, the Rex Motor Manufacturing Company, Ltd., of Coventry, have recently introduced to meet the requirements of motorists of moderate means. We are now able to give an illustration of the vehicle (Fig. 1), together with a plan of the chassis (Fig. 2), and a view of the gear-box (page 1014). The main frame is of

cardan shaft by means of a claw with three projections, fitted with ball bearings. When on top speed the secondary shaft remains stationary. On each side of the differential casing on the live axle is fitted a ball bearing, which can be adjusted from the outside by means of a screwed cup. The rear road wheels are also mounted on a ball bearing with a double row of balls. The standard body is of the side-entrance double-phaeton type, built of stamped sheet metal, and comfortably upholstered, side-doors being provided to the front as well as the rear seats. The

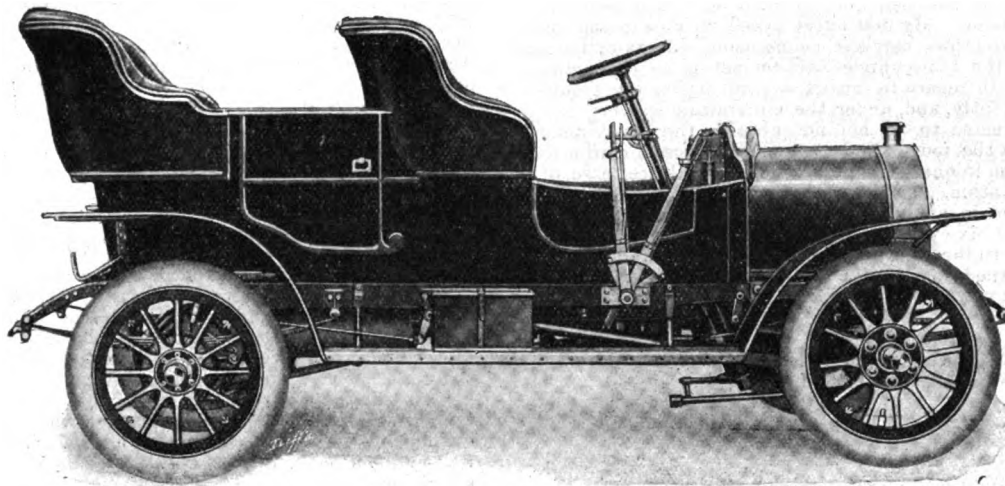


Fig. 1.—The Airex 9-h.p. Double-Cylinder Car.

pressed steel, the engine and gear-box being carried on a subsidiary one of channel steel. The motive power is supplied by a 9-h.p. double-cylinder V-type engine, the bore and stroke being respectively  $3\frac{1}{2}$  in. by  $3\frac{1}{2}$  in. Two taps are fitted in each cylinder head, one to ease the compression and the other to permit the cooling water to be drawn off when occasion arises. Ignition is by coil and accumulator, the contact-maker being located in front of the framed ribbed-tube radiator, which latter is of a special circular design. The water circulation is maintained

vehicle, which weighs only  $12\frac{1}{2}$  cwt., has a wheel base of 6 ft. 6 in., and an over-all length of 10 ft. 7 in.

A few days ago we had a seventy miles run on one of the new vehicles. The condition of the roads was most suitable for a test, as we travelled in turn over muddy, frozen, and snowy surfaces; but, notwithstanding a varying depth of from 1 in. to 3 in. of snow, the car mounted Edge Hill with little difficulty, and, as showing the efficient control and brake power, we may state that Sun Rising Hill was descended without the slightest

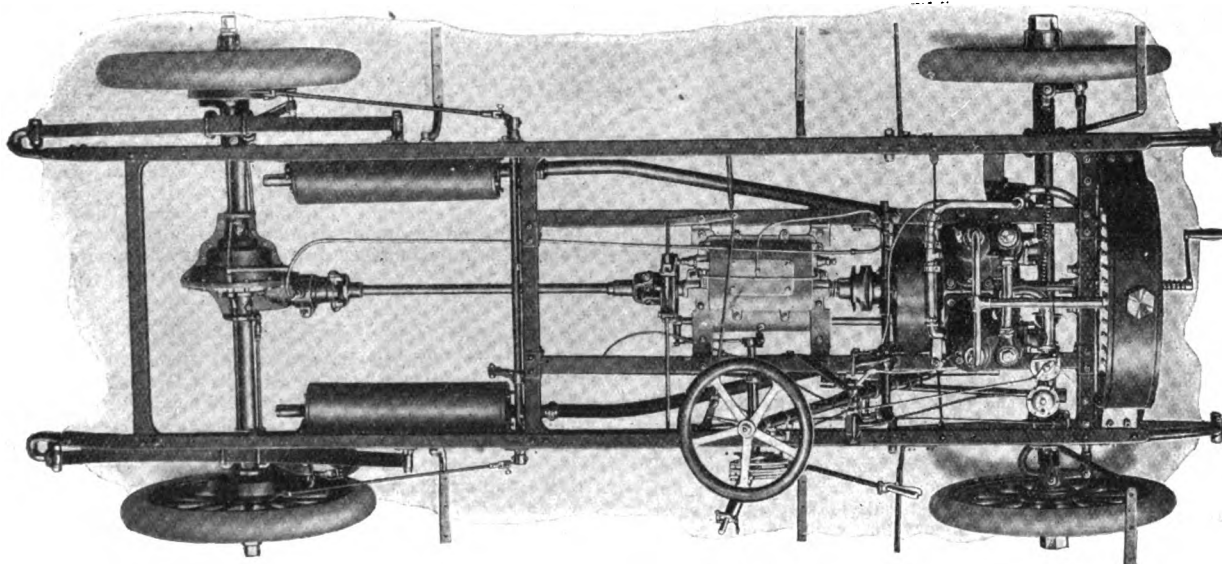


Fig. 2.—Plan of Chassis of Airex Car.

by a chain-driven pump, and a Longuemare carburettor is employed to furnish the mixture, while, as will be seen from Fig. 2, a novel feature consists in providing each cylinder with its own exhaust pipe and silencer. The power is transmitted through a leather-faced cone clutch, provided with stops or brakes to facilitate changing speed, a gear-box giving three speeds forward and reverse, cardan shaft, and bevel gear, to a well-designed live axle. On top speed the drive is direct, the square shaft in the gear-box engaging the

tendency to slide round or skid, although only one of the rear wheels was provided with a non-skid. On the level the Airex car attained a speed of over 30 miles an hour, and can take any ordinary hill on the top speed. The Rex Company claim that as regards petrol consumption the car is very economical, doing over thirty miles on a gallon of fuel.

THE Calcutta motor show will open on the 28th inst. and continue to the 6th prox.

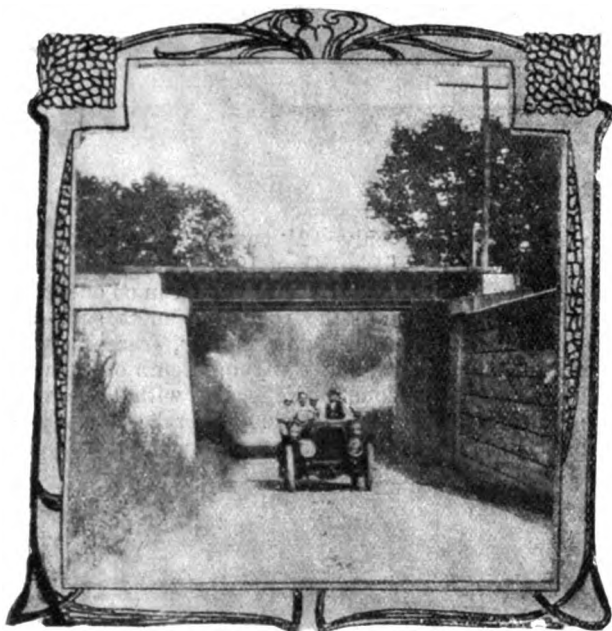
## CORRESPONDENCE

(Letters to the Editor should be addressed to the office,  
87-88, Charing Cross Road, W.C.)

### FOUR v. SIX CYLINDERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I think your readers will agree with me when I state that a discussion with Mr. Edge is unsatisfactory, because he always seeks to evade the real points at issue. My first letter asked for an explanation from him as to why, in the town carriage competition, the six-cylinder Napier only scored over the four-cylinder cars competing on one point, namely, the accessibility in regard to repairs, a point which the genius of Mr. Napier has apparently, and, under the circumstances, very properly, been specially directed to. I am not abusing the six-cylinder principle, but why were the four-cylinder cars pronounced superior to the six in the competition in question on the points of silence, ease of control, lack of vibration, smell, smoke, and the other refinements one now expects in an up-to-date car? I do not care how many makers are making six-cylinder cars; this does not make a six-cylinder vehicle superior to the four-cylinder, when the average man's requirements are concerned—on initial cost, up-keep tyre bill, simplicity and general utility.



Speeding along on a Long Island Highway.

To ease Mr. Edge's mind, I should like to inform him that I am largely interested in a company which is selling six-cylinder vehicles, but this does not affect my opinion. Mr. Max Pemberton recently wrote: "While there are fools waiting on the door-step, so long will six-cylinder cars be made and sold."

Mr. Edge has referred to the result of the hill climb held last summer, and states that the Napier, with its little, puny, insignificant cylinders, beat the massive, magnificent and gigantic De Dietrich. So harrowing was his description of the defeat, that I almost shed tears that a car made by the firm who constructed the vehicle which won the last Circuit des Ardennes race at an average speed of over sixty-six miles an hour should have performed so ingloriously. The ridiculous idea of comparing the merits of the cars by their performances in a hill climb has been exploded long ago with those who have any knowledge of the way in which cars are specially faked up for these events. I have already written my opinion of the practices carried out at these hill climbs—special gears, oxygen cylinders, &c., and I am surprised that Mr. Edge should have referred to one of these climbs as proving anything. One thing he does prove, however, and that is the weakness of his case for his own six-cylinder car.

Again I protest at the unfairness of Mr. Edge in previously misquoting me in regard to British cars, and I think that his withdrawal in his last letter should have been couched in more generous terms. Enough of this correspondence; but it makes me tired to see how many wild and exaggerated things six-cylinder cars are accepted by the uninitiated public, because they are put forward in a subtle and ingenious manner by Mr. Edge. I am still waiting, however, for his explanation of the results of the town carriage competition.—Yours truly,

CHAS. JARROTT.

### SECRET COMMISSIONS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Considering that the new Act which has just come into force for the prevention of secret commissions would have a considerable bearing upon the motor business, some sections of which I have heard are subjected to this class of blackmail, I asked my solicitors to give me in simple language a statement of how the new Act affects the motor trade. They write me as follows:—

"Prevention of Corruption Act, 1906. This Act, which comes into force on January 1st, 1907, is a very important one in your trade, more especially from the point of view of a chauffeur who is in the habit of demanding or receiving a commission for the introduction of business on behalf of his employer, because as from January 1st, 1907, any chauffeur who accepts any gift or consideration, or attempts to obtain any, without the knowledge of his master, will come within the Act and therefore criminally liable. The Act imposes very heavy penalties, as a conviction may entail a maximum punishment of two years' hard labour and a heavy fine. It is very possible that this Act will not be generally understood by the chauffeurs, and it might be an act of kindness on your part to inform them of the risks they run in even asking for a commission."—Yours truly,

S. F. EDGE.

### THE BROOKLANDS RACING TRACK.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—From the interest aroused by Mr. Edge's open challenge for a twenty-four hours ride, and the eagerness of other prominent riders to try issues with him, it is very obvious that the advent of the Brooklands Motor Track will give a great impetus to the sporting side of motoring in this country, and doubtless numerous matches, trials and races will be held at this track during the coming season.

I presume that the two gentlemen who have accepted Mr. Edge's challenge—Messrs. Chas. Jarrott and J. E. Hutton—will be entering four-cylinder cars, and Mr. Edge, I understand, will be driving his six-cylinder model. In my opinion, however, what is wanted to make a really exciting and instructive event is for another six-cylinder firm to enter the arena, so that the exponents of the two types will meet on equal terms and the rivalry between the individual contestants be extended. If I might be allowed to name a firm, I would be prompted to mention the Thames Shipbuilding Engineering Company as representing the latest manufacturers of six-cylinder cars, whilst Mr. Edge would represent the first. Mr. Clifford-Earp, too, under whose supervision I believe the six-cylinder Thames are being manufactured, would doubtless be only too willing to compete, since he was formerly associated with Mr. Edge's company as designer, and as a most successful driver in races and time trials. Should such a four-cornered match be arranged, the interest it would undoubtedly excite ought very closely to approach that displayed in the Gordon Bennett race when this event was decided in Ireland.—Yours truly,

F. M. YOUNG.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—There is one little matter in connection with the new racing track which I trust will not be overlooked, viz., the opportunity that it will present for testing accessories, &c. Important as is the endeavour to attain a high speed thereon, it is far more practical, from the point of view of the minor kind of motorist, that its resources should be developed in connection with the fitments of cars; the illuminating powers of certain makes of lamps; the effectiveness of various non-skids—the importance of which was shown in "C. D. L.'s" recent letter to your columns; the efficiency of speedometers, &c. These are matters of vital importance to the small man who does not want the accessories on his vehicle to prove of great cost and little use.—Yours truly,

THE MOTORIST OF MODERATE MEANS.

### GLARING HEADLIGHTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice in both your issues of December 29th and January 5th that reference is made to the glare of headlights, and I would like to point out to those interested in the subject that the Bleriot patent no-glare shades, as now fitted to headlights, entirely obviate the objection raised on this subject. These shades have been already described in your paper, and the firm have a large number of orders in hand. The great advantage, of course, of the shade is that it does not alter the power of the lamp, and that it is absolutely automatic in action.—Yours truly,

N. CHEREAU.

### NON-SKID EXPERIENCES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to Mr. Manning and "D. C. L." I have been somewhat alarmed as to the various non-skids and which are the most effective; but I happened to see a device the other day which does not follow the usual idea of steel studs, and, if the difficulty of teaching the driver or owner of the car in renewing the material of which the surface of the road is composed were overcome, I think a very cheap and effective device has been invented.

It is a strange coincidence that I had been discussing with a

brother motorist the previous day on the advisability of making some grating substance adhere to the tyre as my father used to do many years ago on his boots when gutta-percha boots were worn. On a frosty morning, when he ventured out to business, he usually warmed the soles of his shoes before the fire and rubbed them among the ashes in the grate, which adhered (the ashes, not the grate) so firmly that after walking a number of miles on the slippery ground he would come home with the gritty substance still on his shoes, and thus prevented him slipping.

The device I saw the other day is on this principle. It consists of a band of gutta-percha about 1½ in. wide vulcanized or otherwise affixed in a groove only 3-16 of an inch deep round the tyre, and on this band is embedded fragments of quartz, slag, spar or crushed rock so firmly adhering to the gutta-percha that it grips the road and prevents side-slip without injuring the road and diminishes the liability of mud splashing and dust raising. It appears to be a simple attachment, and the cost very moderate, but the greatest desideratum is that any motorist or his servant can renew the material on the band at the slightest notice and at an expense of only a few pence. It does not affect the resiliency of the tyre, there is no noise, and no attention is needed from the driver whilst in use.—Yours truly,

SAMUEL LEE-SMITH.

### PARAFFIN AS FUEL.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was pleased to see "Cycle Mechanic's" letter on paraffin carburettors in the *M.C.J.* of the 22nd ult., and I quite agree with his remarks excepting "starting from cold." The time is not far distant when nearly every car will be fitted with a paraffin car-

I hope to be in a position shortly to write to you more fully, and I join in the wishes of "Cycle Mechanic" and Mr. Pilcher that this question should be encouraged in your columns. I trust you will devote a little of your valuable space to it, as the present cost of petrol places the motor-car out of the reach of the man of very moderate means.—Yours truly,

THOS. E. HENDERSON.

### NON-FREEZING ENGINE COOLING SOLUTIONS.

To THE EDITOR OF *The Motor-Car Journal*.

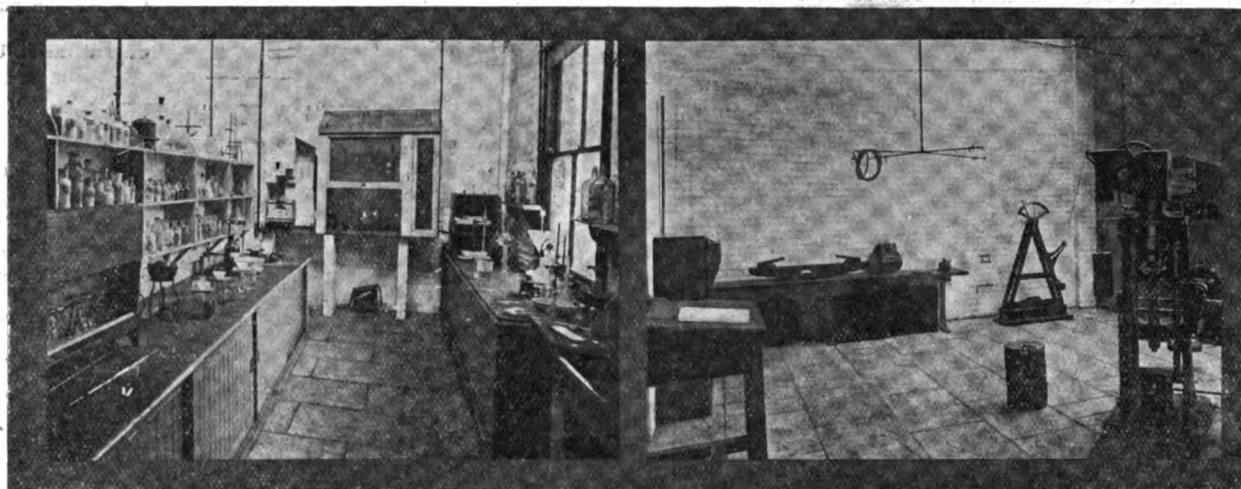
SIR,—Replying to "New Brompton's" enquiry in the last issue of the *M.C.J.*, I write to say that in my experience the best all-round anti-freezing solution is prepared by dissolving five pounds of pure calcium chloride ( $\text{CaCl}_2$ ) in a gallon of warm water. Such a solution mixed in these proportions will not freeze down to 30 degrees below zero; it does not lose any perceptible strength by use and will not precipitate or crystallize. It has a slight corrosive effect upon solder, but not to any damaging extent. I have used a solution of water, wood alcohol and glycerine, and find that commercial glycerine often contains deleterious substances, which play havoc with copper tanks and solder.—Yours truly,

J. R. STEVENSON.

### SUBSTITUTES FOR THE HORN.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Your correspondent A. Fielding enquires as to the working of sirens and other substitutes for the motor horn; I beg to give my



The Chemical and Mechanical Laboratories at the Works of the Daimler Motor Co., Ltd., Coventry. These departments are in charge of specialists from the Birmingham University, who have been specially engaged to supervise the chemical and mechanical testing of all materials used in the construction of Daimler Cars.

burettor. If a carburettor can be purchased which will vaporize petrol, paraffin and alcohol, even if the engine must be started with petrol, it will be given preference to one which vaporizes petrol only. It is very convenient to know that one's engine will run on paraffin if desired.

In your issue of the 29th ult. I note Mr. Chas. E. Pilcher describes his paraffin carburettor. I may say I have had for some time in use a paraffin carburettor somewhat similar, which I did not think perfect enough for patenting. I have greatly improved it since, and can now run on the cheapest paraffin, benzoline or alcohol; if petrol is used a saving of 25 per cent. is effected. I tried this carburettor on a car which gave twenty-two miles to the gallon with its ordinary carburettor, with my device we got twenty-eight miles per gallon, using petrol both trials. When used with paraffin I had not the slightest trouble with dirty valves or plugs. It is similar to Mr. Pilcher's except in having a regulating needle in the sprayer and exhaust heating; where Mr. Pilcher's has a chamber I have tuning for vaporizing. I may say my carburettor is entirely automatic in action, no attention need be paid to it whatever. It has no float chamber.

It was necessity, as ever, which brought the invention to birth. I purchased a second-hand car only to find that the carburettor was minus its interior, the jet merely sprayed into the inlet pipe; as a result the engine heated and the water boiled. I made a small appliance—the principal feature of my new carburettor—and the result was past all expectations. The engine never heated afterwards and ran forty miles without a stop. The power was wonderful; it would climb any hill and the saving in petrol was about 25 per cent. I may say I have not pushed my invention forward, as I do not intend taking out patents until I can "start from cold," which I think I shall be in a position to do in the near future.

experience. In the first place let me say that I do not think the ordinary bulb motor horn will be displaced for some considerable time, and other substitutes (so called) are really more of an auxiliary. I have had a siren, but quickly disposed of it, as it was too slow in coming into action, and the noise was infernal. I next purchased a foot bell or motor gong, and this I have had over a year. It is most effective in getting through traffic in busy towns, and, being operated by the foot, it leaves both hands free. The noise is not unpleasant. I have also had an electric horn, but do not recommend this type of alarm. If used much the cost of platinum points will easily run to 10s. per week. I advise "A. F." to have a good horn and a good bell.—Yours truly,

J. H. H.

### THE STEERING GEAR OF THE 10-14-H.P. CLEMENT BAYARD CAR.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—In the description given of this car in your issue of the 29th ult. it is stated that "the steering and control gear is all arranged for the driver to sit on the left instead of on the right." It would be interesting to know why the usual practice is departed from, and what, if any, advantages are claimed for the change. Presuming that the gear and brake-levers are fitted for the driver's right hand, they must be in the middle of the front floor space, and these with the steering wheel would absolutely block the way through from side to side. In meeting other vehicles the driver would, unless driving in France, be at a disadvantage on the near side seat, and although it would be possible for the two people in the front seats to alight without passing one another, the

occupant of the off-side seat would more often than not have to do so in the roadway, and this, if a lady, would be an objection. I hope you will give further particulars of this interesting car.—Yours truly,

D.

[We believe the particular car in question is designed for cab service in Paris, in which city there is much discussion as to the proper location of the driver on a car—on the right or left—seeing that the rule of the road in France is the reverse of that obtaining in this country.]

### REMEDY FOR NOISY TOOL BOXES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—One of the most annoying things to a driver of an otherwise quiet car is a metallic rattle as if something were loose and shaking about. This is quite often caused by loose tools rattling about in the tool box. The boxes that would appear to cause the most trouble are those placed on the long side steps of the car, though most of them are defective in this respect. When first the car is received the tools are, of course, usually carefully wrapped up in cloth. As soon as the newness wears off, however, these makeshift noise deadeners are thrown away, as being too much of a nuisance. Packing the box full of cotton-waste usually stops the rattle, but is in itself a great bother, as one has to fish around to find the right tool, which always seems to be at the bottom.

As a result of experience I have found the following remedy a very convenient and easy one to apply. Take an old inner tube that is past repair and cut it into strips about two inches wide and of a length a little longer than the box. Then tack one end of the strip to a corner on the inside of the box. Fasten the strip at unevenly spaced points along its length with large headed tacks or screws. The pockets thus formed make very good tool holders. The rubber holds the tool fast against the



What must I do, in a case like this?  
[L'Omnia.]

side of the box, and will not only prevent rattling but also be very convenient, as it is easy to place a tool in the pockets, the rubber having great elasticity.—Yours truly,

BURGESS HILL.

### WHY HIGH-POWERED CARS ARE POPULAR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Setting aside the large number of high-powered cars which are bought because some friend often better able to afford it has one, there are, in my opinion, a number of good reasons why these vehicles are increasing in popularity. The high-powered car is, on the average, the well built and reliable machine. Manufacturers as a class desire to produce vehicles which will be a credit to them, and the public is ready to pay prices which increase at a very rapid rate with the horse power furnished. As a matter of fact, the labour and material cost involved in the construction of a powerful car as regards engine capacity increases much less rapidly than does the energy developed by the motor. A 50-h.p. engine costs much less than twice as much to build than does

one of the same type developing 25-h.p. The same is true, to a certain extent, of the other part of the chassis. On the other hand, the manufacturer is better able to do a good piece of machine work and assembling than if he were building a lower-powered car, which must be sold at a more modest price. He is able to add many comforts and conveniences to the high priced vehicle that, owing to the higher proportionate cost, he could not furnish with the small machine. The high powered vehicle is thus, as a rule, the comfortable and convenient car. These considerations cause manufacturers to push the sale of high-powered cars, and they have undoubtedly played some part in retarding the development of the car of good practical design and construction for the motorist of moderate means. The motor agent, too, finds it is not proportionally difficult to sell a costly, high-powered car, and that it is a much better financial proposition, so far as he is concerned.—Yours truly,

LOOKER ON.

### RELIABILITY TRIALS AND HILL CLIMBS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Hitherto the rules governing reliability trials and hill climbs have not afforded steam cars an opportunity of competing on equal terms with petrol cars.

As I presume the authorities under whose auspices these trials are held are probably now engaged on the drafting of the rules and conditions to govern the competitions to be held during the coming season, may I express the hope that the rules will be so drawn as to give steamers a chance of competing on fair and equitable terms with petrol cars, and so afford the public an opportunity of comparing their respective merits.

In view of the greatly increased interest displayed of late by the prospective motorist in the modern steamers, I think the public would appreciate the opportunity of comparison.—Yours truly,

J. BURNS DUMBELL.

### BRAKES AND TRAILERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I see you mention in your journal the cases in Manchester in which several drivers have been summoned for not having a brakesman on the trailer. The law, I believe, would not require a man on the trailer if the brakes were self-acting, and I have often wondered why these are not used, as they are simple to fit and always apply themselves at the right moment, and release ditto, thus requiring no attention whatever; and yet firms keep running the risk of being summoned or have the old wind-on type from the motor, the cable of which often breaks through the great strain put upon it if the driver, when going down hill, has to temporarily ease up or stop and does not release it before going ahead again.—Yours truly,

J. SIMMONS.

### ANOTHER IGNITION QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a 10-12-h.p. Humber car and have a lot of hill climbing to do. I have a spare E.I.C. coil, and want to know if I could have the two ignitions—I mean to have a separate accumulator, wires, switch, and two plugs, but both of them to work from the same commutator. The plugs are now at the side of cylinder, and I propose putting the other set over the inlet valves in caps, so that when I come to a hill I can switch on the two. Do you think I should have more power, and would it harm the car in any way? I should be glad if you could answer this for me, and also give diagram of connection, if possible.—Yours truly,

C. MAW.

[This is rather a novel proposition, and one which we do not consider would be successful, as it would be almost impossible to get the sparks to occur at exactly the same time in the cylinder even with the same contact breaker, and if one spark takes place a fraction of time after the other it is useless. A better way to obtain more power from a hotter spark would be to use a six-volt accumulator, using four volts for ordinary use, and switching in the extra cell to obtain more power on hills. In this way the extra energy is directed on to the same sparking plug, and the method does away with the trouble and inconvenience of fitting extra plugs and wiring, which would cause trouble in many little ways. The extra accumulator cell can be switched on from a small switch fitted on the steering wheel, and it is then convenient for suddenly stopping the spark in an emergency.]

PARAFFIN AS FUEL.—“E. S. J.” writes:—“Will any of your readers inform me through the *M.C.J.* if paraffin as fuel on motor-cars requires more air or less than petrol?”

HOTEL AT COLCHESTER.—A correspondent calls our attention to the comfortable Red Lion Hotel at Colchester, of which Mr. Rees is the proprietor. There is a repair shop within three minutes' walk of the hotel, and mechanics are sent up to execute repairs at a minute's notice.

SOLID RUBBER TYRES.—Mr. R. J. Harding writes:—“Will any motorist who has used the Swinehart solid rubber tyres on his car give his experience of the same?”



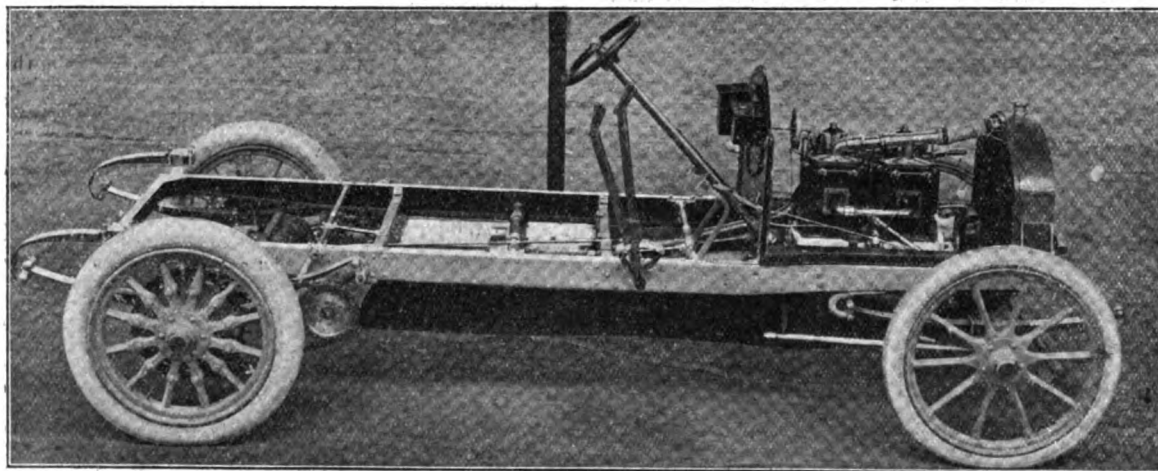
## THE DUBLIN MOTOR SHOW.

THE Motor-car Exhibition at Ball's Bridge, Dublin, organised by the Irish Automobile Club, is likely to do much to foster the automobile industry in the Emerald Isle, and it is gratifying to find the people of Dublin as enthusiastic in this matter as they were in the development of the pastime of motoring. On Saturday the opening ceremony was performed by Lord Grenfell, G.C.B., who was supported by Sir W. G. Goff, Bart., Sir J. C. Meredith, Col. Chaloner Knox, Messrs. J. T. Power, D.L., R. J. Mecredy, Hum Bland, E. White and many well-known Irish motorists. In his inaugural address Lord Grenfell said he had enjoyed the pleasure of motoring many thousands of miles in Ireland and he was naturally most interested in their Show. Motoring in Ireland appeared to be in a slow groove, but under the pioneerism of Sir Wm. Goff and assisted by the great race—the Gordon Bennett Race in 1903—it had now taken root, and every day that they motored down their streets, or even in the country, they met more and more motor vehicles as they passed. It gave him great pleasure to declare the Motor Show open, and he wished it every possible success, and that under the auspices of the gentlemen who had taken it up, it might become an annual event. Sir Wm. Goff, Bart., voiced the thanks of the Irish Club to his lordship for declaring the exhibition opened.

While there are certain noteworthy absentees, the cars on view form a representative display of British, Continental and American productions, the interest being increased by the appearance of several vehicles of Irish construction. Messrs. Alesbury Bros., of Edenderry, King's County, exhibit a small car designed for the use of motorists of moderate means. It has an 8-10-h.p. two-cylinder engine, and is fitted

cars shown include the Horbick, by Messrs. Horsfall and Bickham, the Berliet, by Messrs. J. E. Hutton, Ltd., the Ford Junior, by the Central Motor Car Company, the Adams-Hewitt, by the Dublin Auto-car Company, the Rover, by the Rover Company, Ltd., the Winton, by Messrs. Turner, Bros., Dublin, the Airex, by the Rex Motor Manufacturing Company, Ltd., the Enfield, by the Enfield Auto-car Company, Ltd., the Vulcan and Hotchkiss, by the Irish Motor Car Company, the Orleans, the Clement, Deasy, Peugeot, Delaunay-Belleville, by Messrs. Wayte Bros., Dublin, the six-cylinder Minerva, by Messrs. Arnott and Holloway, Ltd., the Spyker, by the British Automobile Commercial Syndicate, the new 30-h.p. White steam car, by the White Steam Car Company, Argyll cars, by Argylls, Ireland, Ltd., the Reo 8 and 16-h.p. cars, by Reo Motors, Ltd., and the Brasier and Unic vehicles, by Messrs. Mann and Overtons (Ireland) Ltd. Messrs. Booth Bros., Dublin, have a large stand devoted to a display of the latest types of Siddeley and Singer cars, while the exhibit of Messrs. J. Hutton and Sons, of Dublin, comprises the equally well-known Minerva, Darracq and Daimler cars.

Among the novelties in the accessory section is the new substance Elastex, which is intended to take the place of air in pneumatic tyres, and which was fully referred to in our issue of the 22nd ult. Mr. S. W. Phillpott is in attendance at their stand demonstrating the merits and explaining the nature of this new preparation. Price's Patent Candle Company, Ltd., have an exhibit similar to their usual displays at English exhibitions, among the specialities to the fore being Manulav, the motorists' soap, Currolem and Cirogen, while attention is drawn to the new patent sealed tins now sent out by the company. The Vacuum Oil Company have also an interesting display of their well-known lubricants, while new brands are seen in the "Gremontine" motor oils and greases of the Greenmount Oil Works, Dublin. The tyre exhibits include the Continental, Clincher, Dunlop, Michelin and Shrewsbury and



Chassis of the Burke 24-30-h.p. Car.

with an unusually large dashboard, which contains a six-gallon petrol tank, with indicator, a gallon tank for lubricating oil, two cupboards, accumulators, and coil. The four-seated body has been made entirely of Irish wood, and the road wheels are shod with solid rubber tyres. Messrs. Chambers and Co., Belfast, display 8 and 10-h.p. cars fitted with horizontal engines and epicyclic change-speed gear. The Burke Engineering Co., Clonmel, in addition to a range of Astahl cars—6-h.p. and 8-h.p. single-cylinder and 10-12-h.p. four-cylinder—for which they are Irish agents, show a new 24-30-h.p. car assembled in their own works in Ireland and which is consequently attracting much attention. The engine has the cylinders cast in pairs; the transmission is by side chains, and we note that the rear springs are of the three-quarter elliptic type. The well-known Belsize cars are exhibited by Mr. J. Hill, Dublin, the models on view including a 20-h.p. four-cylinder and a 60-h.p. six-cylinder, the leading features of which were given in our report of the Olympia Show. Several well-finished specimens of both the Arrol-Johnston pleasure and industrial vehicles are shown by the New Arrol-Johnston Car Company, Ltd., the former including a 12-16-h.p. side entrance double phaeton and a 24-30-h.p. landaulet and the latter a 20 cwt. delivery van and a 2-ton lorry. Mr. S. T. Robinson, Dublin, the Irish agent, is showing examples of three of the latest Clement-Talbot cars, these including the new 15-h.p. model, a 12-16-h.p. and a 22-24-h.p., all fitted with four-cylinder engines. On a separate stand Mr. Robinson also exhibits a Weigel chassis. The Anglo American Motor Car Company, Ltd., stage specimens of the Cadillac 9-10-h.p. car with horizontal engine, and one of the latest 26-30-h.p. touring cars with four-cylinder vertical motor. Mr. J. Keating, Dublin, shows a selection of Humber cars of both Beeston and Coventry construction. Messrs. W. and G. Du Cros, Dublin, occupy a large stand, their exhibit comprising Swift, Panhard, Austin, Gladiator, and Mercedes cars. Capt. Theo Masui is present with the Germain chainless cars, a notable one on view being a 14-h.p. double phaeton with hood. Other

Challiner, and among the non-skids are the Parsons and the Samson. The show closes to-day (Saturday).

## ALCOHOL AS FUEL FOR MOTOR-CAR ENGINES.

As a result of a long series of careful investigations into the relative merits of petrol and denatured alcohol as fuels for use in internal combustion engines, Professor Lucke, of Columbia University, who has been working in the interests of the U.S. Government, finds that the latter fluid is even more suitable for the purpose than had been anticipated. In his experiments Professor Lucke has used only motors of up-to-date pattern, so that the results may be expected to apply to any modern engine of good design. One of the most striking of his results is, remarks the New York "Motor World," the discovery that, contrary to general belief, alcohol may be used to advantage in the ordinary type of carburettor, and without any alterations in its structure being required. Slight changes in the relative proportions of the fuel vapour and air are naturally necessary, and the greater sensitiveness of the alcohol mixture to atmospheric conditions brought about by changes in temperature and humidity requires a greater nicety of adjustment and a more frequent modification of the settings than is required with petrol.

When the use of alcohol first becomes general, as is now possible in the United States, he recommends that the motorist should fit two tanks to the car, so that for a time the two fuels may be run alternately, and any risks of failure obviated until he has become thoroughly familiar with the peculiarities of the new fluid. Within a short time, however, he believes that as good results will be obtained with one as with the other, the change being merely a matter of adaptation and comprehension of what is necessary on the part of the driver.

As to the specific advantages of alcohol apart from the questions of cost and supply, it is pointed out that the fumes of the exhaust are

neither unpleasant nor unhealthful, that there is little or no tendency to the formation of deposits of carbon or other foreign bodies on the cylinder walls, no condensation upon the ignition points, and no tendency to ignition difficulties other than those which are found in any internal combustion motor of standard construction. In addition to this, the fact that alcohol readily mingles with water adds an element of safety to its use which is by no means to be minimised. For in the event of an explosion of its gas, or the inflammation of any considerable body of the liquid, water may be applied to extinguish it, just as in the case of fire from any other source except that of an insoluble fuel such as mineral oils. This, together with the fact that at present no stringent regulations prohibit the storage of large quantities of alcohol on private premises, forms the keynote of its advantage.

While any petrol motor will run on denatured alcohol, the Professor considers that the low compression engine is best adapted to its use. With high compression it is very hard to start on alcohol. For this reason alcohol is likely to prove excellent for air-cooled motors. Weather conditions affect alcohol much more readily than they do petrol. In very cold weather it would be almost impossible to start a motor on alcohol, and it is possible that on this account it will be necessary to carry a little petrol even should alcohol come into general use as a fuel.

In driving it is found that the alcohol explodes better when the spark is well advanced and the needle valve in the carburettor well open. Knocking in the engine, due to pre-ignition when petrol is used, however, is not noticed with alcohol. In fact, intense heat and an advanced spark even in very hot weather all tend to assist the new fuel to act. In the winter time, Professor Lucke thinks, it will be necessary to use some of the heat from the exhaust to warm the air as it enters the carburettor. Alcohol otherwise will not become a popular winter fuel.



The 20-h.p. Mayfair Limousine, just delivered by the Mayfair Motor Co., Ltd., to His Excellency the Count Henry Lutnow, the Austrian Ambassador in Rome. The body is luxuriously finished. The back seat is particularly roomy, and will seat three with comfort, and there are also two comfortable folding arm chairs. All the latest improvements are fitted, such as speaking tube to the driver, electric indicator on the dash-board, electric light, electric cigar lighter, etc.

In the matter of consumption it is noticed that while more power and greater speed is obtained, alcohol is not likely to be a particularly economical fuel unless it becomes very much cheaper than petrol. In the grain-producing districts alcohol should become very cheap, as the United States Government permits the farmers to produce it if they will combine and guarantee an output large enough to warrant the expense of a Government inspector. As is already generally known, the new American law establishes a certain formula for making the fluid. It must be composed of 100 parts of 90 per cent. alcohol to which is added 10 parts of wood alcohol and one-half of one part of benzine. This is supposed to destroy the fluid for drinking purposes, but nevertheless the Government is going to run no risks. The very closest inspection is provided at distilleries and the fluid must be sealed in cans or barrels. Every retailer must be licensed, without fee, and he must take the name of every customer. The wholesale and retail reports must be made to the Government at stated times and they must tally, to prove that all the fluid made has been consumed as fuel and not re-distilled into pure alcohol.

#### MOTORIST OBTAINS DAMAGES.

SOMETHING of novelty has been found in the case of Gill v. Figg, heard at the Marylebone County Court, a motor-car owner being the plaintiff. Mr. George Gill sought to recover damages from Mr. Thomas Figg, a cab proprietor, in respect of an accident in Cannon Street, E.C., in which one of the defendant's cabs was said to have run into the rear of plaintiff's motor-car and pierced the metal framework. Sir William Selffe awarded £21 damages, with costs, to the plaintiff.

## CLUBS AND ASSOCIATIONS.

### AUTOMOBILE ASSOCIATION.

THE idea of the road sign illustrated on page 985 of our last issue was the fruit of careful study by the Automobile Association Committee, and similar discs have already been fixed at both ends of at least one prominent town or village on each of the fourteen main roads leading from the metropolis. The Association sprung the surprise on the motoring community as a New Year's gift, and the scheme, as yet in its infancy, is likely to prove a real boon to the users of the roads.

### AUTO CYCLE CLUB.

THE Auto Cycle Club, in its capacity as a society of encouragement, has decided to carry out a very exhaustive trial of silencers suitable for motor cycles next month. The judges, in arriving at their decisions, will take into consideration back pressure, noise, facility of attachment, weight and strength, capacity, means of cleaning and maintenance, and cost. Each silencer submitted will be tested under precisely the same conditions on a 3½-h.p. water cooled engine, which has been placed at the disposal of the committee by Messrs. J. A. Prestwich and Co. Any person interested in the subject and requiring further particulars should communicate with Mr. F. Straight, the secretary, Auto Cycle Club, 18, Down Street, Piccadilly, London, W.

The first motor trial of 1907 will be the club's Quarterly Trial, which will be held on the 26th inst., starting from the Chequers Hotel, Uxbridge, at 9 a.m., and going via Beaconsfield, High Wycombe, Dashwood Hill, where the competitors will be timed, Wheatley, Islip, to Banbury, where one hour will be allowed for lunch, returning via Bicester, Aylesbury, Berkhamsted, Chesham, Amersham, and Beaconsfield to Uxbridge, and distance of about 125 miles.

### SOCIETY OF AUTOMOBILE MECHANIC DRIVERS.

WE have just received an official report of the annual meeting of this society, held on November 26th, 1906, at Rawling's Garage, Halkin Street, Belgrave Square, S.W., when the following officers were elected:—President, Mr. Kirkwood; vice-president, Mr. Budd; treasurer, Mr. Groves; committee, Messrs. G. Clarke (chairman), Freeman, H. J. Walters, W. Burgess, C. Randall, J. Gold, Nicholls, J. H. Walters, W. Taylor, F. Randall, Cracknell, and Hughes; secretary, Mr. Percy Loring.

Mr. Nicholls submitted to the meeting a proposal as to an "out of employment insurance" for members, and briefly outlined his scheme, and it was resolved that the committee be requested to go into the matter and report on its practicability at as early a date as possible.

### THE MOTOR UNION.

As a precautionary measure, seven members of the Motor Union have registered a company by the name of the Motor Union, Limited. This registration will have the effect of preventing the name of the Motor Union being used by any other company without its consent. The signatories to the memorandum have entered into an undertaking, agreeing to hold the name and shares of the company at the disposal of the Motor Union, to be dealt with as may be directed by the Committee of the Union.

### THE CYCLISTS' TOURING CLUB.

A MEETING of the council of the Cyclists' Touring Club has been held in London, when, after careful consideration of the whole of the facts, it was resolved not to appeal against the decision of Mr. Justice Warrington, who recently refused to sanction such an enlargement of the memorandum of association as would admit all tourists to membership. The council of the Club from the first made apparent their willingness to loyally abide by the outcome of the recent proposal to broaden the constitution, and they now invite the co-operation of every cyclist in the kingdom in their endeavour to strengthen their organisation.

### SOCIETY OF MOTOR MANUFACTURERS AND TRADERS.

THE Committee of Management of the Society of Motor Manufacturers and Traders finished up 1906 by holding a meeting the last day of the year.

It was reported that the Society's representatives, at their meeting with the Automobile Club on the subject of the Tourist Trophy race, had proposed to the latter that a separate class should be formed, with a petrol allowance such as would permit large cars, as, for instance,

those with a cylinder diameter of 5 in., taking part in the race, and in connection had made suggestions on the alterations which would be required in the regulations for such large cars.

A SILENCER competition is to be held next month by the Auto Cycle Club.

THE membership of the Orange River Colony A.C. has reached the first hundred.

THE annual meeting of the Derby A.C., which Lord Burton has just joined, will be held on the 31st inst.

THE Blackburn Motor Cycle Club has been reconstituted as the East Lancashire Motor Cycle Club, and has become affiliated to the Auto Cycle Club.

MR. PERCY MARTIN, managing director of the Daimler Motor Company, Ltd., and one of the members of the Council of the Institution of Automobile Engineers, has kindly promised to read a paper before the Institution on "Works Organisation" at their March meeting.

A PRESENTATION is to be made to Mr. E. White, hon. secretary of the Irish A.C., for his services to automobilism in Ireland. The Earl of Drogheda presided at a meeting of subscribers in Dublin, this week, when it was decided that the presentation should be made on the occasion of the annual dinner of the club in March.

### ROAD REPORTS.

EPSOM.—At the last meeting of the Epsom Rural Council a letter was read from the Ashstead Parish Council, requesting that a danger signal might be erected opposite the Brewery Inn at Ashstead in such a position that motorists might be warned of the perilous situation arising from the convergence of the Station Road and the Rectory Lane with the main road. It was resolved that the application be forwarded to the Surrey County Council. The Highways Committee reported that Mr. Hue Williams had written stating that his daughter had been knocked down by a motor-car on the main road between his house and the Leatherhead boundary, and calling attention to the necessity for the construction of a footpath along the side of the road. The matter was adjourned for the preparation of a definite scheme.

YORK.—The city engineer of York says that, if there is any general request for the roads in that district to be repaired half at a time, there would be no difficulty in adopting that plan. Our readers in and about the city can assist their *confreres* motoring that way by expressing approval of the system to the local authority.

LEYTON.—Major J. Stewart, R.A., held an inquiry at the Leyton Town Hall on Monday into an application by the District Council to borrow £1,320 for the construction of a new road to the site of a proposed bridge over the waterworks reservoir at Hackney. The clerk, Mr. R. Vincent, said the road was part of a scheme for increasing the highway communication between Leyton and the Metropolis, *via* Hackney, which was the most direct route.

EAST GRINSTEAD.—There is in course of progress at East Grinstead a scheme of improvement which has long been needed. The road out of the town on the way to West Hoathly and Turners Hill is very narrow, and at a point by the cemetery gates two cars can only with difficulty pass. The road is very steep, and at the point it also bends, and there have been many instances of narrow escapes from accidents. On one side of the road some houses are being erected, and the local authority have been successful in getting these set back, and have obtained a strip of land which they are now throwing into the highway. When the work is completed and the road thus considerably widened, the dangerous bend will almost completely have disappeared, and an improvement made of great value to the public as well as to the many motorists who frequent that road.

### ELECTRIC IGNITION FOR MOTORS.

A PAPER was read by Mr. R. W. R. Twelvetrees on "Electric Ignition for Motor Vehicles," at the meeting of the Society of Civil and Mechanical Engineers, held at Caxton Hall, Westminster, on the 3rd inst.

The lecturer touched on the various forms of electric ignition in use, from the accumulator and induction coil to the latest pattern of high or low tension magneto igniters. He also dwelt on the particular advantages of each and its method of working. The magneto-ignition machines are now widely used on all kinds of cars, but the lecturer remarked that it was wise to have a subsidiary method of ignition, such as a battery and coil, in case the magneto apparatus should break down through vibration, or "burning-out," or some other cause. It was pointed out that there might be an induction coil which would work either with a generator or a battery, so that either of these current producers might be connected up with the coil. Thus, if the generator was damaged, the battery could be switched on to the coil in its place, and so there need be no difficulty in continuing to run the engine. Mr. Twelvetrees also described various kinds of ignition points and sparking plugs, as well as methods of insulation which would not be affected by the heat generated in the cylinder.

## CASES UNDER THE MOTOR-CAR ACT.

### RECKLESS DRIVING.

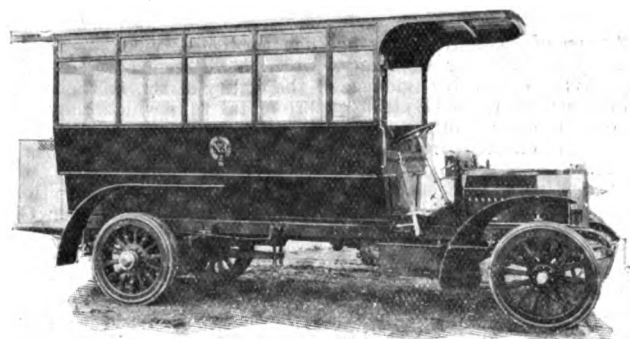
At Kingston, on the 3rd inst., Reginald Aldin Smith, of Albert Gate Court, Hyde Park, W., was summoned for driving a motor-car to the danger of the public at Cobham on December 23rd. P.s. Lucas said defendant was driving at twenty-four or twenty-five miles an hour, and in his opinion that speed was dangerous, having regard to the number of persons who were about. Defendant denied that he was going more than eighteen miles an hour, and said the car was under perfect control. The Bench dismissed the summons.

### NO LICENCE.

At Kingston Police Court, Eugene Hauteux, chauffeur to Mr. Horlick, of Cowley Manor, Cheltenham, was summoned for driving a motor-car without proper lights, and also with driving without a licence. Defendant was going through Kington at 11 o'clock at night, and had only a tail light on the motor-car. He had a licence in his possession, but it had expired on November 9th. Defendant, a Frenchman, through an interpreter admitted the offence, and said a French licence lasted a lifetime. He was fined £5 in each case.

### THE VALUE OF THE SPEEDOMETER.

At the Assize Court, Kingston, on the 3rd inst., the value of a speedometer was demonstrated. On Sunday, December 23rd, Mr. Samuel Smith's, the inventor of the speed indicator, car was being driven by his son through Cobham. He was on board himself, with his wife and mechanic, and just as the car was leaving Cobham two constables rushed out and said that the vehicle was being driven over twenty miles an hour; but Mr. Smith, senior, fortunately had told his son, on entering Cobham, to drive with caution and that the indicator was to be watched, which did not exceed at any time eighteen miles an hour. The constables, when they heard this, seemed to realise that



A Motor Omnibus recently completed by Messrs. Dennis Bros., Ltd., as a repeat order for the Metropolitan Asylums Board. The vehicle, which has seating room for 14 persons, is fitted with a 24-30-h.p. engine and patent worm gear driven rear axle.

their accusation could not be substantiated, and they then said they would report the motorists for driving to the danger of the public. The constables during the cases reversed what they had said on the road, and admitted in cross-examination that nobody was inconvenienced by reason of the way in which the car was driven, and it was distinctly and clearly shown by the evidence that when the police found that their accusation that the car was going over twenty miles an hour was indefensible, they then put forward the more serious charge of driving to the danger of the public. The case was dismissed. Mr. Smith was represented by Mr. Staplee Firth.

### EMISSION OF SMOKE.

Wm. D. Hutchinson, Ratcliffe Road, Knighton Hayes, was summoned at Leicester for using a motor-car in Gallowtree Gate which did not consume its own smoke as far as practicable on January 4th. Defendant did not deny that the car was smoking, but did not admit that he could help it. A fine of 20s. and costs was imposed.

### MOTOR-CAR ACCIDENTS.

DR. A. A. WOOD, a local medical practitioner, was being driven in his trap down Wheat Street, Nuneaton, on Saturday, and on turning the corner to cross into New Bridge Street was run into by a motor-car which was proceeding into the town from the Leicester road on a trial run. The car struck the horse with considerable force, but did not overturn the trap. As the animal did not afterwards move, it was examined and found to have sustained a broken right hind leg, and was forthwith destroyed. The trap was damaged. At the time of the occurrence the motor-car was travelling slowly, the driver having slowed down in order to reverse and proceed along New Bridge Street.

On the Brighton road, between Coulsdon and Hooley, a motor-car was travelling towards London on Sunday night when it collided with a pony and trap. The pony was killed and the trap smashed. The car had to be sent to London for repairs.

## COMPANY NEWS.

**WARWICK WRIGHT.**—£26,200 (25,000 £1 preference and 24,000 ls. ordinary). To acquire the undertaking of Ernest Arnott and Holloway, Ltd., the business of motor agents carried on (inter alia) by Howard T. Wright Brothers, Ltd., and the goodwill of the motor business belonging to Warwick J. Wright. First directors: Messrs. A. Randolph (chairman), J. T. C. Moore-Brabazon (vice-chairman), E. Arnott, W. C. Holloway, and W. J. Wright.

**THE VULCAN MOTOR AND ENGINEERING COMPANY (1906), LTD.,** has been formed to take over the whole of the assets and liabilities of the Vulcan Motor Manufacturing and Engineering Company as on October 31st last. At the general meeting of the latter held on the 22nd ult. it was reported that the sales for the year amounted to £42,796 as against £17,385 for the previous year. The net profit was £7,096. The new company is to have a capital of £75,000, and 40,000 ordinary £1 shares are to be allotted as fully paid to the present shareholders at the rate of four for every one share held in the original concern. Land has been acquired at Crossens, near Southport, where new works will be erected. The directors will be Messrs. T. Hampson, D. Purves, E. Lees, and W. Hamer.

**NON-SKID SYNDICATE.**—£3,000. To acquire the benefit of certain inventions for preventing the skidding of motor vehicles. No initial public issue.

**RUBBER TYRES.**—£2,000 (£1). To acquire the business carried on at Liverpool as Henry Polack, to adopt an agreement with Messrs. J. Mossop, J. Cuninghame and H. Polack, and to carry on the business of indiarubber and tyre manufacturers, &c.

**GROVE EASTBOURNE MOTOR WORKS AND GARAGE.**—£2,000. As title. No initial public issue. Registered without articles. First directors: Messrs. A. J. Bessant and W. T. James.

## PUBLIC MOTOR SERVICES.

THE town of Todmorden now has a motor-'bus service.

THE Ryknield Motor Company, Ltd., have issued an excellent pamphlet giving conclusive evidence of the utility of the motor-'bus for service in Manchester, the result of experimental runs which they have carried out between Cottonopolis and the places round about. It constitutes an effective reply to the critics of the motor-'bus in Lancashire.

AT the adjourned meeting of the conference of Metropolitan local authorities on motor traffic in London, held at the Westminster City Hall on Wednesday, the committee recommended, in order to prevent the congestion of traffic, that the Commissioner of Police be empowered to define the routes along which motor-omnibuses should be allowed to run, and also to regulate the number of omnibuses plying along any route; also that he be urged before licensing motor-omnibuses to see that they are provided with means to prevent grease or petrol dropping on to the roadways. With regard to heavy motor-car and locomotive traffic, it was recommended that the Commissioner be empowered to prevent the use on the streets of any locomotives or traction engines which are unduly noisy, or otherwise unsuitable for road transport purposes, particularly during the night.

THE Harrogate Road Car Company, Ltd., has just been registered with a capital of £10,000 in £1 shares, to carry on the business of motor-omnibus and carriage proprietors. There will be no initial public issue.

AT the meeting of the Eastbourne Town Council on Monday, the Motor Omnibus Committee recommended the expenditure of £3,112 on four new motor-'buses. In moving the motion, which was agreed to after some little discussion, Councillor Killick said that in the winter service seven of the now available eight vehicles were on the road all the day. The Committee wished to work the system as a purely business concern. For the three months ending December 31st the receipts were £271 more than for the corresponding period of last year.

THE Richmond Town Council recently forwarded letters to the Home Office complaining of the incessant annoyance caused to residents in parts of Richmond and the village of Petersham by motor-omnibus traffic on Sundays. A reply has been received stating that the Secretary of State has made inquiry in the matter, but that, under the existing law, he has no authority to prevent the traffic, although every effort is made by the police to diminish the inconvenience caused by these vehicles.

AT the meeting of the New Zealand Land Mortgage Company, Limited, on Monday, the chairman of the directors (Mr. A. M. Mitchison), in dealing with the expenses for the last year, remarked that they had had to remove from their old offices because of the noise created through the introduction of motor-omnibuses. They had no alternative, because the motor omnibuses had come to stop, and the noise was so great that the directors at their meetings could hardly hear themselves speak.

COMPLAINT was loudly voiced at the meeting of the Chesterfield Town Council, on Tuesday, as to the quantity of mud thrown up in one of the narrow streets of the town by the motor-'buses plying between Hasland and Grasmoor. On the Mayor suggesting that a little more attention to the condition of the streets, coupled with a reduction in the speed of the cars, would result in the nuisance being abated, the subject was dropped.

## A SEQUEL TO DUAL OWNERSHIP.

MR. MARK MELFORD, sketch artist, appeared before Sir William Selge, at Marylebone, last week, when he was sued by Mr. William Peck, of East Grinstead, for £10 11s. 8d. The latter stated that the sum he claimed was made up of two items. He and Mr. Melford were the joint owners of two motor-cars—a large one and a small one. When the property was acquired several pounds were spent in putting the cars into order. Some time ago plaintiff and Mr. Melford had a talk, the upshot of which was an agreement that both cars should be sold for what they would fetch. Mr. Melford kept the large car, and the other plaintiff was to take into the country, where there would be a better chance of selling such a vehicle. It was afterwards found that a sum of money had to be spent on repairs before there could be even a hope of selling the smaller car. It was worth about £5, but nobody could be found to give that for it, and so plaintiff now sought to recover half the expenses he had incurred in connection with it and half the £10 which Mr. Melford had obtained for the larger car. Defendant, who described himself as a dramatic author, denied that he had ever given plaintiff any authority to incur any expenses on his account. He had not paid plaintiff his half-share of the proceeds for the sale of the larger car because a promise in respect of commission to be paid to the man who engaged the cars had not been fulfilled. Sir William Selge found for plaintiff for the £5 which had been paid into court, with costs up to the time of its payment.

## CLOTHING AS "PART WAGES."

AT the Clerkenwell Sessions, on Tuesday, a motor-car driver, named Donald Slater, successfully pleaded that he was entitled to the uniform provided by his employer as "part of his wages." Slater, who was charged with stealing a leather-lined motor coat, value £5, from Mr. Eugen Sandow, the professor of physical culture, entered the latter's service in August last, and left on November 30th. According to Mr. Sandow's counsel, Slater took with him the coat in question. Mr. Sandow gave evidence, and said that he did not know of any custom by which chauffeurs retained their livery on leaving situations. The accused, on oath, declared that a chauffeur's livery was supposed to be part of his wages unless there was an agreement to the contrary. The jury returned a verdict of not guilty. The accused was released, and the coat was retained by the police, the judge, although he had no power to make an order, saying that he certainly thought the acquitted charioteer should have it.

## THE LICENSING OF TRAILERS.

AT Blyth, on Tuesday, William Shaw, of Tudhoe Colliery, was summoned for not having a licence for a trailer attached to a motor-cycle, "the same being a carriage within the meaning of the Act." The prosecution explained that even if a bath-chair was drawn by a horse or mechanical power, a separate licence would be required, and that an ordinary cyclist being drawn along the road by a motor-cycle actually came within the meaning of the Act. It was argued that a trailer only required a licence as soon as it was drawn by a horse or mechanical power, not before. In answer to the magistrates' clerk, the prosecution acknowledged that they were unable to quote a case decided before the High Court, as no such point had been raised there. Defendant explained that it was the first time he had had the trailer out when he was stopped by the officer, and pleaded complete ignorance of the necessity for a licence for more than the motor-cycle. The Bench imposed a nominal fine of 1s. without costs.

## TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case; otherwise no liability will be accepted.

The Editors and Publishers beg also to state that they will accept no responsibility for unsolicited contributions, even if used, unless payment for same is directly specified in forwarding, and the terms arranged before publication.



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## COMMENTS.

**M**OTORISTS are a much-maligned race in this country, but they have a certain amount of liberty—when the Jarretts are asleep and the Marks are resting from the game of hide and seek. Things are even worse in the State of Vermont, U.S.A., than in the county of Surrey, and some Bills have been introduced into the Legislature of that free and enlightened State to “regulate,” i.e., prohibit, “the running of automobiles.” One clause of the proposed

enactment is to the effect that “No person owning or having in charge an automobile or motor vehicle shall run, or allow the same to be run on, or stand in, a public highway between 12 o'clock noon on Friday and 12 o'clock noon on the Monday following.” Our artist has attempted to express the feeling of despair which must come over the man prepared for a rational week-end tour, when told on Friday at noon he had better go to bed till allowed to rise three days hence.

### Motors and the Military.

IN the new Army scheme which Mr. R. B. Haldane is introducing provision is being made for the equipment of soldiers for civil life when leaving the service of their country. In the report of the committee that was appointed to go into the matter some time ago insistence was laid on the advisability of considering the law of supply and demand when selecting the trades to be taught the men in barracks. Hence the selection of the driving of motor-vehicles as one of the subjects of instruction. Courses of instruction are now being carried through at various centres, the men themselves bearing a proportion of the cost of their own training. The subscriptions of the men vary according to the trades taught, the highest charge being that for motoring, where the fee payable is 4s. 6d. per week.

### Highways in Jamaica.

THE highways of the island of Jamaica are a commentary upon the excellence of the British colonial system. During the past fifteen years an effort has been made to create a connected highway system. To that end the roads connecting the coast with the cultivated sections of the island were withdrawn from the control of local boards and a main road system was created under the jurisdiction of an appointee of the governor. While from many standpoints the expenditure of £200,000 for a main road system would not be considered a large amount, yet it must be remembered that the spending of such a sum wholly on the main roads of an island only 150 miles in length implies extended results. The desired material is to be found in every hillside and the cost is further lessened by the employment of convicts in breaking the stone. The roads are the conventional macadam, and, despite the 38 inches of annual rainfall, the tropical sun preserves the equilibrium of the moisture to such an extent that the highways never become disagreeably muddy. There are a thousand miles of macadamized roads on the little island of Jamaica. Wisdom has been displayed in the location of these highways. The island is divided

by a chain of picturesque mountains, and in the case of the railways expensive tunnels were necessary in order to complete the circle of transportation facilities. But in the construction of these good roads the Government endeavoured and succeeded in constructing the highways along the more level places adjacent to the foot of the hills; thus in passing from Spanish town, the ancient capital, through the valley of the Rio Cobre to Bog Walk, the motorist will observe that the grade of the road as it winds along the banks is not insurmountable. Out from Kingston and southerly from Port Antonio the tourists may pass through the groves of the orange and banana, the plantation of the pineapple, amidst a people with whom all in this country will sympathise in the great catastrophe which has devastated Kingston this week. Among the English visitors there at the time of the earthquake were the Hon. Evelyn Ellis, a pioneer of the motor-car in England, and the Earl of Dudley, who, when Lord Lieutenant, did much to further the movement in Ireland.

### The Emission of Vapour.

THE regulations for the Vapour Emission Competition of the A.C.G.B.I., which will be held on March 7th, have just been issued. As we have previously announced, the object of this test will be to encourage the improvement of the design of petrol-driven cars in order to diminish the nuisance caused by foul exhaust. The competition will comprise a road test of about 150 miles and an incline test in which the cars will be observed standing on an incline of about 1 in 7 in each direction for about ten minutes with engine running at normal speed. In arriving at their decision the judges will be expected to take into consideration the following points:—(a) the car which, independently of the skill or care of the driver, gives an exhaust least offensive to the public using the road; (b) the car best constructed to enable the driver, by reasonable care, to obtain continuously an inoffensive exhaust; (c) the best system or device to enable the driver to observe continuously the nature of his exhaust (such as a small by-pass to observe part of the exhaust, or a mirror to observe the whole). Entries for this useful test will be received up to the 14th prox. by the secretary of the Automobile Club, and two awards will be made for the cars which best fulfil the conditions mentioned.

### The Progress of the British Industry.

WITHIN the past few months we have had several opportunities of observing the rapid progress which this country is making in connection with the construction of motor-cars. Among the factories we have visited are those of the Daimler at Coventry, the Wolseley at Adderley Park, the Argyll at Alexandria, and the Clement-Talbot at Notting Hill, the extent of each of which would come as a surprise to those unacquainted with the development that has taken place during recent years. A further striking indication of the advance was afforded us on Tuesday last, when, at the invitation of Mr. S. F. Edge, we had an opportunity of going over the extensive factory which has sprung up at Acton Vale, W., where the well-known Napier cars are manufactured. It appears but a year or so that we were in Mr. Napier's small works in Lambeth, and when he removed therefrom to Acton it almost seemed as if the factory would be sufficient for the

requirements of a long time to come. The popularity of the Napier car, and especially the six-cylinder vehicle, has, however, become so great that to cope with the demand the works have grown out of all knowledge, having developed to three times their original size, while even now further extensions are in hand. Some idea of their extent may be gauged from the fact that 1,200 men are employed daily, and that two completed cars, ready for the road, are now being turned out each working day of every week. Space prevents us from detailing all we saw as we walked through the different shops; suffice it to say that the machine tool equipment is one of the finest we have seen, and comprises amongst others some special machines for the cutting and finishing of bevel gears. Extreme care is taken in the selection and testing of the raw material, while in the attention given to the scrutiny and gauging of the finished parts is found part of the success of the Napier vehicles, the output of which is now being practically confined to six-cylinder models. Subsequently we were shown over the depot and showrooms of Messrs. S. F. Edge, Ltd., in New Burlington Street, W., where some important alterations have lately been carried out, reference to which, however, we must defer until another occasion.



Touring in Italy.—The Church of St. Maria, Pisa.

#### Oil Motors for Cars.

NEXT week we will give the purport of a memorandum which Mr. J. D. Roots prepared for the Fuels Committee of the Motor Union. Mr. Roots is of the opinion that oil motor-vehicles have not come into general use because, in most cases, the use of ordinary carburetors has been attempted. He, on his part, has now secured the mechanical feeding and accurate measuring of the oil for each stroke, but is not at present able to put the improved form of engine on the market. It is twenty-one years since Mr. Roots commenced experimenting, and he has not lost faith in the future of the heavy oil-engine being applied to automobiles, although, as he has just told the Fuels Committee of the Union, the difficulties are so much greater than in the case of petrol engines. The necessity for accurate adjustment is so much more vital to the continued successful working, that instead of the high-speed heavy oil engine for automobile propulsion being a more roughly-constructed engine, as sometimes supposed, it will have to be more carefully adjusted and accurately fitted.

#### Evangelisation by Motor-car.

MINISTERS of all denominations are recognising the merits of the automobile as a means of increasing their sphere of influence and reaching multitudes of people otherwise out of call. The Rev. J. D. Jones, of Bournemouth, not only is fully assured of the advantages that the motor-car possesses for Christian service, but in this month's "Quiver" he declares

himself persuaded that "if the Apostle Paul were alive to-day he would be a motor evangelist." He must have grudged the time spent in foot and sea travel. He was not a motorist only because motors were not in existence." Mr. Jones is quite enthusiastic as to the amount of evangelistic work he is able to do between Sundays, and pleads for the laymen to lend their cars to ministers willing to give their power and force in such work. Coming so soon after the suggestion of the Sheffield preacher that motorists should take ministers to the country village churches on the Sabbath, it would appear that now we may claim the support of another influential section of the community for the motor movement.

#### Friendly Feelings in Nottingham.

THE friendly feeling which prevails between Nottinghamshire motorists and the local county authorities was well evidenced at the annual dinner of the Nottingham Automobile Club, which, thanks to the efforts of Mr. Booth Granger, the hon. sec., proved a most successful gathering. The Mayor (Alderman A. H. Green) set the ball rolling by his imaginary city of the future, in which the rates were reduced by the fines paid for wasting time by those motorists who travelled at less than sixty miles per hour. Mr. H. H. Copnall, the clerk to the Notts County Council, who followed, remarked that the amount received in fines had been very small, and if the members of the Nottingham Club continued to recognise the comfort of other road users the friendly relations between motorists and the county authorities would continue and increase. Perhaps the most striking testimony to this friendly feeling was that afforded by Mr. P. S. Clay, the Chief Constable of Nottingham, who remarked that the only conviction of a motorist in the city he knew was one which took place when he was away on leave! Throughout the evening the greatest cordiality existed between the representatives of the controlling bodies and motorists, the example thus set being one which could be followed with advantage to all concerned in other parts of the country.

#### A Heavy Touring Car Race.

MOTORISTS generally will agree with Mr. Stanley Machin, the deputy chairman of the Council of the London Chamber of Commerce, who, presiding at a dinner of that body—convened for the discussion of Automobilmism as well as the consumption of viands at the Trocadero, London, on the 9th inst.—expressed the hope that the speed of motor-cars would not be entrusted to the local authorities. Considering that there are 1,855 highway authorities in England and Wales, the confusion that would follow such innovation may be imagined; and the retention of the power of limiting the speed of cars in the hands of the central authorities may be regarded as a cardinal point of automobile policy. Lord Montagu, Mr. Sidney Straker and the Hon. Arthur Stanley advocated the motor-car case to the merchants of the City, the latter announcing that the Automobile Club had, in conjunction with kindred associations, decided on carrying out in the late summer a series of exhaustive trials of heavy motor vehicles. This will be on the lines of the Tourist Trophy race for touring cars of a bigger type. In the first instance the proposal was to divide the Tourist Trophy race into two classes, but it has been decided to make the race for heavier cars a separate contest, at all events for 1907. The new contest will be officially known as "The International Heavy Touring Car Race."

#### The Regulations of the Race.

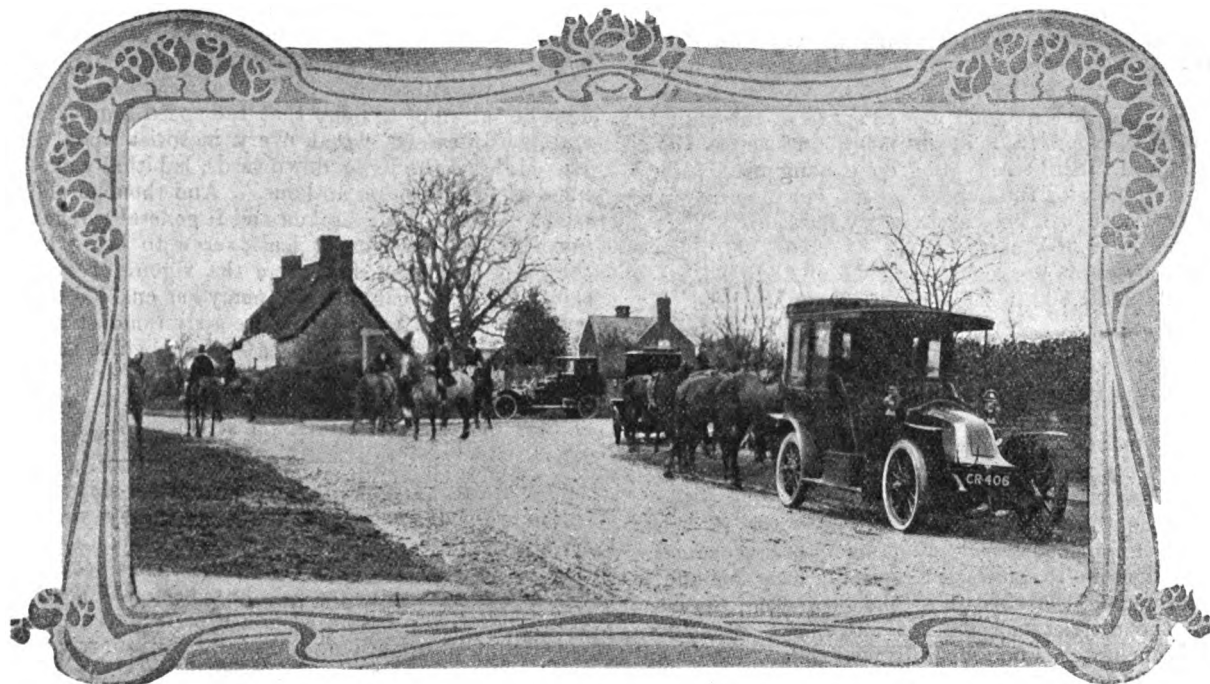
THE decision of the A.C.G.B.I. to hold a competition for heavy touring vehicles on lines that have become familiar in the Tourist Trophy race is a matter of interest in view of the tendency towards large powered machines, despite the protestations of the man of moderate means in favour of the little vehicle that will enable him to get about at a fairly reasonable pace. On page 962 of our issue of the 29th ult. we gave some

particulars of the original event, and the regulations for the new contest are on much the same lines. Some points of difference may, however, be noted. The distance of the Heavy Touring Car Race will be between 250 and 400 miles, but the fuel allowance will be one gallon for every sixteen miles, instead of for twenty-five miles, as in the Tourist Trophy contest. The driving wheels shall not be less than 36 in. in diameter, with tyres not less than 920 mm. by 120 mm. The track will have to be not less than 4 ft. 6 in. The distance from the dashboard to the front edge of the back tyres must not be less than 5 ft. 9 in.; the platform behind the dashboard not less than 8 ft. 6 in. long, and the body must cover this area. There will have to be a clearance of at least 8 in. from the ground when the car is fully loaded. The total load to be carried by the chassis (viz., body, driver and mechanic, ballast, spare parts, spare tyres, tools, luggage, and provisions, but not fuel, water and oil) shall not be less than 2,240 lb., and all parts which remain after the removal of the above load shall be deemed to be parts of the chassis. The load to be carried by the chassis must be brought up to one ton with the help of ballast; wind screens will have to be provided, and specifications for these and the mudguards and other parts will be supplied by the Club.

Our recent illustrations of the many ways in which the automobile is used by the Austrian military authorities confirms the writer's views on its adaptability in connection with field telegraph and telephone operations.

#### The Irish Exhibition.

ON Saturday the Motor Exhibition closed at Dublin, having been visited by a good many people and attracting considerable notice throughout the country generally as well as in the Irish capital particularly. Advantage of the presence of so many motorists in Dublin was taken by the executive of the forthcoming Irish International Exhibition to invite them to see the new building put up in Herbert Park, Ballsbridge. There Sir William Goff welcomed the visitors, descanting upon the many features of public interest that will be found in the display. A great garage will, of course, be provided for those who go by automobile. Now that Ireland is preparing to receive motorists in almost every town (as the provision of garages in connection with leading hotels testifies), the value of the country as a touring ground is being better appreciated.



Motor-Cars at the Meet of the Cottesmore Hounds at Langham.

#### The Motor-car on the Battlefield.

MR. S. F. EDGE is highly esteemed by newspaper editors as one of the most attractive personalities in the motor world, and in "Tit Bits" and "Ideas" he has lately been welcomed as a contributor. From the automobile point of view his contribution to the latter journal was the more notable, for there he gave his views on the utility of Motor Cars on the Battlefield. He briefly enumerated the advantages of the car for the transport of food and materials, to say nothing of its ability to increase the mobility of an army. In this latter connection he suggests that "it is in the transport of troops from one part of the field to another that the automobile will achieve its greatest purpose. The type of vehicle best adapted for this work is the long-bodied car on the char-a-banc principle, each accommodating from thirty to forty men." Mr. Edge also believes in the efficiency of the car against cavalry, representing the automobile as somewhat of a revival of the chariot that wrought such destruction in the ancient days. The employment of the motor-bicycle for despatch work is not forgotten.

#### Still on the Road.

THE Exhibition held in Dublin was of service in securing publicity for the longevity of the motor-car. Thus Mr. James Eadie, of Lisbellaw, informed a journalist that his Daimler car is now in its sixth season, and that it has run 35,000 miles in that period. Shod with solid tyres, the cost of their maintenance has been only £10 a year, while repairs and replacement have not been above £5 per annum. Mr. Guerin, of Dublin; Mr. T. P. Bradshaw, of Clontarf; and Mr. Allworth, of King's County, have all been using the same type of car for six years; while in the four year category Mr. W. R. McTaggart is able to recall Mr. Wentworth Allen, Dublin; Mr. W. Dove, Neath; Mr. R. T. V. Adams, Dublin, who must have travelled well over 40,000 miles. In addition, he knows of cars that originally belonged to the Earl of Wicklow, Colonel Bailward, Kildare, Mr. C. E. Barton, of Annamoe, and others, which are still on the road after five or six years' running. These are Irish experiences. It would be interesting to chronicle a number of British owners who have had their cars in service for periods of five years or more.

**Imports of Foreign Motor-Cars.**

APART from the growth of the home industry, regarding which, unfortunately, no exact statistics as to production are available, proof of the rapid development of the automobile movement in this country is found in the figures relating to the imports of motor-cars. Dealing first with December, this proved to be the quietest month of the past year, but still well in advance of that of the corresponding period of 1905, the official returns showing that no less than 223 foreign-built cars reached the United Kingdom last month, their value being returned at £101,076, which, added to £121,038 of parts, gives an aggregate of £222,114, as compared with only £204,705 in the final month of the preceding year. It is, however, in the figures for the whole of 1906 that evidence of the prevailing activity is found. During that period no less than 5,776 cars were imported, of a value of £2,486,337. To this has to be added £1,885,323 of parts, resulting in an aggregate of £4,371,660, as against £3,367,123 in 1905, or an increase of just over a million sterling. As a further indication of the enormous field the coming of the motor-car has opened up, it may be mentioned that the imports during the past five years have attained the colossal sum of over thirteen millions—£13,019,051, to give the exact figures.

**Exports of British Motor-Cars.**

WHILE, of course, British manufacturers are turning out a much larger number of cars than at any previous time, some years must elapse ere they can be in a position to cope with the home demand, not to speak of the building up of such a large export trade as our neighbours across the Channel have achieved. Still steady progress is being made, and although, in comparison with the import figures, our exports are insignificant, yet they show a very satisfactory increase. Thus last year we exported 1,380 cars, valued at £495,939, plus £324,081 of parts, giving an aggregate for 1906 of £820,020, as contrasted with only £501,802 in 1905 and £321,002 in 1904.

**Manchester.**

ATTRACTED partly by the prosperous state of the main industry of the County Palatine, there has been quite an automobile invasion of Manchester, and all the leading streets now bear evidence of local developments in the motor-car industry. In fact, next to the Metropolis, Manchester is being claimed by many as the best market for motor-cars in the kingdom, and the number of firms that have lately opened depots there would seem to indicate a growing local demand. Following so close upon the revival of the prosperity of the staple trade of the district the present movement of motor traders towards Manchester is undoubtedly well timed.

**A Motorist as Author.**

MR. CHARLES IGGLESDEN, of Ashford, whose "Saunter through Kent with Pen and Pencil" has just been published, is an ardent motorist. The topographical work he has had in hand for the past ten years naturally takes him to the most outlandish places, and his friends chaffed him when he decided to utilise a motor-car for travelling about. But, on a 4½-h.p. Renault, and then on a 10-h.p. car of the same make, he has found his labours lightened to the utmost degree, neither muddy and narrow lanes, field tracks, nor even ploughed fields being too bad for traversing. He has found that where a bicycle or cart can go—so long as the path be wide enough—a motor-car can make its way. And the result is seen in the charming volume before us, wherein he describes with pen and pencil such picturesque spots as Cranbrook, Bilsington, and Woodchurch, which are full of historical and architectural interest. The book is written from the antiquarian rather than the motoring point of view, but many owners of cars who know the delightful villages of Kent will dip with zest into these pages, which have had the advantage of revision and corroboration since they first appeared in the "Kentish Express," of which the author is the accomplished editor.

**Accessibility and Cleanliness.**

ON Wednesday, before the Institution of Automobile Engineers, Mr. F. L. Martineau read a paper on Accessibility and Cleanliness in Motor-cars, and the best means of attaining them. His view was that the body should be easily raised or moved, so that all the running gear can be easily and efficiently inspected. The maximum wheel base capable of being easily handled and utilised in all districts was 9 ft.; a really comfortable landaulet body would have to be of the same length from dash to back. To render every part accessible the body should be made to rise on hinges at the back. To inspect the engine and gear-box separately the front and back floorboards should be removed; and Mr. Martineau proposes that they should be made to slide out of the way under the seats instead of being lifted. At the same time, they should be arranged so that they will lift up with the body. Other interesting points are being dealt with as we go to press, and further reference to the subject will be made in our next issue.

**A Reply.**

EARL RUSSELL is one of the watchful defenders of Automobilmism, and his rejoinder to Mr. Lowes Dickinson's article on the Motor Tyranny in the "Independent Review," which appears in the January number of that varied magazine, is a restatement of the arguments which motorists have used over and over again against critics of our policy. He does not attempt to deny that the speed limit is often exceeded, and boldly asserts "that every motorist upon the road, from His Majesty the King downwards, habitually exceeds the speed limit of twenty miles an hour." And then he shows that a law which is universally broken and is generally regarded as absurd must be a bad law, or, at least, serve to bring law-making into contempt. At the same time the vigour of Earl Russell's onslaught into the camp of the enemy has enabled the Editor of our excellent contemporary to make a sly remonstrance against the use of the word "anarchists" as applied to the boys and girls who—driven off the grass and the woodland turf—play in the road after school; and the old men who on summer evenings chatter and loiter in the village streets.

A SIX-CYLINDER Brooke car has been shipped to Melbourne to the order of the Tarrant Motor Company, who are the agents for Brooke motors in Southern Australia.

WHAT is stated to be the largest contract in the history of the automobile industry has just been arranged, an order for 4,000 motor-cabs having been accepted by the Darracq Co.

THE Century Motor Company will shortly occupy a showroom in the High Street, Kensington, making a feature of the Clyde car, for which they have secured the agency for London and the south.

AN Ordnance Survey map of the Isle of Man, prepared on a scale of two miles to the inch, has just been published by Mr. T. Fisher Unwin. It should prove of value to all motorists actively interested in the Tourist Trophy race, as well as to the general body of pleasure seekers in Manxland.

IN connection with our reference to the new works of Messrs. Straker, Squire and Co., in Nelson Square, Blackfriars, we referred to the long distance trial of the 25-h.p. Straker-Squire C.S.B. car, which was to be carried out by the A.C.G.B.I. This was successfully undertaken in October and November, and the certificate of the Club with its review of the performance of the vehicle during its run of 4,010 miles has just been issued. The trial occupied twenty-three days, the averagedaily mileage being 174.5 with an average of 15.1 miles to the gallon, despite the rough condition of many of the roads travelled and the adverse climatic conditions on many occasions. When the vehicle was dismantled and examined by the experts at the conclusion of the trial the whole of the mechanism was in remarkably good condition with the single exception of the ball bearings at the near end of the driving axle. Messrs. Straker, Squire are to be congratulated on the result of the long journey.



## Why Motorists Have Trouble.

EXPERIENCE HAS SHOWN THAT IN A LARGE NUMBER OF CASES THE TROUBLES EXPERIENCED BY MOTORISTS IN THE OPERATION OF THEIR CARS ARE DUE TO THEIR OWN WANT OF KNOWLEDGE OR CARE OF THE VEHICLES. THE MANUFACTURERS ARE, HOWEVER, FREQUENTLY BLAMED FOR ANY IRREGULAR RUNNING, AND AS THE RESULT OF THE COMPLAINTS FOCUSED ON THEM THEY ARE NOT ONLY ENABLED TO DISCOVER ANY PARTS OF THEIR PRODUCTIONS WHICH DO NOT PROVE SATISFACTORY IN PRACTICE, AND TO REMEDY THE SAME, BUT ALSO TO GAUGE HOW FAR THE DIFFICULTIES EXPERIENCED BY USERS ARE THE RESULT OF THEIR OWN INATTENTION. WITH THE VIEW OF GIVING OUR READERS THE BENEFIT OF THE MANUFACTURERS' KNOWLEDGE, WE RECENTLY ADDRESSED THE QUESTION "WHAT DO YOU CONSIDER IS THE MOST COMMON FAULT OF MOTORISTS IN HANDLING THEIR CARS, WHEREBY THEY HAVE UNNECESSARY TROUBLE?" TO A NUMBER OF LEADING FIRMS, AND HEREWITH APPEND SOME OF THE REPLIES WE HAVE RECEIVED.

### The Albion Car.

There are very few points about the Albion car which require adjustment beyond the ordinary grinding of valves, &c., but we find that a number of drivers of our cars are ignorant of the importance of properly adjusting the ignition make and break gear. The adjustment for this is extremely simple and can be made in a few minutes, but there is a considerable amount of indifference shown by the average driver to the importance of this adjustment. For this reason we have lately produced a handbook on the Albion car, which we are issuing with all the vehicles of our manufacture, detailing the various adjustments which should be made to keep the engine in good running order. We have also issued a pamphlet giving instructions as to the adjustment of the Albion magneto ignition, an extract from which follows:—With the

ignition plug removed the rod operating the plug should drop exactly  $\frac{1}{8}$  in. from the highest position to which it is lifted by the cam, to its lowest position. If the length of drop is less than this, the platinum points in the plug will not be held sufficiently far apart, and if the drop is appreciably more than  $\frac{1}{8}$  in. the ignition rod will come down on the cam and cause a tapping noise. If incorrect, this must be adjusted by putting thin washers under the "buffer" or lower spring if too long, or on the top of the "driving" or upper spring if too short. These springs are inside the steel columns supporting the striking rod. The ignition hammers, if of the solid type, should be set exactly  $\frac{1}{16}$  in. clear of the ball end of the wiper on the ignition plug immediately before the striking rod is released by the cam. If of the spring buffer type, they should be so adjusted that the buffer striking spring is quite free and has a very slight end play immediately before the ignition rod is released by the cam (see A, Fig. 2). The setting of these ignition hammers is most important, as it is necessary that the ignition rod should deliver a sharp tap to the ball on the wiper spindle and the ignition plug to ensure a sharp break. If the clearance is greater than the above specified amounts, the contacts will not be pulled sufficiently far apart to give a good spark, and will be apt to burn the platinum. The ignition tie springs must be thoroughly clean, so that they make a good electrical connection between the wiper spindle and the frame work of the engine. For the same reason the wiper spindle and its cross head, taper pin and nut must be kept thoroughly clean.

### The Lanchester Car.

One or two of the commonest faults amongst drivers in handling Lanchester cars of the two-cylinder type are as follows:—If the driver runs with too rich a mixture, he is liable to soot the sparking plugs and thereby cause a short circuit or

defective ignition. Many drivers are not sufficiently careful when replacing ignition wires in the low tension sparking plugs to see that the wire beds properly on its pressure seat. A leakage past the wire is liable to blow the spark out and cause ignition failure, and even if it does not actually prevent ignition, it is liable to cause slow combustion, and consequently loss of power. Again, if the hot gases are allowed to blow past the pressure seat of the wire they will burn the wire away in 100 or 200 miles, after which it may be necessary to fit a new bush as well as a fresh wire. Drivers frequently have a tendency to hang on to the top gear too long when hill-climbing. This is likely to prevent the car from climbing a hill on the second speed that it otherwise would climb on that gear, as keeping the top speed in slows the engine down to such an extent that when the gear is changed the motor does not pick up speed again, and the driver in consequence has to drop to the lowest speed. Driving on the top gear at too slow a speed also causes excessive wear on the suspension links and joints. When using the reverse, a frequent fault is that the driver accelerates the engine and moderates his speed by slipping the friction blocks on the gear drum. This causes rapid wear on the blocks, which entails frequent adjustment, or else the driver finds that his reverse gear does not grip. Many drivers never give a thought to examine the running gear of their cars. If the front wheels are allowed to run when out of adjustment, the life of the ball bearing may be very short. This bearing should not be kept absolutely tight, but the amount of play should be only just perceptible. It is advisable now and again to test the back wheels on the live axles and see that they are tight. This applies particularly to a new car after it has been running 400 or 500 miles.

### The National Car.

"To answer your question," remarks Mr. P. Lamb, "is rather difficult, but it may interest you to hear that I have some complaints against drivers of 'National' cars. This car has had considerable attention paid to its design, to entirely, if possible, eliminate troubles arising from either inexperience or carelessness on the part of the driver; but, however much one considers designing a "fool-proof" car, there are always those who, in spite of everything, will drive a car in anything but the right way. The use of the variable petrol jet seems to be a neglected feature, but why I cannot say, because it is conveniently controlled by a small lever on the face of the steering column. We hear some drivers say that their consumption is eighteen miles to the gallon, and others that it is twenty-two, as the case may be, but careful and considerate drivers accomplish a much more favourable average. Owners driving themselves seem to get the best results; in fact, quite recently Sir Charles Knox drove a distance of over sixty-three miles on two gallons of petrol with his car fully loaded; and I performed what I believe to be a record run, for a water-cooled engine, some few months ago, by driving a standard 18-22-h.p. three-cylinder car over seventy miles on two gallons of petrol. I mention these facts, as both instances can be proved, simply to illustrate that a careful driver ought to get good results from this small but somewhat often neglected petrol economiser, which is the only point that any complaint can be made, as a fault in handling a 'National' car and the trouble arising from this neglect might cause slight loss of power, and, what may be worse still, expensive running."

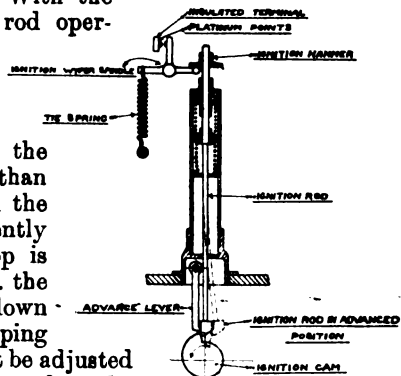


FIG. 1.

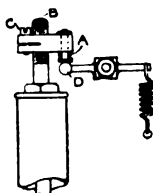


FIG. 2.

- A.—Ignition Clearance.
- B.—Screwed end of Ignition Rod.
- C.—Locking Screw.
- D.—Ignition Wiper.

### The Hotchkiss Car.

The London and Parisian Motor Company, Ltd., write that a few of the troubles that we have had recently reported to us which have been the cause of Hotchkiss cars stopping are as follows:—"The driver, through not keeping the car very clean, got a lot of oil on the ground wire of the magneto. We sent a man to Yorkshire, and he disconnected the wire and cleaned it, and the car was again perfect. Another trouble was that the vent hole on the top of the petrol tank was blocked up, and the car would go for a little while when flooding the carburettor, and then suddenly stop, and then start again after waiting a short time. In one or two instances we have found that the gauze in front of the carburettor was blocked up, and the petrol could not get to the carburettor. If a client buys a Hotchkiss car we generally have his mechanic at our garage and give him full instructions, and this, we suppose, is why we do not have very much trouble."

### The Peugeot Car.

Mr. C. Friswell considers that with regard to Peugeot cars, like many other first-class vehicles, the greatest trouble comes about through the want of knowledge of the drivers. The machines to-day are so reliable, and they are driven for such long periods without trouble, that the drivers think it only a matter of course that they should run without attention, the result being that when some slight mechanical adjustment is necessary—although only a few minutes' work when diagnosed—often causes hours' delay on the road, simply because the drivers are so unfamiliar with their machine that they do not know how to diagnose the defect.

### The De Dietrich Car.

The only trouble which we find with the De Dietrich, writes Mr. W. M. Letts, is, that although the drivers handle and look after their cars very well, they are inclined, because everything seems to run right, to neglect lubrication, that is they leave too much to chance, imagining that because the lubricator is working right one day it is working the same next day. I would summarise my answer to your query by saying:—Carelessness in seeing that the car is properly lubricated.

### The Wolseley Car.

The most general cause of trouble with "Wolseley" cars is due to motorists running with the ignition set too early, thus putting an unduly heavy strain on the motor. We have also noticed a tendency to run the engine too slowly. Apart from these two points we have, state the Wolseley Tool and Motor-car Company, rarely had occasion to advise our clients in the proper care of their cars.

### The Speedwell Car.

Mr. Dew, of the Speedwell Motor and Engineering Company, Ltd., reports that the chief trouble, in a general kind of way, in the management of the Speedwell cars is that insufficient attention is paid to keeping the accumulators fully charged.

### The Brooke Car.

"Frankly, we do not get very much trouble," writes Mr. Mawdsley Brooke; "in fact very, very little, but if we do get trouble it is invariably from want of lubrication. We think this sums up the whole situation."

LADY ELLIOT has just ordered one of the new Sheffield-Simplex 45-h.p. six-cylinder cars, with a limousine body.

MESSRS. G. M. MONNET AND CO., who are agents for Messrs. Mestre and Blatge, have removed from Oxford Street, W., to 20, Store Street, Tottenham Court Road, London, W.C.

A NEW garage with accommodation for a dozen motor-cars has been opened in connection with the Hotel Burlington, Boscombe. It is in the hotel grounds opening on to the Sea Road near the Pier.

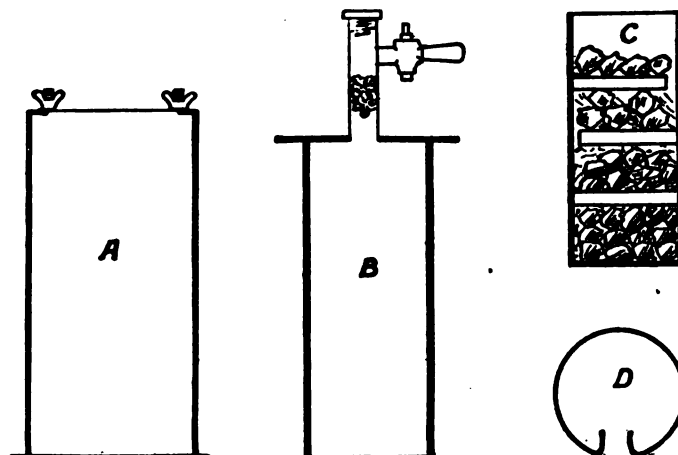
AMONGST recent purchasers of New Arrol-Johnston cars is the Marquis of Breadalbane, K.G., who has just been appointed Keeper of the Privy Seal of Scotland. Sir Francis Ley, Bart., has also ordered a 12-15-h.p. wagonette.

## A SIMPLE ACETYLENE GENERATOR AND LAMP.

THE following account of an acetylene lamp and generator I made last winter and have had in use for some time may be of interest. Acetylene lamps are expensive things, some costing £5 or £6. I had used acetylene for three or four years for the optical lantern, employing a generator of my own device, which was described in one or two photographic papers about three years ago, but as this had a rising gas holder it was not suitable for a car.

The accompanying diagram shows the car generator. The tank A is 5 in. square and 10 in. high; the top has a circular hole  $3\frac{1}{2}$  in. in diameter. The bell B, which contains the carbide holder, is open at the bottom, it is  $3\frac{1}{2}$  in. in diameter and reaches to within about  $\frac{1}{2}$  in. of the bottom of the tank. A tube fixed in the top, with a stop cock, takes the gas to the burner; a wire is soldered across this tube, on which rests a wad of cotton wool to prevent any water passing to the burner.

The carbide is placed in a tin cylinder C 3 in. diameter and 7 in. high. Three or four holes are pierced in the bottom of the tin to let the water in; the carbide is in layers with discs of wood intervening; this prevents all the carbide getting wet at once. The holder is fixed in the bell by a spring, shown at D, made of a strip of brass bent into a circle; by pinching the end with the fingers it is inserted in the bell. The carbide holder is really an old coffee tin; a second is kept in reserve in the car and



it can be put in in two or three minutes when the first charge is exhausted. The bell is kept in the tank by two screws and thumb nuts at opposite corners of the tank. This is not a tight joint, so that any superfluous acetylene thereby escapes. The tank is half filled with water; as gas is generated it forces the water out of the bell holding the carbide and gradually works up as the carbide is used. The lamp I use is an old oil one which cost 5s., but the glass, being too near the flame, continually broke, so a curved glass was placed further away and kept in position by a brass spring covered with asbestos yarn, which allows for expansion and contraction. The lamp acts well and gives but little trouble. The generator, including some alterations to fit it to my present car, only cost about 15s. It is made of galvanised iron, and, although it may not last as long as a brass generator, by the time it is worn out we may very likely have some improved light for motor-cars.

JOHN HENRY KNIGHT.

THE Manchester students' section of the Institution of Electrical Engineers have just paid a visit of inspection to the works of the Belsize Motor Car Company, at Clayton, Manchester.

WILLINGS' Press Guide is now in its thirty-fourth year—evidence of its worth, and, in these days of many papers, necessity. It is published by Messrs. James Willing, Junior, Ltd., and is both accurate in information and easy of reference.

## SOME NEW SELF-STARTING DEVICES.

A NOTEWORTHY and interesting feature of the recent Paris Salon were the self-starting devices exhibited by Renault, Fiat, Isotta-Fraschini, Cinogene, Saurer and other concerns, the first four of which have already been dealt with in these pages. The arrangement fitted to the Saurer cars consists of a small air compressor, having very much the appearance of a motor-cycle engine, and driven off the shaft between the clutch and gear-box. The compressor is in direct connection with a steel reservoir into which the air is driven. The engine is started by means of a lever which opens a valve admitting the compressed air to a rotary horizontal distributor situated in the centre of a hollow yoke pipe, connected with each exhaust valve cap. The distributor is driven by a vertical spindle operated by bevel gear off the camshaft. Of course a hand valve is also fitted to screw down and prevent any leakage after the engine has been started. In addition to starting the engine, the air compressor, which is driven through a clutch so that it is only worked as desired, can be employed to inflate the tyres and also to blow a syren.

Special interest centres in the Letombe device of Messrs. Torchon and Meunier, of Paris, in that not only is it being taken up by Messrs. De Dietrich and Co., but also that it took the first place in the recent competition of engine-starting devices held by the French Academie des Sports. As in most devices of the kind, the Letombe is one in which the engine is set in

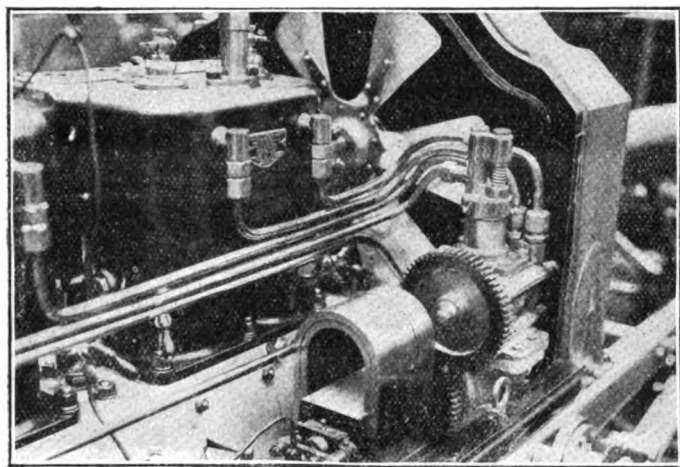


Fig. 1.—The Letombe Self-starter as fitted to a De Dietrich car.

operation by means of compressed air, the latter being forced along the pipes E F and steel reservoir G (Fig. 2) at a pressure of about 400 lbs. per square inch by means of a small compressor driven by gearing or chain off one of the cam shafts. Within the distributing chamber, which is cast in one piece with the compressor, is a rotating disc pressed up against a fixed plate in which four ports are cut. The disc is allowed a small lateral movement, controlled by a light spring, in order to eliminate friction when the starting effort is not required. To start the motor a spring-controlled valve B on the dashboard is opened, thereby admitting the compressed air to the distributor box, and pressing the rotating disc against the distributor proper. The disc has a port cut in it, which passes in turn in front of each of the four ports in the distributor leading to the different cylinders. The ports are so arranged that the compressed air must enter one of the cylinders, no matter in which position the crankshaft may be, and no sooner is the air cut off from one cylinder than it enters another. Communication between the distributor and the cylinders is made by a copper tube L, enlarged to contain a check valve at the joint with the explosion chamber, in order to prevent the hot exploded gases passing into the distributor, provision being also made to automatically cut off the supply of compressed air as soon as the engine starts work. The air-compressor is also provided with a small piston in its cylinder

head which acts upon the air inlet valve so as to hold it open, and so cause the pump to work idly as soon as a given pressure is reached in the reservoir, leakage from the latter being prevented by a screw-down valve A on the dashboard. In the ordinary way the engine can be started by a single push on the

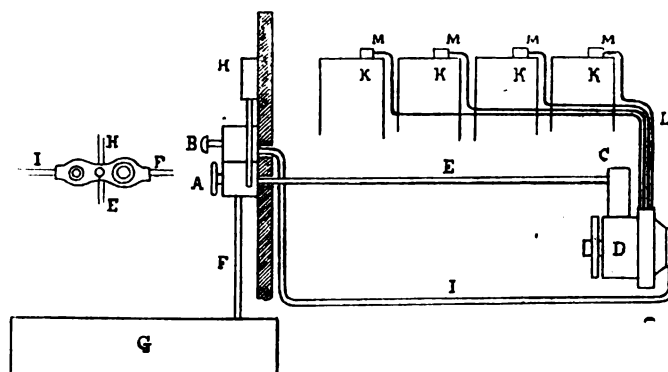


Fig. 2.—Diagram showing Arrangement of Letombe Automatic Engine Starting Apparatus.

- |  |  |
|--|--|
| A—Valve Closing Air Inlet to reservoir.    | H—Pressure Gauge.                                    |
| B—Starting Valve releasing compressed air. | I—Pipe conveying air to distributor.                 |
| C—Air Compressor.                          | K—Engine Cylinders.                                  |
| D—Distributing Box.                        | L—Pipes from distributor to the different cylinders. |
| E F—Pipes conveying air to reservoir.      | M—Compressed Air Inlet Valves.                       |
| G—Compressed Air Reservoir.                |  |

spring-controlled valve B, thus using but a small portion of the compressed air charge, the full capacity of which is equal to rotating the engine crank-shaft twenty-five times.

The Lemale automatic starter made by M. Lemale, of Suresnes, consists of a spring contained in a cylindrical box A

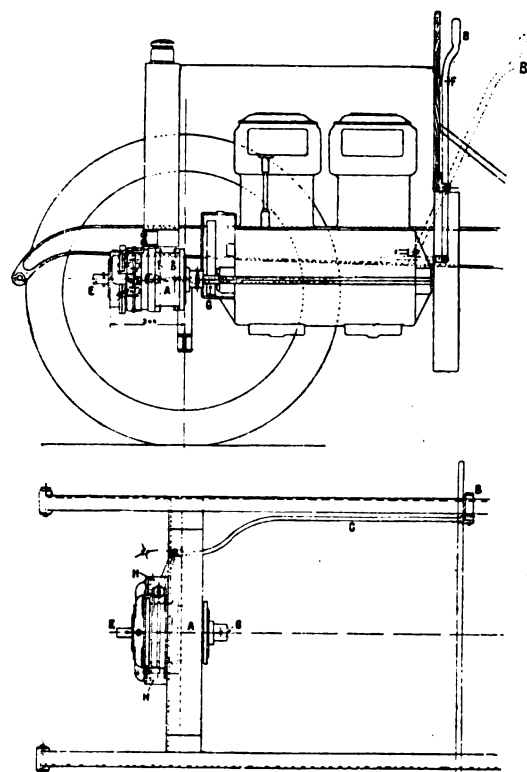


Fig. 3.—Sectional Elevation and Plan View of arrangement of Lemale Automatic Starter.

- |                      |                                 |
|----------------------|---------------------------------|
| A—Automatic Starter. | E—End of Spindle and Apparatus. |
| B—Control Lever.     | F—Lever Stop.                   |
| C—Connecting Rod.    | G—End of Crank Shaft.           |

(Fig. 3) at the front of the engine crank-shaft, to which it is connected in a special way. To start the motor, a lever B on the dashboard is pulled forward, which allows the spring to unwind and give five sharp revolutions to the crank-shaft. Once the engine is running, it rewinds up the spring—when the lever

is returned to its normal position—provision being made that no overwinding can take place.

The Universelle engine starter of Messrs. Bossu, Erlotti and Co., of Courbevoie, consists of a dynamo driven off the crank-shaft of the engine. It is employed to keep a small battery of accumulators fully charged; the current of the latter being employed, when it is desired to start the engine, in driving the dynamo, which then acts as a motor. It is claimed for the Universelle arrangement that it not only also keeps the ignition accumulators fully charged, but that the lamps of the car can be lighted and the interior of the vehicle heated electrically.

The German Daimler Company have recently secured patents for an automatic motor starting arrangement, details of which are given in Fig. 4. The apparatus comprises a petrol sprayer, a distributing valve for supplying combustible mixture to the cylinder that may be in a position for firing at the moment, a commutator disc operated from the cam shaft of the motor, and an indicator disc connected to the commutator

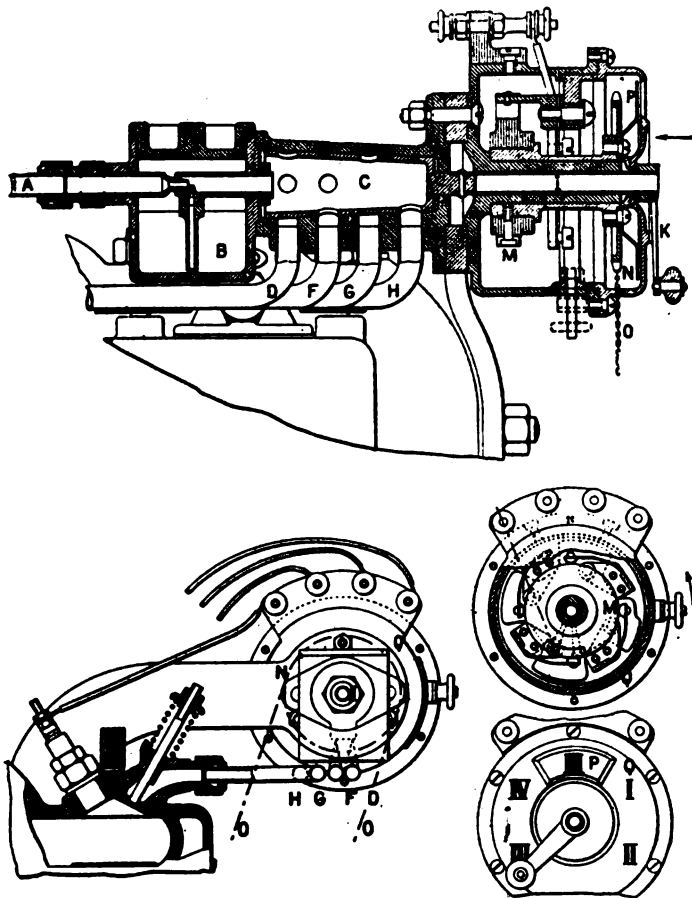


Fig. 4.—Details of Mercedes Self-Starting Device.

disc, and showing the position in which the distributing valve must be placed, that is to say, into which cylinder the charge must be pumped. With this system it is important that the device should not be placed in communication with any cylinder the valves of which are open at the instant, and this end is attained by means of the distributor valve. A current of air under pressure, supplied by a hand pump, for instance, issues from the nozzle at the end of the tube A and enters the petrol reservoir B, which is provided with a sprayer or atomizer, and forces the combustible mixture into the distributing valve C, which is connected with each of the cylinders by the tubes D, F, G, H. The stem I of the distributor valve terminates in a handle K, by means of which the valve may be so set as to place it in communication with that cylinder in which the valves are closed. The ignition is then effected in that cylinder, the spark being "distributed" to it by means of the commutator disc M, which is operated from the cam shaft by means of

a chain wheel N and chain O. With the commutator disc turns the indicator disc P, which shows in an opening in the casing Q the number of the cylinder that should receive the charge. The handle K of the valve is then moved to the corresponding number on the case, for applying the charge to the desired cylinder, after which the spark is caused to pass. The charge enters the cylinder through a small valve, the spring of which is calculated to resist the greatest degree of vacuum existing in the cylinder. The sparking plug is placed in proximity to this valve, in order to facilitate ignition—in fact, both the valve and the plug are fixed in one of the cover plugs over the regular valves of the motor. The charge is ignited by a spark furnished either by an auxiliary accumulator and coil or by a hand-operated high tension magneto.

### SOME USEFUL NOTES.

THE distributor in high tension magnetos, or high tension systems where only one coil is used, occasionally needs attention. Dirt, bits of the brushes, &c., are liable to cause misfiring if the distributor is not occasionally wiped out.

AN ignition trouble not always immediately ascertained is the short-circuiting of high tension wires. This is particularly liable to happen when the four or six wires are packed tightly into a tube; in spite of the tube, wet and oil eventually destroy the insulation, and bad short-circuiting is the result.

SHACKLE-PLATES and bolts rarely come in for the attention they deserve. Most cars are now provided with either oilers or greasers for these bolts; but it is not enough to oil them only and never think any more about them. The plates and bolts should be examined, say, every six months, because wear takes place in both. It is sometimes scarcely understood that in a pair of shackle-plates the plate and bolts are to all intents and purposes one piece, as the bolts should not turn in the plates, the spring moving on the bolt only.

AFTER a long period of service the water circulation system of a car may require some looking over. It is a good plan to thoroughly wash out the same with water; by breaking a joint in the piping and attaching a hose to one end, water under pressure may be forced through the radiator and the engine jacket and piping. A considerable amount of rust and fine mud will usually be washed out. During this operation the draw-off cock in the bottom of the radiator and in the engine jacket or at the pump (if such are fitted) should be opened.

It should always be kept in mind that the distributor of a high tension magneto ignition can be easily coupled up to a single-trembler coil and accumulator in the case of a break down. Take the high tension wire from the coil and connect it to the centre (feed) terminal of the distributor. The positive wire of the battery goes, as usual, to the battery connection of the coil, the negative being earthed; earth also the remaining terminal of the coil. Of course this arrangement is not good for the coil, as the trembler is going all the time, but it is only intended to be used in the case of a breakage inside the magneto.

If there is a leak in the cylinder and there is no sound of hissing around the sparking plug when the starting handle is turned the leak is probably in the exhaust valve or in the piston rings. If examination shows the exhaust valve to be tight, probably the piston rings are at fault, either through being worn loose or through one of them having become broken. A broken ring will generally make itself heard by a distinct clicking noise when the motor is running. An effectual way to determine whether the leak is due simply to the rings being worn is to squirt a small quantity of oil on the piston, which, in the case of a vertical engine, is easily done, and makes the piston perfectly tight while it lasts. Too much oil must not be used or there will be trouble in getting rid of it when the engine is to be started and operated under its own power.



## CONTINENTAL NOTES.

### The Brussels Automobile Exhibition.

The fifth annual Belgian *Salon* was opened in the Palais du Cinquantenaire, Brussels, on Saturday last. Coming so quickly after the Paris show there are not many novelties on view, but the exhibition is by far the most important that has so far been held in the country and reflects the increasing importance of the industry in Belgium. Among the home concerns exhibiting cars are the Metallurgique, Pipe, Nagant, Vivinus, F. N., R. S. B. (Rochet-Schneider Belge), Dasse, Fondu, Germain, Linon, Minerva, Imperia, Saventhem, Royal Star, La Fleche, Excelsior and the Auto Mixte. Several of these firms are showing six-cylinder vehicles, among them being the Germain, an illustration of which has already been given in the *M.C.J.* The Metallurgique Co., in addition to touring vehicles, have on view a 12-h.p. delivery van, a 3-ton lorry, and a motor tower wagon for use in connection with the maintenance of the overhead conductors of electric tramways. French makers are well to the fore, among the types exhibited, either directly or through the Belgian agents, being the Berliet, Bolide, Brasier, Clement-Bayard, Delaunay-Belleville, Darracq,

has hitherto prevailed, the power of the cars will be restricted by the new rule which provides that the allowance of petrol shall be equal to 30 litres per 100 kilometres, or 9.47 miles to the gallon. No sooner did the authorisation of the race become known than the entries began to be sent in, among the first being three Clement-Bayards, three Darracqs, three Motoblocs, and a Corre. The Sporting Commission is now engaged in searching for a suitable circuit on which to hold the race, of which quite a number have been suggested. Perhaps the most important event of the week is, however, the decision of the Sporting Commission of the A.C.F. to organise a second race for cars which shall have a petrol allowance of only 15 litres per 100 kilometres—equal to just under 19 miles per gallon. The proposed distance of the new contest, which, as will be seen, is very closely on the lines of the British Tourist Trophy race, is 500 kilometres, over the course selected for the Grand Prix, and it is suggested that it shall be held next June, on the day preceding the latter event, providing, of course, that the necessary authorisation from the Government can be obtained. Each maker will be allowed to enter three cars for the event, which will be known as the Coupe de la Commission Sportive. Entries at £140 per vehicle will be received at the A.C.F. up to February 1st. Seeing that the fuel consumption limit fixed will allow cars



General View of the Brussels Salon.

De Dion, De Dietrich, Delahaye, Delage, Gobron, Hurtu, Mors, Panhard, Prima, Radia, Renault, Rochet-Schneider, Stella, Werner, and Weyer and Richmond. The Mercedes and N.A.G. cars represent the German motor industry; the Fiat, Itala, Isotta-Fraschini, and Hisa that of Italy; the Humber Company that of England; the Martini that of Switzerland; and the Ford that of the United States. Around the sides of the large hall is a big display of motor accessories, including tyres and non-skids. The show will remain open until the 27th inst.

### Forthcoming Automobile Races in France.

The past week has been an eventful one in the French automobile world, several important matters affecting future races and trials having been decided upon. In the first place, the rumours which gained ground about the time of the *Salon*, that the Government would not allow any more racing, have been proved unfounded by the fact that the proposed new rules under which the 1907 Grand Prix should be run have been considered by M. Clémenceau, the Minister of the Interior, as a result of which he has given the Automobile Club of France the necessary authorisation to hold the event. The race will be run on a closed circuit, and instead of the 1,000 kilog. weight limit, which

up to about 40-h.p. to be entered, the race promises to be a very popular one. In order, however, that the risk of accident shall not be increased by having too many cars on the road, the Committee has wisely decided to reserve the right to reduce the number of vehicles which each manufacturer may enter.

### More Trials in France.

Passing from races to trials, we have to record that at the meeting of the Competitions Committee of the A.C.F. last week the idea of organising a trial of touring cars from Paris to Madrid this year was abandoned. In its place it is proposed to hold two other trials in May next—one for industrial vehicles, and the other for light cars of about 12-h.p., both to be run over a minimum distance of 4,000 kilometres. It is suggested that the commercial car contest should be held in the northern and eastern environs of Paris, and the daily distance to be covered from 150 to 200 kilometres. The light car trial is intended as a means of developing motor-cars suitable for the use of doctors, travellers, and for similar professional and commercial requirements; the competing vehicles will cover the same course as the industrial machines, but the daily distance will be greater and an average speed of 30 kilometres per hour required.

### Some Useful Competitions.

The Association Generale Automobile, of Paris, a body which to some extent corresponds to the Motor Union of Great Britain and Ireland, has decided to organise four different competitions, all of which should serve a useful purpose. In the first place, it is proposed to hold a trial of apparatus to prevent cars being stolen. The second test will be of arrangements intended to permit of drivers seeing what is behind the car without having to look round. The third competition will deal with devices to enable drivers to hear sounds from the rear, while the fourth relates to apparatus designed to measure the consumption of fuel in petrol motors.

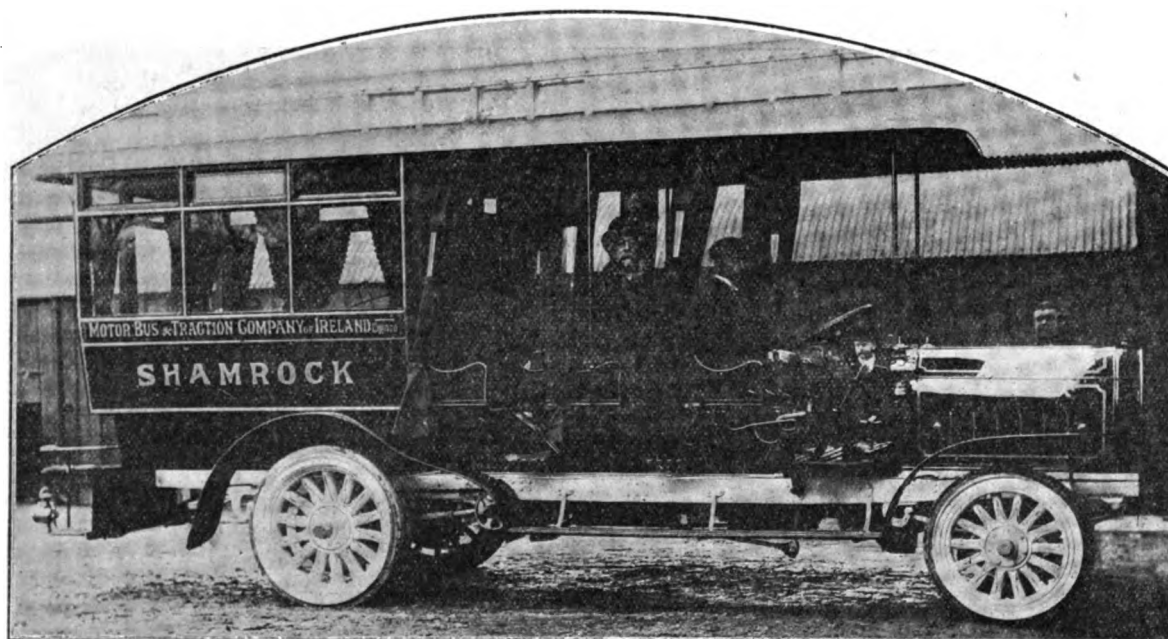
### Automobile Regulations in Sweden.

A new series of regulations with regard to motor traffic in Sweden came into operation on the 1st inst. They provide, among other things, that motor-cars can only be driven by persons over eighteen years of age; in towns and villages the maximum speed must not exceed 15 kilometres (9½ miles) per hour, and in the country 25 kilometres (15½ miles), while after dark cars must not travel at a greater speed than 10

### AUXILIARY EXHAUST PORTS.

THE importance of promptly relieving the cylinders of a high-speed internal-combustion engine of their hot gases as soon as their useful work has been accomplished is very generally recognised, and considerable attention is being paid by automobile engineers to the growing practice in America of employing an auxiliary side port exhaust in addition to the regular cam-actuated exhaust valve. Two-cycle engines have long been designed to exhaust in this manner through an opening in the cylinder wall, which is uncovered by the upper edge of the piston when at its extreme downward position on the power stroke, and now this method of exhausting the charge is being applied to four-cycle engines in order to secure increased celerity in freeing the cylinders of the burnt gases.

Air-cooled four-cycle engines have been the first to be provided with side port release, but now at least one well-known American builder of cars with water-cooled engines has adopted the method. The opening by the piston of a large annular port in the cylinder wall, extending around a fraction of the circular section of the cylinder and leading directly to the silencer by



The "Shamrock" Motor Coach, which is about to be put in service in the Dublin District. (See page 1033.)

kilometres (6½ miles). Some special rules are provided for Stockholm, owing to the numerous bridges and narrow streets.

### Vibration on Motor-Buses.

The Conseil d'Hygiene Publique de la Seine, of Paris, has been considering the question of vibration in motor-buses and its effect on the passengers, but more especially on the drivers and conductors, who, by reason of their work, are confined on the vehicles for long periods. It was stated that the vibration and shocks were mainly due to the use of wheels shod with non-continuous rubber blocks, and it has been decided that to remedy this state of affairs the suspension of the buses, more especially at the rear, must be improved by the introduction of rubber or pneumatic cushions in connection with the springs.

### Miscellaneous Items.

The exports of motor-cars from France during the eleven months ending with November last attained a value of £5,058,040, an increase of £1,353,640 over the corresponding period of 1905.—The Kaiser has just placed an order for a 45-h.p. N.A.G. car; it is to be provided with two bodies—a double phaeton for summer use and a limousine for winter service.

a special pipe of large bore, may, remarks an American contemporary, be expected to quickly reduce the terminal pressure in the cylinder at the close of the power stroke. This reduction of pressure results in a corresponding decrease of temperature of the remaining gases due to expansion, and by the time the regular exhaust valve is fairly open, the temperature of the gases may have fallen very materially below that at which they would have been had no auxiliary outlet been provided. The decrease of temperature of the gases passing the exhaust valve may, indeed, be sufficient to reduce the scaling, pitting and warping of the valve in a very noticeable degree, or perhaps to largely prevent these evidences of deterioration. Most of the heat damage to ordinary exhaust valves takes place during the first portion of their opening, when the "fire" is actually passing through them, but little deterioration being caused during the later portions of the stroke when the gases are relatively cool. By allowing the port to take the brunt of the very earliest and hottest portion of the exhaust, and timing the exhaust valve to open a little later than would otherwise be permissible, the life of the latter valve should be prolonged.

KING ALPHONSO of Spain has decided to use the Continental red rubber steel armoured non-skid tyres on his cars.

THE Riley Cycle Company, Ltd., have provided in their works at Coventry for turning out a large number of their de luxe tri-cars in the coming season.

MR. H. J. DOUGHTY, of the Granville Motor Garage, 205, Clapham Road, S.W., has issued a circular showing his terms of hire for motor-cars—a department in which he has attained considerable success.

THE Waterloo Motor Works, of Chicheley Street, Lambeth, S.E., are doing the garage work for the Junior Army and Navy Stores and also the proprietors of the "Evening News."

MESSRS. REID'S carriage works in Princes Street, Perth, have now accommodation for garaging motor-cars. The firm is also devoting attention to the construction of motor-car bodies.

THE Central Motor Garage Company, of which Messrs. A. W. Whaley and J. W. Morris are the proprietors, are letting out cars for hire from their garage in Sawley Road, Long Eaton.

EXTENSIONS are being made to the West End Cycle and Motor Engineering Works, of Dublin, in the garage of which Messrs. Eager and Dalton have been doing good business throughout the past year.

FOLLOWING the snow, the Parsons Non-Skid Company, Ltd., report that they have been overwhelmed with orders for non-skids, including an urgent command from Sandringham for four sets for H.M. the King's cars.

OPPOSITE the town clock at Shanklin Messrs. Bailey Bros. have increased their facilities for storing and repairing cars—a fact that will be of interest to motorists taking their vehicles to the Isle of Wight during the coming season.

MR. J. T. WHITEHEAD, of the Peel Park Ironworks and Garage, has a fully-equipped motor repair shop in Water Street, Accrington, where he keeps a large stock of accessories, &c. His garage will doubtless be of service to Lancashire motorists passing that way.

MR. W. V. J. TIMMS, motor-car engineer, has removed from Deodar Road to 3, High Street, Putney, S.W., where he will continue to repair motor-cars and stock accessories. A part of the premises thus converted to automobile uses were formerly occupied by a farrier.

AMONG the reminders of the New Year with which we have been favoured is the handy pocket-book published by the Continental Tyre and Rubber Company, which not only reminds its owner of the good points of the Continental tyres, but has the advantage of being of real service.

WHEN *en route* to Nottingham the other day we noticed that the A.C.G.B.I. caution-board, on the northern side of the village of Brixworth, Northamptonshire, had fallen down. Great care must be taken by motorists on approaching the place from either side. It lies in a hollow, and the main street is not only extremely narrow but comprises a couple of nasty turns.

A NEW garage, fully equipped with machinery and tools and manned by skilled mechanics, has been established on the main Coventry and Birmingham road by Mr. A. Burgess. This is located at Hay Mills, Birmingham, and Mr. Burgess, who has had a decade of practical experience in the motor trade, will stock accessories and execute all kinds of repairs to troubled cars.

THE new West End depot of Humber, Ltd., at 60-64, Brompton Road, London, S.W., is one of the handsomest of the modern motor depots which are now adding to the attractiveness of that part of London. The showroom has an area of about 3,000 square feet, where ten cars can be shown to advantage without over-crowding, and there is ample opportunity for investigating every part of any one of the famous models.

THE Reigate County Bench is reported to have granted a summons for assault against Inspector Jarrett, at the instance of Mr. W. G. Roberts, of Westminster Bridge Road, S.W. Mr. Roberts was one of three defendants summoned by Inspector Jarrett at the November sitting of the court, but after a lengthy hearing the summonses were dismissed. It is alleged that the inspector, after stopping Mr. Roberts, used threatening expressions, and twice thrust his fist into his face.

## HERE AND THERE.

NOTTINGHAM is a place near Beeston, is the way Mr. T. C. Pullinger, of the Humber Company, now describes the lace-manufacturing city!

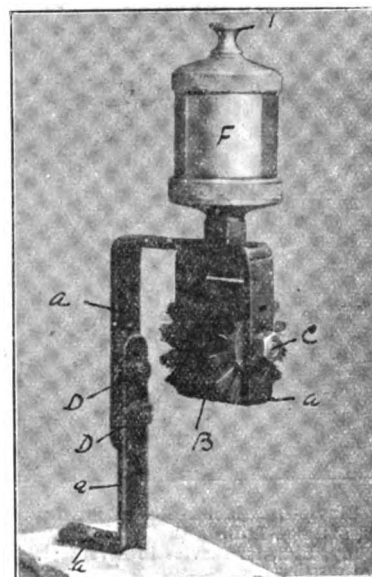
A MOTORIST, fretting to himself, recently expressed this sentiment:—"I don't care whether I get a crankless automobile, or a joltless spring and a heatless motor, if I can only find a fineless chauffeur!"

THE Hon. Arthur Stanley, the Chairman of the A.C.G.B.I., left London for Egypt early this week.

MR. J. GIBSON, of 36, Lower Beechwood Avenue, Ranelagh, Dublin, is about to open an automobile depot in the Irish capital.

THE Orient-Royal Mail Line have made arrangements whereby motorists can take their cars at special rates to Marseilles or Naples.

WE illustrate herewith a new motor chain-cleaning and lubricating brush, which has been recently patented by Mr. H. Copeland, and which is about to be put on the market by the Motor Chain-cleaning and Lubricating Company, of Plantation Street, Accrington. The idea consists essentially in an adjustable bracket, a freely-rotatable brush carried by the same, and a piston or other suitable lubricator for supplying lubricants to the chain. The bracket A, which can be attached to any suitable



part of the car, is made in two parts, so as to be easily adjusted, the adjustment being carried out through the agency of one or more bolts D. The bracket is provided with a spindle C, upon which is mounted the rotating brush B, which is of suitable diameter and wider than the chain. Arranged above the latter is a piston lubricator F screwed to the bracket A. As will be seen, the outlet of the lubricator is extended so as to form a tube of the same width as the brush. The latter is adapted to come into contact with the chain so as to be rotated thereby, and, as it does so, dirt is removed from the chain and lubricant is transferred to it, so keeping the chain in good running condition.

ONE of the attractions of the motor show at Dublin last week was the "Shamrock" petrol motor coach, which is about to be put in service by the Motor Bus and Traction Company. The vehicle, of which an illustration is given on page 1032, is of the Lacoste and Battmann type, and was supplied by the Standard Steam Lorry and Omnibus Company, Ltd., of Rayleigh, Essex. As will be seen, it is of the single-deck type, with open front seats for smokers and enclosed rear, there being accommodation for twenty-two passengers and a driver and conductor. A service of these vehicles is contemplated between Dublin and Swords, Dublin and Bray, and Dublin and Lucan, as well as on several of the tourist routes.]

A WELL-EQUIPPED garage has been opened in Mill Street, Oakham, by Mr. J. E. Baines.

THE Cleveland Motor Company have established a garage in the Grange Road, Darlington.

LORD GRENFELL and Sir Wm. Goff were among the purchasers of Ford Junior cars at the Dublin Show.

A MOTOR-CAR is now on its way to Southern Nigeria, to the order of Sir Walter Egerton, the High Commissioner.

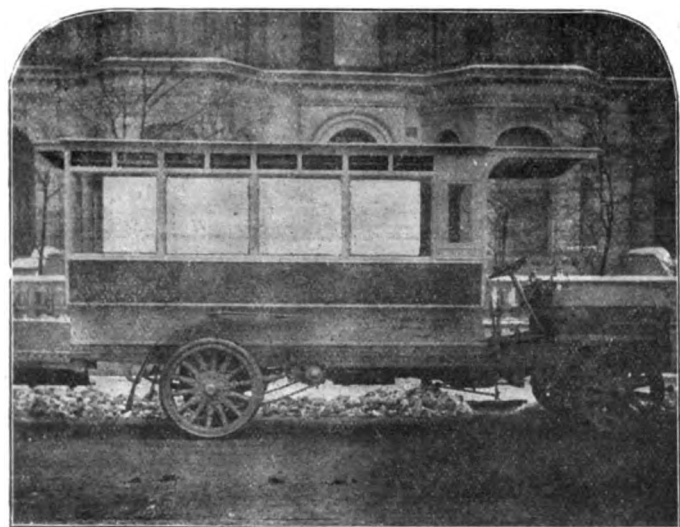
THE motor-car show at Bingley Hall, Birmingham, opens on the 18th, and will not close until Saturday, the 26th inst.

NEW members of the A.C.G.B.I. include the Duke of Rutland, Sir Gorell Barnes, Mr. C. B. Balfour, M.P., and Major-General W. F. Vetch.

MESSRS. R. REYNOLD JACKSON AND CO. have supplied a 30-h.p. single-deck motor-bus to the Woolton Motor Omnibus Company for service in Liverpool.

THE Harrogate Corporation is ascertaining from the local authorities adjoining the town their views with regard to the share of the cost each would bear in providing the district with a motor fire engine.

A NEW competition is likely to be set afoot by the A.C.G.B.I. in which each competing car will be allowed two gallons of petrol, the vehicle travelling the farthest on this allowance on a circular route to receive the prize.



The 30-h.p. Jackson Single-Deck Motor-Bus recently supplied by Messrs. R. Reynold Jackson and Co., Ltd., to the Woolton Motor Omnibus Company, Ltd., for service in Liverpool.

LADIES are among the ardent students at the Argyll School of Motoring in Newman Street, London, W., where there is also a ladies' waiting room for the convenience of ladies visiting the Argyll headquarters in town.

A SPECIAL sale of new and second-hand cars, as well as accessories, is now taking place at Automobilia, Ltd., nearly opposite the Marble Arch, in Oxford Street, London. This is to clear the way for the spring stocks.

MESSRS. DUCROS MERCEDES, LTD., ask us to mention that they have received a letter from Mr. C. L. Charley, stating that the Mercedes electric and "Mercedes" Mixte cars have no connection with the Mercedes petrol cars manufactured in Cannstatt and Unterturkheim.

THE Highways Committee of the Essex County Council has generally approved of the proposals of the Royal Commission on Motor Cars, but would seek to give powers to County Councils to establish a speed limit of twelve miles per hour in districts in the county under their administration.

DURING his recent trip to the Tropics, President Roosevelt took advantage of the ownership of a White steam car by one of the Government officials in Puerto Rico to drive the vehicle in the surrounding country. It is said that he found more interest in the management of the machine than in the scenery.

COUNT JOSEPH POTOCKI, of Vienna, has ordered an Itala six-cylinder car.

IN the Southern India reliability trials the first three cars to arrive were fitted with Continental tyres.

MESSRS. S. F. EDGE, LTD., send us a list of no less than 103 different firms in various parts of the world who are now building six-cylinder cars.

A NEW law has just come into force in the State of Iowa, U.S.A., which requires that all cans used in connection with petrol be painted a bright red colour.

THE L.C.C. is to be congratulated on its improved form of driving licence, which is now, at least, of a more convenient shape than was the case in the early part of 1906.

THE number of motor-car licences, which includes motor-bicycles, issued in the county of Stirling last year was 225. Over 300 licences were issued to drivers.

MR. T. MCKINNON WOOD, M.P., the leader of the Progressives on the L.C.C., has taken a house at Crowborough, and journeys to and from town on his 30-40-h.p. Daimler car.

A BRISTOL athlete has been attaining newspaper distinction by pitting himself against two 8-h.p. motor-cars, by sheer strength holding them when started at full speed in opposite directions.

A MOTOR-BOAT for the Victorian Mission to Seamen has been launched from the yard of Mr. Blunt, Geelong, Victoria. It is fitted with a 16-h.p. motor and will be employed to enable chaplains of the mission to board vessels in Hobson's Bay.

MESSRS. DENNIS BROS., LTD., have sent us a photograph showing the three new mail vans they have just delivered to Mr. Wright, of Dereham, the contractor for the carriage of mails in Norwich, Dereham, and Fakenham. The vehicles are fitted with 14-16-h.p. engines and worm-gear drive.

CHASED by the Berks and Bucks Stagounds, a deer which had been run from Easthampstead Park dashed along the central street of Wokingham in an exhausted condition. The terrified creature bolted into a garage and ran through several workshops, finally seeking shelter in the furthestmost.

MESSRS. CHARLES JARROTT AND LETTS, LTD., inform us that the engines of the 1907 De Dietrich car are all constructed so that they may be fitted with the Letsmob self-starting apparatus, but, of course, at an extra charge. A description of the arrangement, together with an illustration, appears elsewhere in the present issue.

FROM the Britannia Engineering Company, Ltd., Colchester, we have received a photo of a 55-ft. cruising motor-launch they have lately completed for Sir Thomas Lipton. The vessel is provided with two Britannia 45-h.p. six-cylinder engines, each driving its own screw, which enables an average speed of thirteen knots to be attained on a long run under ordinary conditions.

IN addition to the Winton car referred to in our last issue, Messrs. Turner Bros. had on view at the Dublin Show two of the well-known Star cars of the Star Engineering Company—a 7-9-h.p. two-cylinder vehicle, and a 10-h.p. four-cylinder. The latter is a new model, with cardan shaft transmission, although it is also made with side-chain drive. The moderate price of the Star cars has brought them into considerable favour in Ireland.

ALTHOUGH the mildness of the winter has made many motorists somewhat negligent in the matter of heating their motor-houses, they should not leave the subject wholly unconsidered—a reflection that occurs to us after perusing the admirable booklet issued by Messrs. Jones and Attwood, of Stourbridge, in which they give most potential reasons for preparation against frost and cold in the motor-house. Their "All Night" and Ascot boilers are specially designed for this purpose, and can be banked up to last fifteen hours without attention. The boiler itself can stand in an adjoining compartment, the pipes passing through the wall into the motor-house, there being thus no fear of fire from the apparatus. The experience of Messrs. Jones and Attwood in this class of work is at the disposal of motorists curious as to the cost of such apparatus, and intending inquirers should obtain a copy of the booklet referred to.



## EAST ANGLIAN CONTRASTS.

OUR two pictures—one representing a typical scene on a Suffolk highroad a century ago, and the other its modern prototype in the horsey town of Newmarket—show the contrast that has sprung up between old and new methods of locomotion. There is no need to linger on the subject; it is apparent to all who travel. Lovers of the picturesque may lament the fact, but the evolution is satisfactory from the sanitary point of view. The journey from the low-ceilinged inn, the odorous stable-yard, and all their associations, to the newer hotel side by side with the well-ordered garage, is along the line of improvement. There may be a want of the disorderly groups of men and things that some associate with the glories of the countryside; but there is something that saves time, temper, and worry in the modern methods of travel. All these are known to travellers, and receive their due meed of appreciation from the Order of those who Motor. Even Mr. Tom Browne, R.I., the well-known artist, who tells us that he does not motor now—after thanking heaven that he sold the only car he ever possessed—declares that “motor cars are fine things, if they belong to someone else.” There must be an absence of covetousness in the man who would make such a confession.

Mr. Rudyard Kipling goes even further, and declares that “a day in a motor-car in an English county is a day in some fairy museum where all the exhibits are alive and real.” There are many such “museums” in our land; one has been suggested by Messrs. Botwood and Egerton, of Ipswich, by whose favour we give the illustrations accompanying this reference. They suggest that the most picturesque parts of Suffolk are easily accessible to the motorist who makes their town the centre for his explorations. There is much to be said in support of this special pleading. The headquarters of the A.C.G.B.I. and of the Eastern Counties A.C. at Ipswich is the Great White Horse Hotel—the identical “hostelry in the main street, on the left-hand side of the way,” where Mr. Pickwick encountered the middle-aged lady in curl papers, to their mutual consternation. Ipswich is full of memories—recalled by the Elizabethan mansion in Christchurch Park, and Wolsey's Gate. Southward from Ipswich, through the woody lanes of East Bergholt, is Stratford and the Dedham valley, with Flatford and the villages immortalised in the pictures of Constable. In an easterly direction, by way of Woodbridge and Staverton Park (an untouched



In the Olden Days.

deer forest since the time of Henry VIII.), Orford is reached, with its grand Norman castle, and Framlingham, with its more extensive castle, is not far afield. Taking the coast line again, the old-world town of Aldeburgh is reached, whence a delightful spin across some miles of heath-land leads to all that is left of Dunwich, and away again north the ruins of Walberswick, and through sunny Southwold to the modern and rapidly-developing seaport of Lowestoft.

From thence, inland, Messrs. Botwood and Egerton suggest a run through the valley of the Waveney, by Bungay, with its remains of Bigod's old castle, by Harleston, Mendlesham and Debenham, and a score of other villages, deep hidden in rural surroundings peculiar to the county, through Stowmarket to Bury St. Edmunds, one of the richest relics of mediæval times. To the archæologist this place is of surpassing interest, its noble Norman tower, its Abbey ruins and grounds, its fine churches,



Newmarket—The Present Day.

and the old world stillness pervading its streets, seem to carry the visitor back for centuries. In the tide of progress Bury has been left behind, but therein lies its charm.

Not far from Bury, too, lie the quaint towns of Long Melford and Lavenham, containing the two finest churches in Suffolk, and the latter town some fine specimens of timbered houses and the ancient Guildhall familiar in many a picture. Sudbury and Clare, with its castle, are on the borders of the county, and then a glorious run over a great stretch of heath-land, and Newmarket, the great racing centre, is reached. Directly north lies the almost forgotten town of Mildenhall, nigh to the borders of the Fen country, and the Brandon Flats, with their flint mines, the oldest in the world, whence prehistoric man obtained the material for his first stone axes and arrow heads.

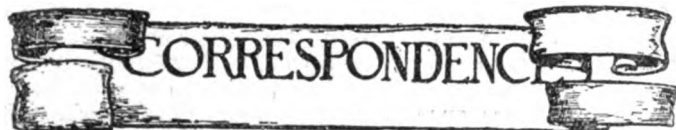
In so short a space it is impossible to more than indicate a few odd and out of the way places where the motorist may find scenery to charm the eye, and historical associations of the deepest interest. The roads throughout most of the county are good, and though here and there are a few hills which require careful negotiation, the country as a whole is flat. It is, however, richly wooded, and those who appreciate pure rural scenery, with its quiet repose, will find it has few equals.

FIAT MOTORS, LTD., have now received one of their latest design of double-deck motor-buses, in which the engine is not under the front seat but under a bonnet in the usual way.

WE learn that the Duke of Richmond and Gordon and Lord Hastings have both ordered 30-h.p. Daimler chassis, this being the former's second vehicle from the Daimler works at Coventry.

It has recently been announced that the Daimler Company are producing a small car, and many people thought that meant a new type would be turned out at Coventry; this, however, is not so, as these new cars will be of Italian construction and made by the Societa Officine De Luca-Daimler, whose works are still in the course of preparation in Naples.

MR. T. SPONG, who is well known in connection with the motor tyre business, is now extending his interests in automobilism, and is opening a large motor garage in the High Street, Shaftesbury Avenue, W.C., where he has three inspection pits, and excellent facilities for carrying a large stock of spare parts, &c. The garage will be a great convenience to motorists in the West End, and should be much appreciated by theatre-goers.



[Letters to the Editor should be addressed to the offices,  
87-88, Charing Cross Road, W.C.]

#### FOUR v. SIX CYLINDERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—After many months of argument, discussion and correspondence as to the relative efficiency of a four-cylinder and a six-cylinder engine, we at last have in print the admission of a manufacturer of six-cylinder cars that a six-cylinder engine is not as efficient as a four. Mr. F. H. Royce in his letter uses these words:—"The loss of efficiency by the employment of six cylinders instead of four." I congratulate Mr. Royce on giving his candid opinion, an opinion which I feel sure is based upon experiments in his shop. Mr. Royce is the first manufacturer of this particular type of engine who has had the courage to tell the truth. We have been informed month by month, week by week, and day by day, that the six-cylinder engine was more efficient than the four. But now we have the authority of Mr. Royce that a six-cylinder engine is less efficient than a four. Of course, all those who have studied the



"It's never too late to learn." An aged cab-driver at the wheel of an Argyll Motor-Cab. Reproduced from a photo taken at the Argyll School of Motoring in London.

question at all, or who have an elementary knowledge of the question, have been aware that theoretically six cylinders were worse than four, but what has the self-styled introducer to say to Mr. Royce's assurance that in practice it is less efficient than four? Mr. Royce has abstained from all these arguments in the past, and I am pleased to see that the first letter written by him is such a straightforward one, and I am equally somewhat flattered that the arguments I have raised for so many months with the object of trying to prevent the technically ignorant public from paying abnormal sums for an inefficient engine are backed up by so good an authority as Mr. Royce.

We have therefore the list comprising the undermentioned names of the men who have stated that the six-cylinder engine is inefficient:—Mons. Turcat, of Dietrich fame, Commandant Krebs, of Panhard and Levasseur, Herr Maybach, of the Mercedes Company, and several other well-known men, and, finally, we have a well-known British engineer, Mr. Royce, to follow suit.

There is only one thing that I cannot agree with Mr. Royce in, and that is, that a six-cylinder engine has less vibration than, or less noise than, or is more quickly able to pick up than a four-cylinder motor. Surely where practice has proved sound theory to be correct in one case, it must prove to be so in the second. The more efficient the engine is the more quickly it should pick up the load; the more efficient the engine, the less noisy it can be made, and the more efficient the engine, the less vibration it should have. I am sure Mr. Royce will agree with me

in theory. Is it so in practice? I would invite Mr. Royce to take a short run on a "Weigel" car, and I shall be most happy to be his driver and place myself entirely at his disposal, and he can give me any test he likes, and I believe I will convince him that the four-cylinder car bearing my name has less vibration standing still than any six-cylinder engine he can name, and that it will pick up quicker than any six-cylinder that he knows of, and that it is as noiseless as any six-cylinder car he has driven on. I promise Mr. Royce it will not be a "faked" car, and I am prepared to accept from him such tests as will prove that the four-cylinder car that I will drive him on is not a "faked" one. I will undertake that it is fitted with an ordinary touring body and that it shall attain a speed of sixty miles per hour upon the flat, that it will take Hand Cross on top speed, and will be driven on top speed without the use of clutch or brake, at a speed of less than five miles per hour.

After having read Mr. Royce's letter, I feel sure it is not his desire to foist upon the public six-cylinder engines, if he comes to the conclusion that four-cylinders are better. I am quite certain after his straightforward letter that he is prepared to advise the public in accordance with his true belief, and therefore I trust that he will see his way clear to accept my invitation, which is not tendered in the form of a challenge or a boastful suggestion as to the merits of the "Weigel" chassis, but purely an offer as from one manufacturer to another to try and prove a point, or, failing that, to be taught one, and not only in my own interests or in the interests of Mr. Royce, but in the interests of the motoring public who are our respective patrons.—Yours truly,

D. M. WEIGEL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—You will no doubt be pleased to hear that the £1,000 challenge issued some time back by Mr. S. F. Edge to the builder of any four-cylinder car which will equal the six-cylinder Napier car is at last to be taken up. My company (the Motor Engine and Manufacturing Co., Ltd.), are now prepared to match their four-cylinder car, fitted with their Duplex engine, against his six-cylinder, upon the conditions that the total capacity of the four cylinders of our engine are to be equal to the total capacity of the six cylinders of the Napier engine, and that the ratio between the engines and the road wheels on both cars are to be the same.

If this match is arranged, I take it that the points upon which the cars will be judged would be as follows:—Speed in hill-climbing, economy in fuel consumption, absence of vibration, continuity of torque, silence, simplicity of construction and control, flexibility, i.e., variation obtainable in engine speed, and perfect combustion.

My company, in accepting Mr. Edge's challenge, contend that a four-cylinder two-stroke air scavenging engine of the Duplex type, with its absence of valve mechanism, secondary shafts, and gear wheels, is superior to any six-cylinder four-stroke engine having the same cylinder capacity, especially when it is remembered that the latter has nearly one hundred working parts as compared with the Duplex, which has only three working parts per cylinder, viz. piston, connecting rod, and crank, and which is not subject to the disadvantages of the Napier or other types of engines, with their multiplicity of parts, now in general use. The derangement of any one of the many parts of a six-cylinder four-stroke engine (even if it be but a key or a cotter becoming loose) often means a stoppage of the engine.

I therefore hope that Mr. Edge is ready to match his car against ours, the result to be left in the hands of two well-known experts acting as judges, who would be mutually agreed to between us.—Yours truly,  
THOS. D. KELLY.

#### THE TOURIST TROPHY RACE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Probably every thinking motorist will admit that the basis on which the Tourist Trophy is run, i.e., fuel consumption, is the best test of efficiency of contesting cars, but it cannot be overlooked that buyers of touring cars at the present day place far less importance on the fact of one car being slightly faster or slightly better in petrol consumption than the other than they do on the fact that one car is more silent and free from vibration than another. It appears to me, therefore, that the Automobile Club would be wise not to overlook this fact.

It is conceivable that a one-cylinder car might win the race for the Tourist Trophy, but a one-cylinder car giving between 20 and 30-h.p. would not be an article which would be purchased by the public, and such a freak car might be discouraged by requiring it to cover the distance on a smaller quantity of petrol than was allowed, for instance, to the smoother running four-cylinder car. In the same way no unprejudiced motorist would deny that the six-cylinder car is superior as regards silence and absence of vibration to the four-cylinder car, and its superiority as a touring car might well be recognised by the Club by allowing a greater quantity of fuel for the six-cylinder car than for the four-cylinder car in the race for the trophy. The loss of efficiency by the employment of six cylinders instead of four is so far outweighed by the consequent gain in silence and absence of vibration, that the Club would be short-sighted in overlooking the point in preparing regulations in a race which is to settle which is the best touring vehicle. Mr. Beaumont could, without doubt, calculate what would be the relative amounts of fuel allowed respectively to cars having one

cylinder, two cylinders, three cylinders, four cylinders, and six cylinders.

Unless some recognition is made by the Club in their rules of the fact that absence of vibration and silence are of vital importance, they will, in my opinion, not be encouraging the best form of motor, but will be encouraging a type which, although efficient, may not satisfy two of the principal requirements of the ordinary purchaser.—Yours truly  
F. H. ROYCE.

### THE "BROOKLANDS" RACING TRACK.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to Mr. F. M. Young's letter appearing in your issue of January 12th, from his remarks he is evidently under the impression that I was responsible for the design of the "Napier" car, but this is incorrect. I did, however, carry out various improvements on the racing cars, and also carried into practice, and tested, improvements at different times which were originally introduced by Messrs. Napier's designers.

No doubt it would be very interesting, though very unsportsmanlike, for me to compete against Mr. Edge on his "Napier" car, owing to my having had an extensive experience in testing and driving his cars; and obviously, therefore, knowing all the virtues and good points of the "Napier," they are naturally embodied in my new production, with their attendant drawbacks, if any, carefully eliminated.

It is only necessary to study the "Thames" car for a few minutes in order to see where it differs from the "Napier"; but as Mr. Edge is not running in the present case on lines by which the public can judge the merits of his car, he having merely to carry out a programme which he has arranged to suit the particular car he is running, it would appear pretty obvious that he does not consider himself able to distinguish himself against me, as otherwise he might have directed his challenge in such a way that I should have been bound to accept.—Yours truly,

W. CLIFFORD-EARP.

### WANTED—A RED MOTOR-CAR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—My favourite dog, a valuable bull-terrier, was killed about 3.45 p.m., December 21st, by a motor-car going west along the London road between Bagshot and Camberley.

The car, which was travelling so fast that bystanders were unable to read its number, hit the dog with a thud which was heard thirty yards away. The poor beast was practically disembowelled, and died in agony three or four minutes later. One of the occupants of the car stood up and looked back, but the car proceeded on its way without slackening speed. The car was a red one with a Cape cart hood; it was carrying two people, and its number is believed to begin with L.C. I trust, Sir, that you will give publicity to these facts, in the hope that some of your readers may be able to identify the car and send information to me at Pinewood, Bagshot. This should not be very difficult, as our motoring public cannot surely include many such inhuman wretches as the two cowards who occupied the red motor-car. I appeal to you, Sir, not so much on my own behalf, although I am distressed beyond words at the sudden loss of a faithful and gallant companion, as on behalf of my fellow-citizens who love their canine friends.—Yours truly,  
N. COWIE, Captain.

### SUBSTITUTES FOR THE HORN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Having had a year's experience of the value of a foot gong upon a former car, and having on my present car no foot to spare, I have just fitted successfully an electric bell rung by a switch moved by a left hand finger. The gong is about six inches in diameter, and there are two connected batteries of four volts each. The sound can, at will, be small or great, short or long. If necessary, it can be heard a quarter of a mile away. At the same time it is musical, and neither exasperating nor monotonous.—Yours truly,

LEVESON SCARTH.

### PRE-IGNITION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In the very interesting article on pre-ignition which appeared in your issue of December 29th last the writer states that "if the gas is too rare, it not only fails to produce power, but pops back into the inlet pipe and carburettor." I know one expert who contends that popping, due to a weak mixture, occurs in the exhaust pipe and not in the carburettor. Professor Spooner, in "Motors and Motoring," also holds that "the charge is not exploded in the cylinder, but passes out of the exhaust valve into the silencer." Personally, I disagree with them, though I do not pretend to be an expert, for, when riding a motor-bicycle at night, I have distinctly seen flame coming from the extra air inlet of the carburettor (a Longuemare) when it was opened too wide; when slightly closed the popping ceased and the engine fired perfectly, which proves that the popping was due to too weak a mixture.

I can understand that a weak inlet valve spring or pre-ignition might cause popping in the carburettor, but unless it is that when the

mixture is weak the explosion is so scattered that part of the charge is firing at the beginning of the next induction stroke, I cannot see how it is caused, and should be glad if some of your readers could enlighten me on the subject.—Yours truly,

E. T. W.

### WANTED, A PARAFFIN CARBURETTOR.

TO THE EDITOR OF *The Motor-Car Journal*.

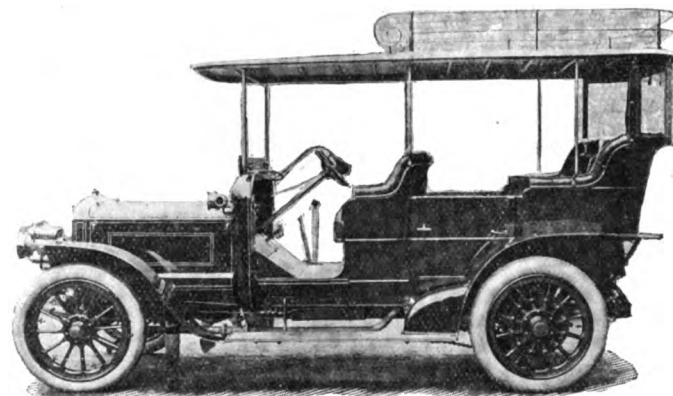
SIR,—Replying to "Motorist's" letter in the correspondence columns of the *M.C.J.* of January 5th, asking for information about paraffin carburettors, has he tried the B.W.? A friend of mine has one of these fitted to his 10-12-h.p. two-cylinder car and finds it thoroughly satisfactory. He uses paraffin, which he is paying under 4d. per gallon for, and starts his engine with a few turns of the handle quite readily, without the use of petrol or previous heating of the carburettor. Combustion is apparently complete, as there is no clogging of the cylinders or valves with deposit and the exhaust is invisible and as odourless as if petrol were used. As regards cost, I believe the 8 to 10-h.p. size costs £7; the fitting is easy and should not be an expensive matter.—Yours truly,

SATISFIED.

### NON-SKID EXPERIENCES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In regard to the letter in the *M.C.J.*, of the 29th ult. with reference to the fixing of non-skids, "Hillrosea" is decidedly wrong when he infers that it is better to have only one non-skid on the back wheels of a live axle car. The difference in the diameter of a non-skid and a plain treaded tyre is considerable, and the use of only one non-skid



One of the two identical cars which the Daimler Company are supplying to H.M. India Office. The vehicles are of 28-h.p. with 9 ft. wheelbase, and are fitted with the Kenilworth type of body.

means continual wear on the differential, which must be harmful to it. I hardly see why it is necessary to provide for the tyres slipping on the road at starting; an ordinary pair of plain tyres should not slip on a dry road if the clutch is allowed to engage gently.—Yours truly,

E. T. WRIGHT.

### RENOVATING CELLULOID WINDOWS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The celluloid windows on the side curtains of my Cape cart hood, as well as the celluloid front, have been cut and scratched and generally blurred by the action of sand and dust rubbing on the celluloid. I should be obliged if you or any reader of the *M.C.J.* could tell me of any preparation that will remove such blemishes from the windows.—Yours truly,

A. PRESTON.

[It is difficult to prevent celluloid from becoming scratched with use, and the only suggestion possible for restoring its surface somewhat is to carefully varnish it, after cleaning, with a thin solution of celluloid in acetone. It is, however, a fairly cheap material, a sheet 1-50 in. thick, about 2 ft. by 4 ft., costing about five shillings, so it would be less trouble to replace with a fresh piece.]

### PAYMENT FOR REFERENCES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—For three years past, up to November, I had been in the employ of a professional man in South London. In November I gave him a week's notice, when I was promised a reference. The reference was applied for recently, and on not receiving an answer I wrote. This is part of reply:—"Why should I bother myself with giving a reference? As you said once you were within your rights (that referred to only

giving a week's notice) so shall I be when asking a fee for same. Why doctors should work for nothing I can't see at all." And this was the reply I received after having run his car and kept it in perfect condition for three years, during which time it was used on an average 320 days a year. So much for a doctor's place; no wonder drivers fight shy of them.

—Yours truly,

C. FOORD.

### A QUESTION OF SPEED.

TO THE EDITOR OF *The Motor-Car Journal*.

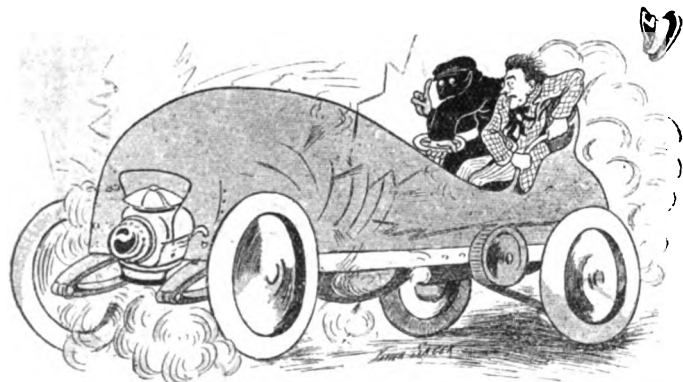
SIR,—I am sorry that Mr. Hickman considers my suggestion that many accidents have been caused by nerve failure to be foolish. Perhaps it is; but one has only to read the newspapers to note many cases of sudden collapse of seemingly strong and healthy people, and I fail to observe why motor drivers should be in any way different to ordinary beings. Of course people can spend their money as they choose, but not to make themselves a nuisance and danger to others. If the legal limit were fifty miles per hour, many drivers would not be satisfied, and it is only the weight limit that prevents some ambitious motorists from driving a G.N.R. locomotive along the highways.—Yours truly,

A 1299.

### LAMPS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—There must be many of your readers who require their cars for short periods after dark, and who dislike the trouble of lighting oil lamps. The Osram lamps are excellent. They give a brilliant white light, and the 4-volt lamps take only 3 amperes, which is very economical as compared with the old carbon filament lamps giving the same candle power. What is more, I find that I can run a 4-volt and a 2-volt lamp in series off an ordinary 4-volt ignition cell, the 4-volt lamp being in my rear lamp and the 2-volt on my dashboard. The light of the 4-volt lamp is not



Frightened Passenger: "Do be careful, we are approaching a village."  
Driver: "Don't you worry, I never go through a village at more than fifty an hour."  
L'Omnia.

appreciably diminished whereas the 2-volt only glows a bright red, and this is exactly what one requires, as the latter is sufficient to indicate that the former is alight without distracting one's attention whilst driving.—Yours truly,

G. WASHINGTON ISAAC, M.B.

### INSURANCE CLAIMS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a motor-car insured against accidents up to £250. I had the misfortune to collide with a tramcar. My motor was considerably damaged, the large tool box on the step was smashed to splinters and the tools distributed all over the road. In the dark some of these were lost and others were picked up and kept as souvenirs by the crowd. I have put in a claim for the lost tools, being part of the car, but the insurance company are wishing to argue that the tools are not covered. I can only say that a complete kit of tools and a tyre repair outfit is included in the price of the chassis.

It is one of those irritating points which will cause all motorists to welcome the insurance scheme of the Motor Union. The idea, surely, in insuring one's car against accidents is to cover oneself against loss.—Yours truly,

C. D. L.

### LOSS OF POWER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a 12-h.p. two-cylinder Darracq which has run about 5,000 miles without any trouble. Lately there has been a great want of power. I have to take all hills on second speed. I find there is very little working power in one of the cylinders when the engine is running in the stable; in fact, there is not power enough to keep the engine going if I cut out the other cylinder; it also misfires at times. The compression

is very good. I have tried new plugs, new platinum screws and springs. I have opened and closed the points at the plug, also at the make and break, but with no improvement. There is a good spark and a sharp click if the wire is detached and held near any part of the engine or plug. Do you think the trouble is caused by the cylinder being sooty? Perhaps you or some of your readers may be able to help me.—Yours truly,

X. X.

[We are inclined to think that our correspondent's trouble is due to carburation, this not being of the same proportion in each cylinder. We would advise trying each cylinder independently, varying the mixture to suit each, thereby determining if this be the case. If one were found to require more air than the other a small hole might be drilled in the inlet pipe close to the cylinders, to admit an extra supply to that cylinder. If the latter have not been cleaned lately, perhaps a better result would be obtained if this were done.]

### THE STEERING GEAR OF THE 10-14-H.P. CLEMENT BAYARD CAR.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to your correspondent "D," M. A. Clement has designed the 10-14-h.p. car specially for cab service. It is made with both right and left hand steering in order to suit either Continental or British driving practice.

May I say that Clement-Talbot, Ltd., are the owners of M. A. Clement's British patents, and are also his sole agents for Great Britain and Ireland?—Yours truly,

T. H. WOOLLEN.

### A PETROL MOTOR QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have often read that, owing to the heat to which they are subjected, exhaust valves and their springs are liable to breakage. I have not experienced this trouble as yet, but I should like to be prepared, and am anxious to know how I can determine the existence of a broken exhaust valve spring without exactly seeing it. If you, or any reader of the *M.C.J.*, can assist me in the matter, I shall be obliged.—Yours truly,

R. SALKELD.

[With reference to a broken exhaust valve spring, our correspondent may rest assured that it would not require a deal of finding, as naturally the cylinder containing the broken valve spring would cease to work, owing to the valve offering no resistance to the suction of the piston; it would be taking in a portion of the exhaust gases, and in all probability cause a loss of compression. A broken exhaust valve is, however, not a very frequent occurrence, unless materially weak.]

### HEAVY PETROL CONSUMPTION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a 10 to 12-h.p. car with two-cylinder motor 100 mm. bore by 120 mm. stroke, weight about 14 cwt. The only complaint I have to find with the vehicle is its large petrol consumption, viz., fifteen miles per gallon, "Shell" or "Pratt's." The car is fitted with ball bearings throughout (except engine), cardan shaft and live axle and all are in good order. The pistons and valves are all tight, but I think it is too large in compression space. When fitted with a steam gauge the compression registers about 35 lb. per sq. in. What I want to know is, should I get a better mileage per gallon by reducing the compression space, and, if so, how much?—Yours truly,

CONSTANT READER.

[The compression of "Constant Reader's" engine is without doubt much too low for economical running. This might be raised to 60 lb., if possible, when the consumption should be considerably reduced. If the compression space is in the cylinder itself, we would advise the fitting of longer pistons, as a block generally retains so much heat and causes overheating.]

### THE USE OF AIR VENTS ON ENGINE CRANK CASES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you or some reader of the *M.C.J.* could give me an explanation of the purpose of air vents so generally applied to the crank cases of automobile engines. I am told that they are in some manner necessitated because of the pumping action of the underside of the piston, and can see how this would be so in the case of a single-cylinder engine, a double-cylinder motor with both connecting rods on opposite cranks, or with any analogous construction. But I do not see why they are applied to four-cylinder vertical motors, in which the displacement of the two downwardly-moving pistons is compensated for by the other two going up.—Yours truly,

H. PAULTON.

[We think our correspondent will find that on a great many of the new engines, where the displacement is equalised, that no air vents are now fitted, although they are in this case not absolutely essential. There is always the possibility of a leakage by the piston taking place, thereby giving rise to pressure in the crank case, when, of course, an air vent would be of service.]



## THE TOURIST TROPHY RACE.

SUPPLEMENTING the information with regard to the specifications of chassis, &c., for the cars permissible in the International Tourist Trophy Race, published in our issue of the 29th ult., we now give the minimum dimensions of body, fuel tanks, &c.

The car shall conform in all respects to the requirements of the British law. The chassis shall have not less than four road wheels, of which the driving wheels shall not be less than 32 in. in diameter. The track shall not be less than 4 ft. 6 in. The distance from the dashboard to the front edge of the back tyres shall not be less than 5 ft. 3 in. The platform behind the dashboard shall not be less than 7 in. 6 in. long, and the body shall cover this area. There shall be a clearance of at least 8 in. from the ground when the car is fully loaded. All steps, brackets, and other fittings shall be of requisite strength.

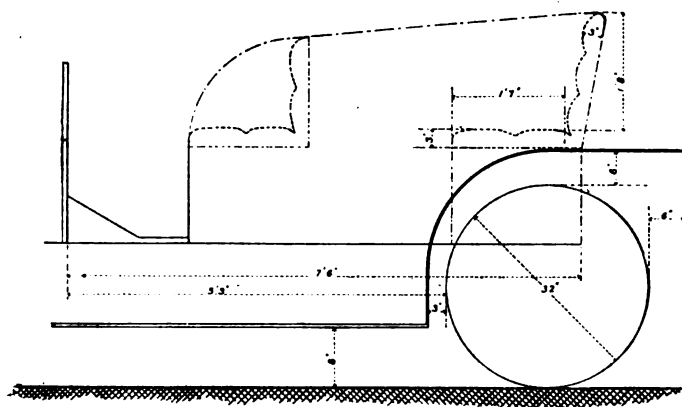
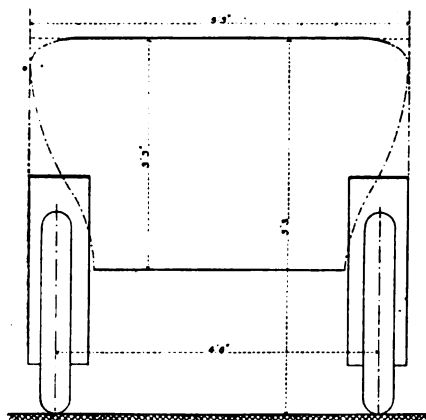


Fig. 1.



Figs. 1 and 2.—Diagram showing Minimum Body Dimensions for Tourist Trophy Cars.

The body shall be substantially constructed, and the dimensions shall not be less than those indicated in Figs. 1 and 2. The body shall be easily removable, by undoing not more than six bolts or hinges, and this removal of the body shall not entail disconnecting any part of the ignition apparatus, mudguards, lubricator connections, fuel pipe work, the fixings of any tank, or any pipe connection to the tank. Efficient mudguards shall be fitted to front and rear wheels, and shall be flat and set without splay. The steps must be continuous with the mudguards, and steps and mudguards must be attached to the chassis only. The width of the front mudguards shall not be less than 10 in., and at the back mudguards and footboard not less than 8 in. No part of any mudguard or footboard shall be less than 8 in. from the ground when the car is fully loaded.

With reference to the pressure tank specifications, the air vessel must be fixed as shown in Fig. 3, and may be formed of a piece of brass tube with thick ends sweated in and drilled to receive at the top end two pipes, not more than  $\frac{1}{8}$  in. and  $\frac{1}{4}$  in. bore, as shown, sweated in; at the bottom a  $\frac{1}{2}$  in. gas plug drilled for a sealing wire; sealing lugs shall be provided where shown. The air vessel is to be fixed in an accessible position either at one end or at one side of the tank. Although shown as made with a piece of brass tube, the air vessel may be otherwise made, provided the dimensions, strength, good attachment to tank, and the fittings be as shown. The tube X from air vessel E to the tank must not be more than  $\frac{1}{4}$  in. diameter, and must be sweated into place on the tank; there shall be formed two complete convolutions in the course of its length as shown. The coils may be oval, to reduce the height if necessary to, say, 1 in. The soldered tube Y, to which the pressure valve, pressure gauge, hand pump, &c., may be connected, may be  $\frac{1}{4}$  in. diameter, and may be provided with a union at about 12 in. from the air vessel. A filler  $4\frac{1}{2}$  in. clear diameter of open-

ing, as shown in the diagram, with removable gauze filter. A connection for the pressure supply with air vessel as shown at E. An outlet pipe for petrol to the carburettor, 13-16 in. above the bottom of a sump  $1\frac{1}{4}$  in. deep. (The pipe to carburettor is only indicated as to position in sump, the position of the upper part being to a very great extent at the discretion of the makers). A draw-off chamber with drain plug, with sealing lugs, draining from the bottom of the sump.

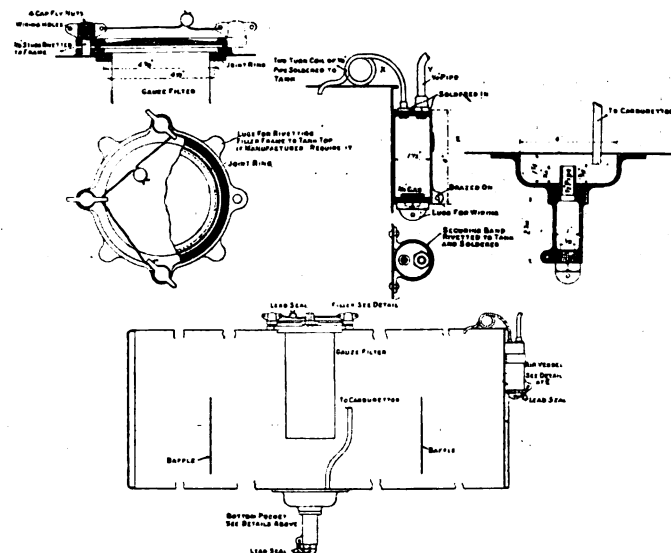


Fig. 3.—Details of Petrol Tank (Pressure Feed) for Tourist Trophy Cars.

The gravity tank specification includes a filler with two vent holes not exceeding 1-32 in. in diameter in the cover. A sump B  $1\frac{1}{4}$  in. deep by 4 in. dia., as shown below, provided with an outlet C to the carburettor for petrol. This shall have an inwardly projecting draw off pipe rising  $\frac{3}{4}$  in. above the bottom of the sump. A drain plug G combined with the outlet fitting with lug, as shown, and drilled for sealing wire. If a filter is placed over the outlet pipe in the sump it must be re-

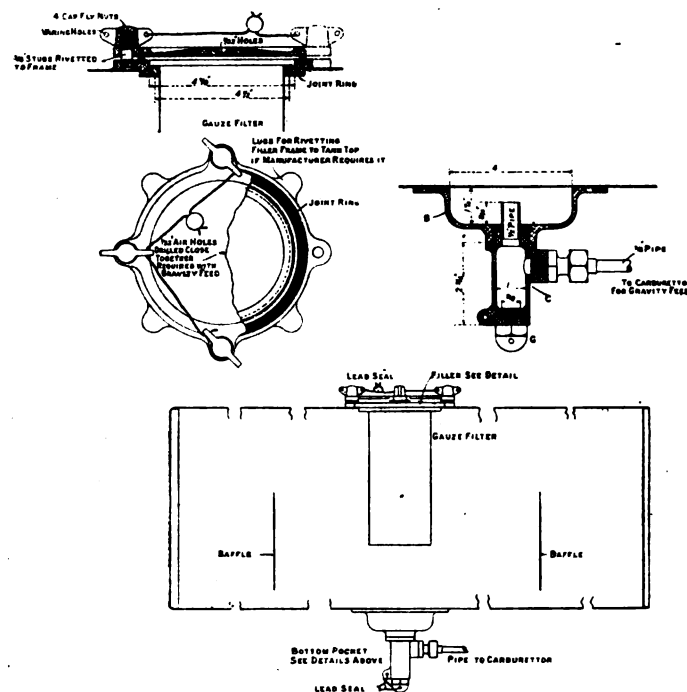


Fig. 4.—Details of Petrol Tank (Gravity Feed) for Tourist Trophy Cars.

movable. The pipe from tank to carburettor must be continuous, without any kind of tap or valve.

M. V. VALLEE, of Paris, is making an acetylene lamp provided with an auxiliary burner, which can be brought into use when driving in town and the larger flame extinguished, the control being from the dashboard.

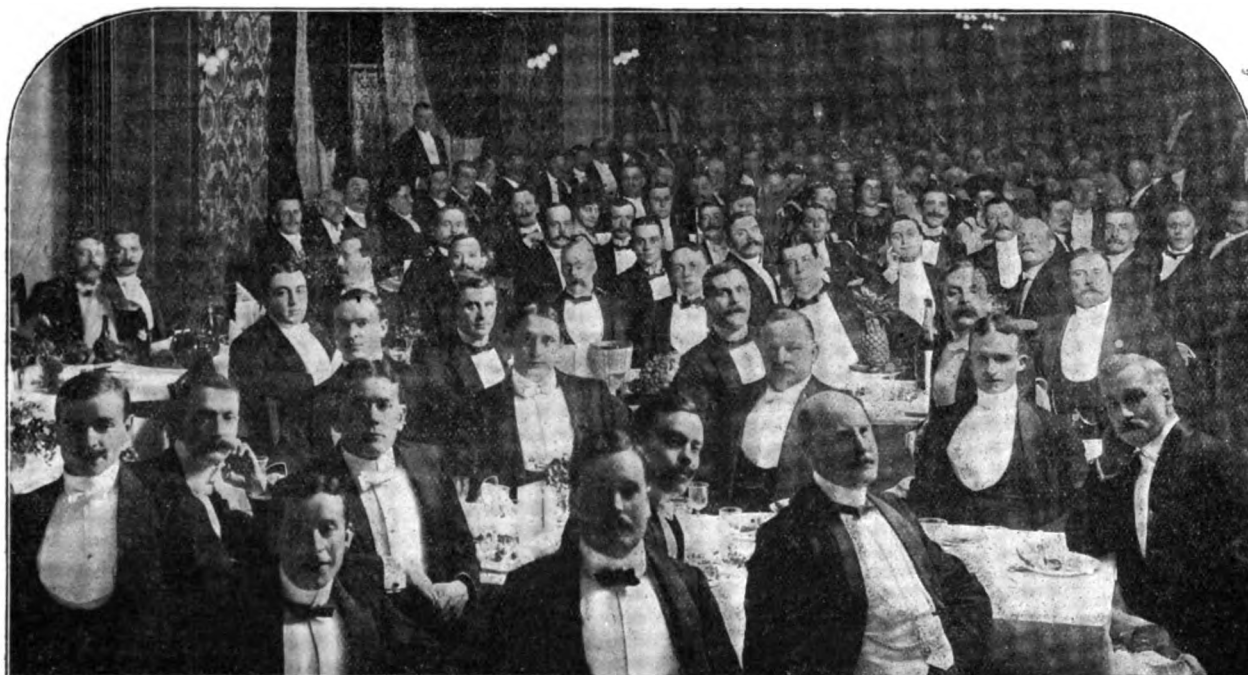
## CLUBS AND ASSOCIATIONS.

### NOTTINGHAM

THE annual dinner of the Nottinghamshire Automobile Club, which was held at the Victoria Station Hotel, Nottingham, on Friday last week, proved an entire success. Mr. C. Hardy, the President of the Club, was in the chair, and nearly 200 ladies and gentlemen attended, including the Hon. A. Stanley, M.P., chairman of the A.C.G.B.I., Mr. Arthur Richardson, M.P., Lieut. Col. R. L. Birkin, D.S.O., the Mayor of Nottingham (Ald. J. A. H. Green), the Chief Constable (Mr. P. S. Clay), the City Surveyor (Mr. J. E. Webb), the County Surveyor (Mr. E. P. Hooley), the Clerk to the County Council (Mr. H. H. Copnall), and Messrs. Julian Orde, Rees Jeffreys, F. Coleman, E. M. C. Instone, P. Richardson, C. E. Wells Lucas, Ross Browne, C. Edge, H. Bircumshaw, W. D. Wells, and Booth Granger, the hon. secretary of the club. Following the loyal toasts, Mr. A. R. Atkey proposed "The Parent Club, the Motor Union, and Automobilmism," and remarked that the parent Club, by virtue of its very designation,

spring. Amongst other things given over to the Club was that of conducting all foreign relations, and he was glad to assure them that their relations with all foreign powers were extremely friendly. They had twice during 1906 met all the foreign clubs in France, and it was found that they had very much in accord over all matters concerning automobilism. More especially they were all animated by the desire that they should tour in each other's country, and that facilities for touring should be made as easy as possible. The Club had but one aim, and that was to be as useful as it possibly could to the greatest number of people. Mr. E. M. C. Instone, responding for automobilism, gave some striking statistics as to the growth of that portion of Coventry in which the motor industry might be said to have its home. Whereas in 1898 the houses in the locality concerned totalled but thirty-two, with a gross rental of £1,784 and a rateable value of £1,484, in October last there were no fewer than 510 houses, the gross rental of which amounted to £9,677 and the rateable value stood at £7,986. These figures, he considered, afforded a lesson to all municipal authorities as illustrating the importance of welcoming and encouraging the development of the new industry.

Mr. A. Barlow, in submitting "The City and County Authorities," stated that they lived in a favoured, instead of in a benighted county, such as Surrey. They owed a great deal to the administration of the law by the police authorities of the city and county, and they owed, perhaps, more still to the splendid manner in which the roads of the county were kept in form. The Mayor (Ald. J. A. H. Green) responded in a felicitous and humorous speech. For a long time he had been filled with admiration of automobilists, and he thought he had ceased to wonder at any feats



The Annual Dinner of the Nottinghamshire Automobile Club.

might be considered the father, the Motor Union the son, and automobilism as the moving spirit that pervaded them all. At first it was thought that the two bodies might come into conflict, but there had been a cementing of ties between them that rendered their work harmonious.

The Hon. Arthur Stanley, M.P., responding to the toast on behalf of the Motor Union, remarked that one of the principal functions delegated to the Motor Union was that of preparing in every possible way for legislation with which they were always being threatened. He did not know whether this year they would get through without legislation. But whenever legislation did come forward he would have a list before him of all those members of Parliament who, at the time when they wanted the loan of motor-cars for the elections, pledged themselves to help them. He had not the slightest doubt that those pledges would be kept in the way a member of Parliament always does keep them. It was owing to the provincial clubs that the Motor Union gained a great part of their strength, and if they were successful in their efforts not only in legislation, but in other things, it would be by the support they received from all parts of the country; and in no part were they more kindly met than in Nottingham. Mr. J. W. Orde, on behalf of the A.C.G.B.I., said that the parent club was very proud of the 3,000 children of its own, and of the ten or twelve thousand more of which it was god-father, but probably the child of which it was most proud was the Motor Union, which did so much work for them all, and to which the Club subscribed largely in order that it might never be in want of funds. The Motor Union and the Club settled certain little differences they had last

they might perform. But finding that distinguished assembly of "the criminal class" afforded such a kindly welcome to the authorities he thought his powers of wonder were not exhausted. In the company of motorists one travelled quickly, and during the previous three hours he had been carried in his mind to the city of the future. In that city he saw nothing but dustless and noiseless streets, traversed by a multitude of motor-cars, whose occupants had their handsome visages all naked and unashamed. In this city the rates had retreated to vanishing point, for such small civic expenses that still existed were defrayed by contributions willingly paid by penitent motorists, who travelled at less than sixty miles an hour—and he thought they would agree that this was a reasonable penalty for the time that they wasted. Mr. H. H. Copnall, replying for the county authorities, said that that body had no desire to increase their funds by fines from the "criminal class" represented there that night, and he was pleased to see that the amount received in fines from Nottinghamshire motorists during the past year had been very small. If the Nottingham Club continued to recognise the comfort of people on the roads, and to carry out the requirements of the law to such an extent that there could be no reasonable objection to them, the friendly relations between motorists and the county authority would continue and increase.

Mr. F. Coleman submitted the toast of "The Nottingham Automobile Club," and spoke in terms of admiration of the way sporting matters were dealt with by the club. He was always sure when he came to take part in any of the Nottingham competitions of getting a perfectly "square deal," and a "run for his money." Responding to the toast, Mr. C. Hardy, the President, referred to the criticism they had

been subjected to in regard to the competitions, and said it was gratifying to hear Mr. Coleman's declaration. Mr. Hardy also announced that the committee had arranged an interesting programme to keep members together during the winter season. Mr. Booth Granger, the hon. secretary of the club, also replied, remarking that they were hoping to increase their membership amongst motorists outside the city, and that probably at a later date steps will be taken to form branches of the club in different parts of the county.

On the proposition of Dr. R. G. Hogarth "The Visitors" were toasted, the names of Mr. A. Richardson, M.P., Mr. P. S. Clay, the Chief Constable, and Mr. E. P. Hooley, the County Surveyor, being coupled, and each of those gentlemen responded. The speech of Mr. Clay was of an exceedingly humorous character and throughout showed a friendliness to motorists which was greatly appreciated. Mr. Hooley, as was to be expected, dealt with the subject of roads, and in the course of his instructive remarks stated that while the first cost of the dustless roads which it is now possible to construct is five times that of ordinary roads, yet their durability is so much greater that at the end of nine years the total outlay—first cost and maintenance—is greatly in favour of dustless roads. The programme was brought to a conclusion by the toast of "The Chairman," which was given with musical honours.

### NORTHAMPTON.

A MEETING of the committee of this club was held at the George Hotel, Northampton, last week, Major P. E. T. Hibbert presiding. The following were appointed official repairers to the club:—The Pychley Autocar Co., Ltd., Northampton; Messrs. Johnson and Wright, Ltd., Northampton; Messrs. Reynolds Bros., Daventry; and Mr. C. E. Robinson, Kettering.

It was resolved that a letter be sent to the members of Parliament for the county and borough of Northampton asking them to speak and vote in accordance with the important resolutions in respect of motor-car legislation that have been adopted after very careful consideration by the elected representatives of the automobile clubs of the United Kingdom.

Mr. C. W. Phipps proposed, and after discussion it was resolved, that the general committee of the Motor Union be asked to approach the Automobile Club with a view to getting them to revise the method now adopted when appointing official repairers with the object of dividing them into, say, three classes, according to their capacity for repairs, stock kept, &c., and to place in the published list of repairers a distinctive mark against those who have been recommended by local clubs. A letter from the A.C.G.B.I. was read, asking for particulars relating to the hills in this neighbourhood where hill-climbing competitions take place, and the hon. secretary was directed to write to the secretary of the Automobile Club saying that as this committee had not held any hill-climbing competitions they had no particulars to give. A letter from the Motor Union asking for the opinion of the committee with regard to holding some special demonstration in view of the legislation likely to take place in the early spring was read, and it was resolved that a letter be sent in reply stating that as the committee considered the Report of the Royal Commission on Motor Cars fairly satisfactory, especially if the suggestions of the National Conference of Motorists were adopted, they did not consider any further demonstration necessary unless in the event of legislation of a particularly hostile character being proposed.

### COVENTRY MOTOR CLUB.

COLONEL WYLEY, commandant of the 2nd Volunteer Battalion Royal Warwickshire Regiment, speaking at the Coventry Motor Club dinner on Saturday night, said he would be only too glad to form a motor-cyclist company, which he believed would be of immense value in an emergency in connecting the Midlands with the seaboard. He feared however, that the authorities would not give sufficient support, as he had already been twice refused permission to form an ordinary cyclist company.

### THE NORTH EASTERN AUTOMOBILE ASSOCIATION

THE monthly meeting of the above association was held at Newcastle, on the 10th inst., with an attendance of ten members. The matters discussed included the question of the present toll of 4d. charged on the High Level Bridge between Newcastle and Gateshead for all motor-cars; the election of new members and receipt of a few resignations from those who have given up motoring or have left the district. Letters from the Motor Union were read and considered with reference to the proposed demonstration in the spring, the support of the Motor Union scheme of legislation by approaching local members of Parliament, and the grant of a contribution towards the cost of the road-tarring competition. The last named matter was left over for the decision of the annual meeting, which will be held on February 15th. The draft annual report was considered, and, with a few slight alterations, was approved. It is expected that this will be sent out to members as soon as the accounts for the past year have been passed by the hon. auditor. Various matters in connection with the improvement of the roads and the fixing of additional warning posts at dangerous places, were considered.

### AUTOMOBILE ASSOCIATION.

IN consequence of numerous requests received from members of the Automobile Association, the Committee are considering the advisability of making arrangements for the provision of legal assistance to members. The scheme, which has been prepared with great care, will ensure the services of expert lawyers to deal with all legal difficulties concerned with motoring.

### NEWCASTLE MOTOR CLUB.

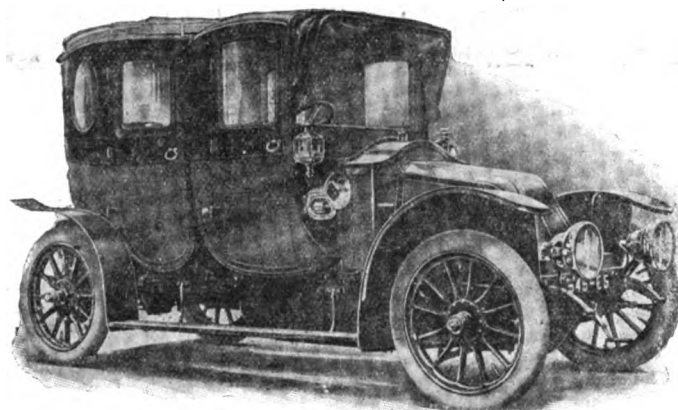
AT a meeting of the Newcastle Motor Club it has been decided to open the season at Belsay on Good Friday. A speed-judging competition will take place in the form of a run over a certain distance, the rider to do the journey in approximate time to a limit set by the committee, such limit necessarily being under the legal limit of twenty miles per hour. The committee intend issuing a monthly programme to keep members in touch with current events.

### MOTOR VAN TRIALS.

A MEETING of the Commercial Vehicle Committee of the Society of Motor Manufacturers and Traders was held last week, at which the chief matters under consideration were the regulations for the proposed van trials to be conducted by a joint committee of the Automobile Club and the Society.

MR. T. D. H. DACRES has been re-elected president of the Birmingham Association of Mechanical Engineers. In his presidential address he referred with satisfaction to the progress of the motor-car industry.

THE Society of Model Engineers held its eighth annual conversazione on Saturday at the Cripplegate Institute, London, E.C.



A Renault Car with Berline body—a type which is very popular among French touring motorists.

A MOTOR-CYCLE club is being formed at Colwyn Bay, Mr. Herbert Emmett, of Rhos-on-Sea, being actively interested in the matter.

THE Coventry Motor Club will hold two open competitions during the present year.

THE annual dinner of the Cardiff and District Mechanics' and Chauffeurs' Association has just been held at Cardiff.

### PUBLIC MOTOR SERVICES.

To a meeting of the Calverley District Council a proposal has been made by a Leeds firm of automobile engineers, who asked to be allowed to run motor-buses between Rodley and Greengates, thus joining up the tramways of Leeds and Bradford. There was a decided feeling against allowing the 'buses to be run on Sundays, and ultimately it was decided to refer the question to a committee to formulate conditions, &c., and examine the 'buses proposed to be engaged in the service.

BELIEVING that "the time has arrived when they should take steps to encourage the introduction of some means of locomotion for conveying the passengers to and from the various villages in the district and the city of Newcastle," the members of the Newburn District Council have appointed a committee, consisting of Major T. R. Rowell, Mr. H. C. McBeath, Mr. Ralph Lowes and Mr. J. Taggart, to wait upon the directors of the North Eastern Railway Company and the Newcastle Tramways Committee with a view to having motor-buses run between the outlying villages and the railway stations or the tram termini.

No motor-car competition can take place in or about Bombay with more than five competitors without the special permission of the Government.

## THE MOTOR-CAR ACT.

### FAILING TO NOTIFY APPROACH.

Arthur Carpmail, residing at Benhill Wood Road, Sutton, answered to a summons at the South Western Police Court, for that he, being in charge of a motor-car, did fail to signify his approach. The defendant, when driving his motor-car along Mitcham Lane, Streatham, collided with a little girl, when she was making her way to attend her school. The defendant, it was said, neglected to sound his horn, and in this way contributed to the accident. The defendant, giving evidence, said he sounded his horn. The girl ran into the car, and when he saw an accident was unavoidable, he pulled up as quickly as he could. Mr. Staplee Firth, defending, maintained that the accident was brought about by the girl's own carelessness and the additional fact that she was deserted by her elder sisters. The magistrate imposed a penalty of 20s. with 23s. costs.

### ROAD REPORTS.

**WILLESDEN.**—Mr. O. Claude Robson, M.I.C.E., the surveyor to the Willesden Urban District Council, in a report to that body, says:—"Even in my own time considerable improvements have been effected in road repair; the main roads of the country forty years since being in no way comparable to those of the present day, whilst in remoter times an even worse condition of affairs prevailed, notwithstanding the paucity of traffic then existing. It is rather the more sensitive character of the vehicle, and equally more sensitive character of the travellers in the present day, that prompt people to condemn the roads of this period and compare them unfavourably with those of Telford and Macadam, than a reliable knowledge of the method of road formation and repair now and in the past. Owing to the modern requirements, therefore, some of the best of the macadamised roads of the present day must give way to wood paving where much motor traffic exists."

**LINCOLNSHIRE.**—A proposal to build a new county bridge over the river Welland at Fosdyke, between Boston and Spalding, should be favourably supported by motorists. It has been approved by the Roads and Bridges Committee of the Holland County Council, and now only awaits the sanction of the County Council.

**REDBOURNE.**—Motorists travelling along the Great North Road will just now find a large number of unrolled stretches of new metal on the section between St. Albans, Redbourne, and Dunstable.

**EPSOM.**—Loop Road, between College Road and Burgh Heath Road, has been under repair. Headley Road is now being taken in hand by the staff of Mr. E. R. Capon, C.E., the Town Surveyor of Epsom.

**ISLINGTON.**—At the North London Police Court the Highgate Hill Tramway Company (Ltd.), has been summoned by the Islington Borough Council for not maintaining and keeping in good condition and repair that portion of Highgate Hill between the tram lines and the kerb, for which, under the Tramways Act of 1870, they were liable. The company agreed to comply with the Act of Parliament forthwith.

**PERTSHIRE.**—After three years' experience of motor traffic under existing regulations, the road authorities of Perthshire are not satisfied that the public interests are adequately conserved, and an application has been made to the Secretary for Scotland to grant a closing order for certain additional roads, and to restrict the speed on a number of others. Objections thereto have been made by the Automobile Club, who argue that there is no reason for departing from the well-considered judgment which was arrived at when the matter was last investigated. The reply of the County Council is that further experience has shown that the restrictions asked are necessary, and are only asked in cases where the roads are very narrow or for other specific cause, and after due consideration by the road authority, who are familiar with the character of the roads and the traffic thereon. The Secretary for Scotland has appointed Mr. Alex. Stuart, advocate, Edinburgh, to visit the several districts, and report on the application, after allowing the County Council and those who have objected to appear before him and state their views.

**BIRKENHEAD.**—Motorists have for many years been inconvenienced by the narrow portion of Bidston Road opposite St. Saviour's Church, and also by a length of road known as Mill Hill, leading from Talbot Road to Ingestre Road, Birkenhead. This latter portion of road is not sufficiently wide to permit of the formation of footpaths for the use of pedestrians, and, owing to the road being very narrow and forming a sharp curve, many narrow escapes have been experienced by motorists and pedestrians. These two points are on a line of road much frequented by motor-cars passing from the residential district of Bidston to the Chester roads. The Corporation have for many years been in negotiation with the Earl of Shrewsbury's agent for the acquisition of the necessary land and buildings for widening and improving these portions of road, and after protracted negotiations terms have now been arranged, and the necessary works will be put in hand forthwith under the direction of Mr. C. Brownridge, the Borough Engineer and Surveyor.

**STREET STANDARDS.**—The attention of the Local Government Board has been drawn to the electric standards that have been erected in Oxford Street between the Marble Arch and Oxford Circus by the Roads Improvement Association. Unfortunately the matter is not one in which the Board has any authority to intervene. The erection of standards in the middle of the street is a practice that has been condemned by the Royal Commission, and it is satisfactory to learn that other districts in London which have in years past erected such stand-

ards are now removing them. For example, the borough of St. Pancras has recently been at considerable expense in taking down the central electric standards which obstructed the Marylebone Road between Portland Road Station and Tottenham Court Road.

### COMPANY NEWS.

#### NEW COMPANIES.

**INVICTA MOTOR COMPANY.**—£500. Mr. G. Sproston is sole director. St. John's Road, Tunbridge Wells.

**HOOPER AND SONS.**—£17,000 (£10). To adopt an agreement with Mr. W. E. Hooper and to take over the business of a coach and motor-car builder, repairer, and agent, carried on by him at Liverpool and West Derby. Mr. Hooper is permanent director. 6, Slater Street, Liverpool.

**PATENT TYRE PROTECTOR SYNDICATE, LTD.**—Capital £7,000. To purchase the rights in an invention relating to improvements in wheels. 162, Buchanan Street, Glasgow.

**UNITED MOTOR-CAR COMPANY.**—Capital, £253,000. To adopt an agreement with the United Investment Corporation, Limited, and to carry on the business of proprietors of motor-cabs and other conveyances, &c.

**PERI TYRE COMPANY.**—Capital, £2,000. To adopt an agreement with J. T. Akerman and J. C. Akerman, 37 and 39, Essex Street, W.C.

**LINDSAY MOTOR MANUFACTURING COMPANY.**—Capital, £5,000. To take over the business of motor-car manufacturers carried on at Woodbridge, Suffolk, as the Lindsay Motor Car Company, and to adopt an agreement with Mr. J. L. Scott, who will be sole director and manager.

### MOTOR-CAR ACCIDENT.

THE circumstances of a motor-car accident at Manchester, which terminated fatally, were explained to the Manchester Deputy Coroner on the 9th inst., when he was inquiring into the death of a carter named Samuel Kelshaw. On New Year's Day Kelshaw, it was stated, had been working until late in the afternoon, and early in the evening he went out with a friend. Half an hour later he was at the corner of Liverpool Road, and was crossing the road, when he was knocked down by a motor-car, stated to belong to and being driven by Mr. Henry Hollindrake, of Edgeley, Stockport. After hearing the evidence of Mr. Hollindrake, the Coroner said the jury had nothing to do with any civil liability that may arise; what they had to say was whether or not there had been any criminal liability, and whether Mr. Hollindrake was to blame or not. The Coroner did not think he was criminally responsible. The accident may have been inevitable, or it may have been the man's own fault. After a brief retirement the jury returned a verdict of "Accidental death."

### CLAIMS BY MOTORISTS.

IN Greenock Sheriff Court, Sheriff Neish has given his decision in an action for damages by Edward Robert Budd, Eureka House, Dumbreck, against Daniel Cunningham and Sons, contractors, Kilmacolm. Pursuer asked for £207 in respect of personal injuries and damage to his motor-car. The condensation set forth that on or about July 3rd, 1906, the pursuer, in company with Mr. John Ritchie, was driving his motor-car from Largo to Glasgow. As he was motoring along the highway at or near Kilmacolm the car dashed into wires which had been stretched across the road by the defenders at a height of three feet six inches, by which the car was smashed and the occupants injured. The sheriff finds that the accident occurred through the fault of the defenders, and awarded pursuer £57 and expenses. In an action by John Ritchie, clerk, Ellimore House, Dumbreck, the other occupant of the car, the sheriff also found Messrs. Cunningham liable, and awarded pursuer £20.

### TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

Photographers, both professional and amateur, are invited to send photographs of current events or of motoring scenes and incidents. The fee, if any, required for reproduction should be stated in each case; otherwise no liability will be accepted.

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# THE Motor-Car Journal.

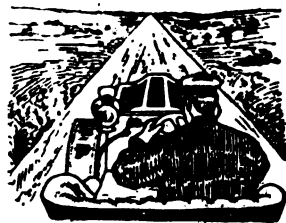
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## COMMENTS.



IN the multitude of counsellors there may be wisdom, but in the multiplication of organisations of similar aims there is often overlapping. That is a fact which has now dawned upon those who have been associated with one or other of the efforts made during recent years to reduce the dust nuisance as it is aggravated by the presence of motor-cars on the road. Hence the suggestion that is now being realised for the formation of a national body to weld together the various bands of experts who are tackling the problem in different ways. Our readers are so well alive to the importance of studying the subject that they will welcome anything likely to secure experiments on a scale large enough to give value to their results. Mr. Julian Orde will act as secretary of the new National Dustless Roads Committee, upon which such bodies as the Royal Agricultural Society, the Coaching Club, the Sanitary Institute, and the Royal College of Physicians, as well as the recognised automobile organisations, are to be invited to be represented. Altogether nineteen societies of various kinds have been invited to participate in the new movement, which will be formally inaugurated at a meeting at the Automobile Club on the 7th prox.

### Cases Dismissed at Guildford.

STRANGE things have sometimes occurred at the Guildford Court, and one of the most curious is referred to in our report of a motor case recently heard there. Wonderful to relate, it was dismissed. The circumstances, however, were so typical of what occurs in this country that further reference to the matter may usefully be made. The steam roller was working on the road when the defendant drove his car for a few yards along a footpath where no one was walking. Consequently he was charged by the police with driving in a dangerous manner—a course which even the Guildford Bench saw was neither equitable nor desirable. This matter of road repair is one that should be considered by the local authorities with the view of ensuring room being left for motorists when roads are in course of renovation.

### The Supply of Petrol.

IN his evidence before the Fuels Committee of the Motor Union, Mr. Alexander Duckham emphasised the necessity for some official body to immediately carry out tests, and so convince the motorist that he can just as advantageously use a somewhat heavier petroleum spirit than the grade he now employs, without any alteration to the jet of his carburettor. Such alteration in the standard for petrol would immediately relieve the situation by increasing the available supply by perhaps 50 per cent. or to some 150 million gallons per annum. The price of petrol would be brought down if the market for the residual products could be increased. In fact, it would appear that our chief hope of moderate price and constant supply of motor spirit, in view of the great possible increase in the demand, consists in the extension of the use of heavier products keeping pace with the increasing

demand for motor-car purposes. Concerning the quantity of crude oil available in the crust of the earth, we may regard that as practically unlimited, but it is of the utmost importance to remember that the supply of spirit of the specific gravity commonly used at present, namely, from 700 to 720, only forms on the average about 10 per cent. of the crude oil from the fields. Hence it is extremely unlikely that at anything like the present price manufacturers will distil crude oil for the sole purpose of producing petrol, as they would have to dispose of the other 90 per cent.

### Scotch Law.

AN important appeal on the question of jurisdiction of Burgh Magistrates and Justices of the Peace in Scotland was concluded on Friday of last week, and is summarised on another page. The decision has made it absolutely clear that the J.P.'s have no authority, and that the Sheriff Court is the tribunal under the Act. The case is the most important yet heard in Scotland in connection with automobilism, and the Scottish Automobile Club, at whose instance the appeal has been taken, have rendered a valuable service to the whole motor-car community in securing this determination of the law, by which it is made clear that motor-car cases must be tried before the Sheriff Court, and that burgh police magistrates have no jurisdiction under the Motor Car Act, 1903.

### The Club for the Transvaal.

THE presence of more than 600 owners of motor-cars in Johannesburg should give full scope for the activities of the Transvaal Automobile Club. Mr. F. H. Davis is president and Mr. W. Wolstenholme is hon. secretary. The object of the organisation is to encourage and further the automobile interests of the Transvaal by means of lectures and discussions, arranging for the storing of members' vehicles, organising tours and generally performing the useful service associated with the careers of similar societies in this country. Mr. L. Reyersbach is the chairman of the club committee, upon which are Dr. Bensusan, Messrs. T. C. Dumat, W. H. Wood, H. Hellman, H. S. Stark, J. P. Engel and F. Whittaker. Mr. T. Greig is the secretary of the Transvaal A.C., to which we offer the congratulations of British motorists on the success of its early days.

### Motor-Car Wheels.

LAST week, under the chairmanship of Mr. Percy Martin, a meeting of the Coventry Engineering Society was held at the local Technical Institute, when Mr. Henry Sturmey opened a discussion on motor-car design. His remarks in regard to motor-cars concerned rather the general design of chassis than the consideration of any point in particular. Commencing with the wheels, he said he was very pleased to see that at last the value of large wheels was being appreciated. The Automobile Club, in the rules for the new heavy touring car race, stipulated for 36 in. wheels, and now 34 in. wheels were quite common, whereas until a year or so ago they were very much the exception, and quite the majority of the cars ran upon 30 in. rollers. If they looked at the wheel they would see that the larger the diameter the more readily would

distances be surmounted, hence the smoother and easier would be the running. As to the number of wheels to be used, he thought it might be taken as accepted that for all general purposes four wheels would be found to be best, but upon light cars, where accommodation for one or two passengers only was required, there was much to be said in favour of three. Accepting, then, four wheels as the number they had to deal with, and taking it for granted that they would act in pairs parallel to each other, but little observation would show that, considered solely from the point of view of the comfort of passengers, the further apart they were placed the better, and the smoother running they would get, though this would depend upon the nature and size of the load to be carried.

### Side Slip Competition.

THE examination of drawings submitted in connection with the side-slip and skid prevention competition of the Automobile Club has taken place under the guidance of the Expert and Technical Committee, assisted by representatives of leading motor-bus services in London. There were no fewer than forty-one entries, and only two were withdrawn before the inspection of drawings. Of those that remained twenty-seven



Mr. H. R. Dixon at the wheel of his 40-h.p. six-cylinder Napier Car, which he has just taken out to Sydney, after an extended tour in this country.

Mr. Dixon is one of the principal directors of the Dixon Tobacco Company, of Sydney, a branch of the American Tobacco Company, and has for a number of years taken an active interest in motoring. His firm used a motor-tricycle for opening up business in the back country of Australia over ten years ago, the little machine covering tens of thousands of miles with great success.

were rejected as impracticable, leaving twelve for the preliminary test, which will take place on the 5th prox. at the Clement-Talbot works in Ladbroke Grove, London, W. It is to be hoped that some really effective device may be brought into prominence by the competition.

### The Motor-Cycle.

ELSEWHERE we give some points from the speeches made at the annual dinner of the Auto Cycle Club, the organisation of which has been so successfully secured by Mr. F. Straight. It was generally agreed that the perfect machine had not yet been evolved, and that the silencer competition might be productive of a factor conducing to that state of finality. The motor-cyclist should remember that the public is somewhat critical with regard to the noisy progression of his slim machine on the roadway, and that the education of the present generation will be quickened in proportion to the silence of the cycle. Some remarks with regard to the machines likely to be popular aroused dissent from many of the experts present, one of whom will discuss the subject in our columns next week.

### Trams v. Buses.

FEAR of the competition of the electric tramways which are promised at Torquay led the shareholders of the Torquay Motor Omnibus Co. to agree, on Tuesday, to the sale of their eight omnibuses to the Harrogate Road Car Co. Doubtless those responsible for municipal traction schemes will rejoice at such a result, and some of the members of the London County Council may have been inclined to object to the regard with which many councillors treated the motor-bus at Tuesday's meeting of that body. The Highways Committee recommended that the Home Secretary be urged, having regard to the heavy wear caused to the public streets by motor-omnibuses plying for hire, to consider whether legislation should not be introduced requiring a proper contribution to be made by the owners of these vehicles towards the cost of maintaining the streets. Against this Mr. W. W. Bruce raised a question of inconsistency. Such an attitude was in opposition to the Council's policy of attempting to solve the housing problem by inducing the people to go out into the suburbs. He considered that the motor-omnibuses were doing a very useful work, although no doubt a good many people objected to the noise. He moved to omit the reference, and ultimately Captain Hemphill withdrew the report after Mr. Dickinson said it seemed to him that the Council would be making a very great mistake if they were to advocate a tax on motor-buses. That mode of locomotion was unpopular at present, but it would rapidly become popular, and what the Council should aim at was that the control over motor-omnibuses should be adequate and in proper hands.

### Level Crossings on Highways.

AN important test case has been argued before the Board of Trade as to the whole policy of light railways having the use of highways. The promoters of a light railway from Ripon to Kirkby Malzeard, in Yorkshire, had got a level crossing in the borough of Ripon passed by the Light Railway Commissioners, and the opponents took the view, not against the light railway as a scheme, but that no light railway should be allowed to have a level crossing where the line could be carried either over or under a public highway. They said when railways were allowed under the Act of 1845 to cross public roads it was thought that the roads in future would only be used by agriculturists, and the advent of the motorist was not dreamt of. Therefore the Board of Trade's policy should be to prevent the use of the highways in such a way as to cause danger or inconvenience to the travelling public. There was a cardinal distinction between tramways which were promoted for the benefit of the people living in the locality and light railways which were constructed by private enterprise for their own benefit. The Motor Union urged the great increase of motor traffic for pleasure, and also for industrial purposes, as a reason why the Board of Trade should prevent these light railways from crossing main roads in future. Sir Herbert Jekyll, representing the Board of Trade, said it was the duty of the Board to protect the public from danger, and they would see that that was carried out. As to the inconvenience of a level crossing, which was always more or less objectionable, considerations of public benefit must have due weight. The Board of Trade would carefully consider the arguments, and give decision to the parties in writing.

### The Fly in the Spider's Web.

MR. PLOWDEN is the witty wisacre of Metropolitan magistrates, and his judicial utterances are generally useful for the newspaper paragrapher. The other day, when some motor-bus drivers were summoned at Marylebone, they asserted that their pace was not nearly so great as alleged. "Your defence," remarked Mr. Plowden, "would be good if it stood by itself; but there is another side, which is supported by stop-watches. They may or may not be infallible, but they hold the field. Nothing better has been invented at present to take their place."

And so long as stop-watches hold the field it will be easier for a fly to break through the spider's web than for a motor-car to hope to escape when it once falls into a police trap. Therefore, though I don't withhold from you my sympathy, I must, under the spell of these watches from which there is no escape, fine you." We quite agree as to the absence of chances of escape for the motorist unfortunate enough to fall into a police trap.

#### Cordingley's Show.

PREPARATIONS are now well in hand for the twelfth of the annual series of Motor Car Exhibitions held at the Agricultural Hall, London, by Messrs. Charles Cordingley and Co. Coming so closely to the beginning of the selling

season of the year, it affords makers and agents a splendid opportunity to introduce their new models to the many prospective motorists who are delaying their plunge into automobilism till April in order to investigate the latest models before purchasing. This year, more than ever before, the capacity of the Hall, with all its galleries and subsidiary halls, will be taxed to the utmost, and the bookings from new

want of room. The Hall will become the largest exhibition building in the world, apart from the Grand Palais at Paris. In addition to the sites of the houses the areas of three streets will also be covered. This will be good news for the motor industry, which has come to regard the Agricultural Hall exhibitions with so much favour.

#### Yorkshire Opposition.

REALLY some of the active motor-car organisations in Yorkshire should keep a watchful eye on Alderman Milnes Gaskell, who generally takes advantage of every seasonable and unseasonable opportunity to deliver himself of a little

homily on motor-cars. He does not always treat them with the respect they deserve, and his review of the past year's work of the important body over which he presides contains the usual collection of smart sayings against the automobile, together with his own reflections thereon. He wants further powers against the motorist given to local authorities, and really believes that "in many cases the driver of a motor-



A Reminiscence of King Edward's Last Visit to Germany. His Majesty enjoying a Motor Trip with the Kaiser. *(L'Automobile, Milan.)*

firms, as well as from those long familiar to the trade, prove the continued popularity of the pioneer motor show in this country.

#### Extension of the Agricultural Hall.

THE difficulty of accommodating all the exhibitors who have sought admission to the Cordingley Motor-Car Shows at the Agricultural Hall, London, has been an increasing one, and bold steps have, at last, had to be taken to deal with the

matter. Consequently visitors to the famous venue at Islington will find many improvements by April. The Upper Street entrance has been greatly improved, while the reception yard in Barford Street is being covered with a glazed roof that will be found to considerably increase the capacity of the building. So much for the improvement practically completed. This, however, does not by any means exhaust the extensions that are in view, and all who recognise the accessibility of the Hall from every part of the Metropolis—by train, bus, tram, or tube—will be glad to know that the company has purchased nearly thirty houses adjoining the present Hall with the view of adding to the building, so that future exhibitions need not be cramped for

car is frankly unable to understand that the roads and lanes of the country and the fulness thereof do not belong exclusively to him. The nursery for the child, the stable for the horse, the kennel for the dog, the bed for the aged, is his cry." To the public at large he says: "Trespass on my highway at your peril; if you do I shall knock you down, maim you, it may be kill you, and if you remember my number the magistrate will let me off with a small fine, and the coroner will say that I cannot be expected to attend to my car and the public at the same time." Naturally the councillors assembled to hear the wisdom of their chairman punctuated his remarks with laughter. There were, however, one or two solid facts, and, dealing with the highways, the Alderman stated that there were 1,042 miles of main roads in the West Riding area, while the mileage of bridges not on main roads was 52 miles, and the total number of bridges and culverts repairable by the Council 800. The cost increased steadily; the total expense for the year ended March, 1903, was £159,399, and for the year ended last March, £182,150, an increase of £22 per mile, or 14 per cent. The urban district road increased £52 a mile and the rural district road £2 in that period. Of course he attributed the increased cost to his pet aversion.

### The Ameer's First Ride.

WITHOUT wishing to depose this worthy Alderman from his position of service in his country, we would suggest that the Ameer of Afghanistan is really more tolerant to modern advance than many of our own country wiseacres. Recently His Majesty had his first ride on a motor-car in the company of Lord Kitchener, with Captain Jenkins, of the Royal Artillery, as driver. The vehicle was a 24-h.p. Orleans, and so gratified was the Ameer that he requested an example of its full speed on the return journey.

### A Useful Speed Calculating Rule.

WHEN in Nottingham recently we had the pleasure of an interesting conversation with Mr. C. E. Wells Lucas, the solicitor to the Nottinghamshire Automobile Club. Although, owing to the friendly feelings which, as we recently pointed out, exist between the police authorities and motorists in that part of the country, he has relatively a small number of cases to defend for exceeding the legal limit, Mr. Lucas has worked out a very simple and useful rule for quickly checking the speed alleged by the police as a result of their taking the time the car occupies in covering a certain distance. Mr. Lucas' handy rule is simply this: divide the yards covered by the number of seconds occupied and multiply by two, the result being the approximate speed in miles per hour. Thus, taking a furlong—220 yards—and assuming the time occupied was 15 seconds this would give  $\frac{220}{15} \times 2 = 29\frac{1}{3}$  miles per hour, which is very close to the exact speed—30 miles per hour. The rule is one which motorists should make a note of, as, although police traps have, we are glad to say, not been so numerous lately, one never knows when it may prove handy.

### Motor Transit.

MR. E. A. HACKETT, the county surveyor of the South Riding of Tipperary, has been giving evidence before the Commission to inquire into the management of the Irish railway system, and was questioned somewhat closely with regard to the possible chance of the motor-car as a competitor with the railways of the country. He agreed that when the Iveagh-Pirie scheme was first promulgated the roads of Ireland were in a state that would have hazarded its prospects, but was also sure that many of the County Councils have since considerably improved their roads. The authorities are realising the loss their earlier attitude has entailed upon the country, and Mr. Hackett believes that if the scheme could now be revived the Councils would rise to the occasion and have the roads made suitable for the purpose of the new traffic.

### Touring in India.

MRS. HERBERT LLOYD is one of our enthusiastic lady motorists, and is now touring in India. She left England in the early part of last October with her 30-40-h.p. Daimler, with wheels fitted with interchangeable rims and the tyres filled with Elastas. A letter lately received from her, and written at Calcutta just before Christmas, gives an idea of the difficulties of the journey. "We have come two thousand miles over the worst roads in the world," she wrote, "with one set of tyres—three of them are still in excellent condition, and look as though they would last us another two thousand miles or more. The fourth is *hors de combat*, but simply and solely because over a most wicked Irish bridge in which we stuck we pulled out a lot of the studs, which in course of time allowed the rubber to disintegrate. However, this happened a thousand miles back, and it is not done for until now. The mistake was having studded tyres at all; they are not suitable for Indian roads, which are too abominable for words. If we had had plain tyres on all four wheels they would have lasted till every shred of rubber had worn away. These filled tyres do not heat so much as ordinary pneumatics; in fact, the unstudded ones

are generally quite cool, though the weather in the Bombay Presidency was most fearfully hot. We do not notice any difference to pneumatics in the running, the bumping and jarring being no greater, and no sort of test could be more severe than these two thousand miles. We have forded rivers, being hauled on and off ferries over mud and stones, and difficulties which sent my heart into my mouth; we have been over roads, miles of them on which we could go no faster than five miles an hour, and we have crossed bridges of boats and about 100 'Irish bridges,' which only by courtesy could be called bridges at all. And yet we have enjoyed it most thoroughly, and we are all very fit and well. Only two other cars have done the journey, and I do not know how much they did of it by train. We have done it all but thirty miles by road. One of these two cars used twelve sets of tyres. We are now off to Darjeeling, and from there to the Punjab."

### Long Distance Trials.

THE arbitrary nature of the fee hitherto charged for the Long Distance Trials of the A.C.G.B.I. is said to have a deterrent influence on many firms otherwise willing to submit their cars to official tests. In future this will be determined jointly by the Technical and Finance Committees, who have been instructed to keep the expenses as low as possible, so that makers shall be encouraged to undertake trials of this kind. There is a certain amount of boldness required in entering a vehicle for these long distance trials, for so many factors enter into the calculation that ill-luck may destroy the value of the effort. Still, the certificate obtained at the end of such a run is worth having as an assurance that the public will accept as to the reliability of the test and the car alike.

THE Maudslay Motor Company, Coventry, have lately completed a 30-40-h.p. motor-van for the G.P.O. Stores Department, Mount Pleasant, E.C.

MR. R. LAMB is about to start on an extended business tour throughout the country on a "West" car, with a view of appointing agents for its sale.

THE Liverpool Motor Show opens on the 25th inst. with the new firm of Argylls Liverpool, Ltd., among the largest exhibitors, their display including a 17-20-h.p. new type landaulet.

THE Renard road train, which was described in our columns at the time of its introduction at one of the Paris Motor Car Exhibitions, is likely to be seen on British roads ere long, a company being in course of formation to introduce it into England.

EXCITEMENT has been keen in Baldwin's Gardens owing to the capture, red-handed, of a couple of miscreants, who succeeded in raiding the premises of the E. M. Bowden's Patent Syndicate Ltd. Possibly they were tempted to the deed by the reported prosperity of the motor industry, and anticipated in consequence a hoard of wealth to reward their enterprise.

A SOMEWHAT amusing incident occurred at the recent Paris Show. Mr. Huntley Walker, Mr. Lee-Guinness, and Mr. W. Guinness, seeing a new 40-h.p. Weigel car standing outside the *Salon*, which they knew was the property of Mr. Weigel, thought that they would borrow it. Mr. Guinness started up the engine in the usual way, and then putting the first speed in, Mr. Walker started to mount the Champs Elysees. When getting on to "second," the engine showed signs of stopping. He immediately changed down again to the first speed, and proceeded on his way, amid the chaff of the two brothers Guinness and Mr. Warwick Wright, who was also one of the passengers. Mr. Walker did his best to explain what the trouble was, and the party finally arrived at the Elysee-Palace Hotel, where they discovered that the engine was running at half compression. Mr. Guinness had never started a Weigel before, and did not know that there was a half-compression device—a fact which also escaped the memory of Mr. Walker—which had been put in action at the end of the previous run. The fact that the car contained four world-renowned record breakers makes the incident very curious.



## A RUN ON A BROTHERHOOD CAR.

WE had a striking illustration a few days ago of the way in which the modern automobile is rapidly becoming a serious rival to railways by its ability to swiftly and reliably transport people from one part of the country to another. The occasion was the annual dinner of the Nottinghamshire Automobile Club, when, at the invitation of Mr. Percy Richardson, the managing director of the Sheffield Simplex Motor Co., we accepted a seat on a 20-h.p. Brotherhood car for a run down to the city of lace. It is seven years since we made this particular trip, and, curiously enough, Mr. Richardson was then our pilot. In those days there were always sufficient incidents on the journey to provide useful material for a good "story," whereas now the modern automobile swallows up the milestones with such a degree of regularity and reliability as to render the task of the motoring scribe anything but an easy one. Suffice it to say, therefore, that the only stop on the way down was that for lunch at Northampton; even the puncture demon for once looked the other way as we sped along, notwithstanding the fact that many uninviting patches of unrolled new metal had to be traversed. The return journey on the following day was equally devoid of incident, although in parts the roads were somewhat treacherous, and, consequent on a late start, the last thirty miles had to be done in the dark. Altogether the outing was a most enjoyable one, the more so in that it gave us an opportunity of noting the behaviour and efficiency of two radical departures from the standard practice which form the predominant features of the Brotherhood car—the automatically advanced and retarded ignition and the foot control of the engine, by means of which the steering wheel is rendered quite clear of levers, leaving the hands of the driver free for steering and for operating the change-speed and hand-brake levers. The pedal controlling the lift of the inlet valves is neither of the push nor press down type, but has a to-and-fro sliding movement, so that by slightly moving the sole of the foot to the right or left, without lifting the heel from the floor-board, the speed of the engine can be regulated as desired. After a spin of 250 miles on the vehicle, we are free to say that the system gives excellent results in practice; the automatic control of the ignition is such that the timing of the spark adjusts itself to the speed of the engine instantly and without any action on the part of the driver, and at no time, even when climbing a stiff hill, could we discern any sign of knocking. As for the sliding pedal, one quickly becomes accustomed to its movement and able to adjust the motor speed to a nicety with a minimum of exertion. Although, as has already been recorded in the *M.C.J.*, the name of the car is being changed from the Brotherhood to the Sheffield Simplex, the main points of the design, including the two above referred to, are being retained in the new models which will shortly emanate from the large new factory now approaching completion at Tinsley, near Sheffield.

SPECIAL provision is made in one of the large motor garages in New York for the chauffeurs when off duty. In the rooms devoted to them are not only comfortable chairs and lounges, lavatories and shower baths, but a billiard table and a barber with his chair and complete outfit. The latter is not only a great convenience to many of the drivers, but is an obvious suggestion to every one to look to his personal appearance, and leaves no excuse for not doing so.

THE quarterly issue of Departmental Decisions comes from the office of the "Local Government Journal." It is the only one of its kind published and gives over 142 decisions, by six Government departments, bearing upon administration. Every branch of local government is affected, and, inasmuch as such decisions are not only legal interpretations of law by the Departments concerned, but form precedents which govern similar cases wherever they occur, the use of the book by all engaged in the conduct of local government is a necessary part of office administration.

## IRISH DOCTORS AS MOTORISTS.

MANY medical men in Ireland have adopted the motor-car, and in a country so sparsely populated as is the Emerald Isle its advantages are even more readily recognisable than in lands more congested. Dr. Gerard J. Pierse, of Lixnaw, co. Kerry, has had an 8-h.p. three-seated Chambers car in constant service for nearly a year, and has driven it over 5,000 miles of the worst roads in Ireland during that time. To have covered that distance by ordinary methods of locomotion two horses would have been required, and their cost would have been considerably more than the maintenance of the car. Dr. Pierse calculates that his future expenses for running the vehicle will be less than £40 yearly, with a mileage of 6,000.

Another of the medical men who save time and gain pleasure from motoring in Ireland is Dr. J. M. Heron, of Downpatrick, who is to be seen in the accompanying illustration at the wheel of his two-cylinder Star upon which he recently travelled five hundred miles in fifteen days—by way of holiday. His route was from his home to Dublin, via the historical town of Drogheda, and then by way of Athlone and Ballinasloe to Galway and into



Dr. J. M. Heron on his Star Car.

the Connemara district, with its varieties of roads—a few good, some bad, and many indifferent. Thence the route was through Westport, Mullaranny, Sligo, Enniskillen, Dundalk, back to co. Down. Home again, Dr. Heron was able to contemplate the pleasure of a holiday with a well-behaved car that ran safely and reliably all the way.

It is a notable fact that both the gentlemen we have named have a mechanical aptitude and drive and look after the cars themselves. They are convinced that owners of automobiles can materially add to the pleasure of possession by taking an interest in their vehicles and being capable of effecting the little adjustments that are required from time to time to maintain the good character of their cars. It has often been noticed that doctors, who are accustomed to diagnosing cases, are frequently as expert in locating the complaints and troubles of their cars—a fact to which something of the popularity of the automobile among members of the medical profession may be attributed.

THE New Engine Company have lately completed a 30-h.p. N.E.C. car for Mr. T. W. Bacon, of Ramsden Hall, Billericay.

## SOME CURRENT TOPICS.

### The Institution of Automobile Engineers.

We are glad to be able to record that, now the headquarters have been moved to London, the Institution of Automobile Engineers appears to have at last entered on a career of activity and usefulness. The opening meeting of the session was held in the spacious lecture hall of the Institution of Mechanical Engineers, at Storey's Gate, Westminster, on Wednesday of last week, and it was exceedingly gratifying and decidedly encouraging to find an audience of at least 150 gathered together to hear the reading of Mr. F. L. Martineau's paper on "Accessibility and Cleanliness and the Best Means of Attaining Them." An abstract of the paper will be found elsewhere in the present issue, and although it will be seen from this that the author is a strong partisan of the horizontal type of motor, it will also be realised that he has given very close attention to the points he set forward for discussion. His conclusions are therefore well worthy of careful consideration.

circuitous streets of towns. In the case of town carriages the length of wheelbase was absolutely regulated by the condition of the streets. On the question of vertical *versus* horizontal engines, he considered that the attempts which had been made to obtain a short wheelbase by placing a vertical engine under the driver's seat were worse than putting a horizontal motor under the chassis. In regard to the question of casting cylinders separately or in pairs, he considered that the author's experience of having to replace only five cylinders rather proved that the question of being able to dismantle one cylinder without disturbing the others was not a very important one. There were substantial advantages in casting the whole of the cylinders in one or two pieces, while there was nothing very serious to urge against the practice in the way of replacements. Mr. A. Craig, of Coventry, proved a strenuous advocate of accessibility, the suggestion that parts should be made inaccessible so that incompetent people could not interfere with the adjustments being to his mind nothing less than ridiculous. The chief item in most repair bills was not for the repair itself but for taking the car down and putting it together again in order that the necessary work could be carried out. The business side of the motor movement would compel engineers to make things accessible, and if they realised the importance of this point in time they would have a chance of keeping the British industry a step in advance of foreign competitors. Mr. Legros spoke in favour of accessibility, but



Motor Lorry and Trailer Utilised in the Commissariat Department of the Swiss Army.

### Accessibility and Cleanliness.

At the same time many of the motor engineers present did not entirely agree with Mr. Martineau. Thus Mr. F. Lanchester, who Col. Crompton, the President, called upon to open the discussion, held that accessibility could be carried too far and considered it better to give more attention to reliability and to the reduction of the number of parts in a car. In regard to the question of horizontal *v.* vertical engines, the choice unfortunately lay not with the designer but with the public, whose wishes had to be observed. Mr. R. W. A. Brewer also thought that too much accessibility was a dangerous thing, seeing that the men who ordinarily had the care of motor-cars were not competent to make other than the most simple adjustments. It often happened that the most easily accessible parts were those which rarely required attention, while those portions which went wrong were awkward to get at. Many of the parts, such as pistons and cam shafts, which were with great pains made easily accessible, only needed looking at about once a year, provided they were properly designed.

### Short *v.* Long Chassis.

Mr. H. Austin agreed with the author that cars should be designed and built so as to accommodate themselves to narrow roads and sharp corners, especially as they not only had to be driven along wide country roads but through the narrow and

considered that the subject had to be looked at from two points of view: first, the accessibility of those parts requiring frequent attention and adjustment, and secondly, that of arranging the various parts so that they could be readily dismantled.

### The Standardisation of Nuts and Spanners.

Mr. Latham supported the author's suggestion as to the necessity for the standardisation of nuts and spanners, and referred to the work that was being done in this direction by the Engineering Standards Committee. He suggested the co-operation of the Institution of Automobile Engineers in this matter so far as related to nuts and spanners used on automobiles. Mr. Wilson put in a plea for visibility as well as accessibility, while Mr. T. C. Pullinger urged the universal adoption of the metric system as the best solution of the standardisation question. Mr. Martineau, in replying to the points raised in the discussion, stated that he advocated accessibility quite as much from the maker's and repairer's point of view as from that of the user, while, as regards the question of chassis length, he pointed out that long wheel bases generally meant additional weight and higher tyre costs, not to speak of the greater difficulty of manoeuvring in narrow lanes and thoroughfares. Although the discussion wandered considerably from the title of the paper, the points brought out were of interest not only to motor engineers but also to motorists generally.

## THE BRITANNIA CARS.

At the recent Olympia Show considerable interest was shown in the Britannia cars as being a noteworthy addition to the list of British-built vehicles. The manufacturers are a very old-established firm of engineers—the Britannia Engineering Company, of Colchester—who, before putting their machines publicly on the market, have subjected them to exhaustive trials. We have already briefly alluded to their principal features, but, as we are now able to give illustrations of the same, the more complete description of the 18–24-h.p. car now published may not be without interest.

No subsidiary frame is used, the engine and gear-box being bolted direct to the main pressed steel frame by means of side brackets. The four cylinders are cast in pairs, and the bore and stroke are respectively 104 mm. by 130 mm., and the normal speed 1,000 revolutions per minute. The valves are located on opposite sides, and are actuated by separate cam shafts, the

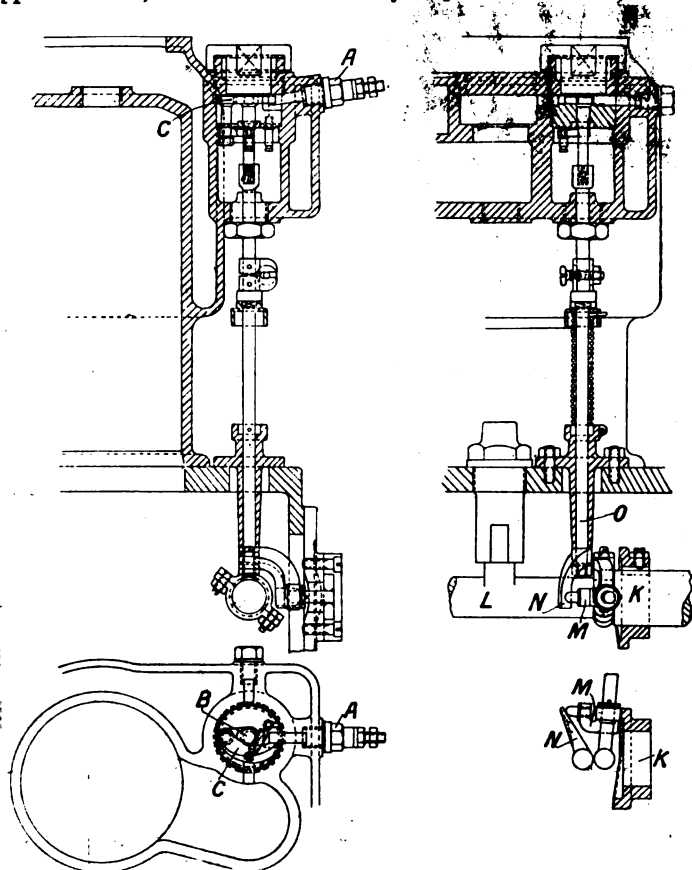


Fig. 1.—Details of Make and Break Mechanism of Low Tension Magneto Ignition of Britannia Cars.

driving gear of which is enclosed in the crank case, inspection covers being provided to admit of their easy examination. The lower half of the base-chamber is also so constructed that it can be disconnected without disturbing the crankshaft bearings. The water circulation is maintained by a gear-driven pump, which can be readily taken down. The radiator is of the honey-comb type, with air-inducing fan, the latter being supported on an eccentrically-mounted spindle, so that any slack in the driving belt may be readily taken up. Large plates are fitted on the tops of the cylinders, which allow the water jackets to be inspected and cleaned at any time. The carburettor, which is exhaust jacketed and is of the automatic air-regulating variety, is bolted direct to the aluminium collecting pipe to give the shortest possible distance between the jet and the inlet valves. Both the jet and float chamber are readily accessible; the latter is fed by gravity from a tank under the seat, and, as will be seen from the sectional view given in Fig. 2, the needle valve is operated direct by the float, so that the valve itself can be ground

on to its seating without removing any part of the carburettor. The sprayer is fitted just over the jet, and a special automatic piston valve with triangular slots admits the extra supply of air.

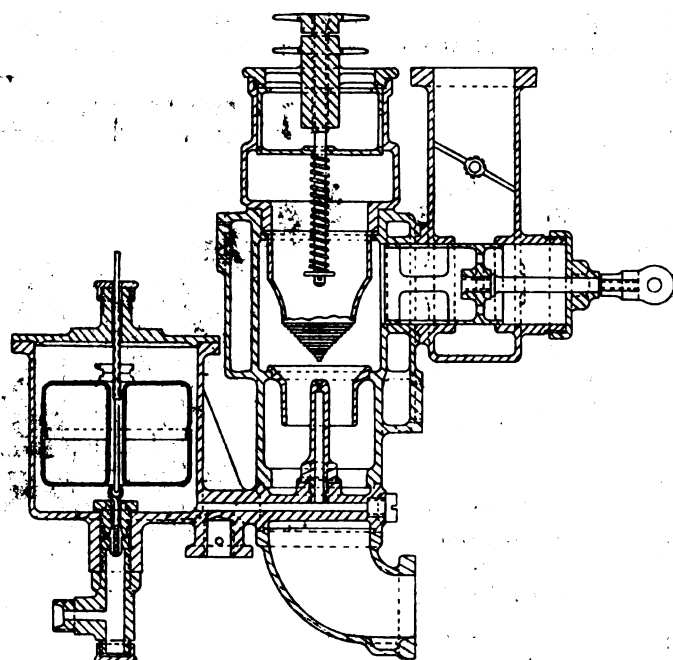


Fig. 2.—Section of Britannia Carburettor.

In addition to the main throttle, which is controlled from the steering column, an exhaust butterfly valve is provided, this being inter-connected with the clutch pedal; so that when the

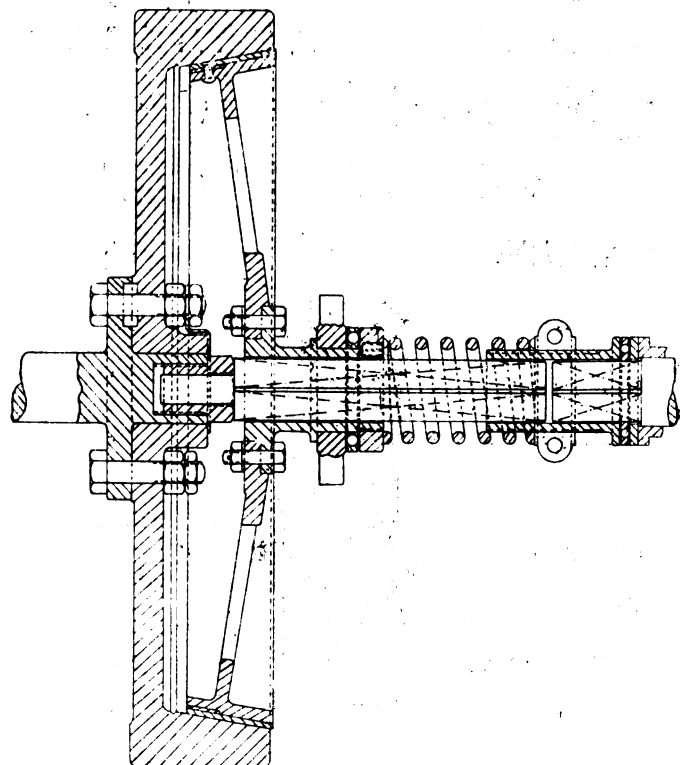


Fig. 3.—Section of Britannian Clutch.

pedal is pushed forward to change gear or stop the car, the speed of the engine is automatically cut down.

Two systems of ignition, Simms-Bosch gear-driven low-tension magneto and accumulators, are provided. The tappets, which are located on the inlet side, are a special feature, as the

whole operating mechanism is lubricated by the oil in the crank chamber. The spark itself can be seen and adjusted by simply removing a cap similar to one of the valve caps. Besides this, there is a passage only one quarter of an inch in diameter between the tappet chamber and the inlet valve, which renders it possible to run the engine with any quantity of lubricating oil without it affecting the ignition. The make and break mechanism is illustrated in (Fig. 1, page 1049), from which it will be seen that a face cam K is mounted on the operating shaft I. As the cam rotates it operates the forked arm M, which in turn moves the arm E on the lower end of the vertical spindle O, which passes up through the cylinder casting at the side of the inlet valves. At the upper end of the latter is a cam which lifts the finger B off the insulated plug A, to which it returns quickly by means of the spring A. Lubrication is effected by means of a tank fixed to the side of the chassis, kept under pressure by means of the exhaust, and a 4-drip sight feed rack on the dash conveys the oil to each pair of cylinders, the crank case, and the bearings in the gear-box. The ignition and throttle levers work on a sector above the steering wheel, which does not rotate with the latter.

The clutch, of which a sectional view is given in Fig. 3, is of the leather faced cone type, fitted with flat expanding springs. A universal joint is provided between it and the gear-box, and the tension of the clutch spring can be adjusted by simply turning one split brass nut. The gear-box is provided with long bearings, and a cover practically as large as the whole of the

live axle. The cardan shaft is of solid steel with square ends, brazed solid to the universal joints. The back axle is fitted with Hoffman ball bearings. A feature of the transmission is that the engine, primary gear, and cardan shafts are all in the same horizontal plane.

The dashboard is clear of all mechanism, the lubricating rack and switch being the only fittings. A special gun metal tray is provided to prevent the possibility of any oil dripping on the sloping footboard. The steering gear, the column of which passes through the dashboard, is provided with a large inspection cover which enables the worm and nut to be readily adjusted. A novel fitment is seen in the heel plates fixed on the sloping footboard, below the pedals, so that the driver may have a firm control of the latter. The frame, which is adapted to receive any type of open or closed side-entrance body, is supported on five long springs, the shackles of which are fitted with lubricators. The brakes are all of the metal-to-metal type, and of heavy design; that operated by the pedal is located on the forward end of the cardan shaft, behind the gear-box, and the two rear brakes are compensated and operated by a hand lever, which, when applied, disconnects the clutch. The foot brake is arranged so that the

strain of applying it does not go through the gear-box; it is specially wide and is easily adjusted by two separate ways.

The Britannia Company are also building cars on similar lines of 12-h.p. and 40-h.p. with four-cylinder engines and 30 and 60-h.p. six-cylinder. In conclusion it may be stated that

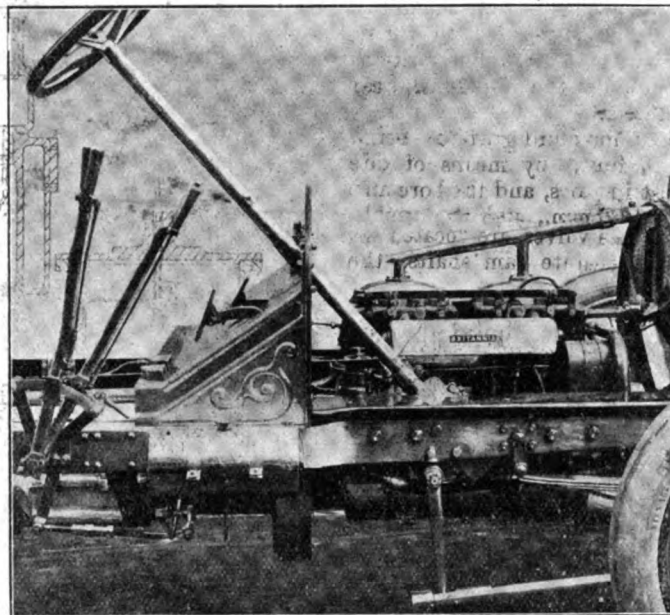


Fig. 4.—View of Forward Portion of Britannia 18-24-h.p. Chassis, showing the Engine, the Change-Speed and Brake Levers, and the Novel Heel rests below the pedals.

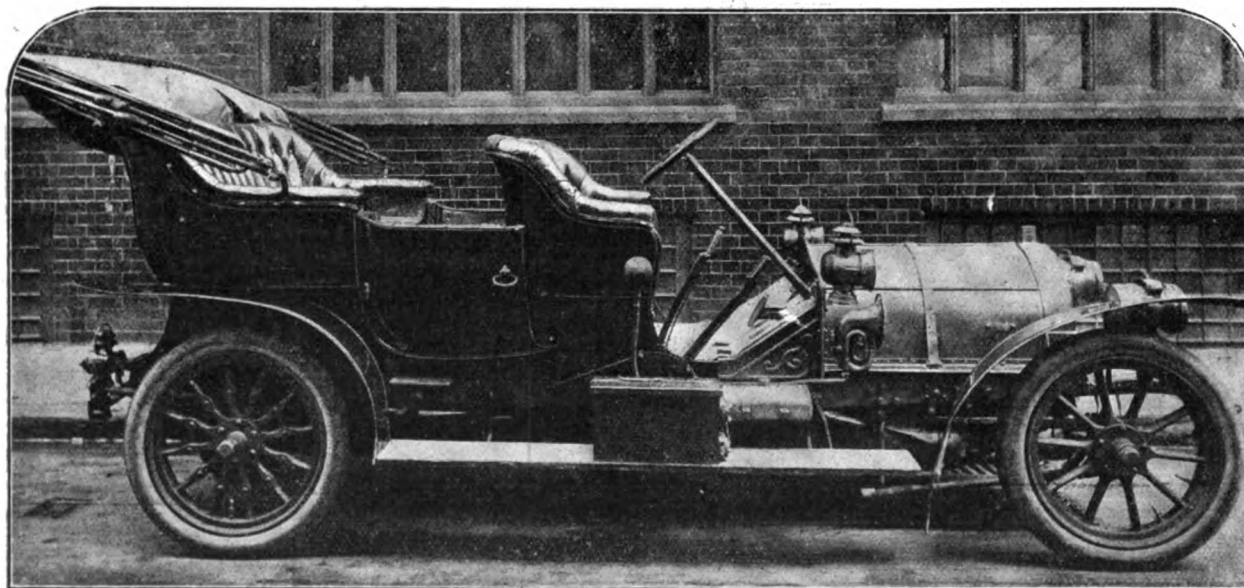


Fig. 5.—General View of the Britannia 18-24-h.p. Car.

case, thereby facilitating the inspection of the gears. Three speeds and a reverse are controlled by a single lever, working in a "gate" quadrant; a safety catch is provided to prevent the reverse being inadvertently engaged. The transmission from the gear-box is by a cardan shaft and bevel gear to a well-supported

the selling rights in the Britannia vehicles have been secured by the Victoria Carriage Works, of Long Acre, London, W.C.

A QUARTETTE of depots—at Cardiff, Tenby, Swansea and Haverfordwest—are run by the South Wales Motor Company.



SIR BOVERTON REDWOOD has been appointed inspector of motor launches on the Thames by the Thames Conservancy. He has therefore resigned from the post of vice-commander of the Motor Yacht Club.

A TRIAL of an electrical carriage over a course of 6,000 miles, under the observation of the A.C.G.B.I., is in contemplation by the Electromobile Company.

M. G. FROISSARD, the English correspondent of "Les Sports" and also the agent for Messrs. Thevin and Company's "Annuaire General de l'Automobile," has removed his offices to 152, Fleet Street, London, E.C.

A FOLDING blotter and writing pad has been issued by the Shrewsbury and Challiner Tyre Company, Ltd., which they will be pleased to send to any motorist making postal application to their works at Kay Street, Ardwick Green, Manchester.

A NEW wind screen for use on motor-cars has recently been introduced by Messrs. Cooper, Webb Jones, and Co., of the Stockwell Works, Walsall. The device is made in two parts; a special joint enabling the upper portion to be set and secured at any convenient angle by the turning of a thumb-screw.

RECENTLY we referred to Mr. C. J. Glidden's motor run on a railway track to Mexico City. Five miles from his destination the car jumped the rails and overturned, the front wheels being smashed. At the time of the accident the total mileage of the car was 39,718, spread over thirty-six different countries.

IN connection with the construction of the Weybridge motor track, a conference of local authorities interested in footpaths proposed to be diverted has been held at Chertsey, when, after much discussion, the meeting came to the conclusion that the rights of the public would not be prejudicially affected by the proposals of Mr. Locke-King, who offered alternative routes which would materially shorten the journey for pedestrians.

To establish a centre for the sale of automobiles and accessories, Motor Auctions, Ltd., is being formed, with a share capital of £100,000, of which 60,000 ordinary shares of £1 each will shortly be issued for public subscription. The directors of the new enterprise will be Messrs. J. B. Martin, H. A. Arkwright, J. W. Davy, S. F. Edge, J. E. Hutton, and U. Stratton, with Mr. Percy W. Northey as the managing director. A site has been secured at 167-177, Shaftesbury Avenue, and 26-30, New Compton Street, London, W.C., on which a new building will be erected for the purpose of auctions. A further site for workshops and garage has been obtained at 412-432, Euston Road, N.W., where a repairing department will be maintained, which, according to the estimates, should return an annual profit of £2,500. It is calculated that the profit from the Sale Mart and Garage will reach £23,900, so that after deducting £13,000 for outgoings, depreciation, and contingencies, there should be sufficient to pay a dividend of 10 per cent. on the ordinary shares, leaving a still larger amount for further distribution between the ordinary and deferred shares. Mr. E. Keynes Purchase, F.R.I.B.A., who is well known in connection with the A.C.G.B.I., is preparing the plans of the new buildings.

WHEN in Nottingham recently we had an opportunity of going over the extensive motor body building works of Messrs. Stareys, Ltd., Parliament Street, and found them of a very complete character. They occupy the upper floor of the repository in which the cars which took part in the memorable 1,000 miles trial in 1900 were stored on the occasion of the visit to the lace city. Keeping pace with the times, Mr. C. E. Norris, the manager, informed us that they have decided to practically give up the horse stabling part of the business and convert the repository into a modern garage. The premises are well adapted for this purpose, and when the necessary alterations are carried out Stareys' Garage will be one of the largest and most complete in Nottingham, as it is intended to put down plant to enable all classes of repair work to be carried out.

## HERE AND THERE.

MR. GODFREY BARING, M.P., has become the possessor of a 30-h.p. Beeston-Humber car.

THE Rosse Motor Car and Cycle Company, Limited, have opened a garage in the Bingley Road, Saltaire.

ACCORDING to a local journal there are in the town of Selangor, in the Malay States, thirty-five motor-cars of French origin, sixteen of English and four of American make.

MR. EDGAR SMITH is the proprietor of the Halifax Motor Company's garage in Weymouth Street, Halifax. His practical knowledge of the motor-car is often placed at the service of local motorists troubled with refractory cars.

A SOMEWHAT novel form of horse-propelled vehicle has recently been devised by M. Bonmarchand, of Clamart (Seine), France. It is known as the Auto-Hippique, and, as will be seen from the accompanying illustration, the idea of the motor-car has been copied as far as possible. The horse is fixed between shafts at the rear of the vehicle instead of at the front, as usual, and has merely to exert its power to propel the vehicle, which is steered by mounting the front wheels automobile fashion and turning them, either to the right or left as desired. According to the circular which the inventor has sent us, the speed of the horse is varied by means of a lever which operates



couple of spurs suitably placed on the rear frame, while the brake consists of a pedal-controlled disc acting on the nose of the horse. The vehicle, which is made either as a two-seated, four-seated *vis a vis*—the latter being illustrated herewith—or as a delivery van, is built of steel, and the road wheels run on ball bearings and pneumatic tyres; its light weight—about 2 cwts.—enables a horse to cover, it is claimed, from forty to sixty miles per day without fatigue. M. Bonmarchand is anxious to dispose of his British patent in the novel vehicle.

THE new Public Vehicle order of the Home Secretary provides that every mechanically-propelled hackney carriage presented for licensing after July 1st, 1907, shall be fitted with an approved taximeter. In such cases the fare for a distance not exceeding one mile or for a period of time not exceeding ten minutes is to be eightpence, and twopence will be charged for each additional quarter mile or for a period of time or a journey not exceeding two and a half minutes.

THE County of Gloucester Garage is situated in the centre of the town of Cheltenham, with entrances from the High Street and Albion Street, and is owned by Messrs. H. E. Steel, Ltd., who supply all makes of cars to clients, teach driving, garage and repair vehicles, examine vehicles, and generally place themselves at the service of present and prospective motorists. They have issued a new price list for 1907, the value of which is increased by distance tables from Cheltenham to more than a hundred other places.

THE Motor Union of Western India has abandoned the Reliability Trials it had proposed to hold this month.

MESSRS. JARROTT AND LETTS have just delivered a 40-h.p. de Dietrich to Lord Armstrong, Cragside, Rothbury.

THE Car and General Insurance Corporation, Ltd., are quoting for the insurance of chauffeurs under the new Workmen's Compensation Act, 1906.

THE Jackson light cars were pioneers in automobiles of that class on the English market, and Messrs. A. Reynold Jackson and Co., Ltd., who are now supplying motor-buses, are still making a speciality of light cars for the man of moderate means.

THE Army Council has approved the scheme for the registration of a limited number of motor vehicles for purchase in time of war and for hire during peace. The form of agreement can be obtained from the Secretary of the War Office Mechanical Transport Committee, Whitehall, S.W.

MESSRS. J. AND R. OLDFIELD, Warwick Street, Birmingham, are placing on the market a garage safety wall oil lamp for lighting purposes, of which we give an illustration. It is a good size, and plenty of light can be secured by its means. In reference to their inspection hand lamp, which we noticed in a recent issue, we are now in a position to state that the heat given from this would also be sufficient to keep out a few degrees of frost in



a closed apartment. The chief claim of the makers, however, is that the lamp can be used for inspection purposes without the slightest fear of any petrol vapour becoming ignited.

A GENTLEMAN recently ordered a cake from a well-known West End firm. He said he would wire as to the form of the ornamental sugar top, and duly despatched the message. "I would like a motor." Unfortunately this got into the hands of a man who knew nothing of the order for the cake. He, wishing to please the firm's customer, rang up the Automobiles de Luxe, Ltd., asking them to send a car from their Regent Street depot to the gentleman in the country. Only when the chauffeur explained by whom he was sent did it dawn upon the buyer of the cake how his innocent message had been misunderstood.

WITH reference to the case recently tried in the Viennese courts, and reported in our columns, in which Mr. Higginbotham, of Macclesfield, recovered £600 deposit paid on account of the price of a racing car which was not delivered when it should have been, Messrs. Dierckx Mercedes, Ltd., of Long Acre, W.C., wish it made clear that they are sole importers and accredited agents for Mercedes cars for the British Empire. If they make a contract for a car of any type, they do so with the fullest responsibility and under a time limit. If this limit is exceeded, they are willing to return the deposit immediately.

MESSRS. WEIGEL MOTORS, LTD., inform us that they have entered two cars for the 1907 race for the A.C.F. Grand Prix.

IT is said that Chinese chauffeurs have become popular in Shanghai, rapidly becoming accustomed to the ways of the motor, and developing real mechanical aptitude.

WE learn by telegraph that the annual motor race meeting on the Ormond-Daytona Beach track, Florida, began on Tuesday. The five miles flying start race was won by Marriott on a Stanley steamer in 3 min. 44 sec., and the five miles standing start race by an American Mercedes in 4 min. 25 sec.

AN interesting discussion is taking place in France as to whether provision should be made to advance and retard the ignition, or whether it should be fixed. The point is an interesting one, and we should be glad to have the views of motor engineers and automobilists in this country on the subject.

READERS are reminded that all cars eligible for the Brooklands racecourse must have been in their owners' possession for at least ninety days previous to the holding of a meeting. As the first meeting takes place in the middle of May, this does not allow of much time in which to construct a car specially, and it is therefore interesting to note that The Motor House, of Euston Road, N.W., have several suitable vehicles, including a 120-h.p. Fiat, which ran second in the Gordon Bennett race; a 120-h.p. and a 90-h.p. Star car, and several other high-powered cars, including Darracqs, Mercedes, Panhards, &c.

OWING to the rapid extension of the demand for Iris cars, the manufacturers, Messrs. Legros and Knowles, Ltd., have found it necessary to divide their sales department from the manufacturing business. For this purpose a separate company, under the title of "Iris Cars, Limited," has been formed to control and facilitate the sale and delivery of these vehicles, and during the next few days show rooms and offices will be opened in the immediate vicinity of Piccadilly Circus, W., under the management of Mr. A. E. Perman. In addition to the cars themselves a stock of lamps, clothing and accessories will be kept on hand.

EUSTON ROAD, N.W., is a Mecca of motoring; the neighbourhood being dotted with a variety of establishments for supplying the requirements of those who motor. At No. 374 in that road some extensive alterations are still in progress which should be noted by all who are interested in the tyre question, for there the New Motor and General Rubber Company is preparing for a great trade in the coming season and getting ready for the orders for tyre repairs that are anticipated to follow the good work that has been done for motorists since Mr. Thomas Warwick became the proprietor. Mr. Warwick was a cycling champion in Australia and also in the South of France more than a dozen years ago, and his entry into the tyre trade will be welcomed by many old friends. The fact that "things are not always what they seem" is well exemplified at 374, which from the exterior is an ordinary six-storied building of rather good frontage. It requires a tour of inspection of the premises that go so far back from the street to gauge the capacity of the concern for re-treading work as well as for the fitting of non-skids of a really excellent type. Among the plant is a stud-making machine that can turn out 50,000 studs a day, and the fact that many other houses in the trade are supplied with studs by the New Motor and General Rubber Company should be assurance to motorists that they are able to deal satisfactorily with single orders from distant parts. In making the non-skid bands, which can be fitted to any tyres, all the studs are fixed by hand so as to give security when in use. The canvas bands are built up in an interesting way, five solutions of rubber being applied, each one being allowed to dry before the next is given, so that a splendid wearing body is secured and the durability of the device enhanced to a good degree. Throughout the establishment, with its conveniences for drying the goods and perfecting every step that is taken in repair, a spirit of enterprise is evinced, and we were struck by the thorough manner in which old tyre canvases are cleansed of all rubber before the work of rebuilding the tread is commenced, an essential feature that should greatly contribute towards the reputation that Mr. Warwick is creating for himself.

## CONTINENTAL NOTES.

## Removable and Detachable Rims.

There was quite a large selection of removable rims at the recent Paris *Salon*, the idea being that the spare tyre shall be carried ready inflated on a reserve rim, which can be rapidly fixed in position. Prominent amongst them were the Michelin, Vinet, and "M. L." In the latter arrangement, which is made by the Societe des Jantes Amovibles, "M. L." of Paris, the rim is held in position on the felloe by six bolts, which can be readily removed or replaced by means of a special brace, the nuts as they are withdrawn being held in a recess in the brace. The Samson Non-Skid Company have also introduced a removable rim, the locking device of which is on somewhat new lines. The cover is carried in the usual form of rim, which slides over the rim of the wheel. In depressions in the latter are fitted six clamps, which when the tyre rim is in position are turned upwards by a key spanner, and so lock it, together with the tyre, immovably on the wheel rim. Special locking studs are provided to take the driving thrust and to prevent the tyre rim creeping on the wheel. Messrs. Leger and Laillault, of Levallois-Perret, showed the Celer, in which the rim which carries the tyre is formed with a narrow ridge on its underside, which rests on the flat tyre of the wheel. The tyre rim is wedged tight and retained in position against the inclined left-hand edge of the wheel tyre by means of a hoop, which can be expanded and contracted by a bolt having right and left-handed threads. M. Jenatzy has also devised a removable rim, which is held in position by a series of wedges. Several rims with detachable flanges to facilitate the fitting and removal of the outer covers were also on view, among them being the Lacouture, made by Messrs. Le Play and Lacouture, of Saint Quentin (Aisne), the Vulcan of Messrs. Bachillet and Co., Paris, and the "V. M." of Messrs. Enfer and Fils, Paris. In the "L. S." detachable rim made by M. L. Stier, of Villers-sur-Marne, the tyre rim is formed in halves with deep webs, which are bolted to each side of the vertical portion of a J-shaped rim, which is part of the wheel. To replace a tyre the bolts are removed and one of the halves of the rim removed.

## The Nice Week.

The Nice automobile week is this year to be held from the 20th to the 27th March. From the preliminary programme just issued we learn that a motor paper-chase is to be held on the 20th, a series of kilometre speed trials on the 21st, a touring competition on the 22nd, a flower fete on the 23rd, and an elegance competition on the 24th. The speed trials, which are to be known as the "Kilometre Bull's Eye," are to be run on somewhat novel lines. The competitors will be divided into three categories, for each of which a certain time for the flying kilometre has been fixed, as follows:—Class A, 35 sec.; class B, 45 sec.; and class C, 55 sec. The winners will be the cars which cover the kilometre in the nearest time to that taken as a basis, only those being classified who are within 4 sec. of the allowance in class A, 5 sec. in B, and 7 sec. in C.

## The French Military Authorities and Motor Vehicles.

General Picquart, the French Minister of War, has decided to have an official census prepared of all motor-cars in France suitable for the transport of men or material in time of war. The heavy vehicles for goods transport will be divided into three classes—those capable of carrying from 1,500 to 2,250 lb., from 2,250 to 3,250 lb., and over 3,250 lb. A separate classification will be made of motor-omnibuses and cars capable of carrying fifteen people.

## A French Light Car Trial.

A somewhat novel competition for light cars is to be held by the Automobile Club of Marseilles on May 26th next. It is to be known as the "Circuit Provençal," and will be open for vehicles having single, double, and four-cylinder engines. The competing vehicles will be handicapped by having to carry

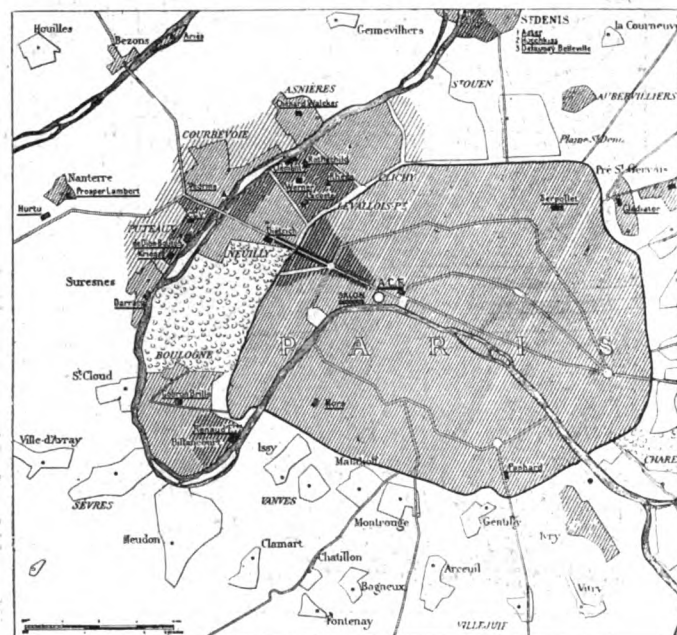
a load proportionate to the cylinder bore, and the test will consist of eight rounds of a 30 kilometre circuit. The position of the competitors at the completion of each lap will be recorded, and the winner will be not the first home, but he whose average in the eight rounds works out the best.

## British Motor-Cabs for Germany.

The municipal authorities of Nuremburg have just granted licences to a local motor agent to run a number of motor-cabs in the town. The service is interesting inasmuch as the vehicles to be used are of British construction, the chassis having been supplied by the Argyll Company.

## The A.C.F. Grand Prix Race.

The A.C.F. committee is still engaged on the question of selecting a suitable course on which to hold the Grand Prix and Commission Sportive races. The original list of about a dozen suggested circuits has been reduced to four, the respective merits of which are now being considered. These are:—(1) the Circuit de l'Aisne (80 kilometres), through Vervins, La Capelle, Guise and Marle; (2) the Circuit de la Seine-Inferieure, through Dieppe, Londinieres, Eu, and Toqueville (81 kilometres); (3) the



A Map of Paris and district, showing the location of the principal Motor-Car Factories.

(Motor Way.)

Circuit de l'Eure (about 86 kilometres), through Evreux, les Quatre-Routes, Conches, Breteuil, and Damville; and (4) Circuit de la Marne (about 83 kilometres), through Chalons, Chaintrix, Bergères-les-Vertus, Fère-Champenoise and Sommesous. So far twenty-two entries have been received for the Grand Prix event.

## Miscellaneous Items.

A twelve-seated shooting brake has been ordered for the Kaiser from the Sud-Deutsche Automobil Fabrik, of Gaggenau. —A company has just been formed in Marseilles to introduce a service of motor-cabs into the town.—The A.C.F. has appointed a special committee to study the best means of adapting motor-cars for the transport of wounded soldiers in time of war.—The "Auto" is organising a trial of motor-bicycles for the coming season. There will be two categories:—1, machines weighing under 55 lb. and in which the motor is an auxiliary, and 2, machines from 55 lb. to 88 lb.—A Darracq-Serpollot steam 'bus was last week put in operation between St. Raphael and Draguignan, in the south of France.—A special committee has been appointed by the French Automobile Club to report on the subject of the skidding of motor vehicles and the steps to be taken to overcome the difficulty.



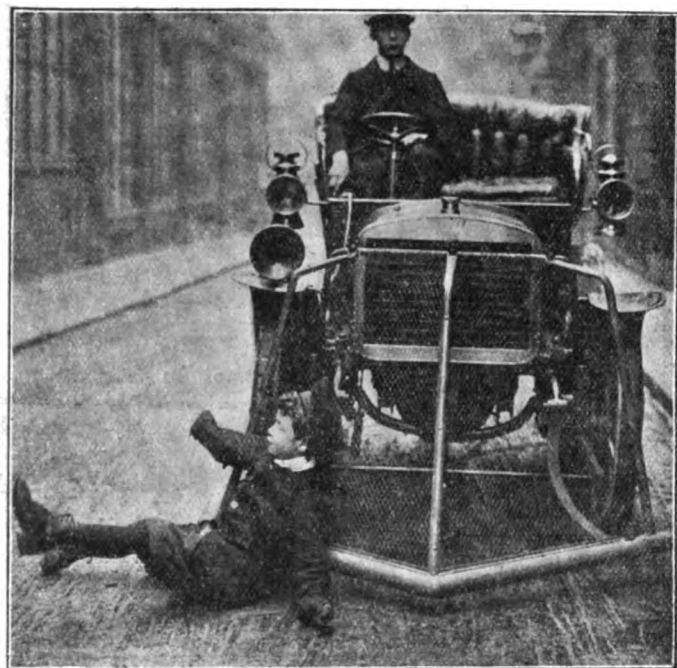
## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
27-33, Charing Cross Road, W.C.]

### FOUR v. SIX CYLINDERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice in your last issue that Mr. T. D. Kelly is about to accept the challenge made on May 19th, 1906, on behalf of the six-cylinder Napier car, viz.—that my firm would pay £1,000 to the manufacturer or agent of any four-cylinder standard touring car which can equal the performance of the six-cylinder Napier car as follows:—(1) Flexibility.—30-h.p. six-cylinder Napier (four passengers) ran from Brighton to Edinburgh (including running from 5.32 to over 46 miles per hour) on top speed gear; (2) Petrol consumption.—The same six-cylinder Napier (four passengers) ran 200 miles, and recorded an average consumption of 18.78 miles per gallon of petrol; (3) Running in traffic.—A 40-h.p. six-cylinder Napier (four passengers) ran six hours continuously through London traffic the temperature of radiating water never



A Motor "Cow Catcher."

Mr. J. Ansell has invented a cow-catcher for automobiles. It is V shaped, sloping from top to bottom and projecting beyond the wheels and mudguards. It is made to open like a gate, so that access to the starting handle shall not be prevented, and a person struck by the device would roll off away from the vehicle.

higher than 47 deg. below boiling point. Petrol consumption, 1.84 pints per hour; (4) Gearless.—A gearless six-cylinder Napier (four passengers) ran 1,000 miles, including London to Edinburgh and back, and running from 4.4 to 59.3 miles per hour without slipping clutch. (5) Guarantee.—Three years' guarantee is given with every six-cylinder Napier. (6) Delivery.—£20 a week is paid if six-cylinder Napiers are not delivered to date. (7) £1,000 will be paid to the manufacturer or agent of any four-cylinder standard touring car which can equal the above, and that he wishes to make a match between a four-cylinder car and a six-cylinder Napier on some other points.

If Mr. Kelly can equal the six points mentioned above with a four-cylinder car during the next month, and produce official Automobile Club certificates similar to those awarded to the six-cylinder Napier as shown above, I shall be glad to arrange for a six-cylinder Napier car to meet his four-cylinder car in a competition.

Your readers will no doubt remember that Mr. Wellington has recently been somewhat anxious to challenge the original six-cylinder Napier, both as to its date of origin and as to its capabilities. When his challenge was first made I found a difficulty in getting all the information that was required right away, but I have been to some pains to hunt it up, and if Mr. Wellington is really serious for the match he can have one, both as to the date of the origin of the respective six-cylinder Napier and the Dutch vehicle, and also a match upon the open road or a track, or both, between the original Dutch vehicle and the first six-cylinder Napier, but it must be clearly under-

stood that the loser must lose not less than £1,000 (one thousand pounds), the money to be given to any hospital that the winner may think fit.

My proofs are ready, the car can be produced ready to run, and it now only rests with Mr. Wellington to deposit £1,000 with, say, the Secretary of the Automobile Club, and I will immediately do the same, and the competition shall be held, say, the first week in March.

It is only fair for me to add that the first six-cylinder Napier was rather a powerful engine, and I was mistaken in thinking it was only an 18-h.p.

Perhaps Mr. Wellington would kindly suggest one or two gentlemen who could act as arbitrators in the matter, and if he would kindly communicate direct with me, and not through the newspapers, I should very much prefer it, but I do not want to hear from him until he has deposited this £1,000 as a guarantee of good faith.—Yours truly,

S. F. EDGE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Mr. Edge having sent out a circular respecting his six-cylinder motors, in which he claims that 103 manufacturers are copying the Napier principle, will you allow me to call your attention to the enclosed letter that I have this day addressed to Mr. Edge on this subject?—Yours truly,

FOREST.

Ingenieur-Constructeur.

Alfort (Seine).

S. F. Edge, Esq.

January 21st, 1907.

Sir,—Your circular letter of January 11th has just been communicated to me by a friend. From this circular, which appears to have been sent round to the British and continental press, you make out, and which is most detrimental to me, that you are the first maker to turn out six-cylinder motors, and that your six-cylinder has been copied by 103, and even more, manufacturers—English, French and American.

I think it urgent to inform you that I brought out many six-cylinder motors when you were, perhaps, still a youth. There is now still at work since 1888, at Brest, one of my six-cylinder motors, which I am pleased to say has not once ceased working.—Your truly,

FOREST.

### THROUGH THE SNOW.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As experience in the snow is rare among motorists in this country, the story of my recent battle with the snow and ice is not without interest. Many miles away from a railway station, at an old-fashioned gabled hostelry in the Fens of Lincolnshire, we awoke on Boxing Day to find ourselves snowed up. For three days we fought our way through snow drifts, along roads whose usual demarcations were hidden beneath many inches of snow, and thrice the car, Mr. W. E. Lord's 16-20-h.p. Argyll, had to be dug out. On one occasion a snow plough came to the rescue. Where the roads were hardened by the frost, we went gliding, sliding, skidding, and waltzing from side to side, as though the wheels had been fitted with skates, and the car was clumsily trying to do the "outside edge." One witty son of the soil cried out to us: "Take the right field, gents, that's softer. It's a ploughed 'un." But we showed a soul above the artistic, and managed to finish the journey to London, though our car had four up, and was heavily laden with luggage. Nowhere in England was the snow worse than in the Fens, and so I think we have cause to congratulate ourselves upon succeeding where so many others seem to have failed.—Yours truly,

HARRY WEYMOUTH.

### THE TOURIST TROPHY RACE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We are glad to see that an engineer of so much importance as Mr. Royce has pointed out how unsatisfactory are the conditions of the above race. One has only to consider the type of 99 out of every 100 of the cars entered to see that, however interesting the race may be as a consumption test, it most certainly has nothing at all to do with touring. It is this which has hitherto kept us from entering a car, as we could never see how the genuine touring qualities of any car could have any effect but that of making a win an utter impossibility.

Petrol consumption appears to be such an extraordinary quality, capable of such freakish results, that the average buyer must feel rather bewildered; for instance, the makers of a well-known six-cylinder car advertise that one of their cars which has been in the hands of a private owner for some time, when carefully tested, gave twenty-two miles on one gallon. Then we see widely advertised that the little runabout 10-12-h.p. Humber is very economical in petrol and is capable of running twenty miles per gallon. Then the private owner of a big six-cylinder informs one that he can only do seven miles on one gallon. Then in the Rolls-Royce catalogue it is stated one of their 20-h.p. cars, on a fifty-five and a half miles run on the London-Oxford road, including Dashwood Hill, did twenty-seven and three-quarter miles to the gallon, carrying four heavy passengers, with a muddy road and heavy rain. If this is possible, why all the trouble about special carburettors, special cars, special expert drivers, to secure a miserable twenty-five miles to the gallon in the Tourist Trophy Race? All these



records mentioned may be absolutely correct, but if so which result is the owner going to secure, and if the little 10-12-h.p. Humber is only going to do twenty miles to the gallon, by what wonderful means is the huge six-cylinder going to do twenty-two miles? It is all so dreadfully bewildering.

Mr. Royce mentions two other interesting points. He states that the six cylinder, as regards silence and absence of vibration, is a great deal superior to the four-cylinder. We do not understand the silence. There are more moving parts on the six-cylinder, and we should consequently anticipate more noise; for instance, would Mr. Royce suggest that any six-cylinder yet on the road is quieter than a first-class Renault, and, if so, we should like to know exactly why. It would be most interesting to hear. With regard to vibration, it is of course obvious that a six-cylinder vertical is better than a four-cylinder vertical when the car is at rest, but the engine running sets up a most uncomfortable and rapid vibration throughout the whole of the car. However, as Mr. Royce is doubtless aware, it is possible to so design a four-cylinder horizontal engine that vibration is practically completely eliminated, and the results obtained in this respect are certainly as perfect as the results which can be obtained in a six-cylinder vertical engine. So far as vibration is concerned, the best four-cylinder horizontal is the equal of any six-cylinder vertical, and so far as noise is concerned we believe that the four-cylinder horizontal is the superior. Ignition troubles are certainly more frequent on the six-cylinder cars than on the four-cylinder cars.—Your truly,

NEW ENGINE COMPANY.

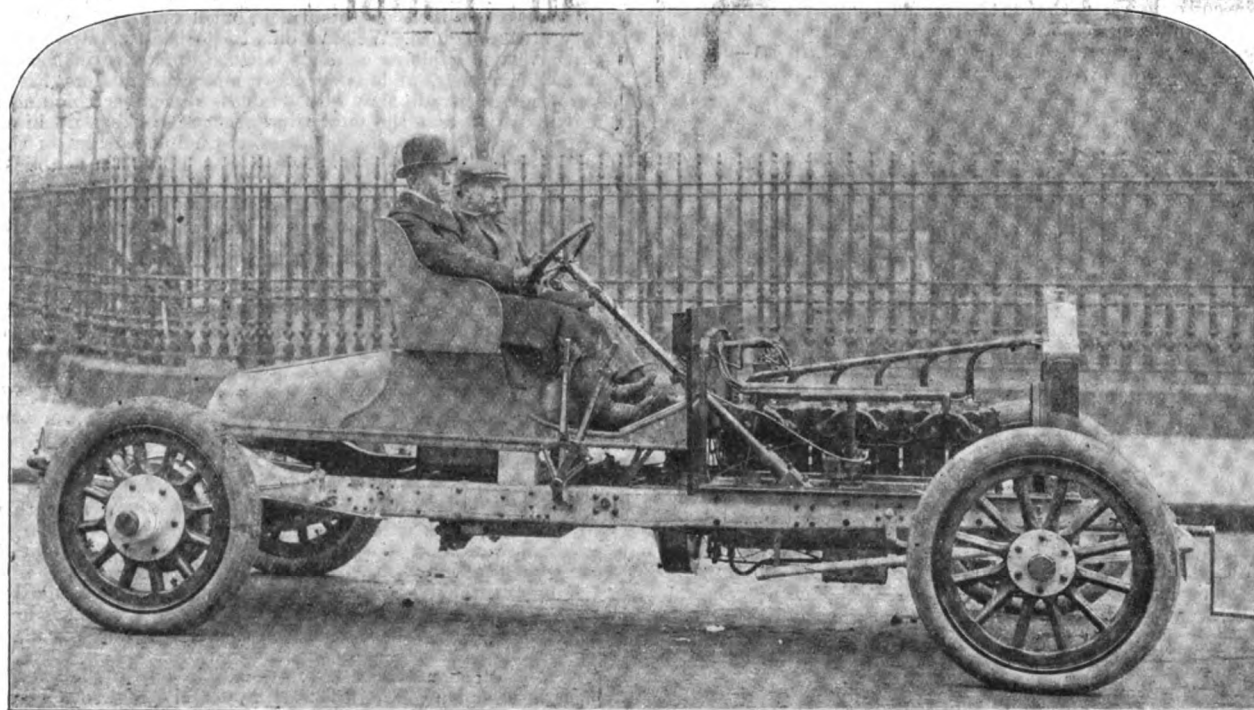
If we somewhat extend the theme of our subject, we see a great change in trades which have been compelled by force of circumstances to practically devote their entire interests to the motor industry. Look, for instance, at the coach-building trade. Whereas some of the progressive members of this trade looked to the motor industry for a portion of their business, many have now gone over to it entirely, becoming competitors, perhaps not in the manufacture of cars, but certainly as regards their sale, with firms long since well established.

And surely there is a note of encouragement to be found in the general strides ahead for the few firms whose business has not so far needed larger premises, giving them confidence in the early realization of their reasonable anticipations.

So far as the motor trader in a comparatively small way is concerned, we know from our experience and business dealings with him during 1906 that he also is making considerable headway. At one time rivalry was very keen between cycle agents in small towns, but the entry into the motor business of some cycle traders has caused a simmering down of local competition, leaving, in some cases, the purely cycle agent, or trader a free and unfettered hand, and giving the new motor trader an entirely new business environment to nurture and develop.

Thus it comes about that by the general creation of a motor trade connection, frequently started by the sale of petrol, the execution of motor tyre repairs, the charging of accumulators, the motor agent is getting an entirely new and highly remunerative business around him.

Going back, however, to the idea of simultaneous progression, [this



Mr. Guy Lewin at the wheel of one of the latest Standard 30-40-h.p. Six-Cylinder Cars.

## EXPANSION OF THE MOTOR INDUSTRY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Notwithstanding the usual alertness and resourcefulness of the motor Press, we have failed to find any comment regarding what seems to us a most interesting and noteworthy fact, viz., the general and simultaneous expansion of firms engaged in the motor industry—we write “simultaneous” because it is the simultaneity of the development which seems to call for some comment.

The motor Press has interestingly referred to, and given us pictorial illustrations of, the expansion of individual firms, pictures of new factories, and so on. We have studied all this material with interest, but in the interesting pictures and data published the important fact that so many firms are making strides in advance at the same time seems to have escaped the notice of our usually versatile and entertaining journalist friends of the motor Press.

For instance, we read of extensions among such well-known firms as the Daimler Company, S. F. Edge, Humber, Sheffield-Simplex, Brown Bros., Friswell, and many others, all stretching their tentacles in order to get a stronger grip of the increasing business that is coming along, yet the “oneness” of this expansion seems to have escaped notice. Were a carefully compiled list prepared of firms now engaged in building new factories, it would show, we think, how prosperous the motor trade is at the present time, in spite of friendly but keen competition from abroad. We are happy to say that we also have been compelled to extend in order to cope with the growing demand for our appliances, a demand which has necessitated the entire reorganisation of our business departments.

seems to us a most encouraging sign, indicating an advance in motor-business with something like military precision and uniformity, albeit without “command” but through the sheer stress of demand.

If we are not mistaken, this general advance points to a fine prosperous future for many motor firms. A new avenue of trade is also opened up for the cycle agent or trader who is making a bid for motor business, while leaving the purely cycle agent with a wider business environment, and an easier, because less competitive, business for him to carry on.

We firmly believe that were this subject of simultaneous expansion fully dealt with in the motor Press, and reliable statistics given of the extent of progression in each case, it would be extremely helpful to many small agents and traders in the country, now wishful of making a plunge into the motor business, but nervous of so doing lest the result should not turn out satisfactory. As a note of encouragement and help, nothing would be more acceptable than a few sound and timely criticisms from the motor Press on this subject.—Yours truly,

H. HARVEY FROST.

## OBSTRUCTION OF MOTORISTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Willful obstruction of motorists by drivers of vans and other heavy vehicles has become so prevalent that the Automobile Association feel it is high time they should take steps to let it be understood that the motorist has rights on the highway which must be respected. Accordingly they instructed their counsel, Lord Russell, to prosecute in

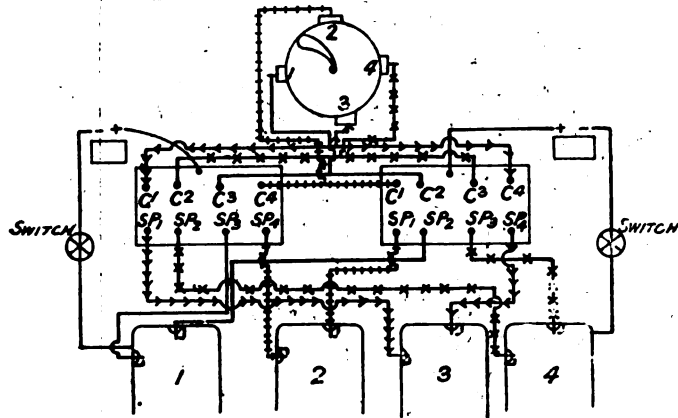
a flagrant case of obstruction, with the result that the driver of an open wagon, who twice prevented a member of the Automobile Association from passing him by deliberately drawing his horse to the right, was sent to prison for seven days in default of paying the fine of 20s. and costs. It is hoped that obstructive van drivers will take warning in time, as the Automobile Association had far rather that such persons should abstain from their illegal practices than that intervention should become necessary. The Association, however, are fully determined to prosecute whenever such a course appears to them to be advisable. In the interests of van drivers who have been accustomed to annoy motorists, I trust that a very wide circulation will be given to the Automobile Association's determination, and therefore it is that I venture to encroach on your valuable space in this connection.—Yours truly,

W. J. BOSWORTH, Colonel,  
Chairman Automobile Association.

### ANOTHER IGNITION QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to Mr. C. Maw's letter in the *M.C.J.* of the 12th inst., the idea of fitting a supplementary high tension ignition to his car is, I believe, perfectly feasible, and should give good results. Although you say it would be useless if one spark occurred a fraction of a second after the other, my experience with a four-cylinder engine, fitted with both high tension magneto and accumulator ignition, each having its own set of plugs, is that if the battery was switched on when the engine was running on the magneto, a considerable increase of power was noticeable, and to my certain knowledge, the timing of the magneto was in advance of the coil, which proves that although the spark from the coil occurs after that at the magneto plug, yet it increases the power. Of course it would do the engine no harm. I should imagine that a six-volt current would be very like to strain a four-volt coil. I append a rough diagram of the connections which would ensure



the sparks occurring simultaneously. I have wired up an engine according to this diagram, and both the plugs sparked well. The "C" terminals might be connected by brass or copper rods, and a terminal made in the centre of each.—Yours truly,

E. T. WRIGHT.

### THE USE OF THE HORN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In view of much unpleasantness, not to mention accidents, which of late have happened in connection with motoring, especially in country districts, where men and horses are unaccustomed to these vehicles, it is a public duty to discover, if possible, a remedy, the introduction of which would induce people to assume a less hostile attitude to what they consider (and very often justly) a nuisance. Nothing can be more emblematic of the tendency of modern times than the motor-car; with it we readily associate all the discordant noises, the hurry and rush of modern life, together with an apparent want of sympathy and courtesy.

Now this apparent rudeness on the part of the motorists is seldom intentional, but may in great part be laid to the account of the motor-hooter; howbeit the inclination of man is always to regard anything causing fright and annoyance in a personified way, and thus the feeling of resentment is easily transferred to the occupants of the car. Indeed, the very sound of the motor hooter—aggressive and suggesting the bellowing of a bull—arouses a feeling of opposition.

The remedy, then, for this evil would consist in an abolition or modification of the horn or hooter. A suggestion is offered us by a comparison of the ways in which the old stage coach and the modern motor herald their approach. Now it is a well-known fact, which the old coaching days did not fail to recognise, that all horses love to hear a horn. Anyone who has the least acquaintance with horses, and especially with hunters, knows that the sound of a hunting horn instils new life and spirit into them. In other words, horses hate discordant sounds quite as much, if not more, than some men.

My suggestion, then, is that a knowledge of this fact should be utilised by the motorist, and that such a horn be affixed to the motor

instead of the present hooter, or, failing that, some other instrument giving forth a more musical sound than the hideous noise which frightens both man and beast. Or, indeed, among those motorists who could afford it, a most pleasing and popular innovation would be the installation of a special personage for blowing the horn, after the manner of people driving a tandem. This latter method would, perhaps, be more expensive, but my former suggestion of affixing a more musical horn would incur no appreciable extra expense. If such a horn could be universally adopted, it could not but very materially diminish the number of accidents, and would, in addition, secure a welcome to all motorists everywhere.—Yours truly,

ERNEST DAVIES.

### THE BROOKLANDS RACING TRACK.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I do not think there is likely to be any dearth of support from the trade for the new Brooklands motor track. I believe there is enough of the true sporting spirit in it to ensure that; but, even if there were not, the fear of one maker reaping an advantage over others by the advertisement some startling performance would give them would ensure a very large entry for the events.

The public point of view is, I think, another thing; doubtless at first it will draw crowds, but it may soon lose interest, as I foresee too little variation in the running of modern cars to provide much element of uncertainty after the first few laps. Of course, short distance races will obviate that, and this is a point which might very well be borne in mind. It will doubtless be argued that track races are not tests of what a car will do under the different conditions of road driving, and that, in consequence, the buying public will not attach much importance to results obtained on this track, but I think this will prove to be a very erroneous idea. We have only to go back a few years to find that at that time cycle races made all the difference in the world to the sale of machines, and as so many motor-car makers have graduated from the cycle trade they will doubtless remember this and act accordingly. As long as the public interest can be kept up in motor racing so long will the winning of the races help the sales of the successful cars. Fortunately the thing which has killed the public interest in cycle racing is not likely to crop up with motors—loafing—as there would be no object in it with mechanical propulsion.

I daresay the speeds accomplished will give our friends the Highway Protection League something to waste more printers' ink about, as they will probably quote the figures and conveniently forget to state that it was done on a track.

Finally, I think it will benefit all motorists by providing a place where those speed enthusiasts who must have a "dust up" occasionally can go to let off steam, after which they will be able to drive at a reasonable speed in other places.—Yours truly,

W. W. WEBBER.

### A WARNING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I venture to write to you in the hope that this letter, if published, may meet the eyes of the occupants of the large car which passed up through Plympton (near Plymouth) on the night of Saturday, January 19th.

This car rounded the bend in the level road to the bridge by the church at an excessive speed, and, closely hugging the wrong side of the road, bore straight down on the horses of myself and friend, which were being ridden at a walk towards the car.

We both shouted as loudly as possible, and at the very last moment it made a sudden swerve towards its proper side, thus barely escaping our horses, which we had fortunately been able to press into the hedge. We were then returning home from a long day, so that neither of our mounts were as fresh or as spirited as they might have been; but, had this not been the case, I fail to see how we could have avoided a fatality, as, on closely examining the road, which is lighted just here by a gas lamp, we found that the wheels of the car had passed within inches of the narrow strip of mud-sweepings at the hedge-side on its right hand. The time was exactly 6.25 p.m.—Yours truly,

W. GILBERT POPPLESTONE.

### SPEED INDICATORS AND OTHER OPERATING MECHANISM.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The letter signed "Brown," on the above subject, which appeared in the *M.C.J.* of the 24th ult., is one that merits the consideration of all manufacturers of speed indicators. It undoubtedly is a fact that the provision of more or less exposed gears, star wheels, strikers, &c., at so vulnerable a point as the neighbourhood of the steering pivots of front-wheel hubs is productive of more or less damage that cannot be avoided by good construction or careful operation. If some less exposed point of attachment for these devices could be utilised, their action would be rendered more reliable, and I would suggest that a suitable place would be on some portion of the transmission mechanism. The rotation of the differential shaft in a side-chain driven vehicle, or of the cardan shaft in a live axle machine, always bears a definite relation to the speed of the rear road wheels. The same usually holds good of

one or more of the shafts within the gear-box, so there evidently are several points from which an indicating device can be driven at a rate bearing an exact relation to the rear-wheel speed. The only ground for exception to this idea might be based upon some theory that there is more slip between the rear wheels and the road, due to the action of the propelling mechanism, than is the case with the front wheels. Against this, however, is the fact that even the front wheels are subject to more or less slip, making it possible to secure the best results only by gearing in accordance with averages obtained by counting the revolutions in going a given distance, rather than based arbitrarily upon wheel or tire sizes. By following the same plan of observing the actual rear-wheel revolutions during a test, and gearing in accordance with the result, a speed indicator attached as suggested should give readings fully as correct as those obtained by the present methods.—Yours truly,

J. TAYLOR.

## NON-FREEZING ENGINE COOLING SOLUTIONS.

TO THE EDITOR OF *The Motor-Car Journal*.

DEAR SIR.—In connection with "New Brompton's" enquiry in a recent issue of the *M.C.J.*, there are several kinds of anti-freezing mixtures in general use, and all of them give more or less satisfaction. From the standpoint of cooling efficiency alone, no anti-freezing solution is as good as water. A solution of calcium chloride in water, the proportions being governed by the temperature likely to be encountered, is much approved, and does very well with copper tanks and radiators. It has, however, a markedly corrosive effect on galvanized iron tanks, making it unsuitable for use in cooling systems in which this material is employed. To maintain the car in good condition while using this solution, all losses

from evaporation should be made up by the addition of pure water, while losses through leakage should be made up by the addition of fresh solution. Glycerine and water in various proportions is very good, but will not stand as low temperatures as the calcium chloride solution unless the proportion of glycerine is so considerable as to make the mixture too thick to flow freely. Also, the glycerine exercises a destructive action upon rubber connections in the piping work. Alcohol and water—from 25 to 50 per cent. alcohol—constitutes one of the best anti-freezing solutions that can be had, and the only thing that has prevented it from coming into more extensive use has been its cost and ignorance of its advantages. It loses rapidly by evaporation, requiring more or less frequent replacement unless the cooling system is almost hermetically sealed.—Yours truly,

W. C. COUSENS.

INSPECTION PITS.—"Rotherham" writes:—"Being about to build an inspection pit in connection with my motor stable. I should be glad if any reader of the *M.C.J.* will give me the most suitable dimensions."

A PARAFFIN CARBURETTOR.—Replying to several correspondents, the address of the makers of the B. W. paraffin carburettor referred to in our Correspondence columns last week is the B. W. Start Cold Paraffin Carburettor Company, 9, Southampton Street, Holborn, London, W.C.

SIX-CYLINDER CARS.—The Daimler Motor Company write:—"It having been freely rumoured that we are constructing a six-cylinder car, we venture to trespass upon your columns in order to state positively that we never have, and are not making any vehicles of this description."

NUT FOUND.—On Saturday last a motorcar was travelling between Kingston Bridge and Hampton Court and dropped the large nut that screws into the hub of the wheel. The owner can have the same on giving the name of his car to Mr. F. C. White, 27, Fife Road, Kingston.

## THE BIRMINGHAM MOTOR SHOW.

ON Friday of last week the Midland Motor Show was opened at the Bingley Hall, Birmingham, by the Lord Mayor of the city, Mr. Hamilton Barnsley being in the chair at the opening ceremony, supported by many leading public men of the Midlands as well as by well-known motorists.

The Lord Mayor, in declaring the exhibition open, observed that engineering was one of the most important industries of Birmingham, and it should have been the seat of the motor industry. He thought in looking round the show they would agree with him that England had taken the lesson of their friends across the water very well to heart. The man of moderate means and the man who wanted a luxurious car need not go out of England to be satisfied. He thought all would agree that for excellence of workmanship, stability, beauty of finish, and reliability the English cars stood in the front rank.

On the motion of Mr. Ernest Wynn, seconded by Alderman Edwards, a vote of thanks was passed to the Lord Mayor. Mr. Wynn observed that the British makers had made remarkable progress in motor-car building, and the foreigners had to be very careful what they were doing. With acknowledgments to the chairman the ceremony terminated, and the company proceeded to an inspection of the exhibits.

One of the great attractions of the show is the 40-h.p. Hispano-Suiza chassis, seen on the stand of Barnett Motors, Ltd., Birmingham, this being the first time a Spanish-built car has been exhibited in this country. We described the vehicle in our report of the recent Paris Salon, but it may be mentioned the engine has the four cylinders cast in pairs, and that the crank-case and gear-box are joined together so as to form a single block. The transmission is by a cardan shaft to a live axle, which is provided with a triangular-shaped torsion rod and two side radius rods. There are other points of interest in the new car which

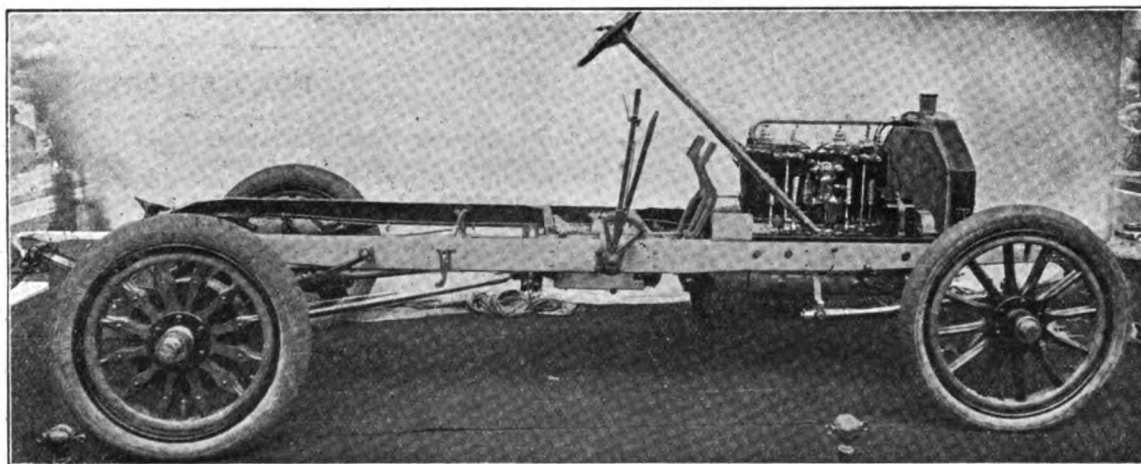


Fig. 1.—Chassis of Weigel 40-h.p. Car.

render it well worthy close inspection. In addition to the Spanish vehicle, Barnett Motors, Ltd., are showing a number of Germain, Renault, Gregoire, and Prunel cars. Great interest is centred in the chassis of the 40-h.p. Weigel car, which makes its first appearance at an exhibition. The vehicle (Fig. 1) is fitted with a four-cylinder engine, the bore being 130 mm. and the stroke 140 mm. A special type of automatic carburettor furnishes the mixture, and the ignition is by low-tension magneto. The transmission is through a disc clutch, cardan shaft and bevel gear to a well-supported live axle. Throughout the car bears evidence of being the result of careful thought. The new Westlake car, shown by Mr. H. B. Lyon, of Taplow, for the first time, is another notable exhibit. The vehicle, which is being made by the Westlake Motor Syndicate, Ltd., has been designed with the object of furnishing a low-powered six-cylinder light car at a moderate price. The vehicle on view comprises a six-cylinder air-cooled engine, rated at 24-h.p., and having automatic inlet valves and coil and accumulator ignition. The piston rods of the six-cylinder are connected up to a two-throw crank shaft. The transmission is by an epicyclic gear giving two forward speeds and a reverse, and a single chain. A 24-h.p. car on similar lines, but fitted with a water-cooled engine, is also being made.

The Pytchley Autocar Company, Ltd., Northampton, have a large stand on which are displayed a range of Fiat and Argyll cars. The former include a 14-16-h.p. double phaeton, an 18-24-h.p. side-entrance car, and a 30-40-h.p. four-cylinder chassis. Of the Argylls, specimens of both the 10-12-h.p. double-cylinder and 14-16-h.p. four-cylinder are shown. The Austin cars on view comprise a chassis of the 18-24-h.p. live axle type, a 25-30-h.p. chain-driven double phaeton, and a 25-30-h.p. live axle car with Longbridge limousine body. One of the largest stands is that of the Newey Motor Company, Birmingham, who exhibit a range of Wolley-Siddeley, Star, De Dion, and Newey-Aster cars, the latter including 20-22-h.p. and 24-30-h.p. models. Mr. F. W. Baker, of Spourbridge, occupies a good position with a couple of Napier

six-cylinder cars, 40-h.p. and 60-h.p., as well as examples of the Belsize 60-h.p. six-cylinder and 20-h.p. four-cylinder cars. The Humber exhibit is a noteworthy one, consisting of three 30-h.p. Beeston-Humber cars, one of which is fitted with a handsome double landaulet body and another with a limousine; two 15-h.p. Coventry-built cars, one fitted up as a double phaeton and the other as a landaulet, as also two examples of the 10-12 h.p. type. The exhibit of the Premier Motor Company, Birmingham, is of a varied character, including as it does a 30-h.p. Marchard, a 10-12-h.p. Premier, a 30-h.p. Humber, a 9-h.p. twin-cylinder Riley, and a 12-h.p. car of the same make with a four-cylinder V type engine.

Messrs. Lowe and Wood, Birmingham, the Midland agents for the Spyker cars, display a series of these well-known vehicles, ranging from 10-15-h.p. to 40-h.p. The Peugeot cars are to be found on the stand of Messrs. C. Healey and Sons, Ltd., Gloucester. Two cars are shown, both of 10-12-h.p., one being fitted with a double phaeton and the other with a landaulet of Messrs. Healey's construction. The Heron Motor Company, Ltd., Birmingham, in addition to examples of the 15-h.p. and 22-h.p. West cars, stage a range of the latest types of Singer cars, including the 9-h.p., 10-h.p. and 14-h.p. models. The Standard Motor Co., Ltd., Coventry, are present with a 30-h.p. six-cylinder Standard car, fitted with a handsome seven-seated phaeton body by Messrs. J. Shepherd and Co., Birmingham. The exhibit of the Birmingham Garage includes two excellent specimens of the well-known 28-36-h.p. Daimler vehicles, and also examples of the 10-12-h.p. and 18-22-h.p. Leader cars, both having four-cylinder engines. A chassis and a double-phaeton of the latest type of 12-15-h.p. Arrol-Johnston car is staged by Messrs. Jarvis, Millership and Co., Birmingham. Heath's Garage show the Darracq, Minerva, and Clement-Talbot, the latter including examples of the 15 h.p. and 20-24-h.p. models. The Woodstock-

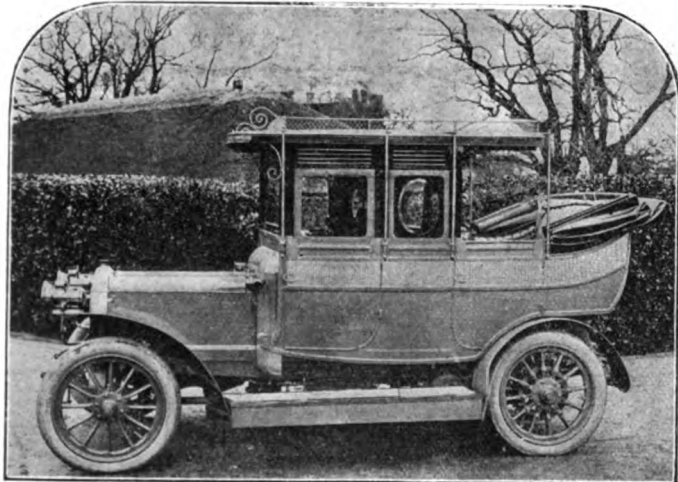


Fig. 2.—The Mullett Convertible Body, on a 28-36 h.p. Daimler Chassis.

Manufacturing Company are present with a 12-14-h.p. Clyde car, a 7-8-h.p. Swift, a 9-10-h.p. of the same make, and a 24-h.p. Gracile landaulet. Other cars on view include a 9-h.p. Airex side-entrance double-phaeton shown by the Rex Motor Manufacturing Company, the 14-h.p. Quadrant with Lloyd's cross-roller change-speed gear, the Martini, Bell, Alldays, the 20-h.p. four-cylinder and 28-h.p. six-cylinder Lanchesters, and the Mercedes "mixte" and electrical vehicles. A new two-cycle engine designed for use on motor-cycles is attracting attention at the stand of the Broadway and Croft Motor Co., Birmingham.

As regards carriage work, the principal exhibit of interest is that of Messrs. Mullett and Co., of Bristol, who show a 28-36-h.p. Daimler chassis, fitted with their "All Weathers Quick Change" body (Fig. 2), a novel design which can be used in six different ways, viz., (1) as an open carriage, (2) with the front and half-rear seats enclosed, (3) canopy in position, but otherwise open car, (4) front seats open, rear seats enclosed, (5) front seat covered, rear seats open, and (6) all seats enclosed. The design is undoubtedly an ingenious one, as it would seem that no variation in the weather could find the driver without a suitable combination of windows and roofs to meet the emergency. Some excellent specimens of body work are also displayed by Messrs. McNaught and Co., Worcester, whose exhibit comprises a limousine mounted on a Belsize chassis and a double landaulet.

In the heavy vehicle section Messrs. Wood and Company, Birmingham, are showing a five-ton St. Pancras steam wagon, Mr. C. L. Wells, of Kingwinford, one of the five-ton Sentinel wagons of Messrs. Alley and MacLellan, and Manns Patent Steam Cart and Wagon Company, Ltd., a five-ton lorry.

In the accessory department Muntz's Metal Company, Ltd., of French Walls, Birmingham, have a fine display of aluminium castings, which is well worth the attention of trade visitors. A novelty is seen at the stand of Messrs. Seymour, Humphreys and Co., Birmingham, in

the Certus emergency brake, which consists of a set of four slippers operated by a single lever. Should the brakes fail in going downhill the idea is that one pair of the slippers can be thrown under both rear wheels, whilst should the vehicle start to run backwards the other pair can be thrown under the front wheels. A new glass screen for motor-cars is exhibited by Messrs. R. Disturnal and Co., Wednesbury. It is known as the Ideal, and is made in two parts, so arranged that the upper one can be set at any desired angle. An exceedingly wide range of accessories is shown by Mr. J. A. Riley, Birmingham, including among other things the Gibson power indicator, the Henriche high-tension magneto, Amac distributors, Southall's tyre gauge, Sthenos carburettors, &c. Several useful motor houses are displayed by Harrison Smith Buildings, Ltd., Birmingham. A safety filler for transferring petrol from tins to reservoirs without waste or danger forms the exhibit of Pettett's Patent Safety Filler Company, Brighton, while Messrs. F. S. Nickells and Co., of Blackheath, are present with a display of their instantaneous connectors for tyre inflators and a new pump with self-registering pressure gauge. Ignition batteries form the speciality of the Premier Accumulator Company, Northampton. Messrs. S. Smith and Sons, London, have on view an interesting display of their speed and mileage indicators. The Auto-adjustable box spanner recently illustrated in the *M.C.J.* is displayed by Messrs. Avery and Roberts, Ltd., Liverpool, while the Valor Co., Ltd., Aston Cross, draw attention to their fire extinguishers. The exhibitors of motor tyres include the Clincher, Continental, Dunlop, and Michelin. Considerable interest is also being displayed in the specimens of Elastex filled tyres to be seen on the stand of the Elastex Co., Ltd. The Shaw Motor Tyre Tread Company show their non-skids and tyre tester as well as the Stepney spare wheel. The Roberts tyre gauge is exhibited on several stands, while other non-skids on view include the Parsons, the Desclee, the Economy of Mr. W. S. Cort, Market Harborough, and the Rub Metal of the New Motor and General Rubber Company, London. The Show closes to-day (Saturday).

## ROAD REPORTS.

**SURBITON.**—Mainly in consequence of the difficulty and expense in adequately watering the Portsmouth road and other highways in Surbiton, that are much used by motor-cars in the summer, the Surbiton District Council has debated a proposal that a motor water-van should be purchased at an estimated cost of £800, which, it is believed would do the work of nearly four of the horsed water-carts at present in use. The proposal was favourably received, but as there was an inclination to introduce motor-haulage into other departments of the council's work, the consideration of the question was deferred pending a further report.

**BUCKINGHAMSHIRE.**—The London and Bath road, according to the report for the past year of Mr. R. J. Thomas, county surveyor for Buckinghamshire, is probably the most used by light motor-cars in the kingdom. During the year there has been an increase in road maintenance in the county of nearly £1,200, and the main cause for this is stated to be the increase in the number of heavy traction engines, as well as the motor-car traffic, combined with the bad season. A coating of granite now lasts only twelve months, whereas it had at least three years' life. In several cases tarmac has been used with satisfactory results.

## SUBSTITUTES FOR PETROL.

In thanking the *M.C.J.* for the assistance already rendered to the Fuels Committee of the Motor Union by giving publicity to their proceedings in our columns, the committee ask us to give prominence to the two questions below, inviting those of our readers who are in possession of the information therein asked for to communicate with Mr. Rees Jeffreys, the secretary.

The committee are aware that many private owners of cars have made experiments with various fuels and substitutes for petrol, and it is very desirable that the results of those experiments should be collected, collated, and included in the very full report dealing with the fuel question which the Motor Union is preparing.

**QUESTION 1.**—What do you know of the use of the following substitutes for ordinary petrol:—(1) Heavy mineral spirits distilling between 50 deg. C. and 190 deg. C. (2) Tar spirits, including benzol, benzene, and coal-tar naphtha. (3) Alcohol.

With special reference to the following points:—(1) Cost. (2) Convenience of supply for touring purposes. (3) Efficiency as a fuel for internal or external combustion. (By efficiency is meant the quantity necessary to develop a given power as compared with petrol.) (4) Smell, both in the burnt and unburnt state. (This includes the question of general cleanliness in using, and the impregnation of the upholstery of the car and the clothes of the driver, &c.) (5) Cleanliness in use so far as smoke and deposit in the cylinders are concerned. (6) Corrosion of cylinder by acid products of combustion?

**QUESTION 2.**—Can you make any suggestions on the following or any other points designed to reduce the cost of distribution:—(a) units of supply; (b) packing; (c) transit; (d) insurance; (e) legal restrictions?



## ACCESSIBILITY AND CLEANLINESS.\*

By F. L. MARTINEAU.

In preparing a paper on this subject I have endeavoured to show the ideal to be aimed at, and to indicate how this ideal may, in some degree, be attained. I have tried to consider each item from the standpoint both of the vertical and horizontal engined car; my difficulty usually has been that the horizontal type can be made so much more accessible in almost every detail that my remarks generally apply to that type. As regards the two points in the title "Accessibility and Cleanliness," they are so intimately connected the one with the other that I have had to consider them together. To begin with the ideal of cleanliness, it is, I think, that the whole exterior of the car should be smooth and easy to clean; that no mud or dust should be able to be thrown by the wheels on to any part of the mechanism, on to the steps or the carriage body; that all working parts should be thoroughly protected from grit; and that all oil drippings from the engine and gear should be caught and retained in a detachable receptacle easy to remove and clean out.

The great question on which the whole problem of accessibility hinges is this:—Why is it needful to be able to get at any parts of the mechanism? If it were not, the matter of cleanliness would be an easy one, as one could seal the whole mechanism up like sardines in oil and let it look after itself and yet always keep the exterior spick and span. Under these circumstances it would necessitate the designer so proportioning the various parts of the car that nothing ever wanted adjusting or replacing, and the end of the car would be like that of the one-horse shay, which collapsed into nothingness after its period of life was fulfilled. Unfortunately, it is impossible so to foresee the varied conditions of working and the attention, or, rather, lack of it, bestowed upon motor-cars by those responsible for the running of them, nor is it possible to provide absolutely against accidental breakages. This being so, it may be necessary to remove or adjust any part, and so, to obtain the ideal of accessibility, we may lay it down as an axiom "that we ought to be able to remove any one part without disturbing any other." This ideal is practically impossible of attainment; to approach within reasonable distance of it would necessitate every part being exposed and in view, which would prevent us obtaining efficient means of protection, and jeopardise our ideal of cleanliness. The best we can do, therefore, is to study the easy removal of those parts liable to wear.

The first thing to consider, therefore, is the general scheme of the whole car, and in this the body which is to be used is the item of greatest importance. What is the use of having an engine nicely housed in a bonnet in front, easily opened and inspected, if the gear-box and other vital parts are covered up and made inaccessible by the carriage body? The latter, undoubtedly, should be capable of being easily raised or moved so that all running gear can be efficiently inspected. The position of the carriage body depends principally upon the permissible wheel base. What is the maximum wheel base which is easily handled and utilised in all districts? I have come to the conclusion that 9ft. is the maximum. Having the size of a suitable carriage body, we can ascertain the amount of available space for engine, &c. Take a landaulet body, the type most in vogue; this to be really comfortable must have a total length from dash to back of 108 in., which, it will be noticed, is the same as the wheel base. As it should not project behind the centre of the rear wheels to give absolute comfort to the passengers on the back seats, the dash will come level with the centre of the front wheels. This does not give enough room for an engine of the ordinary accepted vertical type in a bonnet in front; it is thus imperative to adopt some other position for the motor or curtail the seating accommodation. If the engine is a vertical one it can be placed in a bonnet between the driver and passenger in front, or it can be arranged under the driver's seat. Another way out of the difficulty is to utilise a horizontal engine, as by so doing an absolutely flat surface is left for the carriage builder to work upon and every part can be made very easily accessible.

To render every part accessible the body can be made to rise on hinges at the back. To inspect the engine and gear-box separately the front and back floor boards can be removed, the former for the motor and the latter for the gear. I am making them to slide out of the way under the seats and yet arranging them so that they lift up with the body. These few remarks indicate how the latter may be made so as to minimise its interference with the accessibility of any part. As a general practice, it may be laid down that the whole of the chassis should be erected and every part should be accessible from above. With a car so designed a pit is no longer a necessity, and the most perfect cleanliness can be arranged for, as the undershield can be made absolutely continuous and permanent.

There are certain items which at first sight appear to have no part in the making of accessibility, but in reality do so. One of these is the method employed of locking nuts, and another is their size and position. Dealing with the latter point first, it should not be necessary to use special spanners for any nuts. They should be arranged so that they can be got at either with an ordinary tubular box spanner or an ordinary flat one. Personally, I favour making all possible nuts to be done up with a tubular box spanner, as this tends to lessen the weight by curtailing the size of boss necessary, and also, by preventing damage to the nuts, makes them easier to handle after much use.

\* Extract of paper read before the Institution of Automobile Engineers on January 16th.

The number of sizes of nuts used in a car should be reduced to a minimum. I am now using only five sizes on the whole car, which means that the total number of spanners necessary to undo any nut is greatly reduced. To deal with the nuts requires only three tubular box spanners, two double-ended and one single-ended, and three ordinary flat spanners, two double-ended and one single. It would be a good work if the Institution were to go into the matter with a view to the reduction in the number of sizes of hexagon nuts used. Of the spanners I have mentioned as necessary for my car, that for the jet is the smallest, and this is now being made to fit all nuts on the ignition parts. All screws on the carburettor, &c., are also being made with hexagon heads to fit this spanner as well as a screwdriver slot.

As regards the method employed of locking nuts I divide the bolts up under two heads, namely:—(1) Those used for construction, which seldom or never require removing. (2) Those which require removing to make adjustments or for cleaning. For No. 1, as a general rule, I prefer to use Castle nuts with spring washers under, and for No. 2 ordinary nuts and spring washers. A Castle nut, in my opinion, should never be used without a spring washer, as it requires such care in tightening so as to fit the cotter, if it is to be done without either straining the bolt or leaving it too loose.

(To be concluded.)

## OIL ENGINES FOR AUTOMOBILES\*

By J. D. ROOTS.

THERE have been numerous attempts to produce a satisfactory oil engine for use with an automobile since the first engine made for this purpose by the writer in 1892, which was fitted to a Coventry Machinist's tricycle and propelled by gear wheels, in a similar manner



A short time ago the "Glasgow Evening News" placed an order with the Argyll Company for seven 10-12-h.p. cars, specially designed for the conveyance of newspapers. The first of the vehicles, of which we give an illustration above, has just been put in operation. The body has been constructed with a view to carrying a big load of newspapers, and has a canvas cover for use in wet weather.

to that afterwards employed so successfully by De Dion and Bouton in their motor-tricycle, the only difference being that in the Roots tricycle bevel wheels were used, whereas De Dion used ordinary spur pinions. This Roots engine was a two-stroke-cycle engine, and the vaporiser was on the same system or principle as was afterwards successfully employed in the car engines.

The engine made by the writer for automobile purposes in 1893 and 1894, and exhibited at the Stanley Show, was a four-stroke engine, and showed considerable advance in the method of oil feeding and in vaporisation. But both these vaporisers were badly throttled, and the oil feed was variable. In both these engines, also, no attempt was made to control by a governor, and a form of throttle to control the speed of the engine was fitted to vary the air inlet on a similar method to that subsequently employed so successfully on petrol motors.

To design a successful oil engine for automobiles, it is not the vaporiser only that has to be considered, but the method of oil feed, and the latter is of equal importance with the former.

Many of the attempts which have been made to make an automobile oil engine have been based on the idea that the method of feed is of no more importance than it is in a petrol engine, and that the fuel feed which is good enough for the one engine is necessarily good enough for the other. In the spray carburettor, in spite of all attempts to improve this

\* From a memorandum prepared for the Fuels Committee of the Motor Union.

type of fuel feed by additional devices to control the air supply, automatic and otherwise, there will, and must necessarily be, a considerable variation in the feed. This variation will occur not only for those working strokes in which the volume of air drawn in is reduced or varied by the throttle, but also in those working strokes in which the air supply is unrestrained and the maximum volume of air is drawn in every working stroke. The very nature of the jet nozzle fuel feed, in which a spray is induced by suction, is indeterminate and other than positive.

In a petrol engine a little more or less fuel than the volume of air which is permitted to enter the cylinder will be more or less effectively utilised; a mixture slightly too strong or slightly too weak does not produce a misfire, and if the mixture should be too "rich in petrol" to fire or too weak to fire, no great harm is done, because, if a little smell of petrol be made, there is generally nothing perceptible to the eye, as usually no smoke is made from this cause.

A rather greater variation of feed above and below the best mixture for complete combustion is possible with petrol than with oil, and a rather greater variation is permissible before the ignition limit is reached, both above and below the best and most ignitable mixture. On the other hand, when the limit of ignition is reached with oil both above and below the best ignition and combustion mixture, and a misfire occurs, smoke is given off, and, if the misfire is repeated a few times, so much smoke is given off as to render that engine impossible.

It is clear, therefore, that a successful engine for automobiles must necessarily have a positive and mechanical fuel feed, one that delivers an accurately measured feed of oil to the engine for every working stroke. It is also clear from the foregoing that the petrol spray or nozzle jet feed carburettor cannot be of use for supplying the oil fuel to a paraffin engine. A large majority of the attempts to use oil as the fuel for automobiles has been by either the application of heat to some form of jet-spray carburettor, or by the supply of heated air to such a carburettor. All attempts to produce a successful oil engine for automobiles by a jet spray or by any other than a device having a positive, and therefore a mechanical, fuel feed are foredoomed to failure.

## CASES UNDER THE MOTOR-CAR ACT.

### THE JURISDICTION OF POLICE MAGISTRATES IN SCOTLAND.

A point of great importance to automobilists has occupied the attention of a full bench of judges in the Scottish Justiciary Appeal Court. The complainant was David Macpherson, chauffeur, 38, East Argyle Street, Helensburgh, who was charged at the instance of the Procurator Fiscal of Ayr, in the Ayr Police Court, with having in May last driven a motor-car at 22½ miles an hour, contrary to the Motor Car Act, 1903. Bailie Morton fined complainant £3. The conviction was objected to on the ground that the magistrate in the police court had no jurisdiction to try the complaint, in respect that the contravention charged was a statutory offence created for the first time by the Motor Car Act, which conferred no jurisdiction on the magistrates of police burghs, but, indeed, excluded them. The point was raised at the last sitting of the Justiciary Appeal Court, but the Lord Justice-Clerk considered it too important to be decided by a small bench. After hearing counsel, the Lord President said that in cases where it had been wished to confer jurisdiction upon magistrates or justices, it was said so in so many words that the offences would be punishable on conviction before the magistrate or the justice, as the case might be. His Lordship had always understood it to be the law that in the case of statutory offences the jurisdiction must be specially conferred on any courts which had not universal jurisdiction, and the only courts that he knew that had universal jurisdiction in criminal matters were the Sheriff Court and the Court of Justiciary. He was, therefore, of opinion that the conviction could not stand. That opinion was concurred in by all the other judges, and the Court suspended the conviction, with twenty guineas expenses. Mr. G. H. Robb, of Glasgow, the solicitor to the Scottish Automobile Club, had charge of the case, and instructed the counsel who represented that body at the hearing.

### MOTOR CYLINDERS.

A MEETING of the Birmingham Branch of the British Foundrymen's Association was held at the Technical School, Birmingham, on Saturday evening. Mr. Hailstone read an interesting paper on the "Characteristics of Foundry Iron," illustrated by a number of micrographs, showing the proportion of the different elements in large, medium, and small castings made from the various qualities of iron. In the discussion which followed Mr. Hiorns, referring to motor-car castings, said he thought that the high proportion of phosphorus and sulphur shown was very dangerous, and held that it probably accounted for many of the accidents heard of from time to time. When he heard of a motor-car failing, he should be inclined to blame the ironfounder. Mr. Cook also thought the percentage of phosphorus in the composition of some motor cylinders too high, especially when it was a common occurrence with some engines, on a run of fifty miles, for the cylinder to become red-hot. Mr. Barker said that the phosphorus was necessary to make the metal "form," as some cylinders were so thin in their sections; it was a question of design.

## CLUBS AND ASSOCIATIONS.

### THE INSTITUTION OF AUTOMOBILE ENGINEERS.

A COUNCIL meeting of the Institution of Automobile Engineers was held at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W., on Wednesday of last week, when there were present:—Colonel R. E. Crompton (in the chair), Messrs. Chas. Wheeler, Dugald Clerk, M. O'Gorman, F. W. Lancaster, D. J. Smith, T. C. Pullinger, E. E. Baguley, F. L. Martineau, John S. Napier, Douglas Mackenzie, Douglas Leechman, Alex. Craig, and Rees Jeffreys (secretary). The following were elected members of the Institution:—Mr. W. P. Adams, London; Mr. T. B. Browne, London; Mr. R. W. Buttemer, Godalming; Mr. A. H. Dougill, Leeds; Mr. D. W. Gaw, Harrow; Mr. C. Leveson-Gower, Wolverhampton; Mr. D. H. Hamilton, London; Mr. W. M. Macfarlane, London; Mr. R. G. H. Markham, London; Mr. H. E. Morris, London; Mr. A. H. Niblett, Beeston; Mr. W. Norris, Blackpool; Mr. Ernest Talbot, Bedford; Mr. G. H. Wait, Leicester.

The secretary reported that a letter had been sent to all members inviting contributions to the Foundation Fund, and submitted a report showing that £51 3s. had already been subscribed.

It was reported that Mr. Percy Martin (managing director of the Daimler Motor Company, Ltd.) had promised to read a paper before the Institution on "Works Organisation," on Wednesday, 13th March, 1907.

### A.C.G.B.I.

"APPALLING" was the only word that an official of the A.C.G.B.I. could find to characterise the programme that is in contemplation for this year. It is hoped to hold both the Tourist Trophy Race and the Heavy Touring Car Race in the Isle of Man about the beginning of June. At Blackdown Park, Fernhurst, Sussex, an important meeting will be held on June 8th, when the Henry Edmunds Hill Climbing Challenge Trophy Race will be contested. On or about July 6th the South Harting Hill Climb will take place.

The "A.C. system of handicapping for hill climbing competitions is well on the road to publication and will be issued in booklet form with numerous pages for calculations and memoranda.

Negotiations have just been concluded with the Orient Royal Mail Line for the conveyance of cars at special rates to Marseilles and Naples. Over 2,500 interviews on touring matters were given during last year.

The Club has done a great deal to popularise Algeria as a motoring resort. Some time ago a motorist in Paris wrote to the Club for information about touring in Algeria, as he found it impossible to obtain any useful information in Paris, in spite of the fact that it is a French colony. Full particulars were sent to him, including road maps, route distances, hotels, petrol depots, &c., and he was evidently impressed by the work done, for a little later he wired from Madrid for information about the roads in Spain. As several intending visitors to Algeria have expressed a certain amount of timidity owing to the disturbed state of affairs in Morocco, information has been obtained by the Club from the Foreign Office and through correspondents abroad, with a perfectly reassuring result.

### MANCHESTER MOTOR CLUB.

THE third annual general meeting of the Manchester Motor Club was held in Manchester on Thursday of last week. The report and balance-sheet presented was adopted. The finances of the club are in a sound condition, and a balance of £130 is carried forward. The prizes for the competitions have been added to by the presentation to the club of six challenge trophies. The membership now stands at over 200. A new rule was passed with regard to the club subscriptions, which, in case of car and cycle members, include affiliation to the Motor Union. In future an entry fee will apply to applicants for membership.

The following officials were elected:—President, Mr. F. C. Hunt; vice-presidents, Messrs. Sawley Brown and A. R. Albert; captain, Mr. A. J. Moorhouse; hon. treasurer, Mr. T. Kilfoyle; hon. secretary, Mr. J. Fraser; committee, Messrs. P. H. T. Butler, T. Garner, H. W. Cranham, A. J. Bell, G. Richardson, J. T. Ward, E. J. Lowe, G. Spencer, and R. Fisher.

### THE MOTOR VAN, WAGON AND OMNIBUS USERS' ASSOCIATION.

A MEETING of the executive committee of the Association was held on the 18th inst. There were present:—Colonel R. E. Crompton (in the chair), Mr. S. D. Gilbert, Dr. H. S. Hele-Shaw, Messrs. W. G. Lobjoit, Douglas Mackenzie, J. C. Mitchell, E. Shrapnell Smith, and Rees Jeffreys (secretary).

The report of the sub-committee was received as to the conference of the Automobile Club, the Society of Motor Manufacturers and Traders,

and the Association, and it was resolved that Messrs. W. C. Lobjoit, L. H. Baxendale, and Dr. H. S. Hele-Shaw be the representatives of the Association on the Commercial Vehicle Trials Committee.

A letter was read from the Automobile Club asking the Association to nominate two gentlemen to attend the drawings sub-committee in connection with the motor-omnibus side-slip competition on behalf of the Association, and it was resolved that Mr. Daniel Duff, of the London Road Car Company, Ltd., and Mr. R. Bell, of the London Motor Omnibus Company, Ltd., be appointed.

The question raised by Messrs. Wordie and Co., of Glasgow, as to the arrangements for the periodical inspection of mechanical vehicles by authorised engineers of the Association was considered, and it was resolved to write them saying that such a scheme was contemplated by the Association.

A letter was read from the Metropolitan Water Board stating that the Board's engineer was now constructing a water post for the supply of motor-vehicles, and as soon as the work was far enough advanced, they would write again with a view to its inspection by the Association.

### NORTH LONDON.

THE annual general meeting of the North London A.C. has been held at the headquarters. The following gentlemen were elected on the committee:—Messrs. Graddon, Cannon, Lendrum, Paul, Cutler, and Smith. Mr. A. Hassall was elected chairman and Mr. W. Holmes vice-chairman. Mr. Charles Smith tendered his resignation as hon. secretary, which was accepted with much regret, and a special vote of thanks was passed for his past services. Mr. J. Thomas Barber was unanimously voted his successor. Dr. North, late chairman, was elected a vice-president, and Mr. Swinger one of the auditors.

Motorists in the North of London wishing to join and members having any suggestions with regard to future fixtures should communicate with the hon. secretary, Mr. J. Thomas Barber, Medina, Hardwicke Road, Palmer's Green.

### THE AUTO CYCLE CLUB.

At the Criterion Restaurant, London, on Friday of last week, the Auto Cycle Club held its fourth annual dinner, with Mr. Robert Todd in the chair, supported by the leading motor-cyclists in the country and many car enthusiasts who do not despise the automobile of smaller degree.

The loyal toasts having been honoured with heartiness, Col. H. C. Holden, in proposing the toast of "The Auto Cycle Club," referred to the early efforts of Daimler in connection with the motor-cycle, and said that now that the machine had become so practicable the public would like to become accustomed to a motor-bicycle that made less noise than that with which they were all familiar.

Mr. C. A. Smith, hon. treasurer, responded, and enumerated the many events that had constituted the club's programme during the past year. With reference to the protest they had lodged with regard to the International Cup, he regretted to say that nothing had been heard of the matter since it was lodged. He eulogised Col. Holden's efforts with the motor-bicycle, and congratulated the club on the outlook of the movement for the future.

To Mr. J. W. Orde was entrusted the toast of the affiliated clubs, which he said numbered twenty-two, with close upon 1,000 members. Six other clubs had also decided to enter the combination of clubs, and there were also present representatives of the Motor Cycle Club, the Guildford, Southend, and the Essex clubs. When a club joined the Auto Cycle Club it was really strengthening itself. There was no need to centralise too much, each club should do its own work, and do it thoroughly. They need not put all the work on the central body. It was easy to lose their individuality, and when it was lost interest waned. He reminded them of the motto of the United States as one worthy of adoption.

Mr. W. H. Bishop, of the Essex Motor Club, responded, giving testimony as to the useful work done for the organisation by Mr. F. Straight, the secretary.

Mr. M. O'Gorman proposed the toast of "The Visitors," pointing out that motor-cycling had suffered from insufficiency of capital and possible lack of judgment and want of unanimity. The latter point was now secured—a satisfactory state of things. There was an impression among the public that a man who rode a motor-bicycle received a series of strong kicks as he went along. That was the consequence of the noise. They ought to realise the importance of silence and the education of the public.

Mr. C. Jarrott responded to the toast. He had endeavoured to ride the Daimler machine to which Col. Holden had referred and was not surprised that the inventor had given it up. They had not yet got the right machine. In 1896-98, when motor-cycling commenced, he remembered the fun and amusement they had. The machines of 14-h.p. answered every ordinary purpose. Much of the fun he confessed arose from the fact that the machines went wrong. With the advance in the idea of speed the power of the motors increased bit by bit. Still there was a certain amount of amusement, and he remembered the excitement of the Paris-Bordeaux race of 1899, when Mr. Edge and himself were the only English competitors, riding "monsters" of 24-h.p. Personally he preferred the motor-bicycle to the motor-tricycle. The great future of the motor-cycle was in the direction of a machine which could be used by the ordinary individual. If they aimed at simplification, at reduction of weight and a decreased power of engine, the motor-bicycle would

have ten times as many patrons as now. He hoped well for the sport of motor-cycling and trusted the trade element would not become too powerful in connection therewith. In conclusion, Mr. Jarrott referred to the cups in front of the chairman on which his name was inscribed in 1901.

Messrs. Douglas Miller and S. J. Sewell also responded. The latter, as chairman of the Motor Cycling Club, was glad to announce that his club had decided to affiliate with the Auto Cycle Club, an intimation that elicited hearty applause.

At the conclusion of the speech-making the prizes won by members of the Club during 1906 were presented. These included medals to Messrs. C. R. and H. A. Collier for their performances in the International cup race selection trials, and to Messrs. D. R. Clarke, C. R. Collier, and A. Edmondson in connection with the M.C.J. challenge cup contested on the Canning Town track, and others for other sporting events organised by the club.

### MOTOR CYCLING CLUB.

At the annual general meeting of the Motor-Cycling Club, under the chairmanship of Mr. S. J. Sewell, the following officers were announced for the current year: President, Major-General Sir H. E. Colville; vice-presidents, Messrs. Albert Brown, S. F. Edge, E. Periman, S. J. Sewell, and J. A. Jackson; captain, W. H. Wells; hon. secretary, A. Candler; hon. solicitors, Messrs. E. K. and F. Purchase; hon. auditor, S. H. Pearce; hon. treasurer, R. C. Davis. Committee: Messrs. R. G. Booth, A. Candler, S. G. Frost, L. A. Baddeley, R. G. Davis, W. H. Wells, Dr. C. B. Moss-Blundell, J. Van Hooydonk, R. M. Brice, F. J. Jenkins, E. March, and R. H. Head.

MR. J. D. CRUICKSHANK, 27, Albert Street, Dundee, is endeavouring to start a motor-cycle club for that district.

THE Coventry Motor Club's open gymkhana has been fixed for June 1st; a hill climbing competition will be held on July 20th.

A CLUB which is being formed among the chauffeurs of Edinburgh held its inaugural dinner at the Imperial Hotel, Edinburgh, a few evenings ago.

THE secretary of the Motor Yacht Club is compiling a list of mechanics who are in want of situations on motor-boats.

### COMPANY NEWS.

#### NEW COMPANIES.

ACRE RUBBER COMPANY.—£6,000. To acquire the business carried on at 58, High Street, Bloomsbury, W.C., and 130, Steelhouse Lane Birmingham, as the Acre Rubber Company, &c.

MERCEDES PETROL-ELECTRIC CO., LTD.—This company has been registered with a capital of £1,000, to carry on the business of manufacturers of and dealers in motor-cars, whether propelled by petrol, electricity or other power.

THE STAR CYCLE CO. have issued their report showing a trading profit of £12,116, £5,000 of which is to be carried to the reserve fund.

### AERIAL NAVIGATION.

AN instructive lecture was given by Colonel Marsh at the Mechanics' Institute, Tunbridge Wells, last week, upon the subject of aeroplanes, kites, balloons, &c. The speaker explained the delicate construction of a kite and the many and varied forms of the kite which were in existence. He illustrated his remarks by exhibiting specimens of the different "paper birds" which had been made, and pointed out the marvellous possibilities which might be attained to in their construction, reminding his audience of the value which was already attached to them in military circles. The speaker proceeded to give a definition of aerial motion, and concluded with a reference to the flying machine and other methods of aerial flight.

Further interest in the subject will be created by the aeronautical section of Cordingley's forthcoming Motor-car Exhibition at the Agricultural Hall, London.

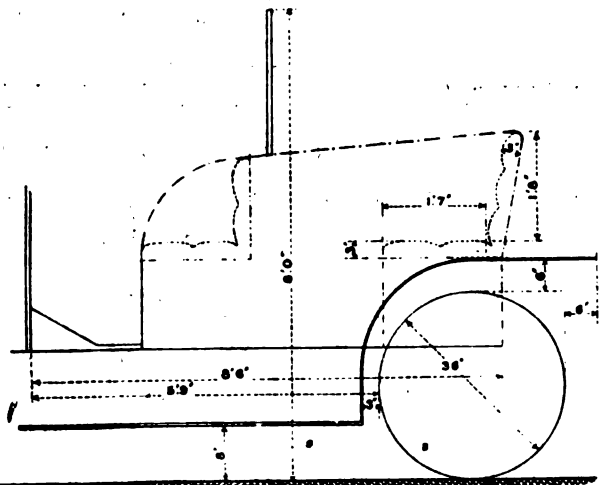
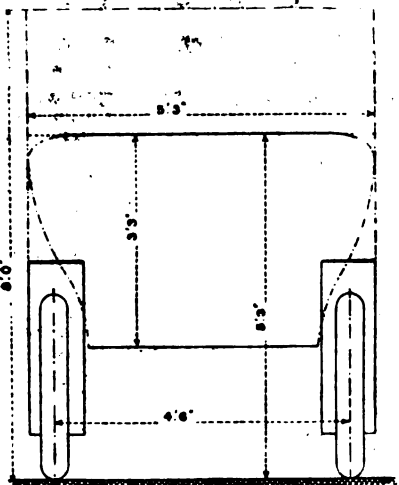
### MOTORIST AND POLICE.

AN interesting case has been heard at Cambridge Assizes, before Mr. Justice Ridley and a special jury. Archibald Canty, a motor tester, sought to recover damages from Inspector Griffen and Police-constable Beecham, of the St. Neots police force, for false imprisonment. Canty was summoned and convicted for driving a motor-car furiously on the Great North Road, to the danger of the public, and fined £10 and ordered to have his licence suspended for three months. He was unable to produce his licence for endorsement, and he alleged that the police kept him in custody until a friend in London, to whom he telephoned, came with the licence. He called witnesses to support his statement, but the police gave it an emphatic denial, and the magistrate's clerk affirmed that he told the plaintiff a fortnight would be allowed. The jury found that there was restraint up to the time of the sending of the telephone message, and awarded the plaintiff 12s. 3d., the cost of message and the railway fare. It then appeared that this did not carry costs or justify a special jury, and judgment was given for the defendants.

### THE HEAVY TOURING CAR RACE.

THE accompanying diagrams give the dimensions of the bodies and of the wind screen which must be fitted on cars entered for the Heavy Touring Car Race, to be held, probably, in the beginning of June.

THE specification of the wind screen is as follows:—The wind screen shall be fitted behind the front seats, not less than six nor more than twelve inches from the back of the seats, and must be securely fixed and stayed. The screen shall be windproof, vertical and flat, and shall be made of 3-ply wood board. The top of the screen shall not be less than 8 ft. from the ground, and the width of the screen shall not be less than 5 ft 3 in. Two holes may be cut in the screen for sight holes, but these holes shall not be more than 6 in. in diameter, and must be filled in with glass not less than  $\frac{1}{8}$  in. thick, securely fixed. An entrant may enter a car with a covered body, but in this case the cross-section offered to the wind shall not be less than that presented by the wind screen above mentioned. If the wind screen or any part of it becomes



Diagrams showing Minimum Body and Wind-screen Dimensions for Vehicles in the Heavy Touring Car Race.

displaced during the race the car will be liable to disqualification. The specifications of the fuel tanks are the same as those for the Tourist Trophy reproduced on page 1,039 of our last issue.

### PUBLIC MOTOR SERVICES.

THE eight Chelmsford steam omnibuses that have been in successful service at Torquay are being transferred to a Harrogate company, of which the Lord Mayor of Leeds is chairman.

ON Sunday a motor-omnibus belonging to the London General Omnibus Company ran into the Thames at Barnes. About a quarter past eight the vehicle was travelling along the Terrace at about eight miles an hour. When within thirty yards of the journey's end, and at a part of the Terrace where the bank inside the railing slopes at an angle of about thirty degrees to the river, the steering gear is alleged to have broken, and the vehicle slewed from side to side and finally struck the railing. This was carried bodily away and flung down the slope, the bus following. At the time of the impact the brakes had almost brought the vehicle to a standstill, but, happening to get the front wheels on the mud inside the railing, it commenced to slide, and, gathering momentum, glided down the bank and into the water twenty yards below. The driver stuck to his post until the omnibus touched the

water, when the engine was completely submerged. The driver floated off and climbed over the top of the omnibus, where he lay exhausted. The conductor was shot head over heels inside. The two passengers on the top were unhurt. At a late hour at night a traction-engine arrived, and at midnight attempts were made to haul the heavy vehicle back to the roadway, which was successfully done on Monday.

An electrobuss, L.C. 5768, has been assayed by the Metropolitan police authorities, and will shortly be put in service by the London Electrobuss Company.

THE Kintyre Motor Company, Ltd., of which Mr. C. T. Wakeham is the managing director, and which has headquarters in Campbeltown, intends to maintain a motor service for goods and passengers in Argyllshire, and on May 1st a regular system of motor-cars will be commenced. In addition to these services there will be a large garage at Ardrishaig, where there will be a number of cars kept in reserve for the main routes, and for hire. There will also be garages and spare cars at Oban, Inveraray, Arrochar and Campbeltown. These garages will be extremely useful and convenient for owners of private cars. Drivers will also be trained at these garages. Petrol and oils will be kept at all the branches, and also a considerable amount of car furnishings, such as lamps, accumulators, horns, and spares of all kinds. It is also intended to develop the goods carrying trade by motor lorry and delivery vans, and so at each of the stations of the company there will be a car for this purpose, according to the requirements of the district.

### MOTOR CAR ATTACKED BY A HORSE.

A MOTOR CAR belonging to Mr. Chalmers, of Redhill, after conveying Lady Henry Somerset to Duxhurst, was returning when it met with a serious and remarkable accident. A horse attached to a trap bolted from a public-house at Iron's Bottom and galloped along the high road. The animal suddenly came upon the motor before the chauffeur could turn the car to the side of the road. The runaway leapt over the bonnet through the screen on to the hood of the car. The chauffeur, who had a miraculous escape, was pitched into a ditch, but not seriously injured, while the car and trap were smashed to pieces.

### MOTOR-CAR ACCIDENTS.

A SINGULAR accident occurred at Morecambe on Monday to a motor-car, the property of Mr. David Read, cotton manufacturer, of Burnley. The vehicle was being driven on the sea front when it suddenly got out of control, and, dashing across the roadway over the promenade, knocked down the cast-iron railings and leapt down the sea wall. The occupants were pitched out, and the car ran on to the water's edge. One of the passengers, Mrs. Goodall, of Leeds, was badly injured. Her husband and Mr. Read's chauffeur escaped with some bruises and a shaking. The promenade railings were torn away for many yards.

A FATAL motor-car accident occurred at Cheam on Friday night. The vehicle, containing several ladies, was being driven along the London Road, when, owing, it is supposed, to the fog, the car collided with a carriage and a cart going in the opposite direction. A lady named Miss Catherine Taylor, of Streatham, was thrown out, and killed almost instantaneously.

THE story of the fatal motor accident at Cheam was told on Tuesday at the inquest on Catherine Margaret Taylor, of Streatham. The chauffeur admitted that though there was a fog he was going at fifteen miles an hour. The deceased was pitched out of the car into the road, and a coachman declined to take her to the hospital on the ground that his horses were hurt. The jury returned a verdict of "Accidental death," censured the coachman for his lack of humanity, and expressed the opinion that the chauffeur drove at too high a speed in the fog.

### AN INSURANCE CLAIM.

AT Clerkenwell, the Sporting Newspaper Company, which a witness said consisted of Ralph Russell, of 98, High Holborn, sued the International Motor Insurance Company, Ltd., 2, Haymarket, S.W., for £21 6s. in respect of repairs to a motor-car. Plaintiff's counsel said the claim was under a policy of insurance made by the plaintiffs with the defendant company, who insured against accidents to motor-cars. An accident to plaintiff's car occurred on June 6th last, and when a claim was made defendants said they did not cover damage for mechanical breakdowns, but only accidental damage, and in this case it would only apply to the mudguard, panel, and back lamp. This damage amounted to £5 7s., which they offered to pay. For the defence witnesses who investigated the case said that none of the railings near the Spaniards had suffered damage, nor had there been a new railing added during the whole of the year. The London manager of the defendant company said that after they forwarded a claim to be filled up in respect of the accident Russell took the matter into his own hands and had the car repaired. Altogether six claims had been made in respect of the car. A list of convictions against plaintiffs having been read, it was stated that Russell insured the car on May 3rd. A month afterwards he met with the first of a series of accidents.

Mr. Staplee Firth submitted that the damage was deliberately done by Russell to get money from the insurance company, and by means of fraud.

Deputy-Judge Edge found for the defendants.



# THE Motor-Car Journal.

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## COMMENTS.



HAVING regard to the feeling that was evoked in the Isle of Man last year owing to the disregard of insular prejudices and regulations by a small minority of motorists, it is but natural to expect that the authorities will on this occasion insist upon the enforcement of all rules and mandates on the competitors for the Tourist Trophy. And, so far as the organisers of the event are concerned, the people of Manxland may be assured of the desire to faithfully observe the conditions they may impose. These were duly considered on Tuesday, when the Governor of the Isle of Man and the Highway Board met to discuss the request of the Automobile Club for permission to hold races for the Tourist Trophy, and also for heavy touring cars on Manx roads. It was decided to offer the club Tuesday, May 28th, and Thursday, May 30th, on the understanding that practice must be effected between 4.30 and 7 a.m., and that Sunday practising is prohibited under penalty of disqualification. So far sixteen entries have been received for the Tourist Trophy Race, and three for the International Heavy Touring Car Race, the regulations and drawings for both of which have already appeared in our columns.

### The Scottish Trials.

THE Trials Committee of the Scottish Automobile Club have held numerous meetings themselves and in conjunction with the Technical and Industrial Committees of the Club relative to the rules and conditions of the Scottish Reliability Trial to be held from the 25th to the 29th June next, both inclusive, and they expect to be in a position to issue the preliminary prospectus in the course of a few weeks, when it will be found that only slight deviations from previous routes have been made. Much interest is already being taken in the trial throughout Scotland, and the well-known firm of Pullars, of Perth, have offered, free of expense to the Club, to erect a capacious storehouse for the cars on one of the nights of the trial.

### Traders in Sport.

REFERENCES to the presence of "amateurs" and "professionals" at the gathering of motorists for sporting purposes have been made at the festive board of the Derbyshire A.C., and also at the business table of the Nottinghamshire A.C. These, following upon the warning of Mr. Jarrott with regard to the inadvisability of allowing commercial interests to overshadow the purely sporting instincts in connection with that aspect of motoring, seem to show that the old difficulties are by no means entirely out of the way. The recrudescence of the conflict between "trade" and "amateur" is an annual incident in club life, and must not be lightly set aside. Much can be said for both parties in the matter. Gentlemen connected with the motor trade have, in some districts, been great supporters of local clubs, and naturally do not appreciate resolutions calculated to exclude them from participation in a sport they enjoy as much as those who are in no way associated with the industry. On the other hand, the

purely amateur driver and owner, whose experience is limited to his own car, feels that he is at a disadvantage when competing with a man whose daily pursuits are concerned with cars. The path of settlement is, we acknowledge, a thorny one, often bristling with personal points almost impossible of elimination; but some general agreement will have to be arrived at, and probably something of the subject will be heard at meetings of the Motor Union. So far, the general policy of Club members has been to relegate the subject to the consideration of their committees.

### Hackney Motors.

THOSE interested in "hackney carriages and hackney motors"—to quote the official designation of vehicles let on hire as given by the Inland Revenue authorities—should know that Thursday last was the end of the term of grace allowed by the Department for obtaining licences for such vehicles. Those who during the remainder of the year become liable to the duty must make the necessary declaration within twenty-one days of first incurring the liability. We would also remind those concerned in this matter that if, after making the first return, a person changes his hackney motor to one liable to a higher duty, or takes an additional hackney vehicle into use, new licences must be taken out within the same period of three weeks. The term "hackney motor" is used in connection with, say the authorities at Somerset House, "a motor standing or plying for hire, and includes any motor let for hire by a motor manufacturer or other person whose trade it is to sell motors, or to let motors for hire, provided that such motor is not let for a period amounting to three months or more." The duties charged in the case of a hackney motor exceeding one ton but not exceeding five tons, unladen, include those payable on a "light locomotive" as defined by the Locomotives on Highways Act of 1896. Thus if the motor vehicle to be let on hire exceeds one ton, but does not weigh more than two tons, the total duty payable is £2 17s., of which 15s. is for the carriage licence duty, and two guineas the light locomotive duty. For those above two but below five tons the licence is £3 18s., composed of three guineas for the light locomotive duty, and 15s. for the carriage duty. A hackney motor that weighs not more than one ton, or upwards of five tons unladen, is not chargeable with duty as a light locomotive.

### The Industry in Coventry.

ESTIMATES as to the actual value of the production of the British motor-car industry have been as various as "guesses at truth," and few have been generally accepted as other than approximate. The suggestion of a contemporary that about 3,000 people are at present employed in the business at Coventry has drawn a communication from the Daimler Company, which fixes the total at more than three times that number. In the Daimler works 2,500 hands are employed on motor work alone. Then there is the Humber Company, which employs 2,500, and in addition to these two prominent firms in Coventry there are others, such as the Swift, Rover, Maudslay, Singer, Deasy, Standard, Duryea, Rex, West, White and Poppe, besides many small firms who have not yet created large businesses, so that the total number of hands in Coventry can be

roughly estimated at a minimum of 10,000. In addition to these are a number of makers of accessories; hence this computation may be regarded as fairly accurate; certainly it is not exaggerated.

#### Motor Races on Road and River.

REPORTS of the annual meetings of the various provincial clubs that are now being held in all parts of the country give promise of activity throughout the country during the whole of the coming season. Many interesting gatherings have already been arranged, and others are in course of preparation. Possibly the most novel meet yet devised by a provincial club is that of the Nottingham organisation, which, as will be seen from our report of the seventh annual meeting on another page, intends to hold a combined motor-car and motor-boat carnival on the Trent Embankment. This may be developed into an event of more than usual importance, and, appealing to a wide section of people, secure good support from the public. It was generally felt at the time of the Brighton motor races that the inclusion of a few motor-boat competitions would have conducted to even greater success; the experiment of the Nottingham club in this direction will therefore be regarded with interest.



Touring in Italy.—A Snapshot at Terni.

#### "Use Your Judgment."

APART from its record of the cost of maintaining a motor-car in daily work over a long period, the letter from Mr. E. H. Watson in our Correspondence columns affords some useful hints which may be regarded as supplementary to the information given in our issue of the 19th ult. with reference to the way in which motorists may avoid trouble. The sum of all this advice may be found in the injunction to "use your judgment instead of"—well, a dozen other things that drivers may, and do, perform might be mentioned. Motor driving requires thought, and the head as well as the hand must be used in the work.

#### Alcohol.

AMONG the references to fuels other than petrol that have been made before the Special Committee of the Motor Union, now sitting, none have attracted so much general interest as the evidence with regard to alcohol. Mr. Alexander Duckham has been telling the committee that he considers when alcohol is bought the purchaser buys oxygen, which, when petrol is being made use of, is obtained for nothing from the air, and, further, the alcohol would always contain water, which is absent in petrol. Therefore, from a chemist's point of view, alcohol should be obtained at a somewhat lower price than petrol. He has good authority for stating that 90 per cent.

alcohol can be manufactured at a price of 3d. per gallon. The Revenue and Customs restrictions keep up the price to its present figure. A system of co-operation with the chemical manufacturers of the country and the Government departments might modify in an important manner the high price due to these causes. A rough estimate places the consumption of motor spirit as from five to ten times as great as the quantity of alcohol spirit used for manufacturing purposes in the country. At present ordinary alcohol cannot be used economically on ordinary motor-cars, but the difficulty could be overcome. It is possible to add a percentage of tar benzole to alcohol, and so obtain a mixture which could be used on ordinary cars without material alteration; such, at least, is the opinion of Mr. Duckham, which many would like to see put to the test.

#### The Price of Petrol.

MANY experts have been examined by the Fuels Committee of the Motor Union, and much useful information has been gleaned, but the question is assuming a broader aspect than that of motor-cars merely, and already it is apparent that a wider commission is needed to deal with the problem. The average yield of petrol from crude petroleum is about 10 per cent., the residual products being 90 per cent. of the whole. This aspect of the matter has to be considered by manufacturers, who have to dispose of that large proportion. To remove this great obstacle to the reduction of the price of petrol a carburettor is required to satisfactorily deal with the heavier fractions, up to, say, the boiling point of an ordinary paraffin lamp oil. When this is obtained the manufacturer will be able to rely on a market for 40 to 50 per cent. of his crude oil at remunerative prices. Until then, however, it would appear there will be no considerable weakening of prices—a serious matter when it is remembered that the advance during the last twelve months has added 1d. per mile to the running cost of the motor-buses now working in the metropolis.

#### Obstructing Motorists.

IN one of the suburbs of Newcastle-on-Tyne it has been the custom of the residents to dry their clothes in the public street, lines being hung across the roadway for that purpose. So long as garments waved in the breeze no great harm was likely to result, these acting as signals of danger to wayfarers by car and to those on foot. But when no clothes were out there was a risk, and the driver of the car belonging to the City Engineer of Newcastle has narrowly escaped a broken neck in consequence of this careless custom. Surely it should be the duty of local authorities to prevent such happenings within their area of influence. The regulation of such matters should not be left to bodies like the Motor Union and the automobile associations, which have enough to do in defending motorists, and which should not have to draw upon their resources in carrying the war into the camp of obstructive opponents. Still when, as in the case reported on another page, such associations take up such work, in the absence of a clear sense of duty on the part of the police, motorists should be grateful; and those, as yet, not in the ranks of any organisation should no longer tarry outside the membership of automobile clubs and societies.

#### Children as Motorists.

CHILDREN as motorists have scarcely received the attention they deserve, and many readers will turn to the article on another page in the hope of enlightenment as to the proper attire which is desirable for juvenile passengers in the car. It must not be overlooked that children are more susceptible to changes of temperature than adults, and that the air enters the lungs in too cold a condition when motoring to suit the delicate membrane of the child's throat. More than that the minute particles of dust with which the atmosphere is charged

are liable to enter the lungs and prove injurious to health. Consequently doubts have arisen as to the advisability of attempts to inure youngsters to motoring, and although all the directions given in Dr. Stapler's article may be complied with, the subject is one to be regarded from other aspects than that of dress alone. The matter seems well worthy of discussion, and the reference on another page may well inaugurate a correspondence in which our readers are invited to express their views.

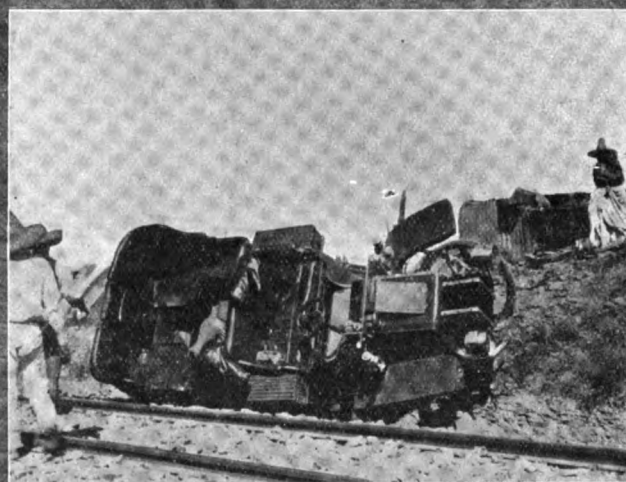
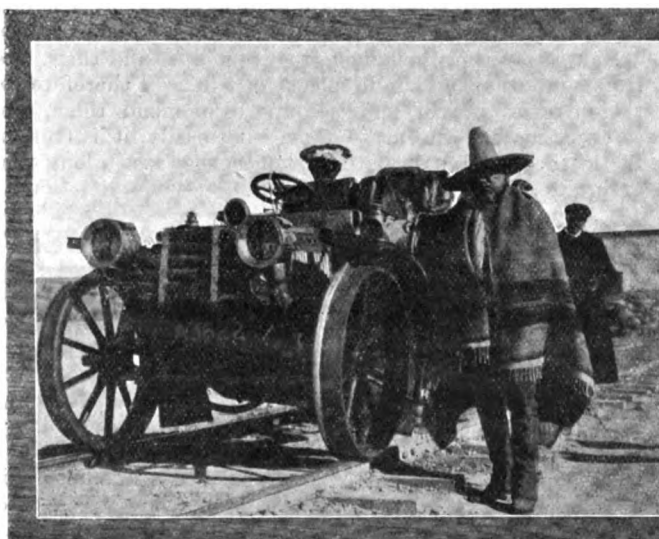
### Motor Track Racing.

◆ THERE seems a fairly general feeling of satisfaction with regard to the prospects of the Brooklands motor racing track and the influence it may have in furthering the development of the motor-car. At the same time some of the men who may be regarded as authorities in the matter look a little askance at the outlook for motor racing, "the true sporting element in it being rapidly dying, and this is entirely due to the influence of commercialism." Mr. C. Jarrott, whose views we have quoted, believes that "the best remaining chance for motor racing in the future is the promotion of contests in which the conditions as to the power of the cars and so forth are exactly equal, so that all the competitors are put to a severe test." Sir Wroth Lethbridge, Bart., who is as enthusiastic in motoring as in many

repairers, with a view to their division into classes, according to capacity and equipment. This seems a good idea in theory, but it would be a bold club that would seek to carry it into practice. Of course, it would not be so difficult were it only a question of gauging stock and inspecting machinery, but the personal equation has to be considered—and there the difficulty of the division would be felt.

### Cabbies and Cars.

◆ THAT cabbies have tastes and inclinations varying with the quality of their fares is well known. But much also depends upon the place in which they happen to be. Thus a cabman giving evidence in the Shoreditch County Court on Monday declared he did not like motor-cars, "they're absolute murder." Wishing to tone down this terrible denunciation, counsel gently suggested that he hated cars. "Hate 'em? No, I don't 'ate 'em; its the drivers I 'ate." Such an attitude is in strange contrast to the utterances that came from the table a few evenings ago when the cabmen of Falmouth held their annual dinner. The chairman cheerfully mentioned that motor-cars had not done much damage to the trade in that town, the natural features of which—its hilly surroundings and narrow streets—seemed to protect it from any rapid innovations in traffic. But in responding to the toast of "The Carriage Proprietors of Fa l



Mr. Chas. J. Glidden, of Boston, and his Napier Car have now reached a total of 39,768 miles and travelled through 36 of the principal countries of the World.

The photographs from which the above illustrations were reproduced were taken during his recent drive on the railway from Chicago to Mexico. The picture on the left shows a Mexican horseman wearing the blanket which serves as an overcoat by day and for sleeping purposes at night. The one on the right depicts Mr. Glidden's car lying alongside the railway track with both front wheels broken. The accident was caused by a stone being wedged between the rails about 50 miles from Mexico City, and as the car was proceeding along the level at about 28 miles an hour it ploughed through the ballast for about 80 yards, and pulled up against the bank at the side of the track. Beyond the breakage of the wheels, the only damage was a slight bending of the axles and some injury to the body work.

other pastimes, expresses himself in favour of the Brooklands course if "motor track racing will tend to the further improvement of the motor-car." At the same time he is "opposed to the manufacture of the high-speed freak machines. Such, "he believes," should be discouraged as being inimical to the interests of the car and its owner. Altogether the subject is an interesting controversy, and one in which our correspondents are showing a lively concern.

### The Appointment of Repairers.

◆ A GREAT improvement has taken place within the last few years in the quality of motor-car repair work and the efficiency of the plant owned by local repairers. Finality, however, has not been reached in this matter, and in some districts the facilities for really good repair work being done are not of the best. In other places they are woefully inadequate for modern emergencies. Something of this kind is hinted in the resolution of the Northampton A.C. asking the central authority to revise the present plan of appointing official

mouth," Mr. W. Mortimer instanced the successful competition of motor-cars in taking away posting and long journey work.

THE experiences of well-known motorists with regard to the longevity of the steel studded Dunlop tyres are given in a new list issued by the Dunlop Pneumatic Tyre Company, Ltd., and serve to show that the day has gone by when the user of such devices could only rely upon 2,000 miles' running before his cover became disintegrated. Mr. S. F. Edge and Mr. D. M. Weigel agree in this, the latter having run a set of these tyres 4,630 miles with every likelihood of further good work, while the former, after running the tyres 3,960 miles, found the inside of the cover in the same condition as when new. In the construction of this studded tyre, the steel studs, instead of being riveted to a strip of leather stuck on to an existing tyre, are built into the fabric and form an inherent part of the tyre itself, thus preventing friction and doing nothing to decrease resiliency. As preventives of skidding the steel-studded Dunlop tyres have done good service, while their immunity from punctures is a point of merit.

## MOTERING DRESS FOR CHILDREN.

EVERY owner of a motor-car is proud to equip himself with the necessary articles of dress, and many enthusiasts even buy their garments before the ordered and long-expected car arrives. Ladies also have their special dresses for short drives or long tours. Only the children are usually forgotten. I often ask my friends, writes Dr. D. A. Stapler, in an American contemporary, why they do not take their children out with them in their car. "Oh, it is too cold for Freddy," or "My child is only three years old," and similar answers are given. I took my children out when they were only five months old, but they were properly dressed. Every motorist knows that water in a small body cools quicker than in the tank of large volume, and radiators are based on this principle. Thus a child may be compared to water in a radiator, which loses its heat very much quicker than water in a tank, here represented by a full-grown person. Therefore, if there is anyone who should be warmly dressed when going out in a motor-car, it is the child. Warm dresses, even on warm days, are, however, not sufficient; they must be suitable for motoring. The greater the velocity



The Author's Children in their Motoring Costume.

of the car the quicker the radiator cools, and, retaining the previous comparison, the dress of the child must be of such material that the heat cannot be lost too quickly. The wind must be kept from penetrating the clothes in order to prevent quick evaporation of perspiration, which would cool the child's body in such a short time that it would shiver. Therefore, the dress must be of leather, which is impermeable to wind. There must be an ample air space between the child's body and the dress to keep the temperature equally warm for a long period. This is best accomplished by a wide overcoat. I found that a long leather overcoat, which is quite loose, is sufficient to keep a child warm and does not require other garments than the ordinary ones of the season. For the child which sits on the front seat a pair of leggings are of good service, even if the legs are covered by a heavy rug. On cold days a muff keeps the children's hands warmer than any gloves could possibly do.

An important question is that of the hat. Ordinary hats, or even leather caps, for girls or boys are inadequate. They usually fly off, and, what is more important, they do not afford any protection for the face or the hair. The face must be protected against the wind, and the hair must be kept free from

dust. I designed a cap which was made by my wife (who also made the coats) after several experiments, and which fits snugly, covering hair and neck, leaving only the face free. No dust can pass under these leather caps, which are soft and cover the neck down to the shoulders. Three or four clasps, as used on gloves, keep the cap closed, and make it impossible for the wind or dust to pass, and are therefore better than buttons and button-holes. The coat covers the lower end of the cap, making it still more dustproof. Clasps are also used on the coat. The sleeves are wide, and tight only around the wrists, where they are closed by clasps.

To protect the child's face against dust and wind (children object to goggles) a shield of thin, transparent celluloid is attached to the cap by means of simple brass fasteners. I first tried mica, which proved unsatisfactory; it breaks easily and is readily scratched. Celluloid is elastic, very light, and cheap. This celluloid shield is kept by clasps in different positions. In fine weather or for city use it is usually kept up. If the wind annoys the child a downwardly inclined position of the shield prevents it from striking the child's eyes, and permits the child to look beneath the shield. It is put down only if the wind is strong, and the child looks through the celluloid, which, however, is transparent enough not to hurt the eyesight, even if worn for a long period. The shield must be of ample size so as to leave a considerable space between shield and nose.

It takes but a few minutes to dress the children, and, as said before, they do not wear any other dresses underneath the leather coat than those in season. I have taken my children on quite extensive tours, and upon arrival at my destination they are always warm, their hair free from dust and their faces free from sunburns and the ill effects of wind. I therefore consider these dresses proper, and warmly recommend them, especially as every mother can make them—not easily, it is true, because the leather is a tough material, but as they last a long time they are quite economical.

## THE COUPE DE LA COMMISSION SPORTIVE.

THE rules and regulations with regard to the race for the Coupe de la Commission Sportive, which is to be held in France in June next, either the day preceding or following the Grand Prix contest, have just been issued. Generally speaking they closely follow those for the Grand Prix, except that the quantity of petrol to be allowed is only 15 litres per 100 kilometres instead of 30, and the course will be 500 kilometres, instead of 800. There will be an entrance fee of £140 per car. Each manufacturer can enter three cars, although the Races Committee reserves to itself the right to reduce this number if necessary. Reservoir capacity for the whole 75 litres allowed for the 500 kilometres must be provided, as no re-filling will be allowed once the start is given. The quantity will be verified as follows:—The day before the race each competitor will be required to bring to the "controle" of the Sporting Commission the quantity of petrol allowed him for the race, which will then be officially measured, and afterwards put in the actual reservoir of the competing car. Eight days before the race models of the reservoir, carburettor, and pipe connections must be submitted to the committee, and must be used on the cars in the contest, after having been passed. All joints and caps are to be made after the model supplied by the committee. Each car must carry two persons—driver and mechanic by whom all necessary repairs must be effected. No change of driver will be allowed during the race except in the case of accident; the competing cars must not exceed an overall width of 5 ft. 9 in., and must be capable of reversing. An important clause in the rules is that which provides for the immediate withdrawal of the car, and the disqualification of the driver and mechanic should any attempt be made to wilfully evade the regulations, and if it can be proved that the manufacturer is a party to the evasion, the latter will render himself liable to a fine of £400 and to disqualification from future events. The entry list will close on the 15th inst.



## SOME CURRENT TOPICS.

### Tendencies in Petrol Motor Design.

Each year M. Lucien Perisse, the secretary of the Technical Committee of the French Automobile Club, prepares a census of the exhibits at the Paris *Salon*, which affords an interesting and useful indication of the tendencies in petrol motor and motor-car design in France. His observations at the show in December last were based on the exhibits of sixty-five automobile builders, and as regards the engines the figures obtained are as shown below:—

	1903. Per cent.	1904. Per cent.	1905. Per cent.	1906. Per cent.
Single-cylinder Engines ...	15	6	8	6.5
Twin-cylinder Engines ...	28	15	20	11
Four-cylinder Engines ...	55	76	71	75
Other Engines ...	4	3	1	7.5

It will be seen that there is a slight diminution in cars with single and twin-cylinder engines, and that four-cylinder cars show a small increase. "Other engines" include the six-cylinder type which is, of course, responsible for the relatively large increase recorded. In reference to the question of cylinder casting, singly, in pairs, or in one piece, we have already alluded to the notable increase of the latter as regards engines of about 10-12-h.p. This has brought about a slight change in the relative position, to the detriment of the cast-in-pairs variety, which, however, is still the most prevalent practice, as the appended table will make apparent:—

	1904. Per cent.	1905. Per cent.	1906. Per cent.
Engines with separate cylinders ...	35	33	33
Engines with cylinders cast in pairs ...	65	63	59
Four-cylinder in one casting ...	—	4	8

The position with regard to inlet valves remains unchanged from that recorded a year ago, only 6 per cent. of the engines displayed having atmospheric valves, as against 94 per cent. with the mechanically-operated type. Although these are the same figures as those given a year ago, there is at least one notable convert to mechanical valves—De Dion—the counterbalance being found in the appearance of the low-powered, one-piece, four-cylinder engine which is furnished with suction valves.

### Preparing for the Driving Season.

It may be useful to remind motorists that this time of the year is a very convenient one for having their cars overhauled and painted, if necessary, or any changes made that may be desired. At present the repair shops are not so crowded with work as they will be in a couple of months, when motorists generally begin driving again, and in consequence the work is likely to be done more carefully. It is, furthermore, a great satisfaction to the owner to have his car in perfect trim by the time spring comes round, so that he need not miss a run on early pleasant days. It is, of course, hardly possible to lay down any general rules as to the parts which should be specially attended to in such an overhauling. The bearings and all wearing parts are, of course, most likely to need attention, and they should be tested for the wear or play that has developed. The steering gear in particular should be made the object of special scrutiny, and if it is found that there is so much back-lash to the steering wheel that it seriously affects the control of the car, the necessary adjustments should be made.

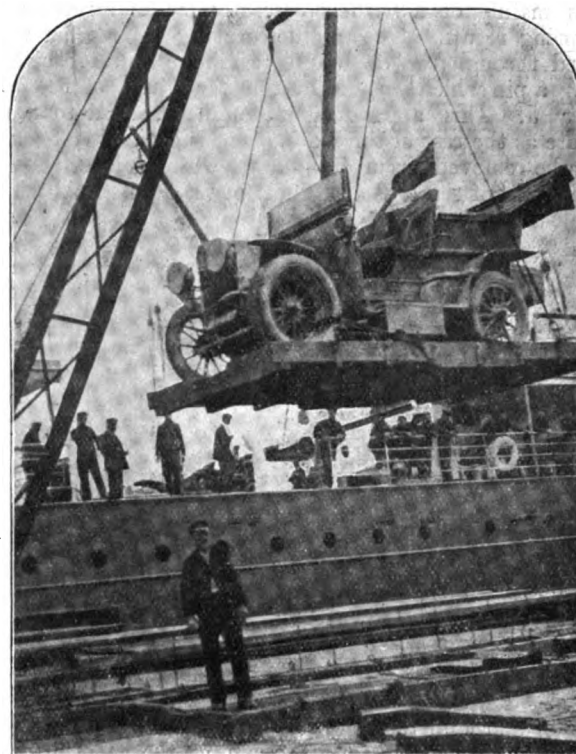
### See to the Brakes.

In addition to the steering gear, the brakes deserve a special examination at the beginning of the season. It should not only be ascertained that they are so adjusted that they will not draw when released, and hold firmly when applied, but the state of their wear should be determined, and if they have already

been taken up almost to their limit, it is advisable to have them re-lined, or, if no lining is used, to have the bands renewed. There is the more reason for renewing or re-lining the brakes now, even though they may not yet be completely worn out, because if they reach this stage later in the season there is always a temptation to postpone the repair, thus courting serious accidents. If repairs and renewals are attended to now there will be fewer interruptions in the use of the car during the summer.

### A French Heavy Touring Car Reliability Trial and Race.

That French motor-car manufacturers are closely watching what is being done in England in the way of competitions and races for touring cars is evidenced by the announcement that, in addition to the events already decided upon, the Competitions Committee of the A.C.F., at the suggestion of the Marquis de Dion, is now drawing up the rules of another competition to be known as the Coupe de la Presse, which will be practically a combination of a Scottish reliability trial and the heavy tour-



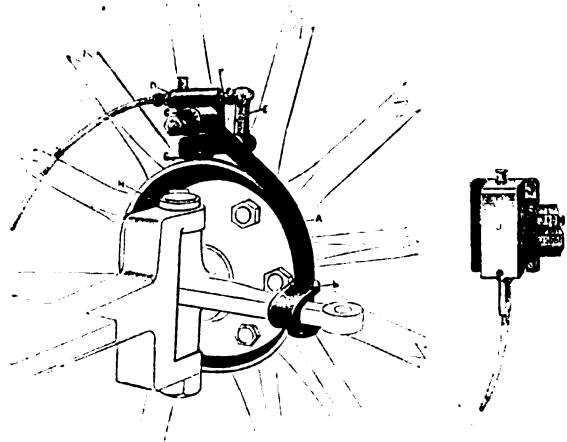
Trans-shipping a Daimler Car at Folkestone.

ing car race in Great Britain. It is proposed that the trial shall be held in the Trouville district and be open to four-seated touring cars of a minimum weight of 1,250 kilog., for which the petrol allowance will be 16 litres per 100 kilometres, or about 17.8 miles to the gallon. The contest will be spread over a number of days and will consist of a run of 2,000 or 2,500 kilometres—the exact distance has not yet been decided. Those competitors who successfully survive this test of reliability and regularity will be eligible to take part in the final part of the programme—a 400 kilometre race.

MANY modifications and improvements have been made in the C.T.C. Year Book and Diary for 1907, which now embodies information not to be found in the handbook proper. Commencing with a calendar and lists of officers, it proceeds to give a *resumé* of the various cycle laws and by-laws in force in various parts of the United Kingdom, together with a table showing how local mean time can be readily computed; an article on the Physiology and Hygiene of Cycling; Hints on Touring, and a treatise on India-rubber tyres, all by well-known experts.

## THE BOWDEN MILEAGE RECORDER.

**T**HOUGH a distance recorder may not perhaps deserve to be classed as altogether indispensable to the motorist, it must at least be regarded as an extremely valuable and interesting addition to the car; and the many who are considering what form of recorder to favour for the ensuing season will doubtless be interested in the latest introduction in this line, emanating from the E. M. Bowden's Patents Syndicate, Limited, Baldwin's Gardens, E.C. The task the inventors of the Bowden Mileage Recorder set themselves was to abolish the old form of flexible shaft while retaining the dashboard position, the ubiquitous Bowden wire being requisitioned for this purpose. The general appearance of the recorder will be understood from the following description. That part of the instrument which fits on the dashboard only occupies a space of 3 in. square. The mechanism, which is of a simple and durable nature, is enclosed in a nickel-plated brass casing, and consists mainly of a hardened steel pawl and ratchet wheel with spring return. The spindle carrying the ratchet wheel is extended through the case and terminates in a toothed wheel carrying a pin which engages in the star wheel of the mileage recorder J. This apparatus, although attached to the same base plate as the rest of the mechanism, is entirely self-contained and can be removed from its fixings without interfering with any other part of the device. The fitments at the road wheel end



consist of a round rod of mild steel A, having a clip B at one extremity in order to fasten it to one of the steering arms of the car, and where it is necessary to bend this rod the work can easily be done by any motor repairer or blacksmith. The rod carries an adjustable arm C, which, by means of a set screw, can be fixed at any desired height. It is made to carry the "stop" D in which the outer member of the Bowden mechanism terminates, and also accommodates a bell-cranked lever E working on a hardened pivot. At one end of the bell-crank is a plunger F carrying a length of the inner member of flexible wire mechanism, the other end being made to take a fibre pad G. Screwed to the spokes of the road wheel, or fastened to the hub flange, is an eccentric drum H which imparts a rocking motion to the bell-crank, thus pulling on the inner member of the wire mechanism, and actuating the recorder J on the dashboard. Part of the mechanism has been purposely left exposed, so that one may readily see that the instrument is not "missing." Should this occur, the most likely reason is, the Bowden Co. inform us, the bedding down (not stretch) of the wires, and the remedy is to extend the adjustable "stop" found at either end of the encased wire. As some may doubt the capacity of the Bowden wire to withstand the frictional strain under quick reciprocal movement such as is here involved, it may be mentioned that the makers state the wire has been tested for the purpose to over eighty millions of movements at high speed before giving out, while of course the wire can be renewed at any time at a small cost.

## AUTOMATIC CARBURETTORS.

**C**ERTAINLY few parts of the motor-car are receiving more attention at the hands of designers and manufacturers than the carburettor. "Automatic" or "compensating" are expressions that are constantly on the lips of every salesman, but it is somewhat problematic what is the exact meaning intended to be conveyed by these terms, as the so-called automatic or compensating devices are so varied in their construction and operation as to demand a special explanation in each case.

The aim of all such devices is seemingly to prevent the engine drawing in an explosive mixture too rich in petrol vapour when running on high speeds. The reason for this is found in the fact that as the engine speed increases the suction drawing the mixture into the cylinders increases. The mixture consists of warmed air and petrol vapour which are united in the mixing chamber of the carburettor. In order that an efficient ignition may occur within the cylinders these two constituents must be mixed in certain proportions, and it is the aim of all "automatic" carburettors to maintain the correct proportion at all speeds of the engine. The result desired is commonly effected in either of two ways. One is to govern the supply of petrol through the spraying nozzle by automatically or otherwise controlling a needle valve in the nozzle, so that when the engine speed increases the flow will be restricted. The other is to control the air supply, admitting more when the engine speed increases and reducing it when the speed decreases. The latter method is, remarks an American writer, the more popular at present, though the adherents of the former are increasing rapidly and their efforts are in most cases successful. In regulating the air supply the object to be attained is the maintenance of a uniform degree of vacuum around the spraying nozzle, so that the flow of petrol will be commensurate with the engine speed. In accomplishing this, air is admitted at some point in the mixing chamber between the nozzle and the opening of the induction pipe to the engine. This opening is generally in the form of a valve under spring control, the tension of the spring being such that it is overcome by the suction of the motor. With increasing speed the valve is partially opened and air admitted. The tension of the spring has to be adjusted to each car, and when once properly set rarely needs attention afterwards, providing the strength of the spring remains constant. An objection to many of these auxiliary or compensating valves is the fluttering movement connected with their opening and closing, which is similar to that of a spring hinge door which moves backwards and forwards several times before finally coming to rest. In a rapidly running motor, increases and decreases in the speed follow each other in such quick succession as to require decided opening and closing of the valves. To attain this some makers have attached the valve stem to a dash pot which reduces the fluttering action and gives a rapid and definite opening and closing movement of the valve. In one or two new designs the use of an auxiliary valve is dispensed with, the main air valve being under spring or dash pot control and regulated for variable air entrance. In one make the movement of the air valve is controlled by a diaphragm which on one side presses against the valve stem and on the opposite side is subjected to water pressure from a pump gear driven from the motor. As the motor speed increases the flow of water increases as does also the pressure on the diaphragm, the air valve being proportionately opened. In a few new productions the air inlet are under governor control, but the results are not so successful as with engine suction control. The topic is an interesting and important one, as it bears directly upon the development of efficiency in variable motor speed, a feature of silent and flexible engine running of great consequence in motor vehicles.

A CORRESPONDENT writes:—"If the shoes of a foot-brake are worn out, and have to be renewed, have the new ones made of copper; they will last longer than the car"

## THE BEST ROADS FOR MOTORING.

BY COL. W. J. BOSWORTH.

THERE are two points of view to be considered in selecting the "best roads for motoring," viz.:—(1) that of the motorist whose first aim is to cover a long distance as quickly as possible, (2) that of the man who prefers an interesting and picturesque road to the long, straight and level stretches which are so beloved by the "speed-merchant."

In the former class the Great North road easily heads the list. It has a magnificent surface, no hills of any account, and abounds in long straight runs where one can see a row of telegraph poles stretching in a straight line away to the horizon, as for instance, between Boroughbridge and Catterick. For getting quickly from London to Edinburgh one could not choose a better route than this, but the surrounding country is very flat and devoid of interest, and even the interesting towns which one would expect to pass through from an inspection of the

interesting character of the country passed through. From Doncaster we proceed to Pontefract and Leeds (the part of the road between these two towns is the most unpleasant encountered on the journey, as it lies in a mining district), and thence to Skipton, Settle and Kendal, through one of the beautiful Yorkshire Dales. From Kendal we can go to Carlisle over Shap Fell, or as an alternative to Windermere, over Kirkstone Pass to Ullswater, and round the lake to Penrith, where the main road is rejoined. The road from Carlisle to Edinburgh is full of interest.

For the road to the New Forest we go through Guildford over the Hog's Back to Farnham, and on through Alton and Alresford to Winchester, thence to Romsey or Southampton, and through the New Forest to Ringwood. The road is generally in splendid condition, but loose flints are put down at certain seasons of the year in the Forest. From Ringwood we can continue our journey to Bournemouth, or by Poole and Wareham to Lulworth Cove or Weymouth. This is another road to Devonshire, but



Motoring in the Snow in the Austrian Tyrol.

[Allgemeine Automobil Zeitung.]

map seem mostly to be a mile or two to the right or left of the road, and so are missed. An alternative route, which is much more hilly but a great deal more interesting, will be described later.

The Bath road is another excellent, flat and uninteresting route for the greater part of the way, although the scenery improves a little beyond Marlborough.

The Holyhead road also affords some fine straight stretches, where good speed may be safely attained, although it is not quite so level as the two previously mentioned, and in its latter part (in Wales) is one of the most beautiful roads in the country.

In the second class of roads above enumerated, viz., those with a good surface, although hilly in parts, thus diminishing the speed, but rendering the scenery much more interesting, we will first take an alternative route to Scotland. If instead of going by the Great North road we turn off to St. Albans, and make our way through Northampton, Leicester, Nottingham and through the Dukeries to Worksop and Doncaster; the few extra miles of road will be well repaid by the much more

more difficult than the one first described, as the gradients are steeper.

The Brighton road is justly popular, on account of its being such an easy run from London to Brighton. There are two ways of going, viz., by Croydon and Redhill, or by Sutton and Reigate, the roads uniting for the last half of the journey. The surface is excellent, and there are only two stiff hills, Reigate and Handcross.

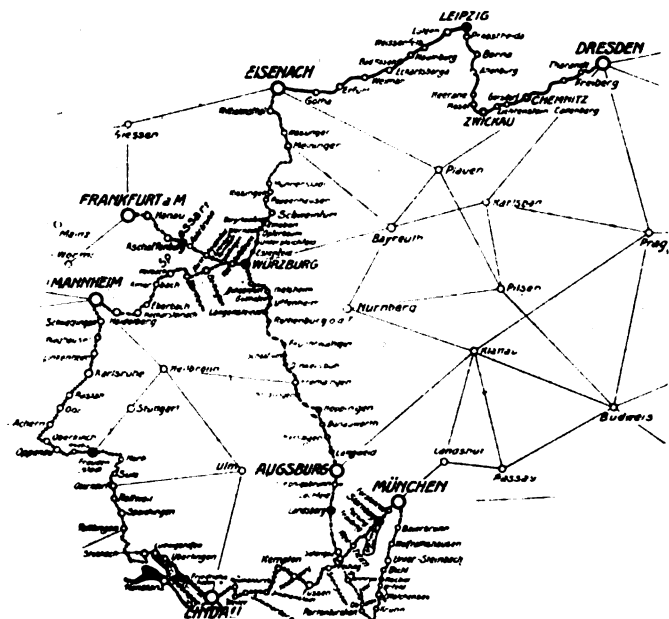
The Eastbourne road is not so good as the Brighton road, as it is very winding, and in places it is difficult to follow the right forks. The best way in my opinion is through Tunbridge Wells and Frant, though there is an alternative route via Westerham and Edenbridge.

The Worthing road is a very pretty one, and goes through Epsom, Leatherhead, Dorking and Horsham. The Hastings road via Tonbridge and Pembury is also quite a good one.

In going to Margate and Ramsgate it is best to go south to Riverhead and Maidstone, instead of keeping to the right bank of the Thames through Gravesend and Chatham.

## The Herkomer Touring Trophy Contest.

June 5th.—Dresden, Chemnitz, Zwickau, Leipzig, Weimar, Eisenach, 359 kilometres.



During the stay at Munich on June 9th an elegance competition is to be held, the maximum number of points to be gained being:—General appearance of car, 80 ; painting, 20 ; upholstery, 50 ; lamps, 10 ; protection against rain, dust and wind, 40 ; luggage-carrying arrangements, 40 ; ditto for tools, 30 ; and ditto for other accessories, 30. Entries at £18 per car.

The "Auto" proposes to hold a trial of "elastic" wheels for motor-cars from April 3rd to the 13th next.—A number of 16-18-h.p. eighteen-seated char-à-bancs have lately been supplied by the N.A.G. Co. of Berlin to the Societe des Tranways d'Alexandrie for service in Egypt.—Arrangements are in hand to hold a motor-car exhibition in St. Petersburg in June next.—The Archbishop of Malines is the latest addition to the ranks of Belgian motorists.—Pressed steel pistons for petrol motors are a recent introduction; they are being made by the Dyle-Bacalan Company, of Louvain, Belgium.—A movement is on foot in the Porte Maillot district of Paris to change the name of the Rue Poisson to Rue Marcel Renault, in memory of the motorist who lost his life in the Paris-Madrid race.



MR. RUFUS ISAACS, K.C., M.P., has, we hear, ordered a Delaunay-Belleville car.

It is reported that an application by the High Sheriff of a county in the Midlands for leave to substitute a motor-car for the horse-drawn vehicle in which the judges are usually conveyed when attending the assizes has been refused by the judge.

PROBABLY for the first time in the history of strikes the motor-car has been extensively used by pickets in the music-hall dispute.

THE Sheffield-Simplex Motor Works, Ltd., transferred their works and offices to the new factory at Tinsley, Sheffield, on the 28th ult.

REPAIR shops for dealing with De Dietrich, Crossley, and motor-cars of other makes, have been opened at Willesden Junction by Messrs. Jarrott and Letts, Ltd.

MR. A. M. THOMSON, A.M.I.M.E., read a paper a few evenings ago before the members of the Glasgow Corporation Car Works Mutual Improvement Association on the motor-car of to-day.

MR. GORDON USMAR is, we learn, severing his connection with Messrs. Harman and Co., the agents for the Vinot cars, and is joining Messrs. Huntley Walker and Co. as sales manager as from the 1st inst.

SOME idea of the progressive popularity of the "Continental" tyres is shown in a statement of the number of the staff of the Continental Tyre Company, which rose from 2,741 in 1903, to 5,716 at the end of December, 1906.

THE South Indian reliability trial, held on December 27th, 28th, and 29th last, was won by Captain Walker's 25-h.p. Peugeot. This trial was over exceedingly bad roads, and was won by a car that has been in use for two years or more.

MR. REGINALD LASSEN, of the firm of Messrs. Teste and Lassen, is leaving England for the United States to-day (Saturday), taking with him a 40-h.p. Weigel car, with the object of seeing what business there is to be done on the other side of the Atlantic.

MESSRS. PRESTWICH AND WARREN are opening a well-appointed garage at Hove. In addition to finding accommodation for the cars of visitors at that resort, they also hold agencies for various districts in connection with the Daimler, Humber, Rover and Climax cars.

THE Local Government Board have declined to accede to the request of the Winchester City Council for authority to close Worthy Lane, in the city, to motor-cars. They do not consider that "the circumstances are such as would justify them in acceding to the application."

A NUMBER of the local employees of Messrs. Mann, Egerton and Co., Ltd., were recently entertained by the directors, when more than eighty sat down to dinner at the Central Café, Norwich, under the chairmanship of the managing director, Mr. G. N. C. Mann, supported by Mr. H. W. Egerton and Mr. F. A. Jackson.

A NEW feature at examinations for the A.C.G.B.I. certificates is the presence of a photographer, engaged by the Club to photograph each candidate for a driving diploma. This system ensures uniformity in the size of the photographs—one of which has to be attached to the driving certificate—and saves a good deal of trouble to the candidates.

A NOVEL method of overcoming speed-changing difficulties has been invented by Capt. the Hon. F. William Stanley. The preliminary road trials have, we are informed, been entirely satisfactory, and, if the inventor's claims can be substantiated, there is no doubt that this method will prove a useful addition to many types of automobile, particularly those used for commercial purposes. The invention consists of a device which automatically changes the gears at the right moment, and without noise. The speed of the car is controlled by one pedal, thus leaving the driver's hands free for steering. We hope to give further particulars of the device when we have had an opportunity of examining the experimental car.

## HERE AND THERE.

THE Maharaja of Poonch has recently acquired a Brown 20-22-h.p. six-seated laudault.

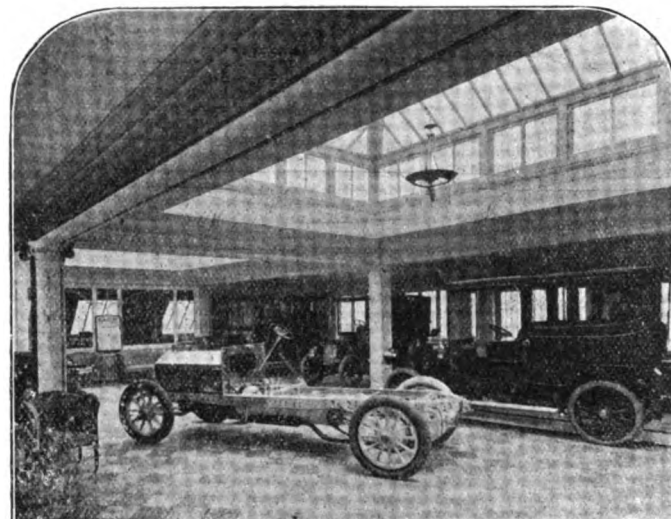
THE Rev. James Corkey, of the Armagh Presbyterian Church, has written, for the benefit of the members of his

congregation who were unable to accompany him, an account of a 724 mile tour in a Humber car through Scotland.

ON the 12th inst. the Challenge Cycle Works at Coventry, which has a floor space of 20,690 square yards, will be offered for auction by Messrs. Loveitt and Sons, of Coventry.

APPLICATION is being made to the Local Government Board for the restriction of the speed of motor-cars through the main streets of Ilford (Essex) to ten miles per hour.

As mentioned in a recent issue, extensive alterations and improvements have recently been carried out at 14, New Burlington Street, London, W., the headquarters of S. F. Edge, Ltd., the premises now forming one of the most sumptuously equipped motor-car showrooms in the Metropolis. Passing through the main entrance the visitor finds himself in a large reception-room, the polished oak floor of which is covered with luxurious carpets. Comfortable lounges, chairs, and writing tables are distributed here and there, while telephones communicating with the various departments are provided. At the



end on the left is the entrance to an electric lift which conveys customers to the new showroom, which is located on the top floor, and of which an illustration is given herewith. The dimensions of the showroom are such as to enable examples of six-cylinder Napier chassis, fitted with all the most popular types of bodies, to be exhibited to the best advantage from the purchaser's point of view, as the light, whether by day or night, is brilliant and makes inspection of the details of the vehicles a simple matter. The chequered flooring, which is of green and white marble, forms an excellent setting for the cars. The basement underneath the reception-room is employed as a store for a few second-hand cars received on sale from customers. The testing of chassis and the storage of completed cars waiting delivery is now effected from the commodious premises recently acquired at 54, Sussex Place, South Kensington, and formerly occupied by the Locomobile Company.

MESSRS. BRANSOM, KENT AND Co., LTD., of 40, Great Eastern Street, E.C., have issued a new catalogue of the tools and machinery required in the motor trade which they supply. This will be of considerable service to automobile agents and repairers interested in maintaining their plant in modern condition. Drilling machines, enamelling ovens, grinding and polishing lathes, cone grinders, cutting lathes, screwing machines, tyre jacks, vulcanisers, &c., are enumerated in a comprehensive list of appliances in constant requirement by the motor trade.

A MOTOR-CAR exhibition is to be held in Prague, Austria, from March 24th to April 1st next.

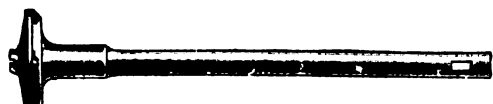
VISCOUNT KELBOURNE has ordered a 28-h.p. Daimler car, and has also Lord Hawke, the popular Yorkshire cricketer.

MESSRS. TURNER BROS., of Great Brunswick Street, Dublin, have been appointed agents in Ireland for the Cadillac cars.

A CORRESPONDENT writes that common everyday sawdust will be found efficacious in removing grease from the hands.

MESSRS. ARGYLLS LONDON, LTD., have recently shipped a neat delivery van to Messrs. Murias and Co., of Buenos Ayres, Argentine Republic.

MESSRS. A. BINET AND CO., Great Eastern Street, London, E.C., are making a speciality of nickel steel inlet and exhaust



valves for petrol motors, and keep a stock of the sizes for a number of the leading makes of cars.

THE Ameer of Afghanistan is now using a motor-car on all public occasions, as he considers that to ride in a carriage drawn by horses is a waste of time.

THE Euston Motor Company, Ltd., of 124, Euston Road, N.W., agents for the Courier cars, ask us to state that they have no connection with any other firm of somewhat similar name.

THROUGHOUT South-East Lancashire on Tuesday a hurricane of snow and sleet raged for several hours. Several motor-cars were held up during these blizzards along the Bolton and Manchester high-roads.

PREMISES in Northumberland Street, Newcastle-on-Tyne, formerly occupied as a horse repository, are now being opened by the Percy Cycle Company, Ltd., as a motor garage. The firm will also undertake motor-car repairs.

WITH the title "A Successful Motor Trip," the Daimler Motor Co., Ltd., has issued an attractive booklet giving an interesting account of a tour from London to Neuchâtel and back on a Daimler car, made by one of their clients.

COLONIAL orders for six-cylinder Napiers continue to reach Messrs. S. F. Edge, Ltd., with regularity; last week's business included three of the 40-h.p. cars for Calcutta, and two 60-h.p. cars, one for South Africa and one for South Australia.

MESSRS. WARWICK WRIGHT, LTD., inform us that Mr. Lee Guinness has decided to drive a Minerva racing car in the forthcoming contest for the Kaiser's Cup in Germany. A second vehicle will be driven by Mr. Moore Brabazon, and the third by M. Guiot.

ON Monday night a special service of the Fiat motor-bus was run for Miss Lily Harold and her sixteen chorus ladies between the London Pavilion and the Granville at Walham Green. Miss Harold was thus enabled to leave the Granville at Walham Green at the close of her performance, and, changing on board, arrived at the Pavilion in time for her appearance there.

WE learn that a company is being formed to introduce the Renard motor road train into this country. The system, which has already been described and illustrated in the *M.C.J.*, is on novel lines; it comprises a steam or petrol tractor connected to a series of six-wheeled vehicles, having the centre pair of wheels in each case driven by the engine of the tractor through a differential gear and extended cardan shaft with flexible couplings. Thus each vehicle is self-propelled, although all are coupled together. The steering arrangements are such that each vehicle follows accurately in the track of the preceding one, and permits the train to pass round corners with the greatest ease. These road trains are well adapted for use in districts not provided with railway communication, and already quite a number are in use in different parts of the Continent, both for the transport of goods and passengers. We learn from Mr. A. T. Collier, the inventor of the Collier tyre, who is interested in the Renard system, that one of these trains is expected to reach England shortly, when there is little doubt it will attract considerable attention.

THE Central Cycle and Motor Works have a large place in Scotgate, and also the West Street, Stamford.

AN article by Mr. Arthur Candler on Motor Cycling is, unfortunately, crowded out this week owing to pressure on our space.

THE engine of the new Riley 12-h.p. car of the Riley Cycle Company, Ltd., Coventry, is of the two-cylinder type, the cylinders being set at an angle of 90 degrees one to the other.

MESSRS. ARGYLLS LIVERPOOL, LTD., have secured the agency for the Delaunay-Belleville cars for the whole of Lancashire and Cheshire, and have on view at the Liverpool Show a 28-h.p. chassis of this well-known vehicle.

AUTO-CAR AGENCIES, LTD., have been recently appointed sole agents for London and district for Messrs. Dean and Burden Bros., Ltd., of Salisbury, and will open new showrooms at 3, Hanover Court, Hanover Street, W., on Monday next.

MR. NEARING, of Messrs. Huntley Walker and Co., has just completed a business tour round Lancashire on a Weigel car. Altogether he has covered over 6,000 miles in all sorts and conditions of weather, and during that time claims that he has never had to use a tool or effected any repair. Furthermore, throughout the 6,000 miles he used the same set of tyres.

MESSRS. SANDERSON AND SANDERSON, of Percy Street, Newcastle-on-Tyne, have amalgamated with Messrs. Henry Angus and Co., of the same city, and the combined firm of Angus, Sanderson and Co. are erecting new works covering nearly an acre of ground for body building, as well as a fine garage for the accommodation of cars. The firm hold several important automobile agencies for the North of England.

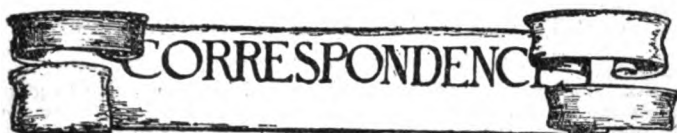
THE Motor Union, upon the recommendation of the Southern Motor Club, has decided to take over the financial responsibility for the prosecution of Inspector Jarrett, of the Surrey Police Force, for an alleged assault upon one of the members of the Union, Mr. W. G. Roberts. A summons for assault has been issued by the Reigate County Bench. The case will be heard on the 9th inst., when Mr. Staples Firth will appear on behalf of the prosecution.

THE Parsons Non-Skid Company, Ltd., report that during the year 1906 the total number of non-skids sold by themselves and their licencees amounted to over sixty-six thousand. Since the new "Grippa" type was introduced in September last the home sales have been more than double those of the preceding nine months. Arrangements are being made for the immediate introduction of the "Grippa" type into several countries in Europe.

WE understand that arrangements are in course of completion for the formation of the British Metallurgique Car Company to manufacture vehicles under the Metallurgique patents in England. Mr. Oscar Cüpper, who will retain the selling agency for the United Kingdom, is also about to open more commodious and central showrooms in London, while repairs works and a garage have been established at Lorne Gardens, Park Road, Regent's Park, N.W.

DURING the recent spell of cold weather a stove-pipe set the building of Reo Motors, Ltd., in Broad Sanctuary, Westminster, S.W., on fire, and for a moment the premises appeared in great danger. Those in charge were in the act of pushing all the cars into the street for safety, when the fire in the most extraordinary manner extinguished itself. The flames went in the direction of the large cistern which was frozen nearly solid, melting the water and allowing it to escape through the burst pipes, and thus extinguishing a fire that was getting almost beyond control.

ELSEWHERE in the present issue we refer to the formation of a company at Legnano to manufacture Wolseley-Siddeley cars in Italy. In connection with this the Wolseley Company send us a photo of the design on the menu card of a dinner held in Milan on January 20th, at which Mr. J. D. Siddeley represented the English company. The allegorical design depicts the meeting of the English and Italian motor industries; in the distance is seen London across the Channel with wheel marks connecting it across Europe to Milan. The lower portion of the design is occupied by a laurel spray, on which the coats of arms of England and Italy are mounted side by side.



[Letters to the Editor should be addressed to the office, 27-33, Charing Cross Road, W.C.]

#### FOUR v. SIX CYLINDERS.

TO THE EDITOR OF *The Motor-Car Journal*.

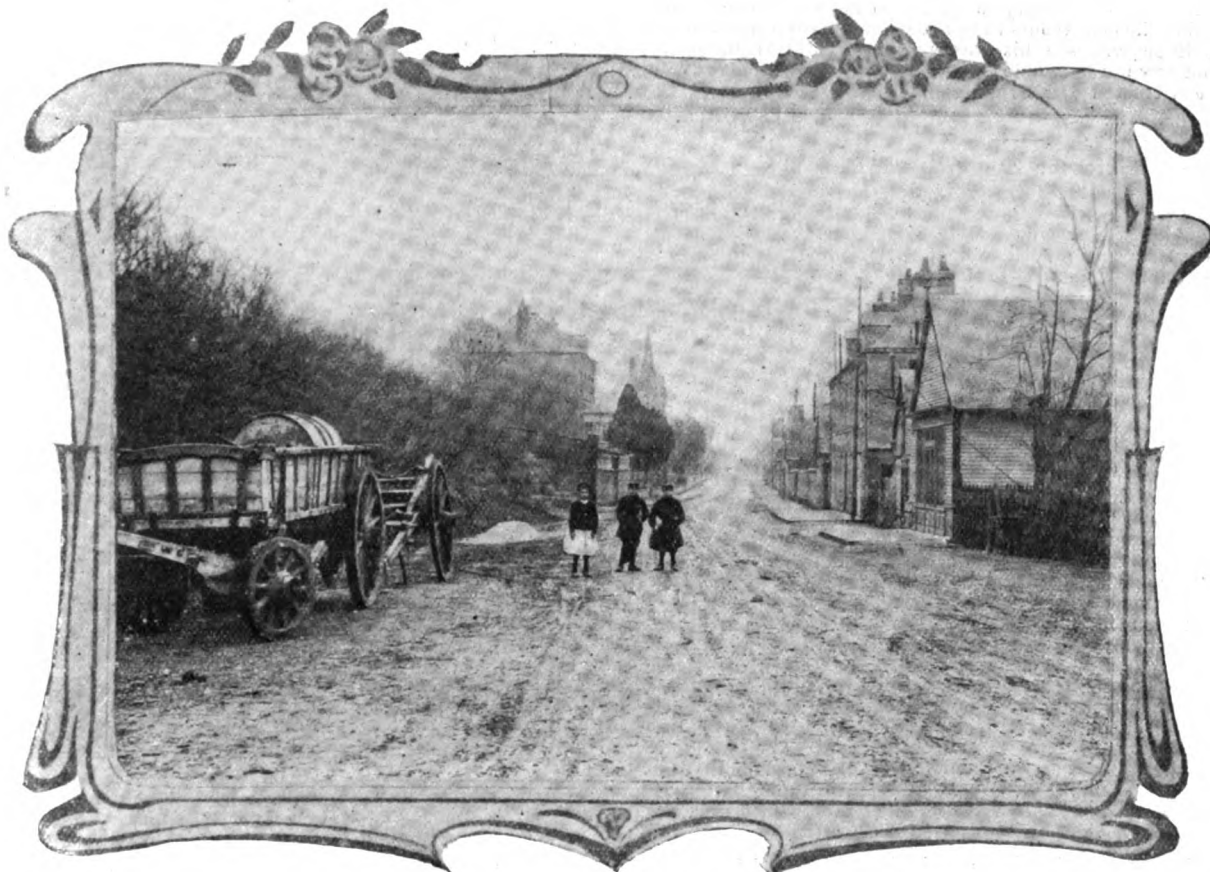
SIR,—Referring to the letter from Mr. F. H. Royce in connection with the Tourist Trophy regulations, I must confess that I was somewhat amused at the latest attempt made by the disciples of six-cylinders to cover up the inefficiency of this particular type. Mr. Royce suggests that a six-cylinder car should receive a larger petrol allowance in the race for the Tourist Trophy than a four-cylinder, and he suggests this because, in his opinion, the six-cylinder car is superior as regards silence and absence of vibration to the four-cylinder, and generally that it is superior for touring purposes. I was very pleased to note that he

of the six cylinders, no doubt the point was one which had to be carefully considered. The net result of the competition was to prove beyond all question that the four-cylinder car from every point of view is preferable, more efficient, and as silent as the six, and yet, in spite of these results, certified by judges of the Automobile Club, Mr. Royce makes a suggestion which I venture to say is not justified in any measure by the situation.—Yours truly,

CHARLES JARROTT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to a letter from Mr. Jarrott in your issue of January 12th, in reference to six v. four cylinders, I am surprised at Mr. Jarrott asking an unsuccessful competitor in an event to make excuses for his non-success. I should have thought Mr. Jarrott was above this; at any rate I do not agree with the principle myself. I note that Mr. Jarrott has now commenced to sell a six-cylinder car, and I can hardly believe that he is doing this unless he believes in it. If, however, he is selling a six-cylinder car, and still contends that it is not as good as a four-cylinder, then he has either a very indifferent one, or, worse still, is selling customers something that he himself is not satisfied with. I do not believe any business will succeed unless what you sell is really



One of the proposed courses for the 1907 Grand Prix Race which is receiving considerable favour is that known as the Circuit de la Seine Inferieure. Our illustration gives a view on the suggested route near the village of Envermen.

admitted in the latter part of his letter that the six-cylinder car was less efficient than the four, and, personally, I should have thought that efficiency was one of the great points in connection with the building of any motor-car. A perambulator runs without vibration and without noise, but it would be a very poor vehicle from a touring point of view, and the same might be said of the inefficient (comparatively) six-cylinder car.

And now I would like to deal with Mr. Royce's assumption that the six-cylinder car is quieter and has less vibration than the four. I am surprised to see that he has not studied the results of the Town Carriage Competition, which is the only competition which has been held where the various characteristics of each particular type and make of car were carefully noted, and awards given according to their merit. In that competition one of the best known six-cylinder cars took part. So far as I can gather from reading the judges' report, it performed very creditably so far as its capabilities would permit it to do so, but on the points which Mr. Royce claims the six-cylinder scores over the four, actually, the four-cylinders beat the six, namely, silence and absence of vibration. In the competition in question, the only point on which the six-cylinder car scored over the four-cylinder vehicles was that it was more accessible to repair than most of the four-cylinder cars, and on this point I think the makers were very well advised, as, with the additional complication

satisfactory to yourself, as customers are bound to find out that you are deceiving them, and this will happen to Mr. Jarrott, I am sure, in due course, if he continues, as he says he does now, to sell something he does not believe in. Mr. Jarrott may as well remember that 104 manufacturers in different parts of the world have copied Mr. Napier's six-cylinder principle because it is the best, and not through any friendship to Mr. Napier or to myself.—Yours truly,

S. F. EDGE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have read with interest the correspondence from Mr. Wellington and Mr. Edge which has appeared on the above question. I may say that my firm, the Elsworth Automobile Co., were the first in England to exhibit a six-cylinder car, namely, Spyker. This was shown on our stand in the Annexe at the Exhibition held at the Crystal Palace in February, 1904. It was certainly the only six-cylinder car in the building. The same vehicle in chassis form was exhibited at the Paris Salon on the Spyker stand in the previous December, 1904. At this time, also, it was certainly the only six-cylinder chassis exhibited, and excited very considerable attention from many of the well-known manufacturers of automobiles. I may also say that I saw this chassis

at the works of the Trompenburg Manufacturing Company in Amsterdam at least twelve months prior to the last-mentioned date.

As to the actual running of the six-cylinder Spyker car, I entered the vehicle in the Blackpool races in 1904, in several events, and it competed very creditably against several 60-h.p. Mercedes cars. If I remember correctly, the standing mile was covered at the rate of about fifty-seven miles an hour. I can again say that it was the only six-cylinder car on the course at Blackpool. Now, if Mr. Edge, who is usually to the front with his Napier products, had produced a six-cylinder car prior to December, 1903, why was he not in evidence on any of the three occasions above mentioned? I think it is safe to suggest that it must have been garaged in his brain at this time.

I have often heard of, and believed, in Mr. Edge's sportsmanlike methods, but am beginning to think very differently. Otherwise, instead of immediately and unconditionally accepting Mr. Wellington's challenge in order to uphold the reputation of the Napier cars, why should he loftily declare that he does not wish to hear further about this matter until Mr. Wellington has deposited £1,000 with the secretary of the Automobile Club? I think your readers will agree with me that most of us prefer to choose our own form of charity, and not endeavour to turn them into advertisements, either one way or another. As Mr. Jarrott very aptly remarks in a recent letter on the subject of four v. six cylinder cars, it is unsatisfactory to enter into a newspaper argument with Mr. Edge, since he endeavours to evade the main point at issue. I trust that Mr. Edge will see his way to accept Mr. Wellington's challenge without any unreasonable conditions, so that we all may know who really first constructed a six-cylinder motor-car.—Yours truly,

A. ELSWORTH.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Re the six-cylinder controversy, as it has now been proved that M. Forest built six-cylinder motors in 1888, although I am confident that the Spyker was previous to Mr. Edge's car, there can be no further use in discussing the matter, and we all now must bow to France, the leader of the motor industry.—Yours truly,

F. F. WELLINGTON.

### THE TOURIST TROPHY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—There are two statements in the letter of Mr. F. H. Royce in your issue of January 19th, on the Tourist Trophy Race, which I very naturally hail with delight. They are:

"Buyers of touring cars at the present day place far less importance on the fact of one car being slightly faster or slightly better in petrol consumption than the other, than they do on the fact that one car is more silent and free from vibration than another."

(b). "Unless some recognition is made by the Club in their rules of the fact that silence and absence of vibration are of vital importance they will, in my opinion, not be encouraging the best form of motor."

Something in the neighbourhood of a year ago the Technical Committee of the Automobile Club—a body of gentlemen who I think it is generally recognised have no connection with the trade whatever—decided to allow a special petrol consumption to steam cars for the very reasons stated in Mr. Royce's letter. This decision of the Technical Committee was so frowned upon by manufacturers of petrol cars on the Committee of the Society of Motor Manufacturers and Traders and by manufacturers of petrol cars on the Committee of the Automobile Club of Great Britain and Ireland, that the idea was thrown out.

I think it is generally recognised as being an absolute fact that the White steam car is more silent and more free from vibration than any petrol car which has yet been manufactured. This is my belief and the belief of most people who know much about motor-cars. I may state in passing I am willing to back my belief on this particular point to a considerable amount.

If Mr. Beaumont could calculate, as Mr. Royce suggests, what should be the relative amounts of fuel allowed respectively to cars of different numbers of cylinders, surely it would not have been unwise to allow Mr. Beaumont and his fellow members on the Technical Committee to calculate what would be the respective amount of fuel to be allowed to steam and petrol cars.

I may further state I am under no misapprehension as to who voted at the meeting of the Club Committee for and against the allowance of a special amount of fuel for steam cars for the Tourist Trophy race. I quite appreciate the fact that others than those interested in petrol cars voted against such special allowance, but I am very much of the opinion, and I know others who hold the same view, that if manufacturers of petrol cars and other members of the Club Committee who are financially interested directly or indirectly in the petrol car trade had not voted on this subject a different result might have been obtained.

The long and short of the matter is that Mr. Royce's letter is an appeal for a special allowance of fuel for the six-cylinder car for the Tourist Trophy race, and is also, perhaps unconsciously, an appeal for the admission of the steam car in the Tourist Trophy race on a special fuel allowance. His appeal is based upon a consideration of points which are cardinal points indeed when considered by the buyer of a motor-car, points in which the steam car undeniably and signally excels the vehicle propelled by the internal combustion engine.—Yours truly,

FREDERIC COLEMAN.

### THE ECONOMICS OF MOTORING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Prevention is better than cure; it is quite possible to guard against expensive troubles in one's motoring career by the exercise of care, observation, and a deference to the experience of others. This subject, when every motorist is longing for the coming spring, is food for thought in season.

Most mechanical troubles are fundamentally the fault of over-confident drivers, or of owners over-confident in their drivers. The man, and not the motor-car, is often to blame. Recognising this, some time ago I offered a certificate of merit and a prize of £5 to drivers of all cars purchased direct from Argylls, London, 17, Newman Street, W., the condition being that the cost of running 5,000 miles, including tyre, petrol, oil, grease, repair and renewal accounts, should not exceed 10-12-h.p. £42, 12-14 or 14-16-h.p. £47, 16-20-h.p. £52, and 26-30-h.p. £62. Each driver was given a leather-bound pocket book in which a record of all runs was to be kept. This scheme, I felt, would help the owner and the honest driver, and would clearly show the dishonest driver that Argylls was no place for him.

The plan has worked admirably, and many a painstaking and enterprising young chauffeur has earned a £5 note and a certificate of merit which should be of material use to him should he ever require a situation. One of the most creditable records I have received came in last week from a Mr. J. E. S., who drove a 16-20 h.p. standard Argyll 5,000 miles at a total cost of only £20 4s. 6d., or less than a penny per mile,



The Argyll Delivery Van which was driven by Mr. A. Paterson 5,138 miles at a cost of £32 4s. 5d.

his petrol account working out at £13 17s. 6d., equal to 666 of a penny per mile. It was not until he had covered 5,211 miles that he had any tyre troubles, a fact that speaks volumes for the Continental tyres, with which the car was fitted.

Another interesting record was certified last Friday, when I had the pleasure of handing Mr. A. Paterson, who has been in charge of the Ivimy Tea Company's motor-van, £5 for having driven 5,138 miles at a cost of £32 4s. 5d. During the period this car has been running it has had to withstand the wear and tear of much town work, and has also accomplished a long tour amongst the worst roads and most hilly districts of South Wales. This record for a van should be hard to beat. Mr. Paterson's return, I may add, is confirmed by Messrs. Ivimy, Ltd.

My scheme for encouraging the honest and careful chauffeur is being continued, and I anticipate its future success being even greater than in the past. As a hint to motorists generally I may reiterate the advice given in the preface to the driver's pocket-book:—Avoid driving on the tram lines, drive slowly when turning corners, use your judgment instead of applying a brake harshly, start and stop your car gently, keep your tyres inflated to the proper pressure, fill up any cuts in tyres as soon as discovered, examine your car thoroughly at frequent intervals, keep the commutator full of oil, give a liberal supply of lubricant to the front wheels, remember that the lubricant for the gear-box must be liquid and not solid, pay particular attention to the brakes, greasing the rocking spindles frequently; keep the back wheels quite tight on the axle shafts, frequently oil the ends of the radius rods, keep all tools clean and have a place for everything, make a practice of screwing up all grease caps every morning, and not less than once a week inspect the gear-box and the



back axle to see if any more lubricant is required. If your car has a metal disc clutch, inspect it twice a week to see if more lubricant is required.—Yours truly,

E. H. WATSON.

### PROPOSED NEW CAR CLUB.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Will you permit me to announce through your columns that a new car club is projected, and that I shall be pleased to hear from all motorists of good social standing who are willing to take part in the scheme. Our proposal is somewhat ambitious, and comprises not only social gatherings and contests but also the instruction of the members in all that appertains to the motor, and, when practicable, a club-house with storage for cars. We propose to fix the subscription at one guinea per annum, with no entrance fee for the first 250 members. Further details will be given at the inaugural meeting, which will shortly be held in London. In the meantime those who favour the scheme might address me at, 27, Chancery Lane, W.C.—Yours truly,

SAMUEL J. SEWELL.

### THE HEAVY TOURING CAR RACE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—We are keenly interested in the race for high powered touring cars, and should have been very glad to have entered one of our N.E.C. 30-h.p. cars for this event, but we fail to see how we could do it without going to prohibitive expense in turning out a car which we believe would be thoroughly unsatisfactory. There are quite a number

perature was somewhere about two degrees Fahrenheit at that time of the morning, and it may sound incredible, but within half a minute all the water that had fallen was transformed into icicles, and hung from all portions of the chassis; furthermore, during the whole of the time I was driving there was ice on the top of the bonnet.

About eighty miles from Paris I was held up by the petrol freezing in the pipes to the carburettor, and when we were attempting to thaw it the water froze in the engine and burst the pump.—Yours truly,

COLIN DEFRIES.

### ANOTHER IGNITION QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

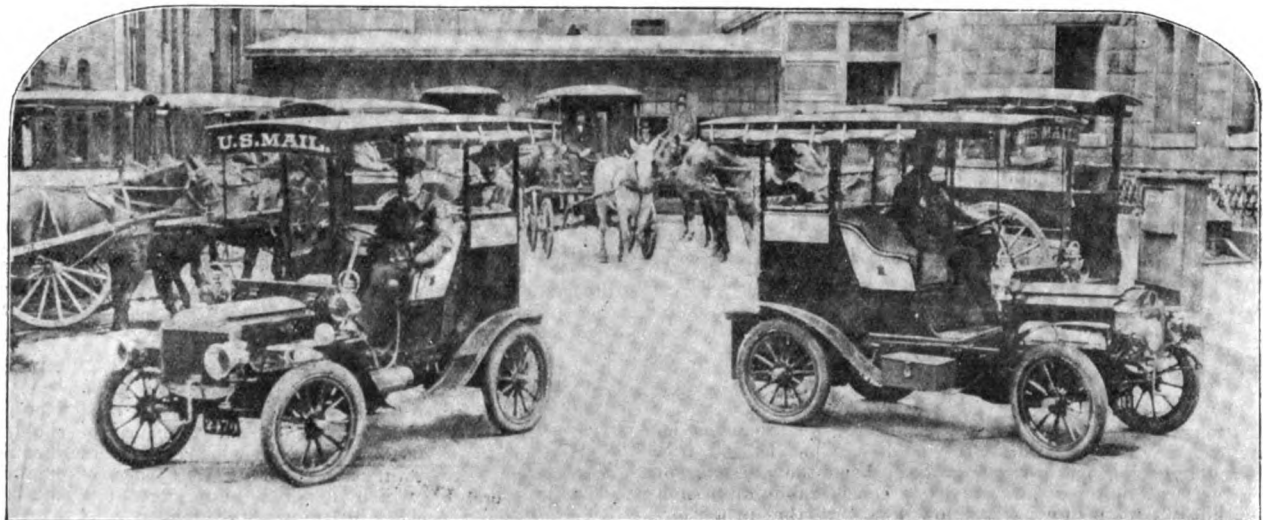
SIR,—Referring to Mr. C. Maw's letter in the *M.C.J.* of the 12th inst., and to your reply to the same, I tried the very same thing three months ago, and, just as you surmise, it was a failure. I found it practically impossible to get both sparks to occur at exactly the same time, and therefore I did as you now suggest, viz., switched on six volts when mounting hills.—Yours truly,

J. G. F.

### MOTOR LUBRICATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—A great many articles have recently appeared in technical and other journals by manufacturers and others, on the subject of lubrication. Many statements have been made, some good and many the opposite, but it appears to me that the one great point of friction reduction has been almost forgotten in the controversy, as to whether this or



Two of the Motor Mail Vans in use by the Postal Authorities at Baltimore, U.S.A.

of dimensions given which would not suit us at all and which we believe would only result in a car far removed from an ideal comfortable carriage. There is one dimension which particularly strikes us, and that is the high and quite extraordinary screen which is to be erected behind the driver. Why on earth should this be eight feet from the ground? Certainly 99 out of every 100 cars have the defect of passengers sitting at too great a height, and we suppose this must be the reason, but even then it seems to us too high. On the N.E.C. cars the highest we should ever think of fitting would be seven feet, but if eight feet is the usual height it is obvious we should be penalised if we did fit such a screen, for in practice there is nothing gained by the extra foot; therefore, why should our car in the race be penalised by this extra wind resistance when in normal use it would have this advantage over cars of more ordinary design?

To our mind the conditions make the race not one to encourage improvements but one arranged to give as fair a race as possible between cars of standard design, and while it is so the race can scarcely be considered as one tending to produce improvements in design.—Yours truly,

J. C. MORT.

### AN ADVENTURE DURING THE EXTREME COLD WEATHER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—An adventure which befell me on the 23rd ult. in France may be of interest to you and your readers. I left Paris at six in the morning to undertake a long test of one of the Porthos cars. The boy outside the Grand Hotel who filled the radiator, as is the wont of all small boys, dropped more over the radiator than he put in it. The tem-

perature of the oil does or does not carbonise, &c. The purpose of a lubricant should be to reduce friction. Some favour a thin oil, others a thick oil, generally without any special reason. That both kinds of oil carbonise is certain, but there is no doubt that there is a very great difference in the amount of carbonisation obtained from the various grades of motor oils.

I have been to some trouble to ascertain why such diverse results are obtained, and what class of oil does result in the development of the greatest power with the minimum of carbonisation. Taking an average from the numerous cases investigated, I have found the greatest development of power to result from the use of oils having a comparatively slight viscosity at low temperatures, usually termed thin oils. Previous to carrying out these researches I was a great believer in the heavy viscous oils, as I considered that these only could successfully resist the great heat of combustion, and that such oils would consequently diminish friction to a greater extent than the limpid or thin oils. The latter, I concluded, would carbonise almost as soon as they were subjected to the heat.

My experiments have now incontestably proved to me that the light-bodied oils, consistent with their being adapted for the purpose, provide superior lubrication and give off less carbon and smoke than the heavy grades of oil so often claimed to be the only satisfactory lubricating media. The reason of this is, that the thick oil when in contact with a very hot surface, instead of running off clean and making way for a fresh supply of new oil, only does so in so far as the top layer of oil is concerned, as that part of the film nearest the metal adheres, thickens and becomes carbonised. This process being constantly repeated, the deposit of carbon accumulates, and prevents that free and efficient lubrication of the frictional surfaces which is necessary to the perfect working of the engine. The thin oil, if possessing the necessary friction reducing qualities, is not subject to this drawback. Each film of oil, as it is

applied, does its work, and then makes way for another supply before it has time to thicken or carbonise. Thus there is a continuous circulation of fresh oil, which does not remain on the hot metal long enough to become spent or impair in quality, and the consequence is that, in addition to providing more perfect lubrication, it is cheaper by being more efficiently used. The experiments with the lubricant which gave such good results, and which have convinced me that thin oils are superior to thick ones, were made with Wakefield's motor oil. The heavy oils were well-known grades in regular use.—Yours truly,

J. S. CRITCHLEY.

[The subject raised by Mr. Critchley is an interesting one, and we should like to have the opinions of other motorists on the matter.—ED. M.C.J.]

### MOTOR CARS ON HIRE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I shall be glad to know the licence fee to which my car will be liable if I let it out on hire in the ordinary way. I am told that it will be regarded as a hackney carriage and that no private motor-car is allowed to ply for hire. This seems a strange anomaly, when it is remembered that we motorists are already taxed.—Yours truly,

C. P. C.

[Such a vehicle will be regarded as a "hackney motor." Further reference to the subject is made in our Comments on another page.]

### THE CONSTRUCTION OF AN INSPECTION PIT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to Rotherham's enquiry in the last issue of the *M.C.J.* as to suitable dimensions for an inspection pit, as we have made a speciality of metal inspection pits for the last two years, and have had considerable correspondence as to the most suitable sizes for general work, we would state as the result of our experience that for a single car a pit six feet long, three feet wide and four feet deep is the one that best meets the general requirements of our clients for an average size car, though for a smaller type of car a pit two feet six inches wide is at times asked for. The question of the correct depth for general convenience of working is a very important one, and we have for some time adopted four feet as a standard, and consider this is the best depth for all round work.

It is a matter of some surprise that although every detail and accessory of the motor-car has been improved in every conceivable way, the motoring world is still content to use the antiquated brick pit which has been in vogue for the last twelve years.—Yours truly,

F. W. BESANT AND CO.

### ACCESSIBILITY AND CLEANLINESS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—If I may be allowed to express an opinion on the paper on accessibility, &c., by Mr. Martineau, I would say that I think it a pity that the dominating feature should have been the question of horizontal v. vertical motors, thus causing a considerable discussion anent the withdrawal of pistons, &c. Now I submit that in a well-made modern engine this is a point that, from a purchaser's view, is of infinitely less importance than the multitude of smaller details that require attention with very much greater frequency.

Col. Crompton has the sympathy of all designers when he remarks that it is they, and not the public, who should dictate the features of construction, but unfortunately designers are, in comparison to public opinion, like a fly on a rail in front of a locomotive, they stick bravely to their rail till the engine is about to crush them, when they, if wise, will simply skip on to the front buffer and ride in first. Casting four cylinders together is not in the least necessary if, because so doing "enables the whole of the valve stems and springs to be encased." Such casing in is perfectly simple with singly cast cylinders. Mr. Martineau recommends  $\frac{3}{4}$  in. nuts for keeping the road wheels on. Such a size, except for quite small cars, is certainly not safe practice.—Yours truly,

A. E. S. CRAIG.

### AERIAL NAVIGATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have studied aerial navigation for the past twenty years in my leisure time, but have never been fortunate enough to afford to do what I would like. I have had all the necessary machinery made ready to navigate a balloon for the past five years, but have not had the opportunity of completing the balloon portion of my aerial navigator, and as I now read in the various papers that a gas balloon, no matter how well navigated, is no use if one anticipates competing for the handsome prizes now offered, therefore I have for some time turned my attention upon doing the same thing in the shape of an aeroplane, and hope to have a model ready for the forthcoming exhibition at the Agricultural Hall. I find that my patent combined propeller and steerer is an excellent aid to me in the success of navigating the air. With my new invention without the aid of gas, and by the use of my patent device I can steer at the start, it not being necessary to get away on my machine

before I can steer, as would be necessary by the use of a rudder. I shall be able to raise or lower my position in the air without ballast or extra weight of any kind, and should my engine stop my aeroplane forms the same purpose as though it were a parachute, and will gradually lower me to the earth, and the weight of my person and the engine will answer the same as a man's weight hanging upon the end of a parachute. But I am meeting great difficulty in getting material light enough with the strength I require for the framework. I am having to apply to several of the firms abroad for what I require in the way of light steel and aluminium tube, and this takes a great deal of time. So far as a light engine is concerned I have made inquiries, but find that the price asked is very exorbitant, so I have been obliged to commence making one of my own pattern, owing to the lack of necessary funds to purchase a more expensive machine. It is a great pity that money should stand so much in the way of one's doing what he would like in this respect. I should be very pleased to know who to approach for aid with regard to funds, and who would be willing to join me in equal moieties in my invention, and what can be won with regard to prizes, &c. I claim to be the first engineer who has brought out anything worth protecting for the benefit of this country in aerial navigation, and hope to be well in front in time to come. I am also hoping to place a light and powerful engine, at a reasonable price, on the market this year.—Yours truly,

H. ADAMS.

### OVERHEATING TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have a small four-cylinder water-cooled car, the cylinders of which are commencing to show a great tendency to become overheated. The radiator is the usual honeycomb pattern, with fan behind, and the cooling system holds five gallons of water. Whenever the car is run hard for a short time the water boils and overflows, while the cylinders get so hot that I am afraid of the pistons seizing. I can find no obstruction in the cooling system, and the water seems to circulate freely, the pump being apparently in good order. I should be glad if you could render me any assistance in locating the cause of the trouble.—Yours truly,

T. MCKNIGHT.

[With reference to the above trouble, the radiator, if properly constructed, should be quite efficient for a small power engine, unless the car is run very hard on the low gear, when nearly all engines are liable to boil the water. We would advise our correspondent to use the top gear more and throttle down for slow work; but, failing this, the cylinders should be dismantled and thoroughly cleaned out, as, if the car has had a deal of running, the cylinder will be found to contain carbon deposit, which in most cases causes excessive overheating.]

### THE INSTITUTION OF AUTOMOBILE ENGINEERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—As one who attended the meeting of the Institution of Automobile Engineers on the occasion of Mr. Martineau's interesting paper on "Accessibility and Cleanliness," I venture to make a suggestion to the secretary, which if acted upon would, I think, be greatly appreciated, especially by the newer members. My suggestion is in connection with the discussion, and it is that the names of the speakers, in addition to being announced by the chairman, should be chalked up on a board so that everyone present may know to whom they are listening. On the occasion above referred to I failed to catch the names of several of the speakers, and I was not alone in this. Perhaps Mr. Rees Jeffreys will give the matter his consideration.—Yours truly,

W. J. C.

ROVER CARS.—A would-be motorist writes:—"I should be glad if those who own 8-h.p. Rover cars would give their experience of the same. What I would like to know is (1), whether they are reliable, (2) how many miles to the gallon of petrol can they run, and (3) what is their average speed."

ADDRESS WANTED.—We should be glad if Mr. A. J. McKinney would favour us with his address.

LOW FUEL CONSUMPTION.—In connection with the reference to low petrol consumption in our issue of the 19th ult., Mr. T. H. Woollen writes that Mr. C. D. Castell secured the first prize in the Ipswich and East Suffolk Automobile Club Petrol Consumption Trial, which was run on September 15th, 1906. Mr. Castell drove an 8-10-h.p. Clement-Talbot and did fifty-seven miles to a gallon of petrol.

DE DIETRICH CARS.—Messrs. Jarrott and Lettis write:—"A statement has appeared in a number of the motor papers to the effect that Messrs. De Dietrich are now building a six-cylinder car. Please take this as an official notification that Messrs. De Dietrich are not building a six-cylinder car."

THE DUST NUISANCE.—A Scottish correspondent who has been experimenting with a new device to minimise the dust nuisance is advised to communicate with Mr. J. W. Orde, the secretary of the National Dustless Roads Committee, 119, Piccadilly, W.

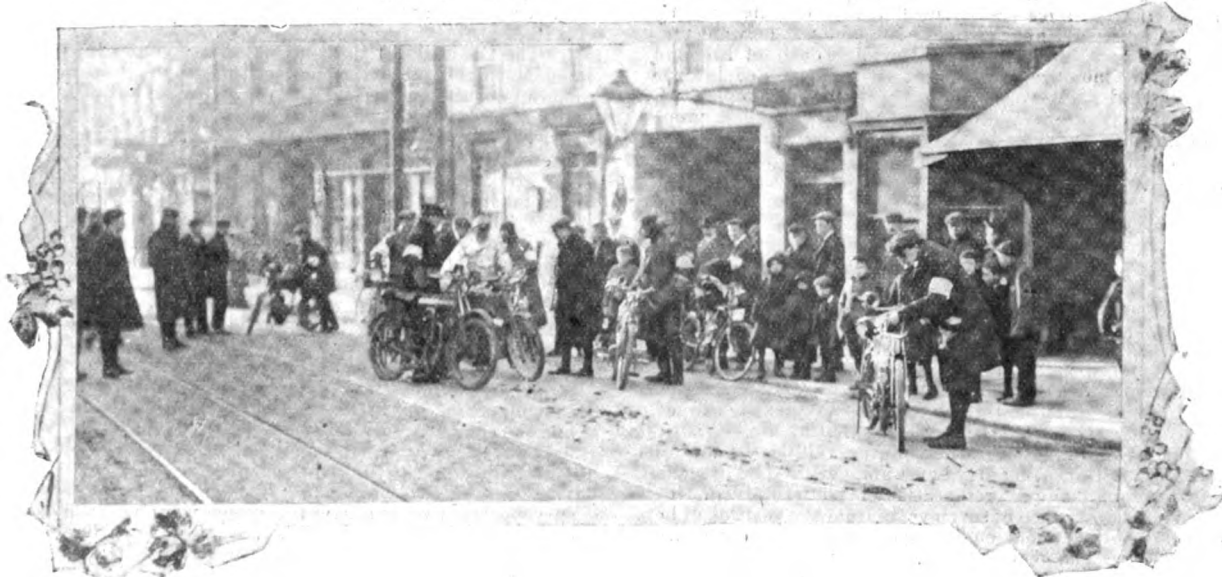
MR. E. J. CHAMBERS has opened a motor-car depot at 5, Deansgate, Manchester.

## CLUBS AND ASSOCIATIONS.

### NORTH-EAST LANCASHIRE.

NEARLY 100 members and friends of the North-East Lancashire Automobile Club assembled in Blackburn on the occasion of the fifth annual dinner of the club. As the night was fine and dry, several members from Preston, Accrington, and Darwen drove by car to the Exchange Assembly Rooms, where the dinner was held.

Mr. F. G. Hindle (Darwen), in proposing "The A.C.G.B.I. and the Motor Union," said that the sport or pastime, or should he say occupation? had already raised a number of enemies. This was one of the reasons why they should support a central body to defend their interests. The influence and power of the organisation came home to him some twelve months ago, when he was offered quite a host of cars to assist his electioneering work, and at the same time was charged with an array of questions as to his attitude on the motor movement. They as motorists had most to gain by showing the utmost consideration for other users of the highway. He had travelled on roads a good deal in England and France, and could say that there was no county where roads were in a worse condition than in that part of Lancashire.



The Start from Uxbridge of the Auto-Cycle Club's Quarterly Trial.

Mr. J. E. Baxter, in responding, referred to the high esteem in which the N.E.L. Automobile Club was held by the parent society. With a membership of 270 it ranked the fifth provincial club in England.

Mr. Malam Brothers, proposing "The N.E.L.A.C.," congratulated the club upon the conduct of automobilists in the district. The chief constable had no complaints to make, and he believed it was the influence of the club that had brought this about. Mr. A. Birtwistle, in responding, said he hoped the coming season of the club would be equally good and successful with the last, which was the best they had ever had. The membership was double that of twelve months ago, and he hoped that the present committee and members would not rest until the club was first instead of fifth on the list.

The Mayor (Mr. F. T. Thomas) presented the medals which had been won during the past season, and other toasts were honoured.

### LIVERPOOL.

THE annual general meeting of the Liverpool Automobile Club has been held in the Exchange Hotel, Liverpool. In presenting their report for the past year, the committee reported the resignation of their chairman, Mr. T. Thornycroft Vernon, who had acted for two years. They also recorded that in recognition of the services rendered by the Liverpool Club in the past to the cause of self-propelled traffic, the general committee of the Motor Union have voted a grant of £50 to the funds, to assist the liquidation of the balance of the debt incurred in the carrying out of the Heavy Trials of 1901-1902. The Club is thus able to start the year 1907 with a balance in its favour.

Mr. William Becket Hill has been elected chairman of the club for the year 1907. The retiring members of the committee, Messrs. John A. Brodie, Dr. H. S. Hele-Shaw, W. Becket Hill, Anthony G. Lyster, and E. Shrapnell Smith, were unanimously re-elected. Messrs. Walter K. Poulson and Gordon C. Chapman were elected members of the committee in the places of Messrs. A. Bromley Holmes (resigned) and Henry H. West (deceased). Messrs. Malcolm Blair and Vivian A. Simon were re-elected as hon. secretaries.

### YORKSHIRE.

THE annual general meeting of the Yorkshire Automobile Club was held in the Hotel Metropole, Leeds, on the 24th ult., Mr. E. H. Hepper presiding.

Mr. C. P. Wilson, the hon. secretary, presented the annual report, which recorded an excellent year's work. The membership at the end of the year was 260, as against 253 at its commencement. During the year Barnsley and Halifax had been affiliated, and the numerical strength of the club and its affiliated branches now amounted to over 600 members. There had been on the year's working a surplus of £105 12s. 8d., after carrying £30 to the reserve account. The capital account of the club now stood at £178. The speed trials on the sands at Saltburn had been the most successful since the club's formation, and it was anticipated that arrangements would be made during the year to hold another meeting at Saltburn. It was also hoped to hold during the summer a hill-climbing competition. Such a competition would have been held last year, but no satisfactory site could be obtained.

The adoption of the report and accounts for 1906 was moved by the chairman, seconded by Mr. W. Penrose-Green, and carried unanimously.

Mr. P. D. Thomas proposed a vote of thanks to the retiring officers, which proposition was seconded by Mr. C. F. Guest. Mr. E. H. Hepper responded on their behalf.

The following officers were elected to serve during the present year:—Earl Fitzwilliam, president; Messrs. A. W. M. Bosville, C. B. Crawshaw, W. Penrose-Green, H. R. Kirk, A. H. Briggs, vice-presidents; Messrs. A. W. Dougill, A. Exley, A. Farnell, E. Faiers, E. H. Hepper, H. A. Jones, J. L. Kirk, Dr. S. Rumbell, P. A. Stanier, P. D. Thomas, A. Towler, R. Winn, committee; Mr. C. P. Wilson (hon. secretary), Mr. L. Hey (hon. treasurer), Mr. Alf. Masser (hon. solicitor).

The affiliation of the Harrogate A.C. with the Yorkshire A.C. was confirmed. A sum of £5 5s. was voted to the fund in connection with the competition for the tar spreading machines.

A vote of thanks to the chairman, proposed by Mr. H. A. Jones, and seconded by Mr. A. Exley, was carried with acclamation and terminated the proceedings.

Free casual garage may be obtained by members upon production of their membership card at the following garages:—Rowland Winn, Albion Street, Leeds; Yorkshire Mutual Garage, Woodhouse Lane, Leeds; Bridge Garage, Leeds; Bert. Atkinson, Aire Street, Leeds; J. Wales Smith, Woodhouse, Leeds; George and Jobling, Trinity Street, Leeds; St. George's Motor Car Company, Great George Street, Leeds; J. J. Nicholson (on all days except when there are cricket matches at Headingley), Cardigan Road, Leeds; Netherwood Bros., Albion Street, Huddersfield; Edgar Smith, Weymouth Street, Halifax; Dixon and Pilling, Manningham Lane, Bradford; Reynolds Bros., Peel Street, Barnsley; Hull City Garage, North Street, Hull; T. Smurthwaite, Romandy Road, Northallerton; E. A. Colby, Trinity Yard, Dewsbury;

Hoyle Bros. and Co., 26, Police Street, Brighthouse; W. Sleightholme, Pickering Motor Garage, Pickering; and A. Farnell, Manningham Lane, Bradford.

### MANCHESTER.

THE annual general meeting of this club was held at the Midland Hotel, Manchester, when the report of a year's useful work was submitted. Founded in 1899 with thirty-eight members, the club has now a membership roll of 205 and is in a satisfactory financial position. During its summer session ten runs were organised and well attended. The question of dust preventives had had attention, and any complaints as to carelessness or inconsiderate driving were inquired into. A new rule was passed at the meeting entitling ladies to the privileges of membership.

The following officers were elected:—President, Mr. J. A. Morris; vice-presidents, Messrs. T. W. Grace and Frederic Smith; captain, Mr. A. E. Jones; hon. treasurer, Mr. J. Hoyle Smith; committee, Messrs. A. F. Crowdy, T. W. Grace, F. R. Hesse, G. B. Heywood, A. G. Hogg, N. Kilvert, V. F. O'Neill, D. A. Parkyn, Frederic Smith, and John Whitehead; secretary, Mr. J. B. Thistlewaite.

THE Manchester Automobile Club held its annual dinner on Monday at the Midland Hotel, Manchester. The President (Mr. J. S. Morris) presided, and the company included Mr. F. Smith (vice-president), Sir W. H. Bailey, Major Cardwell, Mr. R. Crossley, Mr. J. Hoyle Smith, Mr. R. Peacock (Chief Constable of Manchester), Mr. J. W. Hallam (Chief Constable of Salford), and Mr. J. W. Thistlewaite (hon. secretary). For the first time in the history of the club a number of ladies were present.

Sir W. H. Bailey, who proposed the toast of "Automobilism and the Motor Union," said the motor-car was a means by which one could enjoy the beautiful scenes and rural places of England, the sweetest spot in the world. He never knew England till he went upon a motor-car excursion with their president to the south of England. In connection with the motor-car there were stupid people who objected to speed, and there were other stupid people who objected to being run over. "In order that we may have a proper regard for our own rights," added Sir William, "I would fine anybody five shillings and costs for being run over, just as I would fine anybody ten shillings and costs for catching cold, both being evidences of neglect." If the Motor Union looked after its members in the proper way they would get the support and help of public opinion and would get new laws better adapted to conditions of motoring and of motor protection. He understood that there were some 16,000 members of the Union—a splendid constituency, that could do much to promote the interest of motoring. The motor-car industry in this country found employment for thousands of persons, and he believed that the English-made car was better than any other.

Mr. F. Smith, who responded, said no mechanical contrivance had so rapidly advanced from a state of crudity to one almost approaching perfection as the motor-car. Motorists had come into a great heritage in the roads of this country, not only the main roads, but an almost perfect network of fine roads running all over the country, taking the motorist to every village and small town, country house and park. The President, in the name of the club, made a presentation of plate to Mr. J. Hoyle Smith, who retired after a service of seven years from the position of hon. secretary of the club. In the course of his speech the President said he believed the motor-car in the near future would do much to relieve the congestion of towns. Mr. J. Hoyle Smith suitably acknowledged the presentation.

### DERBY AND DISTRICT.

THE fourth annual dinner of the members of the Derby and District Automobile Club was held at the Royal Hotel, Derby, on Thursday of last week, when between fifty and sixty members and friends partook of a repast, presided over by Mr. R. F. Ratcliff, M.P. for Burton-on-Trent.

After the loyal toasts had been duly honoured the Chairman proposed "Automobilism—the Automobile Club and Motor Union," and said he was sure they all regretted the absence of their president, Mr. G. A. Strutt, who had taken the greatest interest in the club. He believed the future of the manufacture of motor vehicles for commercial enterprise was very great. Their associations would do a great deal to help in that way, though at present among the chief things they devoted themselves to were bad roads and dust. They could all appreciate the feelings of those who had not got motor-cars when they saw a cloud of dust coming along, but he believed the Motor Union were now trying to find some solution to the difficulty. Their association in Derbyshire was one of about eighty local associations, which had joined together for the furtherance of the interests of motoring. They believed there was a great future before them, and it was only by joining together as they had done that they would realise their ambitions, and have perfectly dustless roads, and horseless cars, and glide about the country in a way some of them might dream of, but question whether they would ever realise.

Mr. Rees Jeffreys, in responding, stated that whatever the union had been able to achieve was due in a great measure to the loyalty and support of the various clubs in the country. They had eighty clubs connected with the union, with an aggregate membership of 14,000, and he should like to take the opportunity

of saying that the union had no more loyal or enthusiastic members than the Derby and District Automobile Club. They recognised the difficulty local authorities had in adapting roads to this new traffic, and they knew that the authorities were doing their utmost to help the movement in this way, and to improve their roads to meet motoring requirements. They as automobilists felt it was their duty to help the authorities in this matter, and with this object they had organised a competition in order to find some economical way of settling this question, and they hoped to find some means to make their roads practically dustless, and trusted that the authorities would be able to adopt it. He hoped that during the forthcoming session of Parliament automobilists would not be forgotten, and that it would be remembered that motorists themselves had at their own expense tried their utmost to solve this problem. The increase in the price of petrol was under consideration, and they were trying all they could to fathom the fuel question. It was one of their objects to reduce the price of motorism, and they wanted to bring motorism within the reach of as many people as possible.

Mr. Haywood next submitted "The Derby and District Automobile Club." He imagined that the toast had been entrusted to him because he was an outsider, in that it was very well known, at any rate locally, that the chief constable of a town like Derby could not boast of such a luxury as a motor-car—he ran so many risks. It had been said that the police had been vindictive in their proceedings, but he could assure them it was not so; on the contrary, the police rendered every assistance to motorists in the town. They had not adopted a motor fine in Derby and they did not intend to do anything of the kind at present. In connection with their club he was glad to find that they were moving very steadily and very successfully. He noticed also that they ranked sixth on the list of provincial clubs, and were one of the strongest and most successful as regarded membership and finance. As to the assistance of the police, he could assure them that where they could render it they would. With the toast, which was heartily honoured, was coupled the name of Mr. L. P. Mell.

The Chairman at this stage said it was now his pleasure to present medals to the successful competitors in the contests which had been held under the auspices of the club. Mr. Cyril Smith was presented with a medal in the hill climb. The Challenge Cup had been won by Mr. Spencer Downing, and Mr. L. P. Mell, who had taken great interest in the club, was again second.

Mr. Mell, in responding to the toast, said the club was started in December, 1902, and the first run took place just four years ago that day. The membership then was thirty; last year at that period it numbered 119, and he believed he was right in saying that to-day the members numbered 160. Their financial position, too, was very satisfactory. A year ago they had a balance in hand of £28; now they had £53 in the bank. He went on to refer to the club runs of the past season, and added that for three successive years he had been second in the challenge competition. He took his first two beatings with a good grace, as they were by amateurs, but he rather objected to the last, as it was by a professional, and if professionals were going to be allowed to compete he was afraid amateur competitors would gradually drop out, and the competition would be a ghastly failure, as no amateurs would take the slightest interest in them. However, he did not think the club would allow such a thing to continue.

Dr. St. John proposed "The Visitors," and Mr. Horton (county surveyor), in response, said the roads were not what he should like to see them, but there was no doubt they were improving, and he was watching the experiments which were being made by the Motor Union with great interest.

At the close of the evening Mr. C. J. Allin (hon. sec.) proposed a hearty vote of thanks to the chairman, stating that Mr. Ratcliff had again placed the club under a debt of gratitude by stepping into the breach caused by the unavoidable absence of Mr. G. A. Strutt (president).

### NOTTINGHAMSHIRE.

THE seventh annual meeting of the Nottinghamshire Automobile Club was held on the 25th ult., at the headquarters, the Black Boy Hotel, Nottingham. Mr. C. Hardy (president) occupied the chair, and the large attendance included Messrs. E. W. Wells, A. R. Atkey, B. W. Winter, G. H. Kirk, and G. Cowen (vice-presidents).

Mr. Booth Granger's (hon. sec.) report recorded the fact that the club had maintained a first-class position. They had worked most harmoniously throughout the year with the A.C.G.B.I., and were more closely in touch with the parent club than ever before. The club had also taken a great interest in the proceedings of the Motor Union, and the relations between the union and the club had been most cordial, with the exception of the formation of the Motor Union Insurance Company, which was discussed by the committee very carefully, and the delegates were instructed unanimously to object to the scheme when before the General Committee of the Motor Union. A meeting had been arranged and permission obtained for a carnival and competition on the Trent Embankment during the coming summer, with motor-boat races on the river at the same time, and it was the hope of the committee to make a great meeting of that. They would have to be guided by the conditions of the road in the arrangement of races, but there was no reason why a very interesting programme should not be arranged. They had permission for an enclosure, to which charges would be made, and it was the intention of the committee, if possible, to make a handsome profit,



which would all be devoted to the Nottingham charities. As regarded the membership, they started the year with 166 members, and had elected forty-five during the year. There had been nine resignations, which was more than counterbalanced by new members, the present membership being 205. The financial side of the club was in a very satisfactory condition, for while the balance on December 31st, 1905, after paying all liabilities, was £128 13s. 7d., the balance on December 31st, 1906, was £170 18s. 5d. No member had been reported to the select sub-committee for negligent or furious driving of a car during the year. He desired to thank the committee for the very generous support they had given him during the year. This could not be done without some assistance, and every member had most willingly assisted him at all times, Mr. Wilson Wells's assistance being especially valuable.

The Chairman, in moving the adoption of the report and accounts, said that the club was growing enormously, and there was no reason why it should not continue to increase. Mr. G. H. Kirk seconded, and the motion was agreed to. Mr. A. R. Atkey gave a report on the proceedings of the Motor Union during the year, which was accepted.

Certain resolutions bearing upon alterations in the rules were discussed, the most important of which was a suggestion from Mr. A. N. Lee that at all race or competition meetings of the club events should be divided into three separate classes—(a) closed to amateur members, (b) closed to trade members, and (c) open to all members. Mr. A. Barlow moved that the committee should arrange some fixtures to be confined solely to amateur members of the club. Exception was taken to the use of the word "amateur," and ultimately it was agreed that the committee should take the matter into consideration.

Proceeding to the election of officers, the meeting unanimously re-appointed Mr. Charles Hardy as president. Hearty tribute was paid by the president and Mr. A. Barlow to the untiring zeal of Mr. Booth Granger, on his re-election as hon. secretary. No man, said Mr. Hardy, had worked harder in the interests of the club. The following were elected vice-presidents:—Lieut.-Colonel R. L. Birkin, D.S.O., Messrs. E. W. Wells, A. R. Atkey, B. W. Winter, G. H. Kirk, and Dr. R. G. Hogarth. Messrs. C. Perry, A. Osborne, J. H. Scothern, and G. E. Butcher were re-elected as timekeepers. The following were elected on the committee:—Messrs. W. D. Wells, W. D. Foster, G. R. Cowen, H. Remington, J. J. Spencer, H. D. Snook, A. N. Lee, R. L. Jones, A. Barlow, and Dr. Buckley. Mr. C. E. W. Lucas was re-elected solicitor, and the auditors were Messrs. Williamson and C. L. Stevens.

#### SOCIETY OF AUTOMOBILE MECHANIC DRIVERS.

WE have received from Mr. G. T. Clarke, the Chairman of the Committee of the Society of Automobile Mechanic Drivers, a copy of the revised rules and bye-laws of this Association, which has just been re-organised. We understand that a representative of the society can be seen at any time during the day at Rawlin's Garage, Halkin Street, Belgrave Square, S.W., and that an endeavour is being made to place it on a more business-like footing than has hitherto been the case.

#### MOTOR UNION.

AT the January meeting of the general committee of the Motor Union, Mr. C. H. Dodd, vice-chairman, presided in the absence of the chairman, the Hon. Arthur Stanley, M.P., who is at present on a visit to Egypt. A large number of the delegates were present, representing thirty clubs in various parts of the country, the A.C.G.B.I., and the individual members.

The Legal Cases Committee reported that during the month thirty-eight members had been given legal advice and assistance. The Union decided to take up the case of an appeal to the Divisional Court upon the question of the emission of smoke. Financial grants were made in a number of cases. The aggregate expenditure on legal defence authorised amounted to 75 guineas.

It was reported that arrangements had been made for Motor Union members to be admitted free to the following exhibitions:—Dublin, Birmingham, Glasgow, Newcastle, Manchester, Edinburgh, Crystal Palace, and Liverpool.

Acting on the suggestion of Sir John MacDonald, the committee decided to offer two prizes for the best short essays on the "Preparation for the Forthcoming Parliamentary Struggle." It was also decided to hold a dinner and conference of the hon. secretaries of affiliated clubs on the evening of the same day as the annual meeting of the Union (March 20th), at which points of common interest to secretaries could be discussed.

The committee approved a letter which had been addressed to the National Cyclists' Union asking them to co-operate in observing the rule of the road, especially in using their influence with the cycling community using the Great North Road, numerous complaints having been received by the Union as to alleged obstruction by cyclists.

It was reported that the local clubs were heartily supporting the competition for a tar-spreading machine, and that the membership of the Union had now almost reached 15,000.

#### SOCIETY OF MOTOR-OMNIBUS ENGINEERS.

A PAPER read by Messrs. E. W. Hart and Durnall on "Petrol-Electric Transmission for Road Vehicles," before the Society of Motor-Omnibus Engineers, at the Hotel Cecil, London, gave a survey of the inventions that had endeavoured to solve this method of doing without

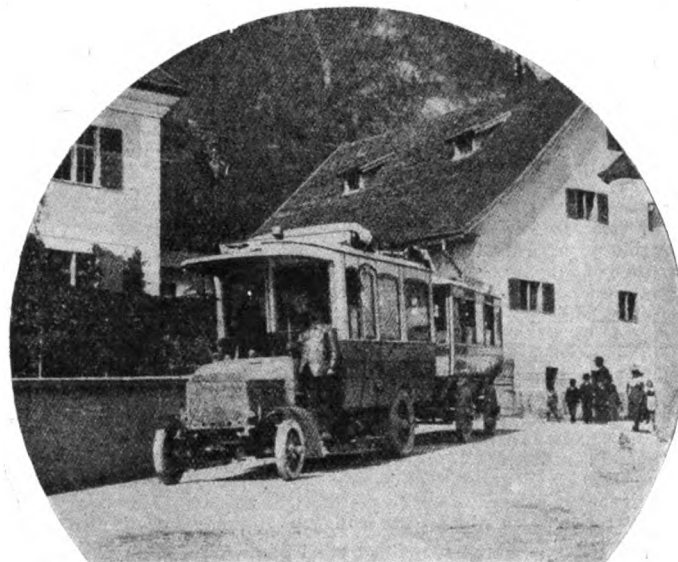
change-speed gears. The authors also advocated the use of the polyphase alternating current in place of the continuous current system, as the former method of producing electricity gave a powerful starting torque to the motor and was free from commutator and brush troubles. A discussion on the paper has been adjourned until the next meeting of the Society.

#### LADIES'.

AT the last meeting of the committee of the Ladies' Automobile Club the following ladies were elected to membership of the Club:—Mrs. George H. Kavanagh Bone, Mrs. Cuninghame, Mrs. Ernest Horlick, and Miss M. Molyneux. The first lesson—the principle of the internal combustion engine and its workings—of the fourth course of technical lessons, has been given by Mr. Currie (the club engineer), and attended by about twenty-five members. For the purpose of demonstration a two-cylinder Panhard had been lent to the club by Messrs. Swan and Co., of King's Cross, and one of their four-cylinder 1907 engines by Argyll Motors, Ltd. Mr. Currie dealt briefly with the history of gas and petrol engines, and fully explained what is known as the four-stroke Otto cycle. He also drew attention to the fact that the two-stroke engine is coming into prominence, especially in the aeronautical world, where a light engine is required.

#### WESTMORLAND.

A COUNTY club for automobilists has been formed under influential auspices for the county of Westmorland. The Earl of Derby is the President, and the list of vice-presidents includes the Earl of Lonsdale,



One of the "Motor Trains" in service between Southofen and Hindelang, Bavaria.

Lord Henry Bentinck, and Captain Bagot. Mr. Christopher Wilson, J.P., D.L., who has hitherto acted as the Motor Union's local correspondent for Westmorland, is the chairman, and Mr. Wilfrid Harris is hon. treasurer.

The club has joined the Motor Union and has adopted, with a few necessary modifications, the standard rules recommended by that body. The leading automobilists in the county have already joined the club, and those who desire to be added to the membership roll should communicate with the hon. secretary, Mr. J. J. Thomas, M.I.M.E., Hawthorn Villa, Kendal.

#### SCOTTISH.

THE annual dinner of the Scottish Automobile Club was held on Tuesday night in the Grosvenor Restaurant, Glasgow, Sir J. H. A. MacDonald, Lord Justice Clerk of Scotland, presiding. Mr. E. Wason, M.P., in proposing "Our Imperial Forces," said the Volunteers had been treated shabbily in the past. He was glad there was now to be a movement made in advance. Lieutenant-General Sir E. P. Leach, General Officer Commanding the Forces in Scotland, replied. Alluding to the future of automobilism from an Army point of view, he said he could quite fancy that for home defence the motor-car was destined in the future to play a very prominent part. Mr. T. P. O'Connor, M.P., proposed "Automobilism," and Colonel H. C. Holden replied. The toast of "The Scottish Automobile Club" was proposed by Lord Dunedin, Lord Justice-General of Scotland, and the Chairman replied.

THE Irish Branch of the British Motor Boat Club is extending its influence to Dublin and the Shannon. A Welsh branch is also in course of formation.

## ACCESSIBILITY AND CLEANLINESS.\*

By F. L. MARTINEAU.

(Concluded from page 1059.)

WE now come to detail design. If the engine is of the vertical type, many difficulties exist which may not appear at first sight. To comply with our axiom it should be possible to withdraw a piston without disturbing any other part. To do this necessitates a very large hole in the side of the crank case, or else it must be done from underneath, which is generally very inconvenient. If it is arranged to be taken out at the side, to make it really convenient the engine must be fitted very high up in the frame—so high, in fact, that the fly-wheel and other parts will more or less interfere with the carriage body. Of course, if there is a hand hole in the crank case sufficiently large to take down the big end easily, it is possible to remove a piston by dismounting a cylinder. This method, however, is crude and impractical in most engines by reason of the number of joints to be broken. On a horizontal engine it is possible to make the whole of the top side of the crank case to come off without impairing its strength, and then the whole of the crank shaft, connecting-rods, and pistons are in view, and each part can be easily dismounted separately.

As to the cylinders themselves, there seems to be at the present time a great wave in favour of casting them all together. This may be good from a constructive point of view, but it is not so as regards accessibility and repair. Although in the whole of my experience I have never had to replace a cylinder because it was worn out, I advocate casting them separate on account of accessibility, and so as to be certain of all casting strains and unevenness of expansion being eliminated. A cylinder should be capable of being easily detached without removing even an inlet, water, or exhaust pipe, but only breaking the joints. The valves on most engines nowadays are easily removable, but it should not be necessary, in removing them, to have to take off the spring. This should be arranged to be supported whilst the valve is withdrawn and ground in. At the same time, a valve spring itself should be easily replaceable in case of breakage. Another part which is usually rather difficult to get at is the gudgeon pin. In most cases this is fixed by two taper-pointed screws. As these require very carefully looking with nuts, and are very close up to the side of the piston, they are practically only removable with special tools. At the same time, they have the disadvantage of causing the piston to oval when hot, as the expansion of the piston and gudgeon pins are slightly at variance. To obviate this, as long ago as 1899 I fixed the gudgeon pin in the small end of the connecting-rod by a taper pin, driven through on the side away from the big end. This has been found by experience to be very easily fitted and dismantled, and has never given trouble; it allows for perfect lubrication and free expansion, as well as accessibility.

The ignition distributor should be arranged so as to be easily taken apart and cleaned. This I have managed by making the rotating centre spindle and contact cam withdraw out of its bearing, leaving the whole interior free for cleaning; the end of the spindle is driven by a dog clutch so that it can only be fitted in its right position. The cam shaft should be made to come away sideways; when made to withdraw from one end it often necessitates the taking down of some other part. It is better if arranged so as to be inspected by simply taking off a cover. With regard to carburettors, it is impossible in most of them to ascertain if the petrol stands at the correct height in the float-box, for the simple reason that the float valve has its gear on or is guided by the cover. Why should it not be made independent of the cover? The design which I now use has the float on one end of a lever, the other end of which presses on a horizontally arranged needle valve. In this way the needle valve and its seat can be withdrawn together by undoing the petrol pipe union, and the petrol level can be observed and checked with the top of the float-box off. The float, too, can be easily removed. There is a great tendency to place the pump and magneto by the side of the engine; in this position they cover up space which should be left open for the inspection of the big end brasses and valve gear. To gain the maximum of accessibility they should be in front of the engine, and driven by a shaft at right angles to the engine crank shaft, in a vertical motor. A horizontal engine can have the magneto alongside one cylinder or in front of the cylinders, and no pump need be fitted.

It is essential to have an under shield completely enclosing the engine; it should be tight-fitting, and if it is necessary to have a hand hole in it, the hole should be large enough to work through and a good three-eighths bead carried round it. The shield should be oil-tight and fitted with a sump into which all dirty oil will drain and which can be easily removed and cleaned out. I prefer to make the under shield in the form of separate trays, each oil-tight and easily removable, and sprung into place and fastened. Any tray may then be taken off. As a further protection to the engine, I have carried the frame down to below the step, and carried the latter and the wings into the frame, to which I have joined them. The step is also joined to the back end of the front wing and the front end of the rear wing. With this arrangement there is absolutely no space through which mud can be thrown by the wheels on to the engine, carriage body, or the upper side of the steps. As it is not much use having parts accessible if the tools required to do any adjustment are not at hand, it is as well to consider the

arrangement of these. The step is the most convenient place, and, by having the outfit reduced in size by reason of the small number of sizes of nuts, a duplicate set of spanners can be carried, one set in each step, so that anything can be adjusted from the side nearest to it without loss of time.

We now come to the clutch and gear-box. In the majority of cars these two parts seem, so far as the chassis is concerned, to have received the greatest amount of attention to make them individually accessible. Whether they are so collectively with the carriage body mounted seemed to be to a large extent left to the tender mercies of the carriage builder. Given that the carriage body is not in the way, there is very little to note with regard to either of these parts, as they can be easily dismantled. As regards the back axle, the chief features which have to be retained in view are these: Either wheel should be easily removable. The differential should be accessible. It should be possible to correct the adjustment of the drive, be it bevel, chain, or worm, and the brakes should be easily adjusted, and their adjustment should not require altering to remove a wheel or adjust a chain. From the point of view of cleanliness, if chain drive is used, the chains should be encased, or else the under shield should be prolonged and shaped to protect them. As regards the steering, this is usually arranged so that the various connecting rods are outside the under shield, and the joint ends protected with leather covers. I prefer making all the connections inside as much as possible, and have designed the joints so that they are dust-proof.

## THE FLORIDA RACE MEETING.

As briefly recorded in our last issue, the annual race meeting on the Ormond-Daytona Beach, Florida, commenced on Tuesday, the 22nd ult. The event, however, has not proved the success which has been recorded in former years, partly owing to the absence of French racing vehicles, and partly, it is reported, because the beach itself is not in the usual good condition. On the first day the five miles flying start race was won by Marriott on a Stanley steam racer, in 3 min. 44 4-5 sec. The winner of the five miles standing start event was Blakely, on an American Mercedes, his time being 4 min. 25 sec. A five miles match between a Stanley steamer and the American Mercedes went to the former machine, the time being 3 min. 51 4-5 sec. The flying mile for American touring cars was won by Mr. F. During, on a Stanley steamer, in 53 2-5 sec. On the 24th ult. the principal event was the twenty miles standing start contest for the International Touring Car Championship, which was won by a Rolls-Royce in 23 min. 5 sec. The 100 miles championship was also run off, the winner being Blakely, who on a 90-h.p. American Mercedes covered the distance in 1 h. 26 min. 10 sec. The record was not beaten and is still held by Clifford Earp, who, on a 90-h.p. Napier, won last year in 1 h. 15 min. 40 2-5 sec. Blakely on a 70-h.p. American Mercedes also won a ten miles handicap, a 30-h.p. Franklin being second. The proceedings on Friday, the 25th ult., were marred by a serious accident to Marriott, whose Stanley racer, while he was making an attempt to break the mile record, struck an inequality in the beach, and was hurled into the air. The car, which is reported to have been travelling at the rate of nearly 125 miles an hour, is said to have turned over several times, severely injuring the driver. Owing to the non-success of the meeting next year's gathering is, it is reported, to be organised on an entirely new basis.

## ACTION AGAINST A MOTORIST.

In the Court of Session, Lord Salvesen has heard proof in an action by Robert Glasgow, against George G. Tod, of Edinburgh, for £300 damages for the death of his son Robert, three and a half years old, who was knocked down while crossing the Gallowgate on September 11th by a motor-car belonging to the defender. It was stated that the chauffeur failed to keep a proper look-out, and gave no warning of his approach. It was denied that the chauffeur was to blame, and explained that the accident was due to the boy suddenly turning back on his course. Defendant further pleaded that the chauffeur was not at the time acting in the course of his employment, and explained that during his absence in England the chauffeur took the car and drove his wife and children and two friends to Glasgow, the accident occurring on the return journey. Defender, therefore, pleaded that he was entitled to absolvitor. At the hearing the chauffeur stated that he had taken the car without defender's knowledge. Defender made a similar statement, and counsel for pursuer thereupon intimated that he did not propose to proceed with the case, and that he could not resist decree of absolvitor being granted. Defender, in the circumstances, did not ask for expenses. Decree was given accordingly.

## ATTACK ON MOTORISTS.

AN extraordinary attack on motorists is reported from the West of Ireland. Mr. E. K. Dixon, surveyor for co. Mayo, while travelling in a motor-car driven by his chauffeur, was stopped on the road near Castlebar by three men in a country cart, which blocked the roadway. The chauffeur, dismounting to start the car, was set upon by the men, who knocked him down. Mr. Dixon was roughly handled, but managed to escape and secure help. The men then fled. They were arrested subsequently, and remanded. The chauffeur is in the infirmary in a critical condition.

\* Extract of paper read before the Institution of Automobile Engineers on January 16th.

# THE LIVERPOOL MOTOR SHOW.

THE eleventh annual motor and cycle show was opened in the Tournament Hall, Edge Lane, Liverpool, on Friday of last week. The building, although somewhat difficult of access, is well adapted for the purpose, and under its roof are gathered together about 100 cars, comprising examples of the latest productions of British and Continental factories. The novelty of the show is found in the new Fawcett-Fowler 20-h.p. steam car exhibited by Messrs. Chapman, Von Sobbe and Co., Ltd. The vehicle, of which we give an illustration herewith, and which is built by Messrs. Fawcett, Preston and Co., engineers, Liverpool, in accordance with Fowler's patents, is fitted with a special design of flash steam generator, located at the rear end of the frame. The burner is adapted to use paraffin, a gallon and a half of which will, it is stated, run the car a distance of twenty miles. The engine is located under the bonnet; it is of the four-cylinder high-pressure single-acting type, and drives through a leather cone clutch and cardan shaft to the differential shaft, which latter is connected with the rear road wheels by side-chains. The vehicle, which has a wheel-base of 10 ft., appears to have been well thought out, and more will doubtless be heard of it in the near future, especially as we hear that it is intended to apply the system in the construction of commercial vehicles and motor-buses. Messrs. Chapman, Von Sobbe and Co. also stage a 16-24-h.p. Vinot chassis and examples of the 28-36-h.p. and 30-55-h.p. Daimler vehicles. Messrs. J. A. Wade and Co., of Liverpool, show for the first time a little 7-h.p. two-cylinder car known as the Forrest, in which the usual gear-box is replaced by a friction drive, by means of which any speed between the minimum and maximum can be obtained. They also display the Otav light car—an Italian-built two-seater, which has an air-cooled engine and final transmission by side belts in place of the usual chains. In addition to a range of Star cars, which include 7-h.p., 10-h.p., 14-h.p.,

and the Clement-Talbot and De la Buire by Messrs. G. F. Rimmer and Company, Ltd.

Among the accessories are to be found the Continental, Dunlop, Le Plessan, Palmer, Clincher and Elastest tyres and the Samson and Decleer non-skids, while a new detachable rim known as the Woburn is shown by Mr. Alfred Birchall, of Woburn Hill, Liverpool. The show closes to-day (Saturday).

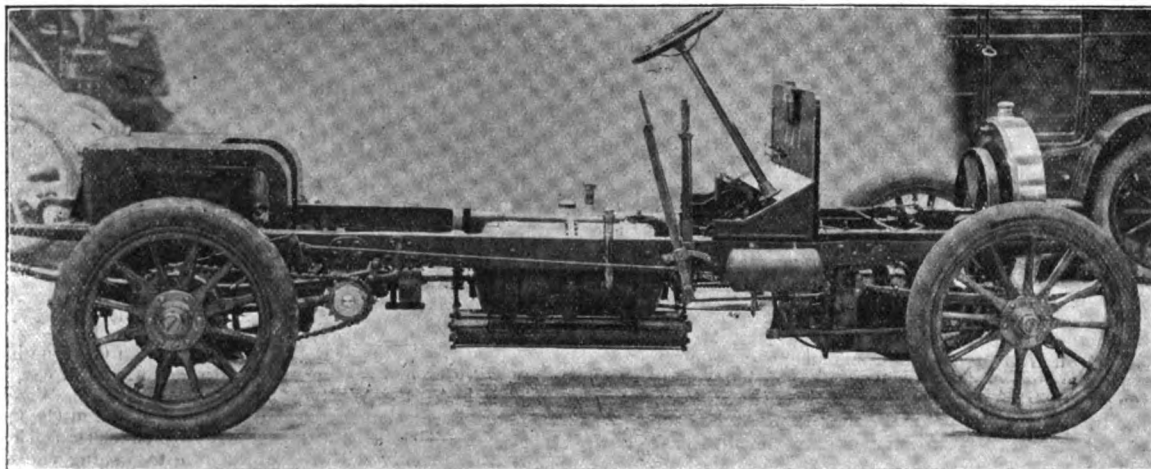
## CASES UNDER THE MOTOR-CAR ACT.

### — DANGEROUS DRIVING.

Mr. E. W. Hobbs, solicitor, Brighton, last week appeared on behalf of John Macdonald Purvis, chauffeur, in the employ of Mr. Hector Morison, recently summoned for driving a motor-car along Marine Parade at a dangerous speed. It will be remembered that the case was fully gone into at a previous hearing, and was only adjourned for the production of the defendant's licence. This was produced by Mr. Hobbs, and the chairman announced that the defendant would be fined 20s. and costs, or fourteen days.

### — EXCEEDING REGULATION SPEED IN PARKS.

At the Kingston Court Barron Redfern Russell, of the Grand Hotel, Charing Cross, London, was summoned for exceeding the ten-mile speed limit in Richmond Park on January 11th. Mr. F. N. Marcy, who represented the defendant, said he admitted the offence. He had only recently taken out a driver's licence, and at the time he was stopped had not acquired the faculty of gauging the speed at which he was going. A park-keeper said the defendant was travelling at the rate of twenty miles an hour. A fine of £3 and 8s. 6d. costs was imposed. The following were also fined £3 and 8s. 6d. costs, for exceeding the limit in the



Chassis of Fawcett-Fowler Steam Car.

16-h.p. and 30-h.p. vehicles, the latter having a six-cylinder motor. Messrs. Wooler Bros. have on view a 30-h.p. Crossley car and a 40-h.p. Critchley-Norris chassis. The new concern, Argylls, Liverpool, Ltd., make a large show of Argyll cars, the models on view including the 12-14-h.p., 14-16-h.p., 16-20-h.p., and 26-30-h.p. Special mention may be made of the 16-20-h.p. car fitted with a luxurious double landaulet body. The exhibit of the Humber Company, Ltd., comprises a 30-h.p. Beeston Humber with a landaulet body, a 10-12-h.p. Coventry Humber double phaeton, a 15-h.p. car, and a 15-h.p. landaulet. Mr. J. P. White, of Manchester, shows one of the latest 30-h.p. White steam cars. One of the new Speedwell 25-30-h.p. four-cylinder cars, in which the disc clutch is enclosed in an extension of the gear-box, is exhibited by the Addison Motor Company. Messrs. Gormly's, Ltd., Liverpool, are present with a display of the Coventry Humber cars, 10-12-h.p. and 15-h.p., and also have on view a Belsize 20-30-h.p. four-cylinder car with double phaeton body. Messrs. Kelly, Bounphrey and Co., of Birkenhead, stage a 40-h.p. six-cylinder Minerva chassis and a 24-h.p. Morgan car.

Other cars on view include the Alldays, the Ford Junior by Messrs. C. C. Paterson and Company, the Ader and Rothwell by the Exchange Motor Depot, Gladiator by Messrs. Ford and Wright, Birkenhead, the Mass by Messrs. C. W. Donkin and Company, Ltd., the Adams-Hewitt by the Motor Engineering Corporation, the Delaunay-Belleville, and the New Eagle. Berliet and Wolseley-Siddeley cars are shown by Messrs. W. Watson and Company, Liverpool, the Lindsay and Winton by the Birkenhead Motor Company, the Hotchkiss and Vulcan vehicles by Messrs. Welhe and Owens, Ltd., Liverpool, Mercedes, Austin, and Panhard by Messrs. J. A. Lawton and Company, Darracq cars by Mr. William Lea, the Napier, Regent and De Dion by Messrs. Hooper and Sons, Ltd., the Arrol-Johnston and Bell vehicles by the Liverpool Motor House, Ltd., the Simms-Welbeck by Messrs. J. Park and Company,

same park:—Valentine Landery, 47, Bryanston Square, London, W., 23½ miles an hour, and Joseph Lorenzi, 39 Carrington Mews, London, W., 20½ miles an hour.

### — FAILING TO STOP AFTER ACCIDENT.

William Forster, of Coleherne Road, South Kensington, has been fined 40s. and costs, at Brentford, for not stopping his motor-car after an accident at Richmond Road, Twickenham, on December 8th. The allegation was that defendant ran into a led horse and grazed its leg. He denied that any accident ever occurred, and said that he had been a driver eight years and was a member of Lord Montagu's League of Moderate Drivers. Subsequently the fine was reduced to 20s. owing to the large amount of the costs, and the chairman said they were obliged by the statute to endorse the licence.

### — EXCEEDING THE SPEED LIMIT.

At the Kingston County Bench four motorists were fined £3 each and 8s. 6d. costs for exceeding the ten-miles speed limit in Richmond Park.

At Brighton Mr. E. H. C. Polehampton was fined 20s. and costs for driving a motor-car at an excessive speed on the Madeira Road. The police estimated the speed at between 25 and 30 miles an hour. At the same court John McDonald Purvis, chauffeur to Mr. Hector Morrison, of Croydon, was similarly fined for excessive speed with a motor-car on the Marine Parade.

### — THE APPLICATION OF BRAKES ON TRAILERS.

The Padiham Motor Carrying Company have been summoned at Bury for not having on a trailer attached to a motor-lorry a person competent to apply the brake, and Johnson Harrison was summoned as the driver of the motor-lorry. The defendant's representative said that at the time they were unaware of the regulation requiring them to carry a man on the trailer. Mr. Hall (Magistrate's Clerk): Why don't

you read the regulations? It you can afford to buy motor-luries you can afford to spend 1½d. on the regulations. The Chairman (Mr. Mellor) said the offence was really a more serious one than appeared at first sight. It was necessary that those dangerous machines should be under control. A fine of £1 and costs was imposed in each case.

#### ALLEGED RECKLESS DRIVING.

At the Guildford County Bench, Emilie Brouard was summoned for having driven a motor-car in a manner which was dangerous to the public, having regard to all the circumstances of the case, at Send and Ripley, on the 2nd ult. The offence was denied. P.S. Arney deposed that defendant drove his car on the footpath in the village for between fifty and sixty yards. The steam roller was working on the road. The path was gravelled, and separated from the road by a well-defined water-course. There was no one on the path at the time, but people might have come out of the church or schools. Defendant said he turned on to the path to clear the stones, and did not notice there was a footpath. There was nothing to show it clearly, as stones were being spread on the road. The Chairman said they did not wish to endorse the licence, as they would have to do if they convicted. They would therefore dismiss the case on payment of 8s. 6d. costs. At the same time, they thought the police would have been better advised had they summoned defendant for riding on the path. They did not think it was quite a proper case to be dealt with under Section 1.

At Coventry Police Court on Monday, Everard Stubbs was summoned for an offence under the Motor Car Act by having no light on his motor-cycle. Defendant pleaded guilty. P.C. Rollinson stated that on January 15th he saw defendant riding a motor-cycle. Defendant said he had an acetylene lamp, and as a proof that it had only just gone out it was ignited immediately he applied a match to it. A fine of 10s. and costs was imposed.

#### EXCEEDING LEGAL LIMIT.

At the Liverpool Police Court, before Mr. W. Watson Rutherford, M.P., and Mr. Leventon, Mr. Stanley Dennis, Bridgefield, Halewood, has been summoned for driving a motor-car at a greater speed than twenty miles an hour. He was also summoned for failing to produce his licence. It appeared from the evidence of P.C. 263 A that on the 9th ult. defendant was driving his motor-car from Renshaw Street, and passed into Leese Street at an excessive speed. He got across the street, going behind an electric car standing on the metals there, struck a brougham belonging to White's Carriage Company, which was considerably damaged, and also struck a lorry. The facts were not disputed, but it is contended that the steering gear of the motor-car had got out of order, and Mr. Dennis, who was in a hurry, was actually taking the machine to Messrs. Lawton, where it was now undergoing repairs. The damage to the cab had been paid for, while the lorry was not damaged. As to the second summons, the constable asked the defendant to produce his licence, but he was unable to do so; this, it was explained, was owing to the fact that Mr. Dennis had changed his clothes and left his licence in his pocket-book at home. Mr. Rutherford expressed the opinion that it was somewhat reckless of Mr. Dennis to drive a car with a defective steering-gear at the speed he was using in a place like Liverpool, and the Bench thought he ought to be fined. A penalty of £5 and costs was imposed in the first case, the other summons being withdrawn.

Mr. S. F. Edge has been fined £5 and costs at Barnet Petty Sessions for having driven a motor-car at a speed of eleven miles an hour in excess of the limit on the Great North Road. Mr. Borwick, who acted as counsel for Mr. Edge, stated that the speedometer in the car registered only twenty-two miles an hour, and he contended that the speedometer was much more trustworthy than the stop-watches in the hands of the policeman.

#### PUBLIC MOTOR SERVICES.

AN interesting ruling has been obtained at the Marylebone County Court from Judge Sir William Sefton as to the liability of motor-omnibus companies for damage. The Willesden District Council sued the London Power Omnibus Company (Limited) for £26 0s. 7d. in respect of a demolished electric-light standard at Shot-up Hill, Cricklewood. Mr. Murphy, for the plaintiffs, suggested that the driver had been negligent, and had so caused the accident, but his clients were prepared to go further and say that the defendants' machine constituted a nuisance on the public highway. His honour held that there was no proof of negligence, but found for the plaintiffs on the ground of nuisance, inasmuch as defendants had put on the road a vehicle which they could not control in certain circumstances. With regard to the plea of contributory negligence motor-omnibus companies could not expect the road authorities to provide better conditions for them than they did for other vehicular traffic. A stay of execution was granted.

TWO summonses relating to the affairs of the Manchester District Motor Omnibus Company have been before Mr. Justice Parker in the Chancery Division. Mr. Hussey, the liquidator, asked for leave to effect a compromise by which the Wolseley Motor-car Company would have 12,000 out of the 75,000 £1 shares and Mr. D. Boyle would receive £1,750 in consideration of the termination of the agreement appointing him managing director for seven years at a salary of £1,000 a year. Mr. Eve, K.C., for the respondents, read affidavits showing that in the opinion of experts the cars, twenty-two of which are stored in Manchester, are worth £350 each if sold for working in a non-hilly district. A suggestion was made that the proceedings should stand over until the liquidator had

had time to convene a meeting of the shareholders for the purpose of ascertaining whether they approved of the proposed compromise. His Lordship assented to this course, and made an order accordingly.

THE Watch Committee of Chester have promised Messrs. J. A. Lawton and Co., of Liverpool, that they will favourably consider an application to place six motor-cabs in service in Chester.

THE Leith magistrates have licensed a motor-bus to ply between their town and Edinburgh.

A DEPUTATION from the Street Noise Abatement Committee has waited on Mr. Gladstone at the Home Office, Sir Edward Henry, Chief Commissioner of Police, being in attendance. Dr. Robert Ambrose, M.P., introduced the deputation, which included Sir Theodore Martin, Sir Dyce Duckworth, Sir William Hamilton and the Mayor of Chelsea. The deputation urged objections to the noise, speed, weight, smell, and danger from skidding and careless driving of motor-omnibuses and traction engines, and called attention to the absence of police powers to define routes and regulate the hours of running, the damage to property caused by vibration, and the necessity of the police having power to proceed against offenders. Mr. Gladstone, in his reply, stated that he fully admitted the necessity of abating the nuisances complained of, and promised that no effort should be spared to bring about the needed reform. Mr. John Murray and Mr. W. G. Cavendish-Bentinck having thanked the Home Secretary for his courteous reception, the deputation withdrew.

#### COMPANY NEWS.

##### NEW COMPANIES.

STURMEY MOTORS.—£60,000. To acquire the business of the Duryea Motor Company, carried on at Duryea Works, Widdrington Road, Coventry. First directors: Messrs. J. J. H. Sturmev and E. Groves.

MOTOR FUEL COMPANY.—£22,000. To adopt an agreement with P. Dvorkovitz, and to carry on the business of manufacturers and refiners of oils and petroleum spirits, &c. 45, St. Mary Axe, E.C.

LIGHT MOTORS.—£10,000. To acquire the business of a company of the same name.

DE DIETRICH (England).—£100. Manufacturers of and dealers motor-cars, vans, vehicles, &c. 45, Great Marlborough Street, W.

SIMMS-WELBECK CARS.—£18,000. Manufacturers of motor-cars, &c. First directors: R. Simpson and H. P. Simpson. 101, Leadenhall Street, E.C.

MOTOBUS REPLACEMENTS.—£1,500. To take over the business of a motor engineer, &c., carried on by Mr. W. A. Oppermann at New Southgate. Bellevue Mews, Bellevue Road, New Southgate, N.

MERCEDES PETROL-ELECTRIC COMPANY has been registered with a capital of £1,000.

#### OBSTRUCTING A MOTORIST.

AT Westminster Police Court, William Osborne has been summoned for wilfully obstructing the path of a motor-car, the property of Colonel A. R. Wyllie, C.B., in Pont Street, W. Earl Russell, who appeared for the Automobile Association and Colonel Wyllie, opened the case with a few remarks to the effect that the prosecution was instituted solely with the object of establishing the rights of motorists to reasonable use of the highway. In the course of his evidence Colonel Wyllie stated that shortly after noon on January 8th his car was being driven down Pont Street, and just before Cadogan Square it arrived within a few yards of an open van going in the same direction, driven by the defendant. The van was in the middle of the road. When the motor horn was sounded, as a signal that the driver wished to pass the van, defendant deliberately swerved to the right, conveying the impression that he was about to turn down a side street. Immediately after he turned his horse straight, and when similar efforts to pass were made by Colonel Wyllie's driver he repeated his first tactics. This time a collision was only avoided by harsh treatment of the motor-car brakes. Colonel Wyllie ordered his man to pull up directly they had passed, and himself jumped out of the car and stopped defendant's horse, which, far from being restive, was brought to a halt with ease. After hearing two witnesses Mr. Curtis Bennett said that the evidence was conclusive, and fined the defendant 20s. costs, or seven days.

#### THE AUTO CYCLE CLUB'S TRIALS.

ON Saturday the first of the quarterly reliability trials of the Auto Cycle Club was held over the usual 124½ miles course, from Uxbridge to Banbury, via Beaconsfield, High Wycombe, Dashwood Hill, Wheatley, and Islip, returning by way of Bicester, Aylesbury, Berkhamsted, Chesham, Amersham, and Beaconsfield.

There were twenty entrants, nineteen of whom were despatched by Mr. F. Straight in the morning, the first getting away at 9.10 a.m. All were allowed a maximum time of 3 hrs. 58 min. and a minimum time of 3 hrs. 12 min. to cover the fifty-nine miles to Banbury, representing a speed of fifteen miles per hour. At Banbury an hour was taken for luncheon, and 4 hrs. 23 min. maximum and 3 hrs. 30 min. minimum was allowed for the return journey of sixty-five and a half miles.

Non-stop runs were made by the following:—W. H. Wells (5-h.p. Vindec Special), F. Toman (4-h.p. Laurin and Klemont), J. Shaw (3½-h.p. Clyde), F. W. Applebee (3½-h.p. Rex), and M. Geiger (3-h.p. N.S.U.), whilst eleven competitors finished the course inside scheduled time.



# THE Motor-Car Journal.

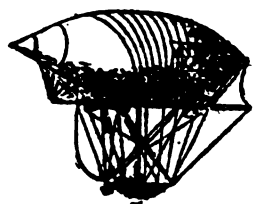
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## COMMENTS.



**R**APIDLY are men coming to the conclusion that the navigation of the air is but a question of time, and that aerial warfare may take place before the Hague Conferences are no longer necessary. Colonel J. D. Fullerton has informed the Royal United Service Institution that in the next war flying machines will be as necessary as motor-cars, and that they will have a threefold purpose, being used (a) against other airships; (b) against sea forces; and (c) against land armies. A curious possibility is the use of aeroplanes in naval warfare to detect the presence of submarines. M. Santos Dumont has explained how he traced from a position high up in the air the course of vessels some thirty or forty feet below the water, and Colonel J. E. Capper, R.E., has reported that while crossing the Medway in a balloon he and his companions clearly saw the whole course of the intricate channel through the water, "which is not noted for its great clearness." Reconnoitring appears to be the chief rôle of the aeroplane against land forces, but it also enjoys the prospect of setting fire to store depots, attacking mounted troops in formed bodies (these would not be able to beat off the intruder with immediate and sustained rifle fire), and stampeding or destroying horses. For these purposes of offence Colonel Fullerton dismisses the dirigible balloon as an unsatisfactory solution of the problem of flight, but he recommends the construction of flying machines capable of carrying four passengers and 1,500 lbs. of stores; weight, 7,000 lbs. to 10,000 lbs.; velocity, thirty-five to forty miles per hour; i.h.p., 250 to 300. This type of machine would be suitable for reconnoitring and actual attack under favourable conditions, the weight for stores including a light gun for use against opposing flying machines, and a special class of gun with heavy shells for use against troops or ships.

### The Non-skid Trials.

In the presence of a large number of experts interested in the motor-bus, the A.C.G.B.I.'s side-slip and skid prevention competition was continued on Tuesday at the Clement-Talbot works, North Kensington, where a track of wood paving had been covered for a distance of about 100 yards with Thames mud and soft soap, presenting a surface inciting side slip and stimulating evolutions on the part of some of the vehicles that called for agility on the part of Earl Russell, Col. Crompton, Professor Vernon Boys, Messrs. J. W. Orde, Worby Beaumont, Lyons Sampson, and the other officials conducting the tests. Originally forty-one devices were entered for the competition, but, of these only twelve were deemed practical by the judges and allowed to participate in Tuesday's event. Of these four were withdrawn, reducing the actual competitors to eight. The proceedings were somewhat protracted, and the noise test had to be held over in consequence; but the effects of the various devices in mitigating the skidding tendencies of the vehicles were observed under conditions that should determine their comparative value. First, was a straight run down the track, the drivers being required to apply the brakes on a given signal; then they were required to turn sharply to one hand, and after going a few feet to turn in

the other direction. In the first run of the latter event the brakes were not applied; in the second they were.

### Some Good Performers.

NONE of the devices attained perfection, although one or two demonstrated their capacity to get into the straight again after only a slight deviation. Their performances in the forthcoming 1,000 miles reliability run, where details of design and construction will be severely tested, will be regarded with sanguine expectations by those anxious to stop a danger in the motor-bus traffic that is delaying its universal progress. It was unfortunate that the Reilloc tyre of sectional transverse rubber blocks arrived too late to be fixed on a 'bus, while the loose metal ring device of Messrs. Sully and Shailer went no further than the first test, leaving only half a dozen in the running. Of these Mr. H. B. Molesworth's idea of three pairs of wheels—back and front steering—was notable, although we should have preferred to have seen it fitted to a double-deck 'bus, as were the others. The Hartridge device, with its multi-sectional rubber blocks placed in the direction of rotation, also minimised the skidding tendency to a great extent; and the floating metal ring employed by Mr. G. B. Winter did well. Mention may also be made of the performances of the rubber and leather ring tyre of the Westminster Industrial and Financial Developments, Ltd., and of the Parsons floating metal ring with its wood lining. But, of course, these are but casual impressions, and the judges' report will take concern of the behaviour of the devices on the long trial as well as Tuesday's short trips.

### The Brooklands Track.

EVERYONE concerned with the Brooklands Motor Racing Track is working at high pressure in order to get the course ready by May. It is significant, however, that the responsible authorities are unable to fix a definite date on which the track will be completed. Much, of course, depends on the weather during the next few weeks. Meanwhile every endeavour is being made to push the work forward, and night shifts are being employed on the two main portions of the work.

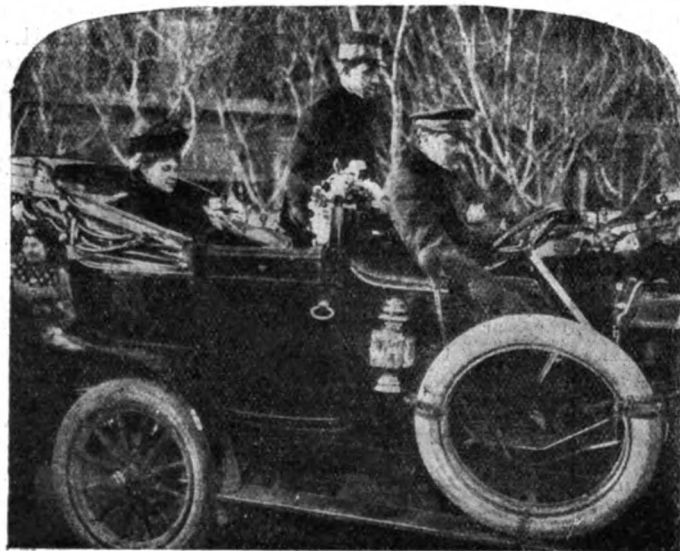
### Tar for Road Purposes.

THE Roads Improvement Association have issued the rules for a competition for the best preparation of tar suitable for road purposes. The competition is supplementary to that for the best tar spreading machine, the rules of which have already been published. It is generally recognised that tar is one of the most satisfactory materials for the treatment of roads with a view of rendering them dustless—regarded from the point of view of the greatest results to be obtained from a given expenditure. The chief object of the competition is to ascertain the cheapest method, consistent with efficiency and effectiveness, of treating crude tar—not necessarily the refined or distilled article—to make it suitable for use upon the road. The considerations which will weigh with the judges in awarding the prize are set out in the rules under the following heads, i.e.:—(1) Cost; (2) ease of application; (3) efficiency; (4) dust-preventing capacity; (5) insolubility; (6) weatherproofness; (7) power of adhesion; (8) time required and effectiveness of

setting; and (9) freedom from harmful or offensive constituents or qualities. The preparation which is adjudged the best will be awarded the Ballymenagh 100 guineas trophy, placed at the disposal of the Association by the Ballymenagh Woollen Factory, Ltd., and also the gold medal of the Association. The judges appointed by the Council of the Roads Improvement Association to determine the comparative merits of the competing preparations are the same as those appointed for the tar-spreading machine competition.

#### In a Saddlery Centre.

WALSALL having attained prosperity in the provision of saddlery and harness for horses, is now anxious to secure a permanence of success by the establishment of the motor industry within its area. The local Chamber of Commerce is seeking to attract motor-car firms to the town, thus following the example of the authorities at Peterborough, Ipswich, Luton, Bedford, Doncaster, and the Garden City near Hitchin. All these places have invited the automobile industry, and now a town which had hitherto been mainly identified with saddlery hopes to secure a motor-car works, negotiations having already been opened up in that direction.



The King and Queen of Spain on their Renault Car.

#### The Motor-Cycle.

THE reply which Mr. Arthur Candler gives in our columns this week to the speech of one of the guests at the Auto-Cycle Club's dinner is deserving of consideration, and continues the discussion begun by Mr. Jarrott with regard to the motor-cycle engine. Mr. Jarrott seemed inclined to look askance on the tendency to increase the power of the motor-cycle, with all the accompanying weight, cost, and difficulties for the ordinary person. He wanted the reduction of weight so that the machine could be enjoyed by the majority instead of a restricted number, many of whom, it may safely be observed, regard it as a first step towards the operation of a car. Motorists must, however, remember that there will always be a considerable number of people debarred from motoring of any kind. Whether efforts are to be made to reach them by reducing power in order to lessen weight and expense, or whether makers are to endeavour to perfect the motor-bicycle as a machine for speedy travel on ordinary roads, is a point for the future. Mr. Candler's view is clearly in favour of the latter aspect of the problem.

#### Carriage of Goods by Motor-Wagon.

MANUFACTURERS and traders in the Potteries have suffered long from what they regard as excessive railway rates. Negotiations with the companies have only protracted the hardships and done little to ameliorate the conditions complained of. At length an attempt is about to be made to find an alternative for the railway, and an invitation to a London motor delivery firm to establish a service of motor-wagons to compete with the canal owners as well as the railway companies is certain to excite much interest, not only in the Midlands, but throughout the country generally. We understand that the motor firm will establish depots for the collection of goods in various centres, and generally carry the merchandise under similar obligations to those recognised by the railways, but there will be a substantial reduction with regard to the charges for freight. The minimum amount of traffic suggested by the motor concern as necessary for the institution of the scheme has been found, and the traders have undertaken not to be led away from the new venture by any pressure which the railway or canal companies may attempt.

#### A Successful Counter Claim.

OFTEN, we are afraid, motorists have had to pay fines and claims resulting from actions in which drivers of horse-drawn vehicles have been plaintiffs, merely because they have accepted the situation as it appeared at first blush. Sometimes a strong defence has secured a reduction of exorbitant demands, whilst the policy of issuing a counter-claim backed by really accurate evidence has resulted in turning the tables altogether. A case in point occurred at the Birmingham County Court last week, when an action was brought against a motorist to recover a sum for damages caused by the alleged negligent driving of a motor-car. Upon going into the evidence of the case, Mr. Blewitt, the Birmingham solicitor, advised the motorist that the driver of the horse-drawn vehicle was alone to blame, and a counter-claim was filed. After hearing all the evidence the jury came to the conclusion that the motorist was not culpable, and that the collision was caused by the plaintiff's own negligence. Not only was judgment given for the defendant, but he was awarded the full amount of his claim against the plaintiff—a very satisfactory, and, in a motor case, somewhat unusual, conclusion.

#### 5,000 Miles in a Balloon.

THE founder of the Aero Club of the United Kingdom, Mr. F. H. Butler, F.R.G.S., has made an important contribution to the literature of aeronautics in his "5,000 Miles in a Balloon," just published by Mr. Horace Cox. The modesty of this presentation of the author's balloon ascents is characteristic; he claims it to be but an unadorned narrative of some of his balloon trips, supplemented by contributions from the Princess di Teano, the Hon. Mrs. Assheton Harbord, Lord Northcliffe, and Mr. Butler's daughter, Mrs. Iltid Nicholl. As a matter of fact it is an authoritative record of the revival of interest in aerial navigation, and when the history of the movement comes to be written will prove indispensable to the author. One useful chapter is entitled "The Aeronaut's Vade Mecum," in which Mr. Butler deals with the questions usually put to the aeronaut by those interested in his pursuit, and supplies answers of interest and value.

#### South Indian Motor Trials.

WE have already notified the fact that Captain Walker's 25-h.p. Peugeot won Class A in the South Indian Motor Trials. This section was for cars driven by paid chauffeurs. In other classes success was attained by the Rajah of Vizianagram's 12-16-h.p. Humber and Mr. G. V. Scovell's 15-20-h.p. De Dion respectively. In the contest, which extended

over four days, seventeen cars and eight motor-cycles started on the first day. Events proved that the roads were practically impassable for motor-bicycles, and that the cars that finished in addition to the three already named were:—Messrs. Simpson and Co.'s 8-h.p. Darracq, Mr. A. S. Hannay's 12-h.p. Humber, Messrs. Simpson and Co.'s 20–22-h.p. Darracq, Mr. F. E. Stewart's 20–22-h.p. Brown, and the Rajah of Vizianagram's 24-h.p. Napier.

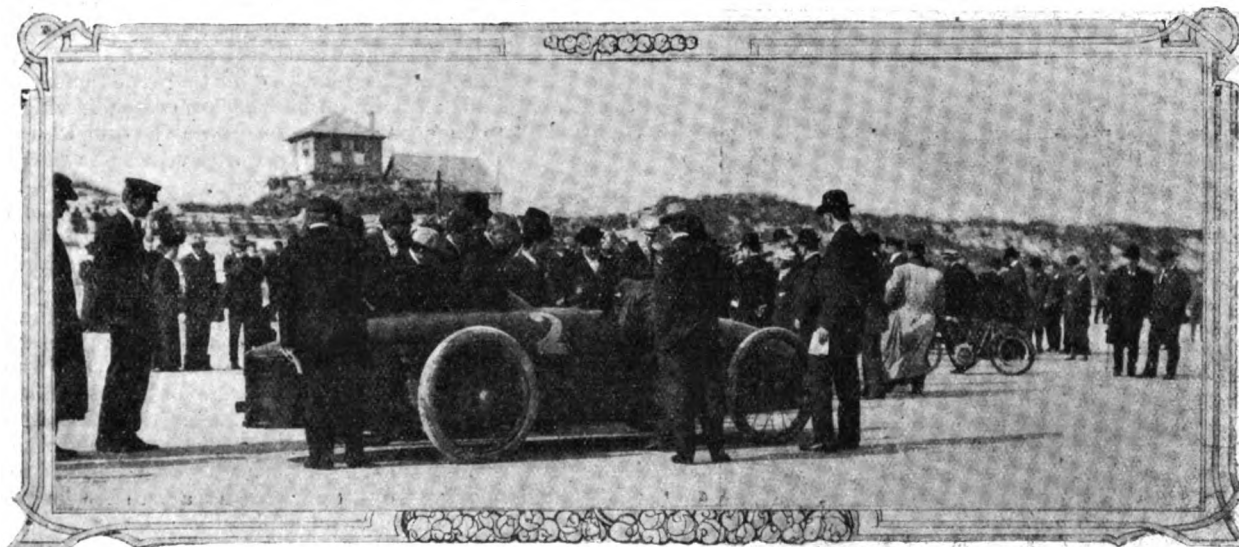
#### A Matter of Improvement.

ACCORDING to Mr. Moresby White the "Journal" of the A.C.G.B.I. might be improved by the inclusion of a little poetry, a ladies' column, touring articles, illustrations, and notes upon the "comfortable quarters." Evidently this legal gentleman has not allowed the technicalities of automobilism to overwhelm his sense of what is due to the fair sex, and when his letter on the subject was read to the General Committee of the Motor Union some of those present found themselves in immediate accord with his views. His fine appreciation of the Club journalism has revolted owing to the inclusion of such mundane matters as dinner menus in the official gazette of the club, and his discerning eye has detected the use of scissors and paste in the editorial sanctum. Hence his letter con-

that the drivers cannot see the overtaking traffic. 2. For particulars of any accidents which occurred in their several districts by reason of the use of hooded vans during 1906. 3. Whether the Club consider that any useful purpose would be served if the local Council were asked to adopt a by-law similar to the one in operation in London. Any person who is interested in this matter and is in a position to furnish information is invited to communicate with Mr. Rees Jeffreys, at 1, Albemarle Street, London, W.

#### Tram-cars v. Motor-buses.

THE annual dinner of the Scottish A.C. and the opening of the motor show at Glasgow have served to give the newspapers north of the Border a text whereon to preach automobilism to the people. From the national point of view the speech of Lord Provost Bilsland in declaring the show open was the more interesting utterance. He congratulated the citizens of Glasgow on the prescience of their city fathers, who, by covering the streets with a complete system of tramways, had left no room for the invasion of the motor-bus—the vehicle that had disturbed the quiet of London thoroughfares and threatened the citizens with sleepless nights. It would appear that the tram-car and the motor-bus are to be regarded as



The Florida Race Meeting.—Marriott Preparing to Start on the Stanley Steam Racer.

taining "merely tentative suggestions." Several people have tried to develop the Club Journal, and often have we been reminded of the fable of the old man and the ass in this connection. Fortunately, however, for the success of the automobile movement and the organisations connected therewith, the leading men concerned have always recognised that the independent press fully caters for all the requirements of motorists, who can learn all they want to know for small sums of one penny upwards. The true function of the official organ should be to record in accurate form and without comment the doings of the organisation, leaving the newspaper work to journalists, and looking to the lawyers in matters of law rather than matters of print.

#### The Dangerous Hooded Van.

THE attention of the Motor Union has been drawn to the danger that lies in the use of covered vehicles which are so constructed that the driver cannot see the overtaking traffic. The matter has been discussed by the Highways Protection Committee of the Union, and it has been decided to take concerted action in the matter, and possibly approach the Home Office by a deputation. The Union is therefore circularising its affiliated clubs asking:—1. If there is a by-law in force in their respective districts prohibiting the use of vehicles so constructed

enemies, the former to triumph over the latter—in its present state. At Glasgow, we are told, the motor-bus will have no place owing to the position already won by the trams. At Torquay the coming of the latter has caused the migration of the motor-bus to more northerly regions.

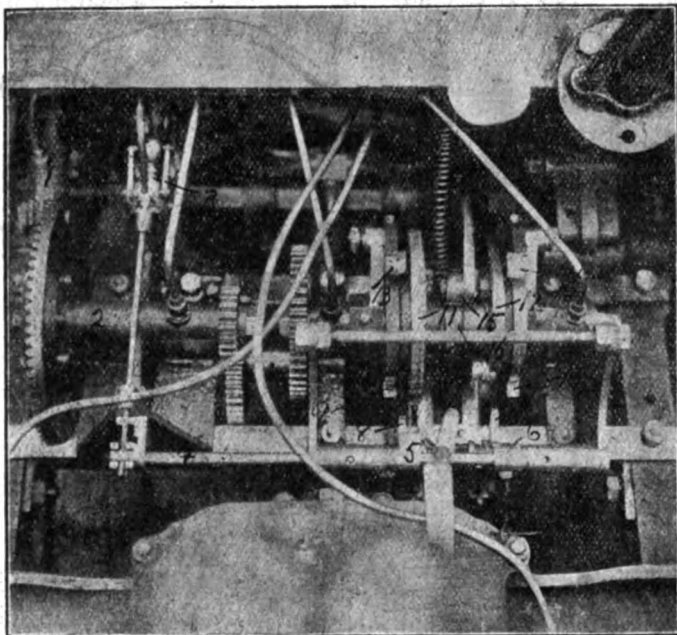
#### Motor Missionaries.

IN pursuance of their intention to extend the membership and influence of their organisation, the Nottingham A.C. are organising a series of gatherings in various parts of the county in order to bring to the notice of unattached motorists the advantages of organisation. The first of these meetings was held last week at Newark, when forty-five motorists accepted the invitation of Captain L. l'Estrange to spend an evening together. So successful was the meeting that a considerable accession to the ranks of the Nottingham A.C. should result, and other clubs should be encouraged to similar propaganda work. In Yorkshire the idea of having branches of the county organisation has done much to develop motor activity in those broad acres, and there is no doubt that other counties are ripe for branching out. The missionary zeal of the Nottingham motorists should be imitated wherever there are societies strong enough to organise such propaganda meetings outside their original area of work.

## THE STANLEY AUTOMATIC CHANGE SPEED GEAR.

**I**N our last issue we briefly referred to the automatic change-speed gear which has been devised and patented by Capt. the Hon. F. W. Stanley. We have since had an opportunity of inspecting and trying the experimental device as fitted to an old Charron car. The idea of the inventor has been to overcome the difficulties of speed changing by means of the usual side lever, by arranging that the motor will itself bring into engagement the particular pair of pinions in the gear-box best suited to the amount of work it is at any moment called upon to perform. In the absence of drawings it is not possible to clearly describe the device, but the photograph reproduced herewith will give some idea of the arrangement adopted. Although at first sight the mechanism may appear somewhat complicated, inspection of the actual model reveals that it is not really so; it has also to be remembered that the picture depicts the experimental gear, which, so far as regards the pinions and other parts by means of which it is operated, will in future be considerably simplified.

In the first place it should be explained that the automatic mechanism seen in the illustration is located below



the driver's footboard between the clutch and the gear-box, and at right angles to the clutch shaft. The shaft, which is continuously driven by the engine, actuates through gearing a spindle on which are mounted in such a way that they must rotate with it arms provided with pivoted pawls 13 and 14. Loosely carried on the same spindle are large disc cams 11 and 12, each formed in one with two small cams 16 and 17, the latter abutting one against the other. The second main portion of the arrangement is that which causes the foregoing mechanism to effect automatically the change of speed. The male portion of the clutch is provided at the rear edge of its periphery with a large toothed ring, which meshes with a small pinion on the end of a short spindle. On this is mounted a ball governor 3 connected with a rod which gives motion to a shaft 4, on which two oppositely-arranged cams 5 and 6 are formed. Other necessary parts to which reference is made below are the catches 7 and 8, the stops 9 and 10, and the roller 15.

Passing now to the action of the gear, it may first be stated that the usual side lever is only required for moving the change-speed mechanism from the neutral position to the first and *vice versa* and for reversing. To start the car from a standstill the engine is speeded up in the usual way, and the lever moved into "first." As the speed of the car increases, and the engine

runs faster owing to the decreased load, the balls of the governor 3 fly out, drawing forward the spindle to which it is attached and giving a rotary movement to the shaft 4; the cam 5 at the same time pushes a catch 8 into the plane of the revolving pawl 13. As the latter travels round and meets the catch, it is forced down on to the stop 9 on the cam 11. This, while loose on the shaft, is now forced to rotate with it, and it being connected with the gear-striking rod, the latter is moved a sufficient distance to bring the second speed pinion into mesh with its corresponding spur wheel in the gear-box. Simultaneous with this operation, or rather slightly in advance of and behind, the cam 17, which is one piece with 11, has raised and lowered 15, by means of which the clutch is withdrawn to facilitate the meshing of the change gear pinions and afterwards re-engaged. The speed of rotation of the shaft is such that the whole operation of changing from one speed to another is made in one revolution, on the completion of which the pawl 13 is lifted from the stop 9 by the bar seen above the shaft 4, and is thus ready set to be again actuated whenever the speed of the engine increases to a sufficient extent to permit the governor balls to fly out and so effect a further change up of gear. The automatic changing from top to third, and so on to first downwards, is carried out in a similar way by the other set of cams, with their corresponding catch and pawl. As the motor slows down owing to the load being too great, as, for instance, when a rise in the road is encountered, the governor balls contract and push the spindle to the rear, so moving the shaft 4 in the opposite direction; the cam 6 operates the catch 7, which causes the pawl 14 to engage with the stop 10 on the cam 12, this being so connected to the gear striking rod as to actuate the latter in the opposite direction to the cam 11. At the same time the clutch is withdrawn and re-engaged by means of the cam 16 and roller. Stops are provided by means of which the mechanism is rendered inoperative below the first and above the fourth speed.

In the course of the short trial run we were able to make we had ocular demonstration of the fact that Captain Stanley has achieved his object to produce an arrangement by which the engine can automatically effect a change of gear and so adjust itself to the road conditions. The speed of the car was entirely regulated by the throttle, the change-speed lever and the clutch being left severely alone, and it was very curious to notice the latter moving of their own accord whenever the gear was automatically altered, the change being unaccompanied by any of the grating noise frequently heard. While the fitting of the automatic arrangement would result in a saving of upkeep expenses in the case of many badly-driven pleasure cars, its principal application probably lies in connection with commercial automobiles and motor-buses, which are frequently called upon to stop and re-start, necessitating considerable use of the change-speed lever and consequent fatigue of the driver. In the car which we tried the change-speed gear was of the usual sliding pinion type; a much simpler arrangement could be adopted in a gear-box in which the various pinions are always in mesh and the requisite pairs of pinions being made to transmit the power by means of "feathers" on a sliding shaft which could be directly connected to the automatic changing mechanism. In such a way, too, as Capt. Stanley pointed out, it would be possible to provide a car with at least six speeds in a box, no larger than that now necessary to give four. As we have already mentioned, the idea is only in an experimental stage, and we shall look forward to its development with considerable interest.

THE hill-climbing capabilities of the Metallurgique cars were recently demonstrated in a run to Brighton and back with Mr. Oscar Cupper at the wheel, accompanied by three friends. The car, which was a 24-28-h.p. and fitted with a standard touring body, was driven the entire distance, including the notoriously steep Handcross Hill, on the top gear. Of course the trip presents no difficulties if the car is suitably geared down, the point of the Metallurgique performance being its accomplishment on a standard vehicle.



## SOME CURRENT TOPICS.

### The Progress of Magneto Ignition.

Reference has, of late, frequently been made in the *M.C.J.* to the fact that magneto ignition is rapidly ousting the older high tension form by means of coil and accumulators. This tendency of the times, which was well indicated at the recent shows, is fully borne out by the statistics prepared in connection with the Paris *Salon* by M. Lucien Peresse, the secretary of the Technical Committee of the French Automobile Club, which are summarised below:—

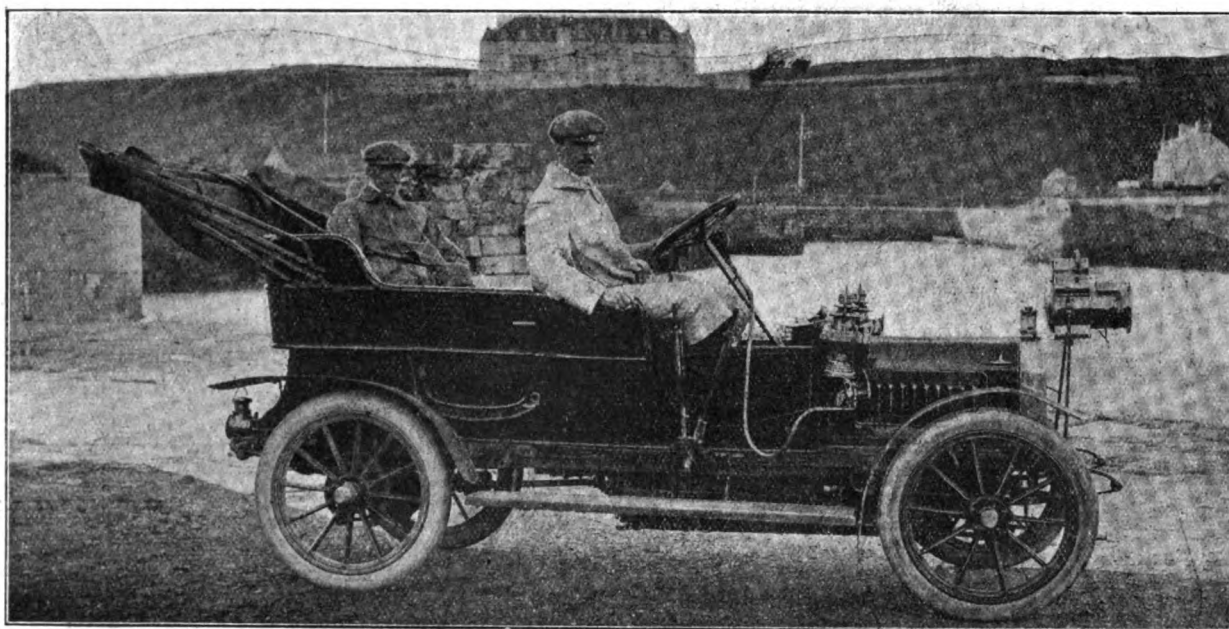
	1903.	1904.	1905.	1906.
	Per cent.	Per cent.	Per cent.	Per cent.
Magneto .....	28	49	89	96
Coil and accumulators ...	72	51	11	4

From the above it will be seen that the magneto type is now practically universal on the leading French cars, accumulators

used to drive the magneto by means of a belt. The sizes of the pulleys were proportioned so that the magneto ran at about 1,100 revolutions per minute. At this rate of speed the magneto delivered sparks of somewhat over 1 inch in length with great regularity—the discharges being bright and crackling. Careful measurement by means of volt and ampere meters showed that the total energy absorbed by the magneto was 29.1 watts = .039, or about one twenty-fifth horse power—an amount of power which is decidedly trivial. Mr. Clough claims no special degree of accuracy for his tests, the data being qualitative rather than exactly quantitative, but he considers that the result given above is fairly correct as regards the particular machine experimented upon, and in order of magnitude is probably about what magnetos of the high tension type may be expected to show.

### To Encourage Touring.

The Automobile Club du Centre—one of the many provincial organisations in France—has recently made a departure in connection with the encouragement of motor touring which is worthy of more than passing notice. Every motorist knows that it is rarely possible, when travelling in a strange district, to get exact information as to the way to take or the distance



The "Brown" 12-14-h.p. Four-cylinder Car owned by Dr. Cumming, Hull. The photograph was taken at Port Patrick, N.B., where the Government 50 years ago spent three-quarters of a million sterling in trying to make a breakwater and piers. Part of the ruins of the structure can be seen between the occupants of the car. The greater part now lies at the bottom of the sea.

Photo by]

[Mr. J. M. Brownlee, Port Patrick.

and coil having fallen from 72 per cent. to only four per cent. at the present time. Subdividing the figures relating to magneto ignition, it is shown that in 1904 the total was made up of 26 per cent. low tension and 23 per cent. high tension. In 1905 the respective figures were, low tension 39 per cent., high tension 50 per cent., while at the 1906 Show the totals were 24 per cent. low and 72 per cent. high tension, the latter thus showing a considerable advance.

### How Much Power is Required to Drive a Magneto?

We do not remember having seen any figures published as to the power required to drive an ignition magneto, so that a reference to the results recently obtained by Mr. A. L. Clough, an American motor engineer, will no doubt be of interest. The magneto was of the two impulse type, delivering its electrical output to an induction coil through the agency of a condenser. It was intended for use on a four-cylinder motor—the distributor being gear driven from the armature shaft at one-half of the speed of the latter. Both armature and distributor shafts run on ball bearings and the armature and distributor contacts are made by carbon brushes. In the tests a  $\frac{1}{4}$ -h.p. direct current motor was

to the desired place, the information given frequently sending the traveller in the wrong direction. To obviate this difficulty the A.C. du Centre is arranging that there shall be in every town and village one or two persons from whom the touring motorist may not only obtain exact information, but who will render assistance in the way of direction to petrol stores, tyre depots, and motor repair shops gratuitously. In the first instance the club has devoted its attention to proprietors of hotels, cafes, restaurants, and garages. To such of these who recognise the advantages the scheme presents in the way of increased motor traffic in the district it has offered a large road map of the centre of France, a sign-board bearing the word "Correspondant," which will act as the necessary indication to the traveller, and a guide-book. Unfortunately the funds of the club have not permitted them to supply these free, a small charge of 4 fr. being made. In spite of this, however, the scheme has been well received, quite a number of hotel-keepers and garage owners having sought to be appointed a "correspondant" of the club. Each application is being carefully inquired into so that the sign-board shall only be issued to those deemed fully capable of rendering the desired services.

## CONTINENTAL NOTES.

### Motor Traffic in Paris.

The increasing motor traffic in Paris, and especially along the Champs Elysees, has at length resulted in some special regulations being made with regard to the latter well-known thoroughfare. During the past few weeks a special force of policemen has been stationed on all the refuges in the middle of the avenue, with orders, at first, to instruct all drivers of motor-cars to keep in the road on the right, between the pavement and the nearest landing. The road in the middle of the Avenue was thus left for cabs and other vehicles. This arrangement not being found satisfactory, a change has been made in the order, motor-cars now being confined to the central portion of the Avenue and horse-drawn vehicles to the two sides.

### A German Touring Competition.

The Automobile clubs of Frankfurt, Württemberg, Baden, Rheinland, and Alsace-Lorraine have decided to hold a touring car contest in Germany from August 27th to September 1st. The distance of the contest will be 1,000 kilometres, and an average speed of 30 kilometres per hour will be required. The event, in connection with which a first prize of £1,250 is being

### Motoring Events in Belgium.

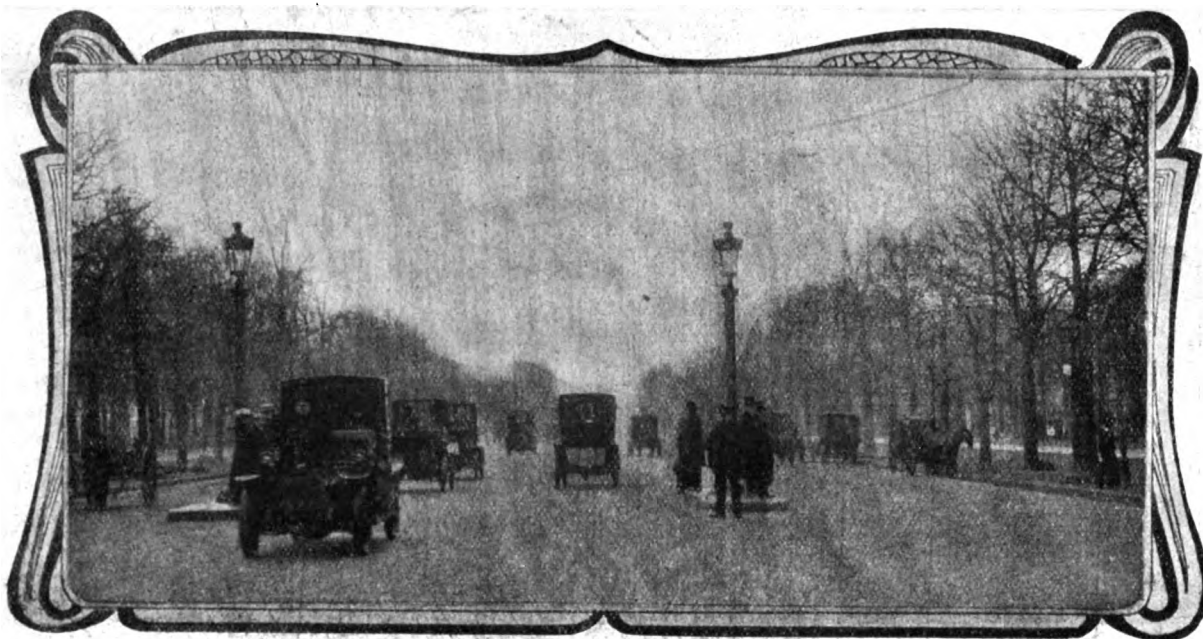
The Belgian Automobile Club has just decided that the Circuit des Ardennes race shall be run on July 21st; the Coupe de Liedekerke is to be held on July 31st, and the Criterium Internationale de Regularité from July 31st to August 8th.

### Warning School Children.

The Belgian Minister of the Interior and of Public Instruction has just issued a circular notifying the authorities of the schools in the country of the necessity of instructing the children as to the increasing automobile traffic and to the care they should take when crossing roads, &c.

### The A.C.F. Grand Prix Race.

The entry list, at the ordinary fee, for the 1907 race for the A.C.F. Grand Prix closed on the 1st inst., up to which date thirty-four entries had been received—three each Clement-Bayard, Darracq, Motobloc, Panhard, Renault, De Dietrich, Germain, Brasier, and Mercedes, two Weigel, and one each Corre, Porthos, Marchand, Aquila-Italiana, and Christie. Six nations are thus to be represented in the contest, twenty-three of the cars entered being of French construction, three German,



Motoring in Paris.—A View of the Champ Elysees under the new regulations requiring motor-cars to keep to the central avenue and horse-drawn vehicles to the sides.

offered, will include speed trials on the level and on a hill known as the Königsstuhl.

### A Spanish Automobile Week.

Arrangements are in hand to hold a series of automobile events in the Spanish capital during the course of the motor-car exhibition in Madrid in May next. It is proposed to hold a series of kilometre speed trials both with a flying and standing start; on the second day there will be a hill-climbing competition over a 6-kilometre course; while the meeting will close with a garden party, at which the King of Spain may be present.

### A Royal Chauffeur's Adventure.

One of King Edward's chauffeurs was driving one of the Royal cars along the Avenue de l'Opera, Paris, on Friday last week, when the police signalled to him to stop, their attention being attracted to him by the fact that he was driving on the left instead of the right side of the road, and also by the fact that the car bore no number. As he was unable to produce any licence, he was taken to the nearest police station. Satisfactory explanations being, however, forthcoming the driver was quickly released.

three Belgian, two British, two Italian, and one American. The entries for the race for the Coupe de la Commission Sportive are, on the other hand, being sent in very slowly, only three having so far been received. Representatives of the A.C.F. last week-end inspected the suggested Seine-Inferieure course on which to hold the two events, but at the time of writing no decision had been arrived at.

### Miscellaneous Items.

A motor-bus service has lately been started between Stockholm and Lindsjona, Sweden.—A motor-car exhibition is to be held in Stockholm from April 30th to May 15th next.—The N.A.G. Company, of Berlin, have just completed a 40-h.p. car, with detachable limousine body, for the King of Roumania.—The date of the Madrid motor show has been changed; it will now be held from May 4th to 19th next.—The "Matin" has issued a challenge to motorists for a motor trip from Paris to Peking during the coming summer, which the De Dion and Contal concerns are reported to have accepted.—The Danish Automobile Club proposes to hold a reliability trial of motor-cars on May 26th next. The projected course measures about 285 kilometres, and comprises a tour of Seeland.

## ACROSS INDIA BY MOTOR-CAR.

BY THEO MASUI.

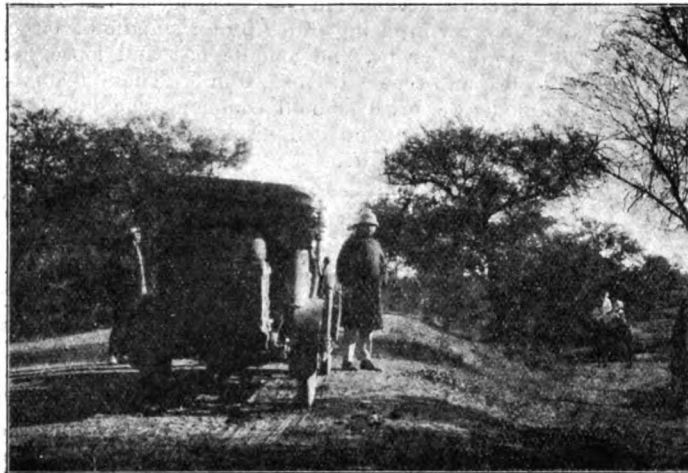
**T**HIS winter I went to India with my 14-h.p. Germain chainless car, intending to compete in a reliability trial which was to take place on the road from Bombay to Bangalore and back, as announced by the Motor Union of Western India. On my arrival at Bombay I learned that, unfortunately, the trial had been put off, and soon afterwards that in all probability it would be abandoned altogether. Under these circumstances I decided to undertake a long distance run through the whole Indian Empire from Bombay to Calcutta, passing through Agra, where I hoped to be present at the Durbar which was to be held there in honour of the Amir of Afghanistan.

Before starting on such an undertaking some preparations have to be made. First of all, a provision of petrol, oil, and grease must be sent in advance to certain points along the road, where it crosses a railway line. The Bombay Motor Car Company very obligingly helped me to effect this, and my thanks are also due to Messrs. Laing, Hoare, and Goddard, who rendered me valuable service at Bombay as well as at Agra. Consequently a provision of petrol and lubricants was sent to the railway stations of Nasik, Dhulia, Mhow, Jarana Road and Goona; that forwarded to Jarana Road and Goona, however,

fortunately installed, and, had I had a longer wheelbase, I do not know how we should have crossed some of the rivers, when we found only a boat, styled a "ferry," so narrow that the wheels of my car were poised on the edges.

When all was ready I bade farewell to my good friends in Bombay, and on Saturday, December 22nd, at dawn, we started, our motor snorting joyously. From Bombay to Agra the road measures exactly 759 miles, of which the first 400 lead through hilly country, the rest being nearly all across a plain. The road may be compared to one of our badly kept-up macadamised highways; it is very bumpy in some parts, but on approaching Agra it becomes much better. All along, however, it was very dusty; in places there was a layer of several inches of fine dust, which we raised in clouds, or which we and our motor swallowed when stirred up by the innumerable herds of cattle and carts which we passed. But, after all, I prefer dust to rain, and for this reason I may say that the certainty of having constantly fine weather, a blue sky, and radiant sunshine, constitutes perhaps the greatest charm of this tour in the land of the Rajahs.

Some rivers have stone bridges, well built; others, in lieu of a bridge, have a causeway forming a dam or weir, from the top of which the water escapes, and when, as it often happens at this season, there is only a small flow, it is rather agreeable, for it gives a good opportunity of cooling the tyres; at other crossings there are rather primitive bridges built of wood, covered with a



A Cold Morning up Country.



Introducing an Elephant to the Motor Car at Bhaora.

## ACROSS INDIA BY MOTOR CAR.

proved to be an excess of precaution, because from Jarana Road one enters into the Gwalior States, and His Highness Maharajah Scindia, an ardent motorist, has caused depots of petrol to be installed nearly everywhere in his territory. As I was travelling with a lady, I had also, as far as possible, to give notice of our arrival to the keepers of the "Dak Bungalows" where we intended to put up. This, however, proved not to be of much use, for only on one occasion did I find the place prepared for us. This was not surprising, considering that the keepers on receiving my note—written in English—had to wait for the casual visit of a traveller able to translate my request into Hindoostani.

Finally the car had to be equipped and laden with the beddings, the "tiffin basket" and all the personal luggage, reduced, of course, to the smallest compass, but cumbersome withal, as we had to pass from the tropical climate of Bombay to the rather cool temperature of the interior, rugs, plaids, and great coats being indispensable. As it was necessary to be provided with spare pneumatic tyres, a complete outfit of tools, and a reserve of petrol in case the advance stores had miscarried, besides being four passengers—my wife, my excellent engineer, Johnson, myself, and my native servant—it may easily be conceived that we had a full load. Thanks to the construction of the car and its accessories, we were nevertheless very com-

springy layer of earth; at other rivers there is a similar arrangement fixed on a boat-bridge, as on the river Chambal. In such a case all alight from the car except the chauffeur, and one passes cautiously over, for the whole construction is weighed down and shakes. Sometimes the car sinks and one has to push it along. Finally one gets to the other side, heaving a sigh of relief. For fifteen miles north of Nasik the river Kadwa has no bridge at all, and as it is too shallow to allow the use of a ferry, it has to be forded. Seeing the natives and their carts passing over, one advances confidently. But the car is heavy; it sinks in the sands, the water rises, reaches the flywheel, which churns up magnificent water jets, inundating the carburettor and causing short circuits in the ignition. It means a ridiculous pause in the middle of the stream. Happily the natives are near. They run towards us and help obligingly to gain dry ground. After a few minutes' baking in a delicious sunshine the water evaporates, everything gets all right again, and onward we speed merrily.

Twice we had to borrow a ferry-boat. It was not a very easy affair; at Kalyan, coming out of the Isle of Salsette, on which Bombay is situated, it went off comparatively well, but at the river Tapti, thirty miles north of Dhulia, in the course of our third stage, we came suddenly on the bed of this broad river emptied of about three quarters of its waters. It is particularly steep and sandy, so that the wheels of my



Germain, brave as it was, sank right into the shifting ground to a depth of more than a foot. We had to be pulled out by oxen, but coming to the water's edge it was necessary to get the car on board the ferry, a not very easy matter. We succeeded, however, thanks to the help of legions of natives. Unloading was more easy, but again we had to call in the aid of oxen to drag us over the 500 yards of shore. From one end of the road to the other there is an enormous traffic; we met



Miss Mabel Green on her Reo 16-h.p. Landaulet.

A similar chassis fitted with a standard touring body was recently driven from Plymouth to London without once changing gear, a noteworthy performance for a 16-h.p. two-cylinder car.

bullock carts in thousands, native vehicles drawn by teams of oxen, carting mostly cotton, and riders on horseback. When approaching Agra we saw many dromedaries, mounted by two persons or yoked in pairs to large four-wheeled carts. The number of great herds of zebras, buffaloes or bullocks, goats and sheep is inconceivable. Then there are, of course, the fowls and the stupid curs, without which a good motor-car would feel out of its element. But they all get out of the way, slipping to the right and left into the fields, wherever the road allows it; but, when it is narrow, and flanked by parapets, one has to look out, for oxen and horses make frightful plunges, as the carts travel mostly in caravans, and as the drivers at the sight of the motor immediately stop their teams, and then, having recovered from their stupor, belabour them with sticks. The poor oxen, frightened at this onslaught, draw back and throw themselves sideways. This occasions an obstruction, which can only be overcome by exercising great patience and swallowing a lot of dust. As to wild beasts, though I was assured that some districts traversed abounded in game, we only saw a few antelopes and jackals, usually at daybreak. On the other hand, birds could be counted by several thousands—pigeons, turtle doves, parrots, and other species which one had no time to recognise. There are also the inevitable ravens, so necessary, yet so ugly, eagles and vultures, especially near Agra. It behoves me not to omit mentioning the charming little zebra-striped squirrels, which swarm everywhere.

(To be concluded.)

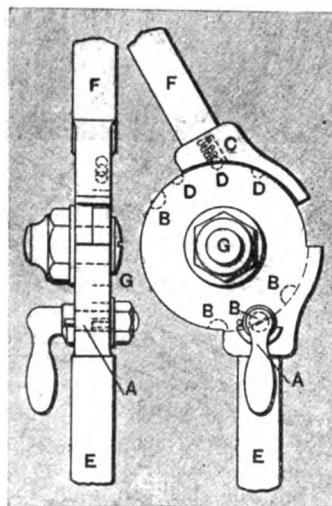
THE roads to places East of London are by no means pleasant, at all events in their early stages, as they go through the least attractive suburbs of the Metropolis. In going to Lowestoft or Cromer, one has to traverse Whitechapel, Bow, Stratford and such like places. However, when London is once left behind the roads are quite good, if not very attractive from a scenic point of view.

## TOOLS FOR MOTOR REPAIRING.

THE rapid development of the automobile movement during the past few years has not only brought about an extraordinary demand for machine tools for works, but also for smaller tools for repairers and private garages. Not a few motorists in different parts of the country who own two or more cars have found it advantageous to establish a small repair workshop in connection with their motor house. Among the firms devoting special attention to the manufacture of small tools adapted for the purpose referred to is Messrs. Drummond Bros., Ltd., of Ryde's Hill, near Guildford, who have recently introduced a useful 3½ in. self-acting, sliding, boring and screw-cutting lathe, which is not only of high grade construction, but is claimed to have a capacity of making throughout a 3-h.p. cycle motor. The bed, which has a short gap, is 2 ft. 6 in. long, and among the other details are a back-gear, set-over headstock with steel hollow mandrel running in adjustable gun-metal bearings, set-over tailstock with steel barrel and square thread screw; a self-acting slotted boring carriage, carrying a slide rest, graduated for taper turning, a set of change wheels cutting all Whitworth threads from ⅛ in. to 2 in., also fine threads and all usual metric pitches, and a heavy turned three-speed fly-wheel with a well designed treadle motion. Messrs. Drummond inform us that they have supplied this tool to the War Office after it had passed some very stringent tests with regard to accuracy of construction, amongst which may be remembered allowance of error in facing slide, 0 in.; spindle of lathe to run true to 1/1000 in. per ft., and spindle fast and loose, headstock parallel to bed and true with bed, 0 in. These tests, together with the moderate price, should commend the lathe to those motorists who are contemplating laying down a small plant to carry out their own repairs.

## A NEW WIND SCREEN JOINT.

IN a recent issue we referred to a new adjustable joint for wind screens which was being placed on the market by Messrs.



James Neale and Sons, Ltd., of 68, Graham Street, Birmingham. To the commendation then given of a really admirable device, by which the upper half of the screen can be placed in a number of different angles in relation to the lower portion, we now add the accompanying illustration. The joint is definitely locked in position by means of the locking pin A engaging with semi-circular slots BBB in one half of the joint. The predetermined positions are indicated by the spring ball ratchet C, which engages with the recesses DDD in the fixed member of the joint. E is the screen support attached to the dashboard, F

the side member of the movable portion of the screen, and G the centre bolt on which the joint rotates. The device is an effective one, upon the introduction of which Messrs. Neale and Sons, Ltd., are to be congratulated.

SEVERAL well-known motorists have suggested the endowment of "The Automobile Cot" at the children's hospital at East Clandon, Surrey, for the children of drivers of motor vehicles and of workers connected with the motor industry. Subscriptions may be sent to Lady St. Helier, 79, Harley Street, W.; Mrs. Wilson Noble, Tangley Park, Guildford; or the Secretary of the Alexandra Hospital, Queen Square, W.C.



LORD MOSTYN has placed an order with the Daimler Company (through Messrs. Drake and Gorham), for a 30-h.p. chassis with 10½ ft. wheelbase.

THE Eerste Nederlandsche Rijwiel en Machinefabriek (H. Burgers) of Deventer, have been appointed agents in Holland for the Starling and Stuart cars of the Star Cycle Company, Ltd., Wolverhampton.

AN Albion 16-h.p. motor delivery van has recently been shipped to Africa to the order of the Southern Nigerian Government.

THE forthcoming Cordingley Show at the Agricultural Hall is referred to in a Dutch contemporary as the "Automobielenoonstelling."

AT a meeting of the Institution of Civil Engineers, on Tuesday, last Col. R. E. Crompton read a paper on "Modern Motor Vehicles."

MESSRS. BARNETT MOTORS, LTD., of Birmingham, have, we hear, secured the British agency for the Spanish-built cars known as the Hispano-Suiza, which made their debut at the Paris Salon.

IN connection with the recent movement against noisy motor-buses, the Coventry Chain Company, Ltd., inform us that in connection with their roller chains they have adopted a method of increasing silence in chain-driven vehicles.

THE new depot of the Humber Company at Birmingham is at 280, Broad Street—nearly opposite the Bingley Hall. The premises comprise three floors and a basement, and are being fitted up for repair work as well as the display of automobiles.

IN order to secure something like uniformity in the charges for petrol, oil, tyres, and accessories in the automobile trade of Ireland, the Irish Motor Traders' Association has been formed, with Mr. E. M. Stirling, of Messrs. Mann and Overton's, Ltd., Lincoln Place, Dublin, as secretary.

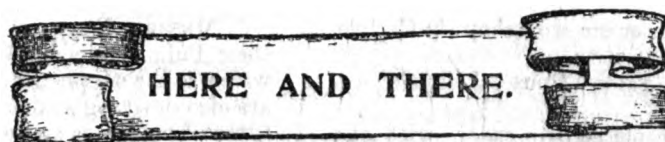
A MOTOR vehicle fitted with the Hartridge tyre has been traversing some of the main streets of London during the last few days demonstrating the non-skidding properties of the tyre. It is being introduced by the Hartridge Tyre Syndicate, Ltd., of 265, Strand, W.C.—opposite the Gladstone statue.

AT the first annual ball of the office staff dinner of the Daimler Company, held at Coventry last week, about 230 ladies and gentlemen were present, and Mr. A. Freeman, the hon. secretary, is to be congratulated on the success of the event. Most of the local motor manufacturing firms and allied trades were represented.

FROM Messrs. Robert Spence and Son, Richmond, Yorks, comes a descriptive circular of the Omnium oil ejector they have recently introduced. It takes the form of an oil can with a long spout; it has a forced feed, obtained by pressure on a thumb button which compresses the air in a plunger, and which will discharge the oil a distance of 15ft. if necessary.

AT the adjourned inquest at Leeds concerning the deaths of two persons killed in the recent motor-car accident in the Roundhay Road in the city, the foreman announced that twelve of the thirteen jurors had decided to bring in a verdict of manslaughter against Mr. Atkinson, the driver of the motor-car. A verdict of "Manslaughter" was therefore recorded. Mr. Atkinson was committed for trial, bail being allowed.

NOW that Elastex is attracting so much attention it is not surprising that other substitutes for air in motor tyres are beginning to make their appearance. Reference has already been made to Kegperton, which has been put on the market in France, while last week Mr. T. Spong, of Shaftesbury Avenue, W.C., showed us a sample of a new substance in which he is interested. Its main feature lies in the fact that in addition to the usual glue, glycerine, and chromic salts, finely powdered rubber enters into its composition, with the object of increasing the resiliency of the tyre. Mr. Spong informs us that, with the view of giving his new product a practical trial, he will be glad to fit it to the tyres of a car of any motorist interested in the new departure, if he will communicate with him.



MR. NORMAN SALMOND has been appointed manager of the West End Depot, 311, Oxford Street, W., of Messrs. H. M. Hobson, Ltd.

THE Star Engineering Company, Ltd., of Wolverhampton, are making fresh arrangements regarding the representation of the South of England, and will be glad to receive communications regarding agency terms.

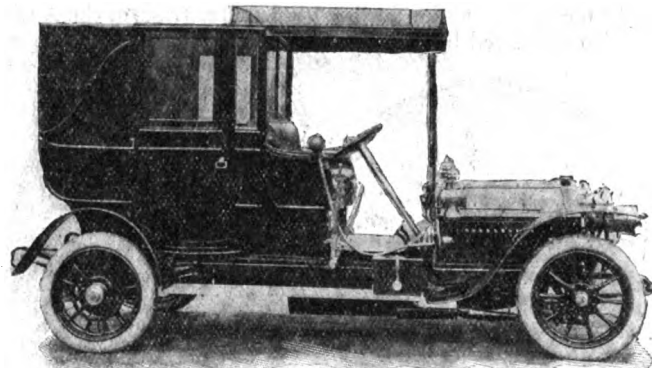
THE Vapour Emission Competition of the A.C.G.B.I. will be held on Tuesday, March 19th, and the last day of entry will be the 2nd prox.

CARELESSLY throwing down a lighted match after lighting a cigarette, a youth set fire to some petrol and a motor-car was destroyed at Haywards Heath the other day.

THE Windham Detachable Body Co. have removed to 22A, St. John's Hill, Clapham Junction, S.W. The new premises have been specially constructed for body building.

MR. J. W. BROWN, of 10 and 11, Jermyn Street, W., is acting as Capt. Stanley's agent in respect of the automatic change-speed gear described elsewhere in the present issue.

THE corporation of Leicester is making a bold bid to secure the establishment of a motor-car works in the town, and is seeking the assent of the Local Government Board to the sale of a site for the purpose at less than the market value.



The 20-h.p. Crossley Chainless Double Landauet recently supplied by Messrs. Jarrott and Letts to Mrs. Money-Coutts.

The body is arranged to seat four passengers comfortably in the interior and two in front, including the driver.

A COMMITTEE of the Haslingden Cotton Manufacturers Association has been appointed to consider the question of developing a motor service for the cotton manufacturers of the district, on lines similar to those which are being introduced into the Potteries.

A CATALOGUE of their motor engineers' stores comes from Messrs. W. H. Willcox and Co., Ltd., of 23, Southwark Street, S.E. This firm is well known in connection with lubricating oils and greases for motor-buses, vans, wagons, lorries, &c., its "Atlas" motor greases being a speciality of repute. These are made in various consistencies, particular consideration being given to high melting points, thereby ensuring economy with efficient lubrication. In lubricators, pumps, valves, motor jacks, motor kits, safety lamps, &c., many good examples are illustrated and the list is likely to be of service to motorists generally.

MR. A. C. DAVISON, whose works are in Pleasant Row, in the High Street, Camden Town, N.W., has issued a useful catalogue of his motor adjuncts, among which are the Davison petrol and oil gauge fittings. The light car gauge is intended to be screwed to the dash of the car, and is fitted with a tap to shut off the petrol. Other types are made for motor-bicycles, that known as pattern 1A being in the inclined position which, combined with the magnifying properties of the glass, allows the level of the petrol to be seen from the saddle. Mr. Davison's needle valve for the carburettor is another speciality. In this the union of the valve is fitted with a cork washer requiring little force to make it tight and not being affected by grit.

MR. LOVE is erecting large motor-car workshops in Carlyle Road, Kirkcaldy.

MESSRS. JONES AND CO., of Talbot House, Lichfield, are extending their motor garage.

THE Marquis Dumas has placed an order with the Daimler Company for a 28-h.p. 11½ ft. wheelbase chassis.

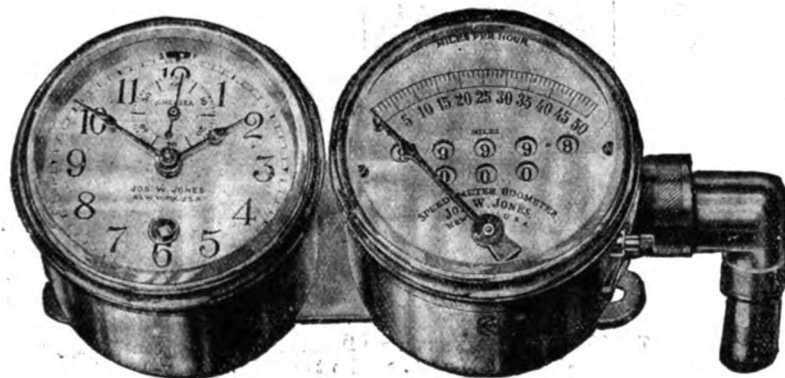
MESSRS. A. DOWNIE AND SONS are about to build motor-car bodies in large new works in the Townsend Place, Kirkcaldy.

MUCH interest is being taken in Kidderminster in the report that a motor manufacturing firm is about to erect works in the town.

MR. E. R. PICKMERE, the town clerk of Liverpool, is contributing a series of articles on roads in relation to motor-car traffic in the "Local Government Officer."

SOME of the disadvantages of allowing local authorities to control matters of trade importance are seen in India in connection with motor affairs. In the Central provinces petrol can only be transported in two gallon cans; in Bombay and Calcutta four gallon drums are allowed.

MESSRS. MARKT AND CO., of 6, City Road, Finsbury Square, E.C., have become well identified with the business in speed indicators and odometers. In the latter department they have the Veeder device, which can be supplied on the wheel and striker principle or with a gear drive. Fitted either to the dashboard or the axle it provides a strong and accurate instrument for the motorist. The Jones Speedometer that attained gold medal distinction in the speedometer trials of the A.C.G.B.I. is also marketed by Messrs. Markt and Co., who have a wide



range of models from the fifty-mile speed indicator to that which registers up to 100 miles per hour, giving also a distance reading up to 10,000 miles. Their latest introduction in specialities of this class is the combined speed indicator and clock shown in the accompanying illustration. This makes a handsome addition to the dashboard fittings, the clock being mounted in a case to pair with the speedometer. These are some of the specialities with which the firm are most popularly identified, their range of other motor accessories including horns, bells, voltmeters, motor clocks, and similar appliances, distinguished by accuracy and good appearance.

BETWEEN Monday night and Tuesday morning the premises of the Germain Motor Cars, in Hanover Court, Hanover Street, W., were forcibly entered at the rear, and two silver cups (one of which was presented by the Hertfordshire Automobile Club and won by a 14-h.p. Germain last year, and the other, which was presented at Blackpool for the flying kilometre, and won by an 18-h.p. Germain) were stolen.

THE annual exhibition of the American Association of Licensed Automobile Manufacturers has just been held in Madison Square Garden, New York. Altogether there were 265 exhibitors, the car stands being divided as follows:—American petrol machines, thirty; foreign petrol vehicles, twelve; electric, seven; and commercial cars, nine. The balance of the exhibits was made up of tyres, oils, and the thousand and one accessories now being turned out. Messrs. Smith and Son's speed indicator, complete with total mileage and trip recorder, was exhibited for the first time in America at the New York show.

MESSRS. BRANDES AND CO., Coventry, send a circular of their Fulminator magnetos, a special point in the construction of which is the simplicity of all the moving parts. The makers are also devoting attention to the repair and adjustment of all types of magnetos and coils.

MESSRS. GEORGE ACE, LTD., have just opened extensive premises in Swansea with showrooms at 64, Wind Street, and large and commodious garage and repairing works in St. Helen's Road, where every appliance for up-to-date and speedy repairs is installed. The firm have also extensive premises at Tenby and Haverfordwest.

ON Monday next Mr. Frederic Coleman is opening an Edinburgh branch of the White Company at 6A, Devon Place, where he will have a well-equipped garage. A stock of spare parts and several competent mechanics will be kept at this place. A 30-h.p. White steam car will be on exhibition at this depot during the Edinburgh show.

As a result of the negotiations between the Auto-Cycle Club and Motor Union, a satisfactory arrangement, which will be brought before the Committee of each body for confirmation, has been arrived at. A great deal of credit for the satisfactory settlement of the difficult situation is due to Dr. Hele-Shaw, who was proposed by the Auto Cycle Club representatives to take the chair at the Conference, and who suggested methods of compromise which were satisfactory to both parties.

THE value of the motor-cars and parts exported from the United States during the eleven months ending with November last is returned at £833,406, as against only £499,802 in the corresponding period of 1905. Of the total, the United Kingdom is responsible for no less than £222,123, Canada taking the second place with £169,454, and Mexico the third with £135,656.

MESSRS. GLOVER BROS., LTD., have acquired extensive additional premises from Mount Pleasant to Gough Street, near Holborn, E.C. The new garage is for the accommodation of motor-vans, which Messrs. Glover Bros., Ltd., drive, garage, and keep in repair at a fixed price per annum, according to the mileage travelled by the respective vans.

THE Bowden patent wire mechanism is fully explained in the new catalogue issued by E. M. Bowden's Patents Syndicate, Ltd., of Baldwin's Gardens, Gray's Inn Road, W.C., for 1907. This is a profusely illustrated trade list showing the application of the mechanism in connection with brakes for cars, ignition and throttle control for automobiles generally, valve lifters for motor-cycles, auxiliary air regulators, motor-boat control, change-speed gear, &c. It will be useful for reference by motorists generally.

CLASSES in motor-car engineering have been established at the University College, Nottingham, as a means of preparation for the examination for the certificates of the Automobile Club, in addition to those of the City and Guilds of London Institute in motor-car engineering. The second part of the course in motor engineering will deal with speed gears, steering gear, clutches, cooling, lubrication, readjustments, transmission, the chains, and management of cars, &c. The lecturer is Mr. G. P. Mills.

THE road manager of the Automobile Association reports that the Continental tyres fitted on the Association's 6-h.p. Rover car have worn very well. After running about a couple of hundred miles the detachable non-skids were put on. At the end of 2,000 miles the non-skids wore out, but the covers looked as good as ever. Pullman non-skid bands were then vulcanised on, and the car was run for over 3,000 miles with them.

MR. FILSON YOUNG recently drove a 60-h.p. six-cylinder Napier car from the Lizard to London, using the top gear all the way. The first and second speeds were never used throughout the whole journey of 300 miles. On two occasions, however, where he encountered traffic in the middle of a hill and had to stop, Mr. Young ran the car back by gravity to the level, started again on the top gear, and proceeded on his journey. On two other occasions where he took a wrong turning the car was run back on the reverse to the point of divergence, starting again in both cases on the top gear.

## CORRESPONDENCE

[Letters to the Editor should be addressed to the offices,  
87-88, Charing Cross Road, W.C.]

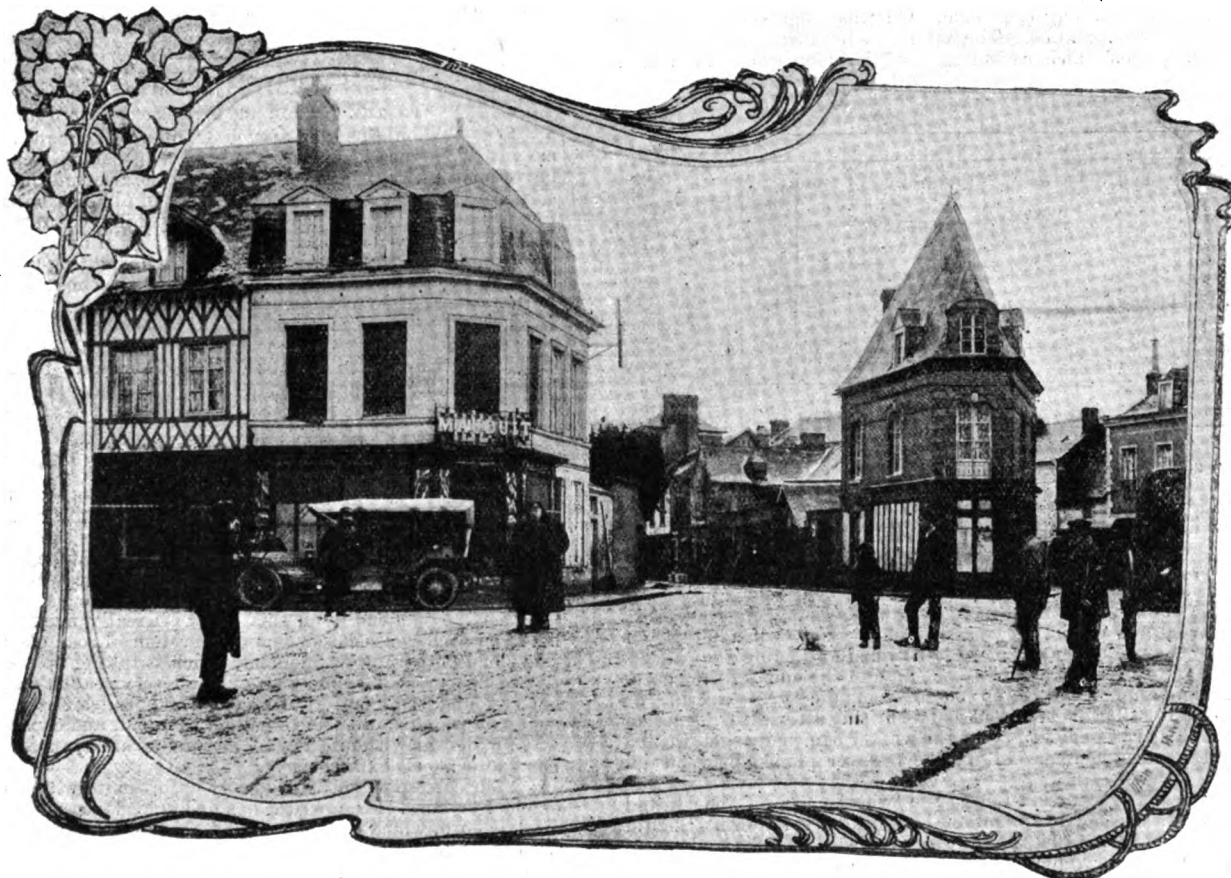
### MOTOR LUBRICATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The letter from Mr. J. S. Critchley in your last issue raises many points of interest to the motorist in search of the best obtainable results from his machine. The lubricant needed is the one which will reduce friction to an irreducible minimum, and one would think that this would be, as it should be, the buyer's first consideration, but it is frequently his last. Such comparatively unimportant questions as—Will it go through my lubricator? Will it go through too quickly? Will it leak through the joints in the crank chamber? What is the specific gravity? What is the flash point? It is a dark thick oil? Is it a

Mr. Critchley's remarks are, I take it, confined almost exclusively to the first named (and in this I agree with him) for he would not, I am sure, advocate the use of a thin oil for the lubrication of the "big ends" of an 8-h.p. single-cylinder engine, or of a large multi-cylinder engine. It is true that much thinner oils than are generally employed would efficiently lubricate group (a) where the piston was a good fit and the cooling system good, for the thinner the oil the better, so long as the cylinder and piston can be kept apart by a film of oil on the surfaces, but the most efficient oil in this respect would be in many cases inefficient in its application to group (b). There are very few motor-car engines fitted with a system of lubrication whereby different oils can be used, so the oil manufacturer not only has to group the friction places, but group the groups and effect a compromise between the requirements of group (a) and (b) and supply an oil which will give best all-round results. With perhaps the exception of small gas and oil engines, the motor-car engine is the only one where a single oil has to meet these varying conditions, two and sometimes three different oils being employed on a single engine.

The motorist who considers these points would be wise, therefore, to use a lubricant which he has found from personal experience and the experience of others under actual road conditions to meet the twofold



A View of Lieury—one of the little French towns on the course on which it is proposed to hold the Contest for the Coupe de la Presse.

pale coloured thin oil? How much does it cost per gallon? are sometimes allowed to determine the kind of lubricant employed. Lubricator are often bad enough to make the use of the right oil impossible. Others lubricators, capable of adjustment, might take the right oil, if adjusted, yet there are those who will use oil which adapts itself to the lubricator rather than alter the lubricator to feed the right oil in the right quantity.

There are many questions involved when this subject is under discussion, so I will confine myself to the point raised by Mr. Critchley as to whether thin oil is best for the motor. The first thing to consider is that there is a best possible oil for every friction place; that would be too fine a point, so the oil manufacturer who studies the question has to "group" the friction places and make the best possible oil for a particular "group," that is as near as you can go in practice, apart from the experimental shop. There are two most important and totally dissimilar friction places in the motor-car engine, viz. (a) cylinder walls, piston and gudgeon pin, (b) crank shaft bearings, cam shaft and big ends of connecting rods, and to obtain the maximum power output of which an engine is capable it would be necessary to use the best oil for each place. In (a) we have sliding friction with light pressure under considerable heat, and in (b) rolling friction with considerable pressure and comparatively low temperature, and these conditions being unlike need equally careful consideration.

purpose satisfactorily, rather than change to an oil which, theoretically more efficient for one purpose, might be a failure in a dual capacity. Comparatively thin oils always give more efficient results on the testing bench, where there is little oscillation and no excessive vibration, because a very fine film of thin oil will under these conditions (as perfect as they can be made) keep the metal surfaces apart, but such a film would be destroyed on the application of sudden jar or pressure, such as might arise under working conditions; the film would be destroyed, and metallic contact would result.

Another point worthy of consideration is that engines vary just as friction places vary in their conditions. Engines vary in working temperature of cylinder walls, piston speed, compression, system of lubrication, pressure on crankshaft bearings, &c., and to get the accessory dealer to stock lubricants to meet all the different conditions on all the different engines is at present outside the range of practical politics, so we must aim at getting the best all-round results.

I sincerely trust that my letter will not be read into a direct opposition to Mr. Critchley's argument, but, on the contrary, as qualifying his statements, and, if I may say so, carrying his argument a step further, for I am not arguing for either thin oils or thick oils, but for the right oils from a friction reducing and practical standpoint.—Yours truly,

ALBERT E. NEWTON.

## FOUR v. SIX CYLINDERS.

TO THE EDITOR OF *The Motor-Car Journal*.

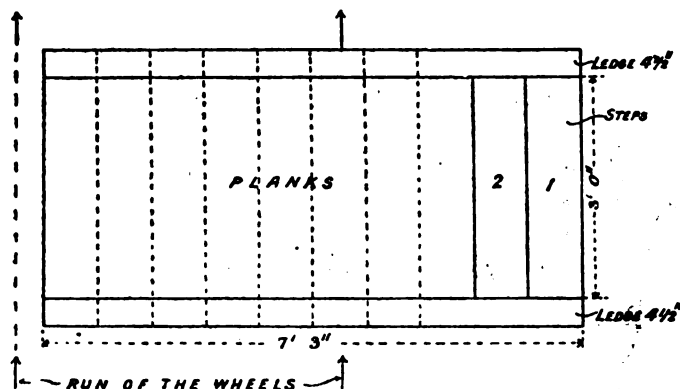
SIR,—There appear to be a lot of claimants for the first six-cylinder motor. I had one running in a boat at the time of the Gordon Bennett race in Ireland, in 1903, and what is more, it had the synchronised ignition. I believe this was the first six-cylinder motor running in this country, at all events with this ignition. The motor was built to my order by Messrs. Brooks, of Lowestoft, and the ignition distributor by Mr. F. C. Blake, of Kew.—Yours truly,

S. ESTCOURT.

## THE CONSTRUCTION OF AN INSPECTION PIT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Replying to "Rotherham's" question in a recent issue of the *M.C.J.*, after thinking the thing out for weeks, I have recently had a very useful and practical pit placed in my new motor house. The pit itself is of corrugated iron as supplied ready-made by Messrs. F. W. Besant and Co., of Wimborne, Dorset. The size is 7 ft. 3 in. long by 3 ft. wide by 3 ft. deep. Four feet is the stock depth, but mine was purposely made 3 ft., and this proves quite deep enough, as work can be more comfortably done in a sitting position. The upper edge of this metal pit is sunk 3 in. below the floor level, and a ledge, just a brick wide ( $4\frac{1}{2}$  in.), runs along each side. On this ledge solidly rest the ends of a row of 3 in. planks. The pit is itself constructed with iron steps at one end, upon which, as well as upon the floor, wood can be laid.



It is thus self-contained, water-tight, dry, and clean to work in, and, being enamelled white, reflects light well.

My pit has been placed at right angles to the run of the car in such a position that the front (or back) wheel on one side travels just clear of the end opposite the steps. The corresponding wheel thus runs along the full length of one plank only, the other planks being, in every case, removable for access to the pit and the car; whereas if a pit is put lengthways to the run of the car it is often difficult to guide the wheels so accurately as to clear both sides of the pit and the ends of the board. A pit set at right angles requires no such extreme nicety of steering on entrance, nor adjusting by laborious hand-shifting afterwards. Another advantage of this arrangement is that the worker can easily get in and out of the pit at the side of the car, and he is never pinned beneath its full length.

The car can, of course, unless the wheels are off, be shifted forwards or backwards across the pit as the work may require. Should the motor house be very short, the pit can be located nearer the door, or the car can be run in for repair purposes the opposite way to what is usual. I append a rough sketch to make the description clear.—Yours truly,

LEVESON SCARTH.

## SUBSTITUTES FOR PETROL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—No doubt you are aware a great deal of interest has been caused recently by the suggestion that Borneo spirit of .760 specific gravity should be used in motor-cars, and if successful it would mean that a very large quantity of spirit could be put on the market at a considerably reduced price as compared with the present American or other petrol. To see whether this really was practical I have had some careful tests made. The Borneo spirit had a specific gravity at 39 Fahr. of .765 as compared with .720 specific gravity at 39 Fahr. of the ordinary Pratt's or Shell spirit. The first test was to take an ordinary six-cylinder Napier car on the road with a standard carburettor as adjusted for ordinary Pratt's spirit. The result of this test was that with the Napier carburettor the Borneo spirit seemed to do equally as well, so far as combustion was concerned, as Pratt's, and combustion was clean and clear at all speeds. The engine throttled as well and ran as fast. If the motor had been running very slowly it did not seem to pick up quite as quickly and undoubtedly the running considerably improved when the engine was warm—that is to say, it appeared that a little more warmth was desirable for the best carburation.

I then had a bench test made, and tried to get the horse-power

that the engine was developing under both tests as near as possible the same. The first test was with a light weight on the brake and the engine developing its power at a high number of revolutions, with the following result:—

The Borneo spirit gave 42-h.p.

The Pratt's spirit gave 42.9-h.p.

With a heavy weight on the brake and the engine developing its horse-power at a slower number of revolutions, the result was:—

The Borneo spirit gave 39.7-h.p.

The Pratt's spirit gave 40.3-h.p.

On the tin in which the Borneo spirit was supplied there is a caution that more air should be used than for ordinary spirit; but, curiously enough, the tests I have made do not seem to confirm this, as in one case 6 more horse-power was obtained without the extra air open, although, curiously enough, in another case under the same conditions the power was 5 horse-power less, so that evidently during cold weather it is unnecessary to give more extra air. The Borneo spirit appeared to vapourise quite perfectly with the engine running in every way as it runs on ordinary petrol.

To sum the matter up, the position is that the Borneo spirit could be used with perfect confidence by users, but when the engine is quite cold it is a little more difficult to vapourise, and the tests undoubtedly prove that we have another source for motor-car fuel, and at cheaper prices than the ordinary spirit.—Yours truly,

S. F. EDGE.

## SMALL STEAM CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be glad if you or some of your readers would oblige me with some idea of the above cars. Not being a wealthy man, I shall have to get a second-hand vehicle, and require information as to what sort would best suit my purpose. First of all, not to carry more than two persons, driver and passenger. Very hilly country, distance about sixty miles daily; fuel, paraffin if possible. I do not want the tedious work of air and water pumping, the torch lighting-up process. I must have one that will stand, say half an hour, without lighting up again. Perhaps some of your readers will give me their experiences, such as:—How long it takes to get up steam, fuel consumption, distance run without picking up water, and, when necessary, can the bucket work be dispensed with; miles per hour, cost of lubricants, for the daily journey mentioned, &c.—Yours truly,

C. BROUGHTON.

## SUBSTITUTES FOR THE HORN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—On page 1,017 in your issue of the 12th ult. I note J. H. H. makes a very peculiar statement in regard to the platinum points of electric horns. It is obvious from his letter that he has only tried one particular type of horn, and that he condemns the whole principle of the electric horn on this particular sample which he has used, and that he does not recommend it on this basis. I really must take exception to his remark, because it condemns a system of road alarm which is very prevalent at the present moment, which is taking up very well with the public, which is extremely useful and serviceable, easy to work, has a better sound than the ordinary type of horn, causes less annoyance to pedestrians, horses and live stock on the road, and causes them to make way for the car without showing any undue annoyance. This the writer has had personal experience of.

Your correspondent is evidently unfortunate with his particular type of electric horn. The writer has had a good experience of the Wagner electric horn, which is of the diaphragm type actuated by electric magnet with iridium platinum make and break, and given correct adjustment this make and break is excellent and does not fuse, pit, or give any trouble if the current consumption does not exceed five amps. The current the writer uses with this particular type of horn is an eight volt accumulator, but it gives excellent results with four volts also, but not quite so good as with eight volts. Forty watts consumption may strike the reader as a high consumption, but it must be remembered that the contact is only on for a few seconds at a time and not for any continuous length of time, and that between each moment of use the accumulator has a rest and appreciably picks up current during that rest, and it will easily be seen by this that even a twenty ampere hour accumulator will last a very long time.

However, the point I am writing about and which I am interested in is the platinum points your correspondent speaks about. Taking the Wagner horn as an instance, the contacts on this are made up of 20 per cent. iridium and 80 per cent. platinum, with a face contact of  $\frac{1}{8}$  in., and the platinum itself being  $\frac{1}{8}$  in. deep from the surface of the metals into which they are screwed, and I find that they last some months if cleaned now and again. Of course they pit slightly in the same way that the best induction coils in modern use do. This cannot be helped, as by the passage of the electric current through the points a process of electrolysis is set up, which finally decomposes the surface of the points and they pit slightly. If the surface of the platinum points is not  $\frac{1}{8}$  in. in diameter, but is less than this, and the current consumption is at the rate of forty watts per hour, of course, as the diameter is decreased so the chance of platinum pitting is increased in proportion, by reason of the lesser cross section of the points, so that the trouble of J. H. H. would point to the fact that the platinum points are of a less



diameter than they should be, or that the metal used is not iridio-platinum, but of some inferior substance. For instance, pure platinum gives not nearly such a good result as iridio-platinum. The combination of 20 per cent. iridium with pure platinum gives an extremely hard substance, which has very durable qualities with next to no resistance.

When J. H. H. states that platinum points run into 10s. per week, I am inclined to think he is exaggerating slightly the facts. My iridio-platinum points, for instance, to be fixed cost me at the rate of about 4s. 6d. to 5s., and a pair of these contacts will last many months' ordinary use.

Just a word as to the efficiency of the Wagner electric horn that I am speaking of. As a road-clearer it is unequalled; if the sound obtained from the horn is of medium quality, neither too deep nor too light, it carries extremely well, and by tests I have made carries 50 per cent. further than the best air reed blown horn of the bulb type that I have ever used, and as before stated, it has a very moderate effect on pedestrians, and has not got the startling suddenness of a deep bellowing horn or a clashing, clanging bell, but seems to quietly intimate to them that there is danger.—Yours truly,

S. J. WATSON.

## A SUGGESTED LIGHT CAR TROPHY RACE.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I append a copy of a letter I have sent to British manufacturers of light cars, in the hopes of obtaining their co-operation and support in the organisation of a light car trophy race and with eventually bringing into being what we consider to be a much-desired event.

"As a manufacturer of small cars, would you be interested in the organisation of a light car contest, to be known as the Light Car Trophy Race, to be held on the same lines as the Tourist Trophy Race, and providing the consent of the A.C.G.B.I. be obtained, possibly in conjunction with the same. The Automobile Club having at present no provision for light car trials, and the manufacturer of light cars having to look solely to the Scottish and Irish clubs for the opportunity of making public performances with their cars, I wish to put before you a plan for a contest; which I hope will have your support. My suggestion is as follows:—That all the manufacturers of light cars, who desire such an opportunity, band together, and provide a sufficient stake for the organisation and expenses of the race, including the trophy. That a committee be appointed, which shall consist of one representative from each manufacturer, to arrange the details of the race. Finally, that these details be submitted to the A.C.G.B.I. for approval, and the club be asked to take the race under its auspices and to provide the necessary officials. The race to be run on a road course for the purpose of demonstrating the following points:—Reliability, petrol consumption, freedom from tyre troubles, reasonable speed. If you would be willing to co-operate in such a plan as I have briefly outlined, an early reply will greatly help to advance the movement."

Not only will a Light Car Trophy Race be of great benefit to the trade in general so far as the manufacturer of light cars is concerned, but we are sure that the would-be purchaser of the "car for the man of moderate means" will also derive exceeding benefit, inasmuch as in this way he would have as good a chance of comparing the merits of the light cars as the wealthier members of the community at the present time have for comparing those of the larger and more expensive types. We hope you will invite correspondence and discussion as to the advisability of this plan in your valuable columns.—Yours truly,

A. H. ADAMS.

## INCREASE OF POWER.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Following always with the greatest interest the columns of this part of the *M.C.J.*, I shall feel obliged if some of the motoring friends could offer me their advice or experience of a Benz car. No doubt there are many who possess or are looking for help towards this particular type of car. It is a great pity that one hears so little of these old cars. If properly rebuilt and improved according to the latest practice, or as near as possible, I do not see any reason why this vehicle should not prove a success.

I dismantled my Benz of 12-h.p., bought a pressed channel steel frame and mounted the engine in front, behind a radiator, and fitted a clutch similar to an external brake which gave a good amount of space for transmitting the power by means of a chain to the gear-box. I also altered the wheels and have now equal front and rear ones of 34 in. As regards the carburettor I may say that I fitted a Longue-mare in lieu of the old one. A new inclined steering column, pneumatic tyres and a nice body have made the car smart looking. As regards power, I am all right on first, second and third speed, but unfortunately I cannot get out anything to please me on the top speed; in fact, it seems to me that the latter ratio of gear does not come up to the third speed. The cylinders are of course perfectly tight, having fitted new rings and new packing. The car itself ought to do much better, considering that the total weight as compared with the original design is much less.

I thought of improving, or, better to say, increase the compression, but the result obtained was rather a negative one and I decided to have the motor pistons as before, i.e., without a packed top. The last improvement I think to make is to fit a high tension magneto, but I am

not sure if this will help me very much, yet I am in favour of same. I cannot see why the third speed pulls well, the top speed not. As mentioned above, the car weighing now considerably less, should under all circumstances drive better.

I may say that I consider the third speed about sixteen miles per hour, and should say that with advanced ignition and magneto a speed of twenty-five to thirty miles on top speed (fourth) must be easily obtainable. The engine of the Benz car is only rated at 12-h.p., but, according to my views, it is underrated.—Yours truly,

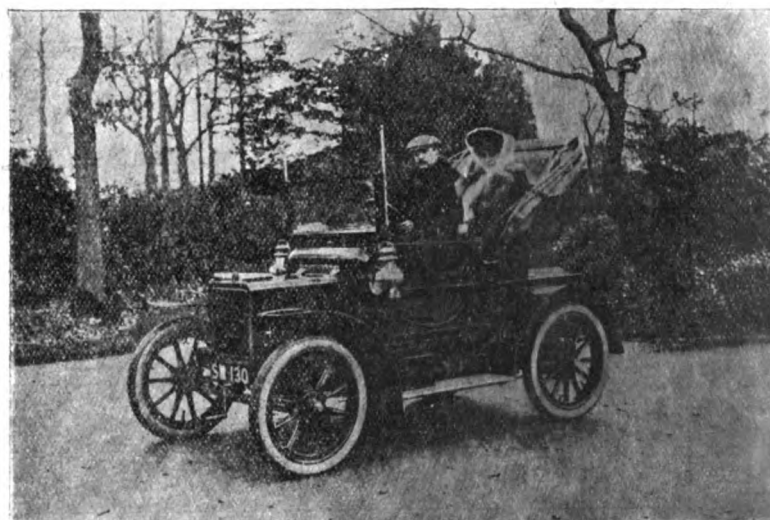
MAGNETO.

[Not knowing the ratio of the gears in "Magneto's" car, we should be rather inclined to think that the same were too high for the power of the engine. No doubt an increase of speed could be obtained by speeding the engine up a trifle, this by giving a little more advance to the ignition; but, even then, we doubt if a speed of twenty-five to thirty miles per hour could be obtained. If the same gear ratio is used as fitted to the car previous to reconstruction, it is possible some working part may be causing friction sufficient to hold the car back when on the top gear. We do not think the fitting of a high tension magneto would have the desired effect, although a slight increase might be obtained.]

## NON-FREEZING ENGINE COOLING SOLUTIONS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have been interested in the correspondence on the above subject. In my experience with non-freezing solutions, I found the water, alcohol and glycerine solution good till the alcohol evaporated, which depends upon how hot the motor is run. Glycerine in the solution seems to serve the object of helping to keep the alcohol from evaporating so fast, but I found it troublesome to watch and keep up the proper pro-



Lord and Lady Herbert Scott on their 8-h.p. Rover Car.

portion of alcohol. Next I tried a neutral solution of common salt, three-quarter saturated solution, one-quarter water, neutralized by sodium carbonate or sal soda, so that when two pieces of litmus paper, one red, one blue, were dropped into the solution neither would change colour. As an anti-freezing mixture it is good down to any temperature we have had this winter; also, it can be easily replaced even on the road. The solution has proved so handy that I can strongly recommend it for a machine having a circulating system with small exposure of soldered surfaces. The solution does not attack copper, iron, or rubber.—Yours truly,

T. BURNHAM.

## CASE HARDENING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I shall be very much obliged if you, or any of your readers, would let me know the best method of case hardening mild steel. I have tried yellow prussiate of potash, but I find it only faces the metal, while I want something which will bite into it.—Yours truly,

J. LETCH.

[There are two methods of case-hardening, and these are known as open hearth and muffle. The latter is the best, as the results are far more reliable, besides which any desired depth of carbonisation may be attained. Where only a very superficial hardening is necessary, one of the materials is "Scintilla," but failing this the white cyanide of potassium will give fairly good results, and is better than the yellow prussiate. The article must be heated to a clear, bright red and the powder sprinkled carefully and evenly all over the part it is desired to harden. The powder should, especially in the case of cyanide, melt and run over the surface. If extra depth is required, the surface may be scoured and the heating and melting repeated. Quench in clean water,

at a cherry red in the dark. Muffle hardening takes anything from two to eight hours, and the old-fashioned Palfreymans bone black takes a lot of beating for reliable results. However, there are compounds sold which do the work in half the time, one specially good brand being supplied by the Tentonia Steel Works, of Sheffield. Muffles are often now heated by gas.]

### THE STANDARDISATION OF NUTS.

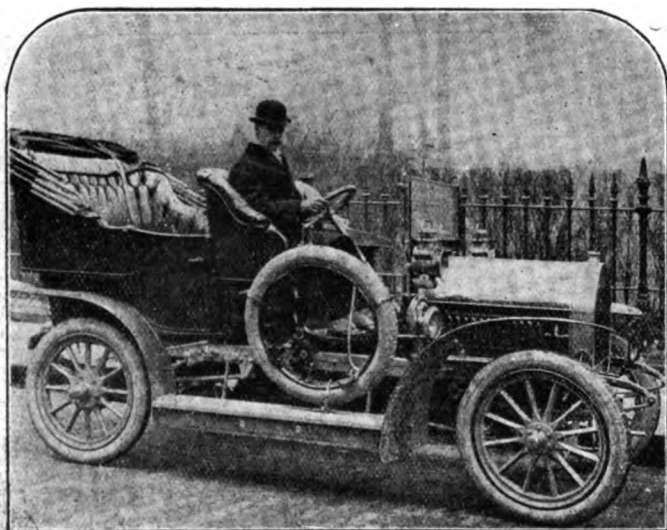
TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have been interested in Mr. Martineau's remarks on nuts. I have a car by a very well-known firm in the metropolitan area, on which there are at least eight different sizes of nuts and unions. Even worse is the fact that four of the nuts, unions and plugs are  $\frac{3}{8}$  in.,  $\frac{1}{2}$  in.,  $\frac{5}{8}$  in.,  $\frac{3}{4}$  in., for which I have, of course, been unable to purchase spanners. Surely motor manufacturers might try to do a little better than this. A good set of box spanners will not take all the nuts.—Yours truly,  
R. HARRISON.

### VIBRATION AND LEAKY RADIATORS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Having noticed some correspondence in your and other journals respecting the leakage of honeycomb radiators, which is attributed to vibration of cars, I take the liberty of asking readers of the *M.C.J.* whether it is not a fact that the vibration on some cars is greater than on others.



Mr. J. Burnaby Atkins, of Tonbridge, on his 15-h.p. West Car.

Perhaps this is due to the balances of the engine or the true working of the same, as I know that honeycomb radiators made exactly alike, and tested to the same pressure before leaving the works, soon leak on some makes, whereas in other cases out of large numbers supplied no reference to this trouble has been heard. This appears to be answered in the affirmative, as shown on scores of motor-omnibuses now running in London and the provinces with pieces of tin soldered in place of the honeycomb tubes.—Yours truly,

INTERESTED.

**CATALOGUES WANTED.**—One of our Australian readers, Mr. F. G. Hill, 398, Riley Street, Surry Hill, Sydney, writes that he will be glad if manufacturers of motor-cars will send him a copy of their catalogues.

**INNER TUBE FOUND.**—One of the men employed by Messrs. R. Ranger and Co., Bower's Roller Mills, near Guildford, has picked up the inner tube of a motor tyre, which will be returned to the owner on sending particulars of the same.

**FOUR V. SIX CYLINDERS.**—Since our last issue we have received no less than three letters from Mr. S. F. Edge on the subject of four v. six cylinders which we regret we have not the space to publish. One is in reply to Mr. C. Jarrott, the second gives a copy of a communication addressed to Mr. Forest asking if the latter's six-cylinder engine was fitted to a motor-car. The third deals with Mr. A. Elsworth's letter, in which the latter states that the Spyker six-cylinder car was shown at the Crystal Palace in February, 1904, and was the only one on view. Mr. Edge gives conclusive proof that a six-cylinder Napier car was shown on the same occasion, and points out that an illustrated description of the vehicle was given in the *M.C.J.* of February 13th, 1904.

## CLUBS AND ASSOCIATIONS.

### MOTOR UNION.

THE MOTOR UNION AND MOTOR EXHIBITIONS.

THE Motor Union has made arrangements whereby its members are admitted free of charge to certain motor-car exhibitions on presentation of their current cards of membership. The list includes the shows at Glasgow, Newcastle, Edinburgh, Manchester, Sheffield, and the London, the latter being Cordingley's Exhibition at the Agricultural Hall from April 6th to April 13th.

### MOTOR YACHT CLUB.

A DEFINITE challenge has been received for the British International Cup from the Motor Boat Club of America, on behalf of the commodore of the club, Mr. Edward J. Schroeder, who proposes to bring his well-known racer "Dixie" over to try and lift the trophy. The date of the race will probably be somewhat earlier than last year, and will most likely take place during the last fortnight in July.

### LINCOLNSHIRE.

THERE was a good attendance at the annual meeting of the Lincolnshire A.C. on Saturday at the Great Northern Hotel, Lincoln, Sir H. B. Bacon presiding. The accounts showed a bank balance of £100, and the Committee report a very successful season in every way.

Sir H. B. Bacon was re-elected president, Mr. C. Nelson solicitor, and Mr. Godfrey Lowe was re-elected hon. secretary. Earl Yarborough was added to the vice-presidents, and the vacancy on the committee caused by the regretted retirement of Mr. W. B. Jevons was left for the committee to fill.

The revised rules for club competitions, in which the trade is barred in the club competitions, were passed, as well as a rule to arrange for competitions open to all members. Suggestions were made as to hill-climbs, speed contests, &c. Mr. Lowe announced that the arrangements for the meeting of the Motor Union in May, at Lincoln, are as follows:—The meeting will be held in the morning in the City Guildhall. In the afternoon the cars will go in procession from the Great Northern Railway Station Yard to Canwick Hall, a mile away, when the members will be entertained by Mr. M. R. W. Sibthorp. In the evening the public dinner will be held in the County Assembly Room, followed by an informal conversazione.

### BRADFORD.

THE second annual dinner of the Bradford A.C.—a branch of the Yorkshire A.C.—was held at the Victoria Hotel, Bradford, on Wednesday of last week.

In proposing "The City and Corporation of Bradford," Dr. Campbell said the roads in the place were moderately good, and that the local authorities were one of the earliest to utilise motor-cars. The Mayor, in acknowledging the toast, said motor-cars had heralded the advent of a new form of pleasure and industry in the country, and he hoped it would prosper and still increase in utility and pleasure. So far they had had very few cases in the police court with motorists. When Bradford motorists wanted to get into trouble they seemed to visit some other district. The local Technical College recently started a motor class for the teaching of youths in the city in automobile matters.

Mr. Tom Mitchell, in toasting "The Automobile Club of Great Britain and Ireland," said that he was practically a new convert, but at the same time his experiences were varied—on the car, in the air, and on the road. Mr. C. P. Wilson responded. He said he thought that by the tactful administration of the Automobile Club they were to a certain extent outliving the question of public prejudice. If they could find some adequate and practical solution of the dust problem the public would have really very little to grumble at. He was glad to say that this question was at last being tackled, and the competition which had been promoted for tar-spreading machines should show the public that the motorist was alive to the fact of the dust nuisance.

Mr. E. H. Hepper toasted "The Motor Union." That body had done excellent work, and he regretted that Bradford with over 700 motor-cars registered was not more strongly represented in its membership. Mr. S. Neumann replied.

Mr. S. S. Dixon submitted "The Automobile Association." Col. Bosworth said that a little while ago it was customary for motorists to bow their heads to the storm in the hope that police and occasionally magisterial prejudice would soon pass away, but it was found that the more they submitted the greater liberties were taken. As a body of sportsmen working for the benefit of sportsmen, the Automobile Association had inaugurated a system of scouts, extending over practically the whole country. In this county, although the police were Yorkshire, and therefore astute, the scouts would be Yorkshire too. He denied the statement so often urged that motorists were working against

the police. A man who drove recklessly through a town or a village deserved all he got, but occasionally the police were prejudiced.

Mr. Amos Crabtree, in toasting "The Yorkshire Automobile Club," said it was one of the largest in the kingdom. There were 270 members, and the number was constantly increasing. The club, amongst other things, arranged speed and reliability trials and races and pleasure trips. Mr. G. Learoyd, in acknowledging the toast, strongly condemned the "road hog." Mr. G. H. Kent toasted "Our Guests," to which Mr. Stenson Cook replied.

### SCOTTISH.

SUPPLEMENTING the report of the annual dinner of the Scottish A.C. at Glasgow, which reached us as we were going to press last week, we may refer to the speech of Mr. T. P. O'Connor, M.P., in proposing the toast of "Automobilism." He said that in Scotland and in Ireland there were many regions which were remote from the general railway system of the country. He was sure the people of these remote regions in both Scotland and Ireland had reason to bless the day when it was possible that they could be opened up both for travel and for commerce by the agency of the motor-car. He was sure that every agency—and he put the motor-car as one of the greatest of these agencies—which opened up scenes of beauty and resort in Scotland to all the world was a great benefit, not only to Scotland, but to every visitor who came to their beautiful country. Motorists had, of course, had a great many troubles and difficulties to meet. Let him say that some of these difficulties had been created by certain unworthy members of the craft to which they belonged. The man who drove his motor-car to the disregard of the health and convenience of the public was not only an enemy to the public but was in, a particular and special degree the enemy of the amusement and of the industry with which he was associated. That man, he was glad to say, was not typical but exceptional in the automobile ranks; but he would be in favour of any legislation that would put a curb on such persons, and that would make them amenable to justice. He belonged to a body of opinion that strongly thought that the freer and more frequent the intercourse between all people—between different nations, between different classes and grades of the same nation—the better for all concerned.

Colonel Holden, vice-chairman of the A.C.G.B.I., made a reply. Progress, he said, had been so rapid that one could hardly realise that it was only in the short space of ten years that what was practically a mass of machinery without any sort of carriage on the top had developed into the luxurious carriage of to-day, with most of the machinery hidden away. To the Scottish Club, and in particular to the president of the Scottish Club, a great deal of the progress and interest in automobilism in the country was due.

Professor Archibald Barr proposed "Municipal and County Administration," to which Lord Provost Bilsland replied.

Lord Dunedin, the Lord Justice-General of Scotland, proposed "The Scottish Automobile Club." In every contest, after all, he said, the extreme votaries of one side or the other had rarely turned the battle. It was all very well to say that motoring had come to stay, but the question for them was—Was it going to stay under anything like comfortable conditions? He was perfectly certain that the cardinal sin of the motorist was inconsiderateness. It was perfectly possible to drive a motor-car so that it would not be any trouble to any man, woman, or child. Depend upon it, it was only by the influence of a Club like this being exerted to make members considerate that they would get automobilism to be a pursuit that did not excite any rancorous feelings on the part of the great majority, which, after all, did not possess, and would never possess, a motor.

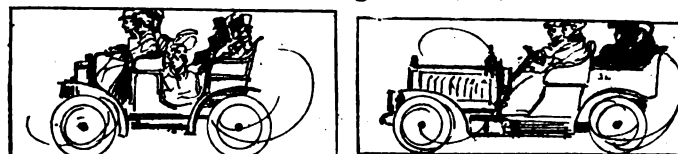
The Chairman, Sir J. H. A. Macdonald, K.C.B., who acknowledged the toast, said he rejoiced to claim the credit of being the first judge in the British Isles to drive from his home to his circuit, to hold his circuit, and be back in time for tea in the afternoon. The future rested with themselves. The Scottish Club had prospered beyond their highest expectations under the guidance of a man whose modesty was only equalled by his energy and his skill, Mr. R. J. Smith, their secretary. We had in this country an industry which would turn out cars quite as good and trustworthy as could be got from abroad. He was afraid it was one of the snobisms of our country that we always thought a French silk or a French lace or French anything was better than anything we could get in this country. Although a car with a French name could be bought at enormous expense, they could get as good an article here. During the last year we had imported from abroad no less than £4,371,000 worth of articles connected with automobilism. He hoped that would soon cease. Clubs ought to do as much as possible to encourage their own local industries, which were doing splendid work both in England and Scotland. It was the automobilist that must be the greatest power for the improvement of our roads. If the Government would only just have the boldness to expend five millions of money in grants for improving the roads, and seeing they were put in proper order, the value to the country in wealth would exceed that by five or six times in a few years. Let them try to convince their friends that upon the establishment of good roads lay the future of a great addition to the prosperity of the country, and a great step towards the ultimate success of automobilism.

Sir John Ure Primrose proposed the toast of "Our Guests," which was acknowledged by Treasurer D. M. Stevenson. The toast of "The chairman," proposed by Mr. H. M. Napier, concluded the proceedings.

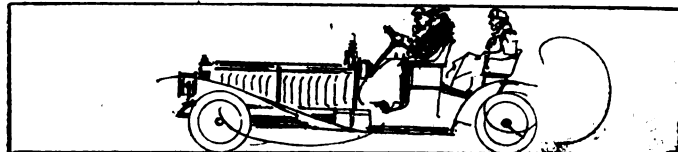
### CARDIFF MOTOR CLUB.

THE annual meeting of the Cardiff Motor Club was held at the Queen's Hotel, Cardiff, last week, with Mr. C. J. Thistle (president) in the chair. The secretary's report was adopted as follows:—"The end of its second year finds the Cardiff Motor Club in a very satisfactory condition both financially and numerically. The club has no liabilities, and, although the balance in hand is small, this is likely to be increased within the next few days by the receipt of the few subscriptions outstanding from last season. The club, if not quite so large as last year, is composed now of active members, who take a keen interest in the competitions promoted by this and other clubs. The fact that the Cardiff Club is affiliated to the A.C.C. should induce many motorists to become members, if only for the legal protection afforded by the Motor Union. The competitions organised during last season by the committee included a hill-climb at Penttyrch in May, and speed-judging competitions in July and September. The hill-climb, as usual, attracted a large number of spectators, and some fast times were recorded. The speed-judging contests were very enjoyable; the extremely low rate of speed of the competitors caused amusement to the villagers and stupefaction to some of the constables.

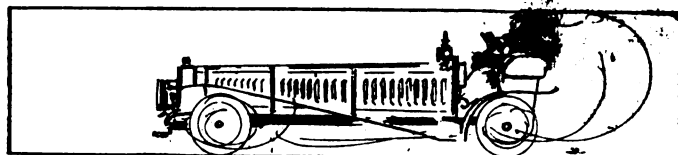
### Cylinder vs. Seating Accommodation



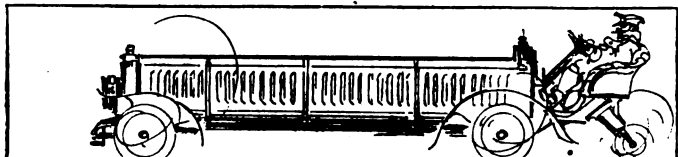
The "One-lunger," a family turnout actually used toward the close of the last century. From an old print. The "Wholly Seizable," a four-cylinder "car," in which the people of 1906 "enjoyed" their outings.



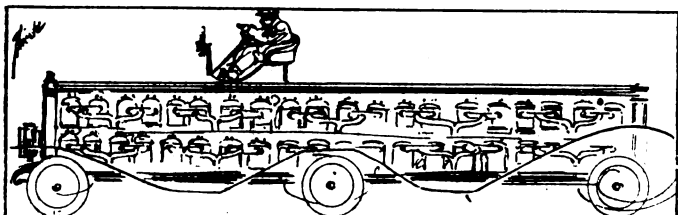
The eight-cylinder runabout, prevalent about 1907. The rumble seat was then considered



The twelve-cylinder runabout of 1908, which established two the ideal number for carrying capacity



The 1909 model, which gave over the entire chassis for the accommodation of its twenty-four cylinders



A hobby specimen of the 1910 model—forty cylinder, double deck, in the modern poop deck chair.

A Page from a "Show Number" in the Year 1910

[Motor Way.

Commenting on this, the Chairman remarked that there seemed to be a general impression that the club was one for motor-cyclists only. That was entirely wrong. It was a club for car-owners also, and its membership numbered nearly as many car-owners as cyclists.

Officers were elected as follows:—President, Mr. W. J. Hilborne; captain, Mr. H. Haddon; sub-captains, Messrs. A. Williams, Edward Owen, and C. Collard; hon. treasurer, Mr. H. B. Jotham; hon. secretary, Mr. G. W. Blackaller.

### NOTTINGHAM.

LAST week, at Newark, Captain L. l'Estrange entertained a number of motorists at supper at the Clinton Arms Hotel, among those sitting "down" being: Messrs. Charles Hardy, H. Belcher, R. Cripps, W. D. Foster, J. C. Wilson, W. D. Wells, M. McCraith, B. W. Winter, A. R. Atkey, M. Ross Browne, C. Poyser, A. Poyser, H. C. Wright, P. Maltby, J. P. A. Long, J. H. Clarke, J. J. Armitage, R. M. Wright, J. R. Senior, W. Mumby, P. Richardson, H. Bowden, W. J. Dexter, Henry Bircumshaw, C. E. W. Lucas, G. Butcher, A. King, S. H. Hill,

Dr. Buckley, H. Rimington, S. C. Hardy, E. Fewkes, L. A. Thominet, A. Metheringham, J.P., H. C. Roe, W. Stevens, C. E. Norris, and Booth Granger (hon. secretary). After supper had been partaken of, during which a telegram regretting his absence was read from the Mayor of Newark, the company adjourned to a concert room, where the proceedings quickly resolved themselves into a concert, with Mr. C. Hardy in the chair.

In proposing a vote of thanks to Captain l'Estrange for the hospitable manner in which he had entertained the members, the Chairman said that the large number who had attended the meeting showed the great interest which was taken locally in the automobile movement, and it also showed the flourishing condition of the club. The idea of holding meetings in various parts of the county was to induce automobilists to become members of the club, and in this respect those who had already joined could do much in maintaining the past growth of the membership. It was only by one member co-operating with another that the club's influence could be enhanced. It was the first county meeting the club had undertaken, and they were all deeply indebted to Captain l'Estrange for the way in which he had worked for its success. Mr. C. E. W. Lucas seconded the proposition, and in responding Captain l'Estrange expressed the pleasure that the meeting had afforded him, and hoped it would not be long before the visit was repeated.

### DERBY AND DISTRICT.

THE 5th annual meeting of the Derby and District Automobile Club was held at the Royal Hotel, Derby, on Thursday of last week, Dr. J. A. Southern presiding. The annual report stated that Mr. G. A. Strutt was retiring this year and joined with the committee in their unanimous desire to propose Mr. Francis A. Bolton as president for 1907. The committee were glad to report that the membership now stood at 162, a very satisfactory increase on the previous year. The balance at the bank was £53 5s. 7d., an increase of £24 16s. 7d. Members were specially asked to point out to their motoring acquaintances, who were not yet members of the club, that it was the duty of all motorists to belong to the Motor Union.

The election of officers resulted as follows:—President, Mr. F. A. Bolton; vice-presidents, Lord Burton, Sir Peter Walker, Major R. F. Ratcliff, M.P., Messrs. G. A. Strutt, A. J. Clay, C. R. Crompton, John Grettton, John Hall, R. Knowles, H. H. Raphael, M.P., C. L. Schwind, J. B. Marsden Smedley, R. H. Tennant, and E. Vaudrey; committee, Dr. W. G. Coestake, Messrs. E. H. Fryer, L. P. Mell, W. A. St. A. St. John, R. W. Sale, Frank G. Smith, C. R. Hewitt, and Dr. J. A. Southern; hon. auditors, Messrs. E. Collumbell and J. Simkiss; members of the Motor Union Committee, Messrs. C. J. Allin, C. T. Leech, F. G. Smith, and L. P. Mell; hon. treasurer, Mr. C. Turner Leech; hon. secretary, Mr. Charles J. Allin.

### HERTFORDSHIRE.

THE adjourned annual general meeting of the members of the above club was held at the Euston Hotel, London, on the evening of the 30th ult. Mr. C. McWhirter was in the chair. The business of the meeting was to receive and adopt the report and accounts of the last year's working, and to elect nine new members of the committee. The chairman briefly reviewed the past work of the club, its present position, and its prospects for the coming season. The past year had unquestionably been the most successful since the foundation of the club in 1904. It had increased its membership from eighty at the beginning of the year to 150 at the end of December, and there were several candidates before the committee for election to membership.

The result of the ballot for the committee was that the following nine gentlemen were elected:—Rev. W. A. Errington (Ware), W. G. James (Bushey Heath), T. Thornycroft (Chiswick) F. R. Bircham (Boxmoor), F. W. Shorland (Watford), S. Saker (St. Albans), C. Poston (Stevenage), E. H. Arnold (Watford), and H. W. Colliver (Boxmoor).

A committee meeting was afterwards held, when Mr. Ernest Webster was elected chairman, in succession to Mr. C. McWhirter, and Mr. W. Whittall, who was hon. secretary during 1904 and 1905, was re-elected to that office in place of Mr. T. Williams, who had been compelled by pressure of business to retire.

ALDERMAN E. T. COOKSEY presided at the annual dinner of the Worthing Sailing and Motor Boat Club, held last week. Dr. Le Riche humorously suggested that as the club progressed it might become known in the future as the Worthing Sailing, Motor Boat and Aeroplane Club.

ON Monday, the 11th inst., the Right Hon. J. H. A. Macdonald, K.C.B., will read a paper on the organisation of motor transport for national defence, at the Royal United Service Institution, at Whitehall, S.W., at 3 p.m. Members of the Motor Union or of automobile clubs will be admitted on production of their cards of membership.

A MEETING of the Institution of Automobile Engineers will be held at the Institution of Mechanical Engineers, Storey's Gate, St. James's Park, S.W., on Wednesday next, at 8 p.m., when a paper will be read by Mr. Walter Rosenhain, of the National Physical Laboratory, on "The Strength and Structure of Alloys."

MR. TOM BROWNE has presented the Automobile Association with a sketch for the menu card of the A.A. second annual dinner, which will be held on Tuesday next, at the Hotel Cecil.

## THE FUTURE OF THE MOTOR-BICYCLE.

BY ARTHUR CANDLER.  
Hon. Secretary of the Motor Cycling Club.

MR. CHAS. JARROTT, in his speech at the Auto-Cycle Club dinner, dealt with the future of the motor-cycle and threw out some hints to manufacturers as to the lines on which they should work if they wished to see motor-bicycles in more common use than they are at the present time. Indeed, he went so far as to say that had the makers worked on different lines from what they are now doing there would have been ten times the number of motor-cyclists at the present time. At the outset he drew attention to the small horse-power of motor-bicycles manufactured six or seven years ago, and he mentioned in connection with the Paris-Bordeaux race, that Mr. Edge and himself were riding bicycles which were, at that time, looked upon as huge monsters, being 2½-h.p. Now, motor-cycling in this country dates back to 1901. It is true that previous to that date there were a few people who were riding motor-cycles, but the public did not commence to invest in any number till 1901, and the bicycles then manufactured were from 1½ to 1¾-h.p. They were only suitable for strong healthy persons, for, although they ran well enough on good hard, level roads, still the amount of muscular effort needed to get them up moderate hills was exhausting, and altogether too much for any but the most robust. This prevented the public from taking to them in large numbers until the horse-power was considerably increased, and during the last two years many thousands have taken to motor-cycling because of the increased power without a corresponding increase in price.

The most popular machine for 1907 will undoubtedly be the 3½-h.p. motor-bicycle, and it is well to bear in mind that a high-grade 3½-h.p. bicycle actually costs less than did the 1½-h.p. machine of six years ago. It may be true that in years to come the development of the industry may permit of lighter bicycles being made, but it is really remarkable how the present powerful bicycles, which only weigh 150 lb., can stand the terrific strain they have to undergo when travelling over our rough roads. I do not think it will be safe to cut down the weight to any appreciable extent. Mr. Jarrott discussed the matter as if it was necessary, or at any rate desirable, that the motor-bicycle should be so made in weight, horse-power, and ease of manipulation that it should be possible for anyone not actually confined to a bed of sickness to be able to indulge in this sport.

My own opinion differs considerably from Mr. Jarrott's. There are, I suppose, in this country about 2,000,000 persons who own an ordinary bicycle. Out of that large number there are very few so feeble that they would not be able to manipulate the present motor-bicycle, and those few would not buy any motor-bicycle, however light in weight or cheap in price. The question therefore arises, how many people own motor-bicycles? I should put the figures at about 40,000, and would ask whether Mr. Jarrott is correct in stating that ten times that number, or 400,000 persons, would have been motor-cyclists at the present moment if our manufacturers had proceeded on the lines he indicated, viz., the keeping of weight and horse-power down to such an extent that even the delicate could manipulate them. It is not too much to say that 90 per cent. who are now likely to go in for motor-cycling would prefer a machine that would be strong enough and powerful enough to enable them to travel over any part of the British Isles where there was a carriage road. The present 3½-h.p. machine is just about right for this purpose if we bear in mind that the roads are not always dry, that the wind is not always favourable, or non-existent, and that some of the finest parts of the country are found in hilly districts. Well, we have some 40,000 owners of motor-cycles. This is but a small proportion of the 2,000,000 who own ordinary bicycles. But what proportion of these 2,000,000 will ever be likely to have cash enough to spare for the capital outlay and upkeep of a motor-bicycle? I do not think it would be safe to put the figures at more than 20 per cent., or say 400,000. If 40,000 be anywhere near correct as an estimate, then I think it remarkable, considering the youth of the industry, how well it has progressed to have reached that number of owners of motor-cycles, and it is safe to say that this advance has been due to the sensible lines on which manufacturers have proceeded.

Finally, what is it Mr. Jarrott really desires? Is he dissatisfied with the reliability of the present motor-bicycle? Surely not, as it has been proved over and over again to be capable of keeping up 100 miles and more a day with very little trouble and expense. Does Mr. Jarrott think that the cost of running a motor-bicycle is at present too high, and can be cheapened by the manufacturers? Surely not, for almost the only expense with the exception of tyres is that of petrol and oil, items that manufacturers have nothing to do with. Is it weight he wishes to see reduced? Surely not, for with the rough roads one often meets with, it would be unwise to unduly lighten our present machines. Is it horse-power Mr. Jarrott wishes to see reduced? It would seem so from his speech, but it has been proved over and over again that nothing under 3-h.p. is of use under the varying conditions the motor-cyclist meets with from day to day. Of course, in the distant future some new discoveries may be made that may revolutionise motoring. Meantime, manufacturers are quite right to develop on present lines, rather than keep for another generation the delights of motor-cycling. I cannot agree that efforts should be made to so design the motor-bicycle that it will be a suitable machine for everybody, however young, however old, however infirm. If manufacturers tried to design on these lines, retrogression would take the



place of progression. Mr. Jarrott seems in favour of some light motor that can be attached to the ordinary bicycle and switched on fast when the rider felt tired of pedalling, or when reaching a stiff hill, or when the wind was unfavourable, or when the road was in an exceptionally heavy condition. But it is just under such circumstances that something more than a small-powered engine is required, and there are few, if any, who have tried the light pedal-assisted motor-bicycle who will agree that such are desirable. I think that one of the greatest mistakes that can be made is to try and combine the ordinary bicycle with the motor-bicycle. Any attempt to use the bicycle for both purposes must prove a ghastly failure.

Let us by all means go in for improving our present excellent motor-bicycles, but let us beware of proceeding too hastily or we may put the industry backwards by efforts which will render the machines less reliable and less efficient.

Just one word or two about the motor-tricycle, whose claims for consideration were advanced by Mr. Jarrott. I was rather surprised at this when coupled with his other remarks, for except for the most robust, and on the smoothest of roads, I consider motor-tricycling about as bad a form of sport as can be indulged in, if good health be desired. Let the average individual try it regularly for a few months on the roads round about London and he will emerge from the experiment a shattered wreck.

### PUBLIC MOTOR SERVICES.

At the meeting of the London and South Coast Motor Service, Ltd., Mr. Carlton Roberts, the chairman, said the concern was the first company formed to supply a speedy motor coach. It was of a special design invented by the managing director, Mr. J. W. Cann, and fitted with a six-cylinder engine by the Thames Ironworks Co., Ltd. When their service was fully equipped they would be able to run passengers from London to Brighton at practically third-class railway fare, and quicker than at least twenty-seven trains that do the journey daily from London Bridge. The receipts so far had exceeded their estimates. Adding together all the days run by their coaches, supplemented by the cars they purchased, they have had equivalent to one car running one year and one hundred and fifty-three days; that is, all the days that all the cars were running total just one year and one hundred and fifty-three days, the total receipts for the one coach for this period of five hundred and eighteen days being £2,228 3s. 4d. Such should give a good return in the future. Revenue would also accrue from the royalties received from other firms desirous of building motor coaches from their designs. At the present time they had eight coaches and four garages—one each at London and Ramsgate and two at Folkestone. The success achieved on the Folkestone and Hythe route showed that the south coast was favourable to the company's enterprise. The adoption of the report having been carried, an extraordinary general meeting was held, when authority was given for the issue of preference capital.

THERE is a prospect of the revival of the motor-bus at Bolton. Some time ago the Corporation experimented with certain vehicles, but, owing to the suggested adoption of a type unsuitable for the hilly district, the effort was abandoned.

At least three municipal and other authorities are seeking powers to run motor-buses in connection with their tramway undertakings, viz., the corporations of Rawtenstall (Lancs.) and Sheffield and the Northfield Urban District Council.

In their report presented to the Westminster City Council the Works Committee state that they have had before them accounts for repairs to public lamps damaged by motor-omnibuses and other vehicles. In eleven out of the nineteen cases before the committee the owners offered to pay half the cost in settlement, and the town clerk, in consultation with the solicitors, has accepted the offers.

SIR, CHARLES McLAREN, the chairman of the Metropolitan Railway Company, has been lamenting the keen competition of motor-buses on the Baker Street and Willesden section of his line.

THE consideration of the proposal to establish a motor-bus service for Alfreton has been deferred for a short time.

In their last report the directors of the Central London Railway (the Tube) show a decrease in the number of passengers carried amounting to 4½ per cent. They explain that competitive services of motor-omnibuses are now running over the whole route of the Central London Railway, and have doubtless diverted many short distance passengers from the line.

### THE M.M.C. CARS REDIVIVUS.

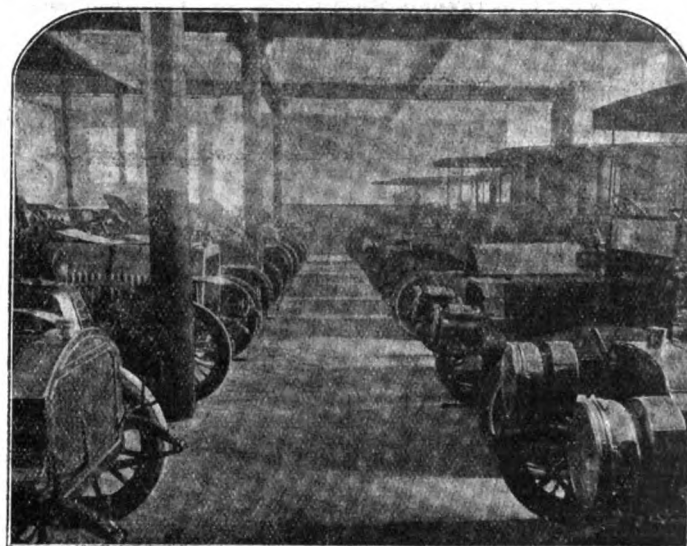
OLD motorists will be glad to learn that the well-known M.M.C. cars are shortly to make their re-appearance. Mr. Alfred Burgess having just issued a circular announcing that, after prolonged negotiations, arrangements have been satisfactorily completed for the reorganisation of the Motor Manufacturing Company. A new company—"The Motor Manufacturing Company (1907), Limited," has been registered with the moderate capital of £40,000, the whole of which (with the exception of the amount of cash, £5,000, paid to the Official Receiver), will be available for working capital and general purposes of the company. The new company will acquire the whole of the old company's assets (with the exception of the Motor Mills and fixed plant at Coventry), direct from the Official Receiver for £5,000 in cash and £7,500 in 5 per cent. debentures. The book debts and cash taken over by the new company will approximately equal the cash payment of

£5,000, while the remaining assets acquired are valued for a going concern at nearly £50,000. Some time ago the Daimler Company purchased the old Motor Mills and fixed plant at Coventry from the Receiver, and since that time the business has been carried on at temporary works at Parkside, Coventry, and at 151, Wardour Street, London, W. These temporary works will now be vacated and the business will be removed to and carried on at the new M.M.C. Works, Clapham, which have been specially laid out as a motor-car manufactory, and a lease of which the new company has acquired on favourable terms. A feature in connection with the new company is that all its shares will be issued for cash, and no intermediate profit whatever will be made. This position is due to the fact that some of the largest customers of the old company are interesting themselves in the reorganisation of the new concern, and are, themselves, so satisfied with the excellence of the M.M.C. cars, which they have used for years, that they are guaranteeing a considerable amount of the requisite working capital to enable the company to immediately resume the manufacture of high-class cars.

### MOTOR-CAR ACCIDENTS.

A VERDICT of accidental death has been returned at the inquest at St. Austell, Cornwall, on the body of Mr. J. E. Veale, J.P., who died as the result of a motor-car accident. Mr. Veale was in the car with a friend who was driving, and a chauffeur. The night was dark, and the car getting near a ditch Mr. Veale and the chauffeur were thrown out. The chauffeur had several ribs broken, and Mr. Veale died from compression of the brain following concussion.

A SHOEMAKER, named William Hawkins, age 65, has been killed at Slough by a motor-car. The old man was crossing the Great Bath



A Show Room at the New Premises of the Motor House, Euston Road, London, N.W.

Road when a motor-car going in the direction of London knocked him down. His skull was fractured, and he died shortly afterwards in a surgery. The driver of the car sounded his hooter, and steered the car to avoid deceased, but Hawkins, who was slightly deaf and near-sighted, walked straight in front of the car.

A SERIOUS motor-car accident occurred in Stockport Road, Manchester, recently. In endeavouring to get clear of a wagon, which unexpectedly emerged from a side street, Mr. Norman Crossland, of Higher Broughton, who was driving his motor-car, jammed down his brakes; but the tyres of the car skidded; and, after it had run into a tramcar, it dashed against a brougham. The carriage was overturned, and the occupants, Dr. Sandbach Scott and Mrs. Scott, were thrown under it.

As a shooting party consisting of Mr. G. L. Cripps and Mr. George Nixey, both of London, were proceeding up a steep hill at Easton, near Newbury, in the former's motor-car, the vehicle began to run backwards. The brakes would not act, and the car rushed for a distance of 150 yards, when it ran up a bank and overturned. Mr. Cripps had jumped off and Mr. Nixey was thrown clear, but the chauffeur was pinned beneath the car. It was nearly an hour before it was possible to lift the car, and then the chauffeur was found to be dead. Mr. Nixey was badly hurt about the head, while Mr. Cripps is suffering from serious internal injuries.

At Bow Street (London) Police Court, Otto Lipfert, a German chauffeur, employed by a firm of motor-car manufacturers, has been charged with causing bodily harm to Walter J. Wells, by driving a motor-car in a furious and wilfully negligent manner in the Strand. The Earl of Clancarty was a passenger at the time. Since the first police-court hearing the injured man has died in the Charing Cross Hos-

pital. At the inquest the jury at first returned a verdict that the death of Mr. Wells was caused by being knocked down by a motor-car negligently driven by the chauffeur. The Coroner explained that this verdict would be tantamount to one of manslaughter, whereupon the jury again deliberated, and, receiving the permission of the coroner, withdrew the verdict given, and substituted for it one to the effect that the chauffeur had driven negligently, but that he had not been criminally negligent.

WHILE out scouting in the early hours of Monday morning two members of the Legion of Frontiersmen met with a serious motor accident at Redhill. Mr. M. Lynch, of Reigate Hill, a pensioned officer of the Cape Mounted Police, who is a lieutenant of the Legion, was in command, and was accompanied by Mr. Hugh Hughes, of Reigate, a trooper, who is the owner of a motor-car and acted as his own chauffeur. Running into Redhill the car collided with a lamp-post. The force of the collision was so great that the tonneau was wrenched from the chassis, and the front wheels were jammed into the back wheels. Mr. Lynch was pitched clean out of the car and fell on his head some fifteen yards away. He was picked up unconscious, his skull being smashed in. He was removed to his home, where he now lies in precarious condition. Mr. Hughes was pinned down by the steering-gear, and fortunately escaped with only slight injuries. The car was completely wrecked.

### ARMY MOTOR RESERVE.

Lieut.-Colonel Mark Mayhew, commanding the corps, has been granted three weeks' leave of absence, with permission to travel in France, and has arrived at Nice after a splendid run from Havre on his 40-h.p. Napier car.

The Staff Tour, which General Lord Methuen, commanding Eastern Command, intended to carry out in the vicinity of Newbury, and in connection with which no less than ten officers of the A.M.R. had been detailed for duty, has been postponed till April next.

The "Full Dress" uniform to be worn by the officers of the Army Motor Reserve has been approved by His Majesty. It is practically the same as that worn by officers of the late Motor Volunteer Corps, with the substitution of gold for silver as regards lace and ornaments, and is an exceptionally neat kit.

Amongst the names of the ten officers appointed to the corps during the past month are those of Captain R. V. Webster, City of London Imperial Yeomanry (Rough Riders), and Lieutenant E. C. Herdman, North of Ireland Imperial Yeomanry. Officers of the Imperial Yeomanry and the Militia may be appointed to the Army Motor Reserve without being called upon to relinquish their commissions in the Auxiliary Forces.

An instructive staff tour, in connection with the Cavalry School, Netheravon, conducted under the supervision of the commandant of that establishment, was held last week. The "general idea" was that a hostile force, having scattered our fleet, had successfully landed cavalry at Bournemouth and Weston-super-Mare, and commenced to reconnoitre. The English Home Army had mobilised, and the cavalry brigade had been ordered to push forward towards the two landing places and report upon the general position of affairs. The following officers of the Army Motor Reserve were detailed for duty during these operations, Captains O. H. Bayldon and H. M. McAllister, and Lieuts. J. Peyto Shrubbs and J. R. Benson, and were employed by Colonel the Hon. J. E. Lindley, Major Saunders, R.F.A., Major Laurie, D.S.O., and Captain Browne, R.F.A. During the tour the cars covered an average of 100 miles daily, and the necessity of the automobile as a means of conveyance in the conduct of military operations with a frontage so extensive was fully realised by all concerned.

### ROAD REPORTS.

NEWTON BANK.—The attention of the County Council has been called to the dangerous state of the corner at Newton Bank, where many accidents have occurred at the foot of the hill. On Saturday a cyclist on his way to Whitechurch was killed through colliding with a trap at the corner.

NEWMARKET.—The ten-mile an hour limit for motor-cars is now in operation on the Bury Road and a portion of the High Street, Newmarket.

DARTMOUTH.—The roads in the neighbourhood of Dartmouth are rather hilly and some of them narrow. Generally speaking they are now in good condition and are being much patronised by motorists. The fine stretches of roadway on the sea coast are a great attraction.

EASTBOURNE.—The roads undergoing repair in this district are the Willington main road as far as the borough boundary and the Eastdean road, leading to Seaford. The main roads proposed to be repaired shortly include Seaside and Terminus Road.

BOURNEMOUTH.—Ordinary repairs to the roads are being carried out in Bournemouth and the surface is immediately rolled by steam roller, a policy that ought to be universal.

HASTINGS.—No road repairs of any magnitude will be carried out at Hastings during the present month.

WEST SUSSEX.—The West Sussex County Council has decided that "all the repairs to be carried out to main roads for the ensuing year, of a length of 100 yards and upwards, be carried out by the using of tar and two inches of material."

## CASES UNDER THE MOTOR-CAR ACT.

### NO REAR LIGHT.

The employee of a motor-car works at Accrington has been summoned for driving a motor-car without having a rear light attached. He was also charged with being drunk while in charge of a car. The former case was dismissed but a fine of £2 and costs inflicted for the second offence.

### RECKLESS DRIVING.

At the Bingham Police Court, Gilbert Kennedy, of Liverpool, was summoned for driving a motor-car at a pace and in a manner dangerous to the public, at Holme Pierrepont, on January 17th. Speaking for the defence, Mr. Lucas pointed out that the prosecution had to rest on mere opinion. In this instance defendant had been to Lincoln buying beasts. On leaving the Fosse Road he got on to the Tarmac, and there he saw a cart in front of him. He immediately slowed down, putting on the brakes, without knowing that he was on Tarmac. Then the car skidded. Defendant himself thought there would be an accident in consequence of the extent to which the car skidded. The Bench considered that the charge of driving at a speed dangerous to the public was proved, although they did not think it a bad case. A fine of £3 would be imposed.

### COMPANY NEWS.

#### NEW COMPANIES REGISTERED.

MANSFIELD MOTOR BODY COMPANY.—£2,000. 61, Leeming Street, Mansfield.

MANCHESTER MOTOR TRANSPORT COMPANY.—£10,000. To take over the business carried on by Mr. J. Mather, as receiver for debenture-holders of Manchester Motor Transport Company, Limited, at Chester Street, Manchester. First directors: Messrs. W. G. Killick and C. B. Nixon. £100. Grove Works, Ashworth Street, Manchester.

IRIS CARS.—£12,000. Agents for the sale of motor vehicles, motors, and parts thereof, &c. First directors: Messrs. A. Dugdale, R. T. Deane, and A. E. Perman (managing director).

JOHNSON, HURLEY AND MARTIN.—£5,000. To take over the business of mechanical and electrical engineers, manufacturers of and dealers in motor engines and parts, &c., carried on by Messrs. G. Johnson, D. H. Hurley, and J. R. Martin, at Coventry, as Johnson, Hurley and Martin, Alpha Motor Works, Gosford Street, Coventry.

CENTRAL MOTOR GARAGE (HARROGATE).—£4,000. To acquire the business of manufacturers of and dealers in motor-cars and lorries carried on by Mr. A. Davies at Harrogate. First directors (Messrs. J. H. Wilson, A. Davies, W. Peacock (managing director), and W. Edmondson. 1, Station Square, Harrogate.

AUTOMOBILE WHEEL COMPANY.—£4,000. Agreement between Messrs. W. H. Pritchard of first part, O. R. Mounsey of second part, H. J. Mounsey and B. E. Jollands, trading as Robert Roy and Co., of third part. First directors: Messrs. H. W. Pritchard and B. E. Jollands.

BAKER STREET MOTOR-CAR BAZAAR.—£3,000. The Baker Street Bazaar, Baker Street, W.

A.B.C. MOTORS.—£10,050. 31, Broad Street Avenue, E.C.

COLIN DEFRIES.—£5,010. To acquire and deal in automobile chassis and motor-cars and vehicles of all kinds, especially the chassis manufactured by the Societe Generale des Automobiles Porthos; with a view thereto to acquire from Mr. Colin Defries the exclusive rights to sell and dispose of such chassis in Great Britain and British colonies and dependencies, vested in him under an agreement between himself and the said Societe. First directors: Messrs. M. H. Seton Karr, C. Defries, D. C. Defries, and one other to be appointed by subscribers for preferred ordinary shares.

### THE STORAGE OF PETROL.

At the West London Police Court, Francis Lannier, of Holland Park Avenue, Notting Hill, has been summoned, before Mr. Lane, at the instance of the London County Council, for infringement of the licence under which he was entitled to keep petroleum on his premises. One of the conditions of the licence was that in the yard only two gallons of the spirit should be kept, and that in the workshop only one quart should be kept, the same to be stored in a metal vessel with a closed cover. On the occasion of the visit of the inspector two gallons of the petroleum were found in the workshop, and a quart of the spirit in an india-rubber solution in a vessel. The defendant pleaded that his work required him to keep more than one quart in the workshop. The magistrate, in imposing a fine of £5, said the breach of these regulations might lead to disastrous results.

### MOTOR-CAR AND TRAMCAR.

At Westminster County Court Mr. Boothsby sued the London County Council for damages sustained through a collision with a tramcar. He was driving his car on July 6th towards Chatham from London, and he said when he reached the junction of the New-Cross Road, before any warning could be given, a tramcar rushed into his car, and dragged it back some seven yards. Judge Woodfall gave judgment for the plaintiff for £17, the amount claimed.

## THE GLASGOW MOTOR SHOW.

THE second annual motor show in Glasgow was opened in the Drill Hall, West Princess Street, on Friday of last week, by Lord Provost Bilsland. Altogether there are about forty stands, and, although the principal makes of cars are on view, there is no striking novelty, as has been the case at the exhibitions lately held in Birmingham and Liverpool. One of the largest stands is that of Argyll Motors, Ltd., the cars on view including a 14-16-h.p. touring vehicle and a 16-20-h.p. limousine. The exhibit of the Albion Motor Car Co., Ltd., comprises a 24-h.p. Albion polished chassis, a 24-h.p. double landaulet, and a 16-h.p. char-a-banc. The latter, which has a seating capacity for fifteen passengers, has been built for the Gareloch Motor Service Co.; it is provided with a canopy and side curtains, and solid rubber tyres are fitted to the road wheels. The St. Vincent Motor and Cycle Co., Ltd., Glasgow, display a 24-30-h.p. St. Vincent car; this is fitted with an Aster four-cylinder engine, Krebs automatic carburettor, and Eisemann high-tension magneto ignition, accumulators being provided as a reserve. Ball bearings are used to all parts with the exception of the engine, the car throughout being built in accordance with the most recent practice. On this stand is also to be seen an 18-22-h.p. double phaeton known as the Scottish-Aster, a St. Vincent 14-h.p. 20 cwt. delivery van, and a 12-14-h.p. landaulet.

The Western Motor Company, Ltd., Glasgow, have on view a number of Argyll cars, among which is a 14-16-h.p. town carriage in which the motor is located under the driver's seat. The wheel base of the car is only 6 ft. 9 in., enabling the vehicle to be turned in a small circle. At this stand are also to be seen examples of the latest 20-h.p. and 40-h.p. Delaunay-Belleville cars. Examples of the Humber 15-h.p. and 30-h.p. four-cylinder cars, all fitted with side-entrance bodies, are to be seen on the stand of the Scottish Auto Company, Ltd., Glasgow. Messrs. Gibbon

## THE CRYSTAL PALACE MOTOR SHOW.

THE motor-car exhibition opened at the Crystal Palace on Friday, the 1st inst., although of but small dimensions, is notable for the appearance of at least two French cars new to this country, and for a few other novelties, reference to which will be found below. One of the largest stands is that of Messrs. Friwell, Ltd., whose display comprises a range of the well-known Peugeot cars, as also examples of the Westinghouse, Humber and Baby Friwell vehicles. A new car to this country is the Lion Peugeot, a neat two-seated vehicle fitted with a 6-h.p. single-cylinder engine and side chain transmission. An illustration and description of this interesting car was given in the *M.C.J.* of December 8th last. Messrs. Brown Bros., Ltd., in addition to motor-cycles and a range of accessories, are exhibiting two models of the well-known Brown cars, a 10-12-h.p. double-cylinder with two-seated body and a 20-22-h.p. four-cylinder side entrance double phaeton. Hornet Cars, of Berners Street, London, W., exhibit on the stand of Mr. J. F. Janes, of Sydenham, one of their 8-10-h.p. two-seated cars; the engine, which is of the vertical double-cylinder type, drives through a planetary gear giving two speeds and a reverse, the final transmission being by a centrally-located chain to a live axle. Mr. J. F. Janes also gives prominence to a range of Star cars and also exhibits a 24-30-h.p. Rochet-Schneider. A new detachable rim as well as a novel all-rubber non-skid are also to be seen at this stand. The High Holborn Motor Agency, of 158, High Holborn, W.C., are present with several of the 10-12-h.p. New Leader cars, including a chassis, a two-seated car, a tonneau and side-entrance double phaeton. The motive power is supplied by an engine comprising four separate cylinders; the valves are operated off a single cam shaft, and the water circulation is on the thermo-syphon system. The transmission is through a leather



A General View of the Glasgow Motor Show.

and Co., Glasgow, show three Rover cars of 6-h.p., 8-h.p. and 16-20-h.p. respectively. The latter vehicle is fitted with a four-cylinder engine, the crankshaft of which runs in ball bearings. The body is of the side-entrance double phaeton variety fitted with Cape cart hood and front glass. The Daimler vehicles, 28-45-h.p. and 30-55-h.p. Daimler cars, with different types of bodies, are exhibited by the Rossleigh Motor Company, Ltd. The Wolseley-Siddeley, Mercedes and Panhard cars are displayed by Messrs. Rennie and Prösser, Ltd., Glasgow; the Germain and Berliet by the McGeoch Carriage and Motor Company, Paisley. The exhibit of the New Arrol-Johnston Co., Ltd., includes a 12-15-h.p. double phaeton, a 24-30-h.p. landaulet, a 12-15-h.p. van to carry 20 cwts., and a two-ton lorry of the same power. The Ridley Motor Co., Ltd., Paisley, exhibit a neat little 7-h.p. two-seated car, in which the change-speed gear is combined with the bevel drive to the rear live axle. A useful light delivery van on a similar chassis is also on view. Other cars on view include the Spyker, Reo, Sunbeam, Minerva, Darracq, Bell, Chenard-Walcker, Clement, Alldays, Gladiator, and Airex.

Petrol engines for motor-boat use are displayed by several firms. Messrs. Durham, Churchill and Co., of Sheffield, show their special friction clutch, as also examples of their reversing gear for motor-boat work. A useful motor-car house, complete with repair bench, &c., is exhibited by Messrs. Terrace and Co., Glasgow. Messrs. H. F. Spencer and Co., are present with the collapsible and telescopic luggage carrier for motor-cars which has already been illustrated in the *M.C.J.* The tyre exhibits comprise the Dunlop, Elastes, Clincher and Gaulois, while among the non-skids are the Parsons and the Samson. The exhibitors of motor accessories include Messrs. W. Barton and Sons, Edinburgh, Messrs. S. Smith and Sons, Ltd. (speed and mileage indicators), Messrs. Leckie, Graham and Co., Glasgow, and Messrs. James Thomson and Son. The show closes to-day (Saturday).

clutch, three-speed gear-box, cardan-shaft and bevel-gear to a live axle. Messrs. A. Meier and Son, of Redhill, show two specimens of their motor carriage bodies, one being a double phaeton on a 14-18-h.p. Spyker chassis, and the other a luxurious landaulet on a 25-h.p. B.A.C.S. chassis. The cars shown by Mr. Douglas G. Cox, of West Norwood, include the Unic, the 15-h.p. four-cylinder Ford Junior, a Climax, an 8-h.p. Prima, in which the gear-box is combined with the engine, and a 10-12-h.p. Horse Shoe, a new live axle vehicle of French construction.

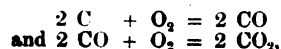
The principal object of interest at the show is the new Wicksteed change-speed gear. It is shown fitted to a 15-h.p. Humber car by Messrs. Charles Wicksteed and Co., Ltd., engineers, Kettering, who have been at work at it for more than a year past. The gear is of the type in which the various pinions are always in mesh, the requisite pair being made to drive by means of clutches, these latter being of the metal cone variety in place of the dog form ordinarily used. The two shafts are not only parallel, but in the same horizontal plane. Running the whole length of one side of the gear-box is a miniature crank shaft to which small connecting rods are attached. The opposite ends of the latter are fixed to discs formed in one with the male portions of the clutches. These are carried in special screw-threaded supports, corresponding threads being formed on the body of the clutch. Only a slight movement is required to engage or disengage the clutches, this being obtained by the arms and the screw threads just referred to. The side shaft is only brought into use for the first, second, and reverse speeds, the top one being a direct drive. The gear is controlled by a small hand wheel working above a dial plate on the top of a vertical column at the side of the steering pillar. The dial is lettered in the following order: Neutral, low, middle, and fast speeds, and as the wheel can be turned in any direction or continuously one way, the gear can be changed with a minimum of trouble, without it being necessary to withdraw the main clutch. The

reverse is operated by a separate small lever on the vertical column, the gear having first to be put in the neutral position. In the course of a short trial on a 10-12-h.p. Coventry-Humber to which the gear has been fitted, and which has already run over 9,000 miles, we found it fulfils all the claims the makers advance for it. Not only is the change from one speed to another made without shock, but in descending hills all gears can be disengaged, allowing the car to "free-wheel" or coast. The gear runs very quietly, and is simply operated, the action being such that there is no danger of straining the engine or mechanism in changing speed, while the trouble of stripped gears is entirely obviated. Quite a new idea in steering motor-cars is exhibited by the Rotary Steering Syndicate, Ltd. It is shown fitted to an electrical cab, which it is claimed can turn in a 14 ft. circle. The front part of the chassis is of special construction, taking the form of a circle 3 ft. 6 in. diameter. Below and above it are other circles, the lower one being connected to the front springs, axle, and wheels; the upper ring forms a pulley on which runs a steel wire cable by which the lower circle is operated. The steering is controlled by a wheel mounted on an inclined column in the usual way, its movement in either direction being transferred to the upper horizontal pulley. The fixed circular portion of the chassis is provided with horizontal and vertical rollers which serve to keep the lower circle in place and to facilitate the operation of steering. The principal advantage of the gear, which the makers state can be fitted to any car, lies in the fact that it enables a motor vehicle to be turned in its own length. While it is doubtless capable of doing this, the arrangement is such a radical departure from standard practice that no opinion as to its merits can be expressed until we have given it a trial.

A new non-skid tyre known as the Vivian is exhibited by the Vivian Non-skid Tyre Company, of Tudor Street, E.C. It differs entirely from the usual type of non-skid, consisting simply in building up the outer cover of the tyre with alternate ribs of light and dark rubber which vary in resiliency—the dark being firmer than the very resilient light portions. It is claimed that the tyre, in revolving, reaches the point of resistance with the ground, the light portion of the rubber taking such a form against the dark that it provides a fulcrum, which prevents dragging and helps speed. Other advantages advanced for the construction are, that the tyres wear evenly, and that they throw up less dust and mud than the ordinary type. Messrs. Drummond Bros., Rydes Hill, Guildford, make their debut at motor shows with a display of light machine tools suitable for motor-car repairers and motorists who do their own repairs. Other exhibitors include Price's Patent Candle Company (oils and greases); the South British Trading Company, Ltd., Vindex motor-cycles, 20th century lamps and motor accessories; Messrs. Davies Bros., the Stepney spare wheel; Enterprise Motors, Croydon, Riley tri-cars; Messrs. Woodgates Bros., Tiverton, motor tyre patches; Messrs. Stuart, Stuart and Base, motor clothing; and Messrs. Cox and Duffin, Sydenham, De Winter's speed indicator. Motor-cycles are exhibited by several firms, while a new feature of motor-car exhibitions is the presence of a large number of second-hand cars. The show closes to-day (Saturday), but on Monday and Tuesday next Messrs. Friswell, Ltd., will hold an auction of second-hand vehicles.

### THE CALORIFIC VALUE OF FUEL.

MR. A. DUCKHAM, giving evidence before the Fuels Committee of the Motor Union with regard to the calorific value of fuel as a test of its value, said it would be unwise to talk of the calorific value of fuel without realising that it is not the heat that is of use, but the expansion due to the heat and to the chemical reaction. He could give reactions in which the further oxidation of carbon monoxide to carbon dioxide causes a diminution in volume, although, of course, the rise of temperature probably causes the volume to be greater, notwithstanding the water cooling of the cylinder walls. The equations illustrating this statement are:—



from which it can be seen that in the first a negligible volume of carbon unites with one volume of oxygen, giving two volumes of carbon monoxide—i.e., the original volume is doubled; whereas, from the second equation we see that two volumes of carbon monoxide unite with one volume of oxygen yielding only two volumes of carbon dioxide. This reaction, Mr. Duckham considers, might explain the fact that the best results are obtained on a car when the petrol is in excess of the quantity required for the formation of carbon dioxide, and he would like to see on the test bench whether the best results were not obtained when exhaust gases contain a large proportion of monoxide.

He suggests that a series of distillation tests should be carried out to endeavour to standardise in some way the present supply, and so give the user a specification of quality in place of specific gravity. The "paper evaporation" test is an advance on that of specific gravity—but, unfortunately, the method is inaccurate—the result varying so largely, according to atmospheric conditions. In addition to the above distillation test for standardisation, it would be of great value to have experiments made authoritatively on a high-speed internal combustion engine, tested on a bench with accurate dynamometrical measurements, using the present form of carburettor to discover whether or not it is possible to obtain with heavier spirits equally good results as with a light spirit.

### BOYS v. MOTORISTS.

AN action was brought at Clerkenwell County Court against Mr. Abrahams, a surveyor, of Stroud Green, on behalf of a little boy named Molz, of Muswell Hill, for £20, as damages for assault and illegal detention. The boy stated that he and two lads threw some acorns, not stones, at the wheels of Mr. Abrahams's motor-car. The latter stopped his car, pushed the boy and his companions inside, and took them to the police station. Mrs. Molz said that for a week after the occurrence her son trembled to such an extent that he could not write. He suffered from sleeplessness, and in the night she heard him cry out "Bobbie! Run, run! He is after us! He will catch us!" Mr. Abrahams, the defendant, said that stones were thrown by the boys. One stone struck him in the chest, another struck the side of the car, cutting the enamel, while another struck the chauffeur. As one boy was picked up he dropped a handful of stones. The boys would not give their names and addresses, so he told the chauffeur to drive them to the police station. The jury found in favour of the plaintiff—damages one farthing. No order was made as to costs, and Judge Edge said that he quite concurred in the verdict. The decision governed two similar actions brought on behalf of the other boys. Mr. Staplee Firth appeared for the motorist.

### A MOTORIST'S SUCCESSFUL COUNTERCLAIM.

BEFORE Judge Bray and a jury, in the Birmingham County Court, William Brooks, of Yardley, brought an action against Percy Day, Gravelly Hill, to recover £15 for damages caused by the negligent driving of a motor-car by the defendant. There was a counter-claim for £13 15s. 6d. for damage to the motor-car. Mr. Dorsett appeared for the plaintiff (and Mr. Blewitt, of Blewitt and Co., Birmingham) was for the defendant. Mr. Dorsett having stated the case and evidence having been heard, the defence was that the trap was on the wrong side of the road, and that the plaintiff was driving at an excessive speed, estimated by the defendant at twenty miles per hour. Defendant said that in his opinion the plaintiff was to blame for the accident. The driver of the tram and other witnesses expressed the opinion that the pony ran into the motor-car. The jury found for the defendant on the claim and the counter-claim, and judgment was entered accordingly.

### POLICE TRAPS.

NOT often of late has the news of police traps reached us, but one has just been discovered in Derbyshire, being operated by the Clay Cross police. Care should be exercised between Tapton and Stretton, on the Chesterfield-Derby road.

THREE constables confessed before the Arundel County Bench, on Monday, that they were in the Upper Worthing road, in the parish of Poling, a few days before, for the purpose of timing motor-cars.

WE learn from Mr. C. Jarrott that his firm have secured the British Agency for a French two-seated car fitted with an 8-10-h.p. single-cylinder engine and three direct speeds. Mr. Jarrott has given one of the vehicles an exhaustive trial, and states that he was amazed at the extraordinary results attained as regards speed, hill-climbing capabilities and freedom from vibration. Although he does not give us the name of the vehicle in question, we believe it is the Sizaire-Naudin, of which an illustrated description has already been given in the *M.C.J.*

WE had a fifty-mile trial run last week on a 35-45-h.p. Maudslayi car over a give-and-take road in the Midlands. Although the car carried a load of six passengers, all ordinary hills and short stiff rises were taken without change of gear, and a speed of 45 miles per hour can easily be attained. In descending a steep incline the brakes were applied and brought the car to a standstill in a very few yards. The car is particularly sweet in its running when on the third speed, which is the direct drive, and even on the indirect fourth the quietness is well maintained.

ALWAYS on the look-out for novelties, the latest introduction of Messrs G. T. Riches and Company, of Store Street, London, W.C., is a neat little self-igniting pipe, cigar and cigarette lighter. It is of a size that can be carried in the vest pocket, and comprises two small cylinders joined together; one contains a wick which has to be kept saturated with methyl alcohol; attached to the cap of the other is the igniting device, which consists of several platinum filaments. On placing these in the wick tube they become incandescent and so ignite the wick, giving a flame from which the pipe, &c., can be readily lighted. Those motoring lovers of the fragrant weed will find the Sedrop lighter, as the device is known, a welcome substitute to the ordinary match, which is of little or no use when travelling on a car.



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## COMMENTS.



ONE of the largest dinners yet held in this country in connection with the automobile movement took place in London on Tuesday, under the ægis of the Automobile Association—a particularly virile organisation of motorists that has rapidly advanced into a leading position. It has appealed to the popular interest in a more pronounced degree than any other society, and while its relations with other bodies are entirely amicable and friendly, it has found a sphere of usefulness in doing the work hitherto left undone. In the south it has made the roads comparatively passable for motorists, and in the north has been

recognised as a valuable adjunct to ordinary police supervision of the highways. At the present time it has established a scheme for naming the villages throughout the country—a piece of Post Office work that has been inadequately done in the past. These and a good many other useful phases of the work were enumerated by Colonel W. J. Bosworth, whose admirable chairmanship of the Association has been a valuable factor in its onward progress. To have gained 3,000 members within the short time it has been in existence is an achievement of which the committee may reasonably be proud.

### A Motor-Car for the South Pole.

A NEW British South Polar expedition will leave this country towards the end of the year under the command of Mr. E. H. Shackleton, who was third lieutenant on the *Discovery* during the national Antarctic expedition under Captain Scott. The expedition will proceed to New Zealand, and thence to the winter quarters of the *Discovery*, where the shore party will be landed, the vessel returning to Lyttelton to avoid the risk of being frozen in. In the following year she will return to pick up the explorers. The expedition hopes to land a party at Mount Melbourne to attempt to reach the South Pole, but its main object is to follow out the discoveries made on the Southern sledge journey from the *Discovery*, to create a new furthest south record, and to reach, if possible, the geographical South Pole. Besides dogs and Siberian ponies for sledge travelling over the ice a new feature will be the use of a motor-car suitable for an ice surface. This will be built by the Arrol-Johnston Company, who are now working on the designs.

### Roads for Motoring.

THE article by Colonel W. J. Bosworth, which appeared in our issue of the 2nd inst., will doubtless serve to suggest a subject for correspondence from our readers, who, as the touring season approaches, will be comparing notes as to the resorts to be visited by motor-cars during the present year. In this connection it may be useful to note that Mr. F. G. Hindle, an active member of the North-East Lancashire Automobile Club, declares that there are no roads in such a bad condition as those of his portion of the country. Mr. E. H. Bailey, who was a few years ago prominent among the ranks of motor tourists, believes that the best roads are in Staffordshire

and Derbyshire, while from Essex comes the view of Mr. E. E. Bentall that the London and Ipswich road has his preference so far as that district is concerned; at least after passing Romford. Unfortunately, the motorist from London finds the journey to Romford of such a character as to almost cause him to forego the pleasures that lie beyond. On this subject of good roads, an expert, who has had much experience of a really practical character, and who knows England from the motor-car as well as from the map, informs us that, in his opinion, the roads of Gloucestershire, Hertfordshire, Staffordshire, Nottinghamshire, Worcester, and the Midlands are the best, in the order stated. The high roads of the first-named county are particularly good, having been made with a fifteen-ton roller. A great point in road making is in the compression of the material, and here, we are afraid, some of the local road surveyors need a little education from their more scientific confreres.

### A Deputation to the L.G.B.

Now that Parliament has resumed its sittings we may expect a revival of the questioning of Ministers which formed such a fruitful basis for attacks upon automobilism in the last session of Parliament. In fact, there is little doubt that some of the more embittered opponents of the motor-car movement intend entering on a vigorous campaign. Hence we are glad to learn that the Motor Union is arranging for a deputation to Mr. John Burns, the President of the Local Government Board, on the subject of the new motor-car legislation which the Government cannot much longer delay. Although there is a general feeling of security with regard to the future, it would be even more satisfactory could prospective motorists be assured as to the reasonableness of the laws under which cars are to run. In this view the trade will readily acquiesce, and should not be slow in assisting the Motor Union in its well-timed direction of policy.

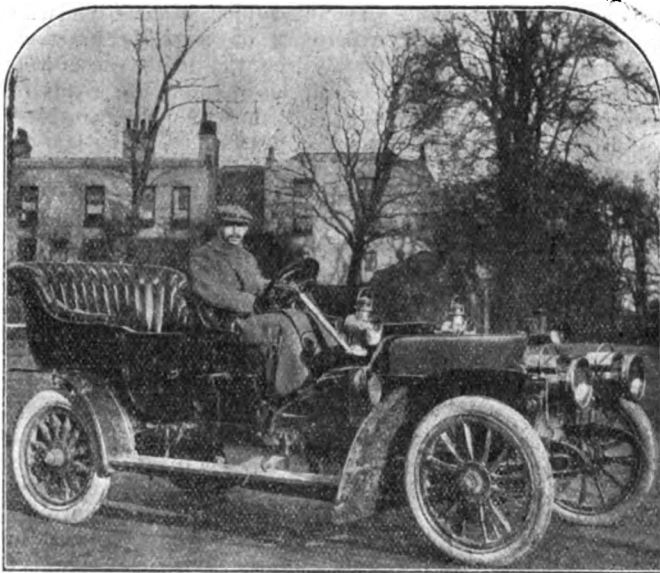
### Motor-Car Imports and Exports.

THE New Year has opened with a further increase in the importation of foreign motor-car productions into Great Britain. The number of vehicles which reached this country during January is returned at 447, their value being given as £181,250. Parts were responsible for an additional £163,727, which gives a total of £344,977, as against only £311,990 in the corresponding month of last year, and £186,186 in January, 1905. Turning to the exports of British motor-cars and parts, these also exhibit a very satisfactory increase. The number of cars shipped in January was 175, of a value of £66,050, while parts accounted for a further £37,099, the total of £103,149 contrasting with only £65,093 in the first month of 1906 and £33,070 in January, 1905.

### Motor-Cars and Defence.

THE interest of the Lord Justice-Clerk of Scotland in automobilism and in volunteer matters is well known, so that in dealing with the question of the Organisation of Power Traction on Roads for National Defence, at a meeting of the Royal United Service Institution on Monday, Sir J. H. A. Macdonald was speaking on a subject on which he is an acknow-

ledged authority—from whatever point of view it is regarded. He pointed out that a railway service corps could not always be depended on to do what was needful when wanted for rapid and effective concentration. Having considered all the difficulties of the situation, he did not hesitate to say that it would be easier, quicker, and more convenient in the case of it being necessary to move troops and their munitions and matériel of war during the first days of, or resistance to, invasion, to employ road power vehicles for the service of conveying the infantry, with all requisites for its efficiency and maintenance, leaving the railroad free for cavalry, artillery, and bulk matériel, and also for ordinary traffic, so as to interrupt business as little as possible. At the present moment there were in this country more than 120,000 vehicles on the road moved by mechanical power, and to add to these there were many thousands more standing ready for delivery, and many thousands more in the hands of second-hand dealers, a large proportion of which were quite efficient.



Mr. Reginald Lassen at the wheel of the 40-h.p. "Weigel" Car with which he has just left England to tour in the United States, on behalf of Weigel Motors.

#### Some Practical Figures.

CONTINUING to establish his claim for the motor vehicle in connection with national defence, Sir John Macdonald said there were nearly a thousand motor-omnibuses in London, and there would be at least 2,000 by the end of the present year. Assume that only 1,500 could be made available, and putting the load at the modest figure of thirty men, these 1,500 vehicles could in six journeys convey 275,000 men over equal distances in thirty hours. Double the distance, and the journeys must be halved; but even that would mean the movement of 137,500 men for fifty-two miles in one day, the proportion of men being in proportion to the mileage to be run. Nearly 45,000 men could be conveyed 180 miles, if necessary, in one day by the 1,500 omnibuses. Of course, forces conveyed by fast-going motor-cars could do double the distance at least that the omnibuses could accomplish. There would be in London and the neighbourhood at least 10,000 such vehicles, which, at a low estimate, could carry 40,000 men. Road transport for goods by mechanical power was also rapidly increasing, and such goods wagons could on emergency carry large numbers of men as well as matériel. If it was possible to utilise promptly and efficiently these power vehicles, in the event of a national emergency arising, the advent of the motor road vehicle had added enormously to our defensive power—a conclusion to which all military authorities are steadily advancing.

#### Speed of Motor-cars in Surrey.

At the quarterly meeting of the Surrey County Council on Tuesday a resolution was passed to the effect that the maximum speed limit should be twenty miles an hour for light motor-cars, and that between sunset and sunrise the maximum speed should be fifteen miles an hour, provided that in towns and villages and at dangerous corners, steep hills, and similar places where caution was required, such reduced speed prescribed by the local authorities should be adopted. An amendment, moved by Sir William Chance, chairman of the Guildford County Justices, for the abolition of the speed limit as recommended by the Royal Commission, was defeated. In the course of the discussion it was stated that the abolition of the speed limit would result in an increase of the dust nuisance and an increased cost in the upkeep of the main roads of the county, which at present cost £5,968 annually to maintain. The council, on the recommendation of the Highway Committee, decided to inform the Local Government Board that they were of opinion that the difficulty of dealing with the dust problem was governed by (a) road construction and (b) construction and speed of cars, and that with the present state of information on those heads they were not prepared with any remedy specially applicable to the roads of the county of Surrey.

#### The Question of Commissions.

THE Automobile Club intends during the present month to bring the new Act relating to commissions clearly before the notice of members, and to point out the desirability of preventing this new law becoming a dead letter through custom. The members will be asked to inform their motor servants that the acceptance on their part of a commission from a motor repairer or from a supplier of motor requisites, or from any other person, will not be tolerated; and further to notify their tradesmen of their attitude in this respect. It is to be hoped that this energetic action on the part of the central organisation will be generally supported. So many dubious transactions have already taken place that scandals have arisen even in an industry so new as that of the motor-car. The new Act has undoubtedly had an influence in many directions, and we trust its effect will be speedy and sure so far as the automobile business is concerned.

#### The Future of Aerial Navigation.

LECTURING to the graduates of the Institution of Mechanical Engineers, on Monday, Dr. H. S. Hele-Shaw said that for many years it was dangerous to a man's reputation even to talk about the matter of aerial navigation, much less to attempt any experimental work in connection with it. But things had changed, and aerial navigation need not now necessarily be associated with mental aberration. Experiments in aerial flight unquestionably surpassed any other form of sport. As for the commercial aspect, it seemed quite certain that flying machines could never carry even light and valuable freights at anything like the present rates of water or land transportation. Neither were passengers likely to be carried with the cheapness and regularity of the railways. But with regard to aeroplane experiments, M. Santos Dumont had proved it possible to fly a distance of a few hundred yards, at a height of about ten feet above the ground, against the wind, in a machine heavier than the air. If, therefore, aerial navigation could ever become a practical and mechanical certain means of locomotion at a cost that was not prohibitive (and he could see no reason why the construction of aeroplanes need be unduly costly), no words of his were needed to point out the stupendous social and economic issues the conquest of the air must involve. Following the prophecy of Dr. Hele-Shaw, we may mention that the progress that has been made is really greater than is generally known, and that emphatic demonstration on that point will be made at the Aero Club's forthcoming exhibition in connection with the Motor-car Show at the Agricultural Hall, London.

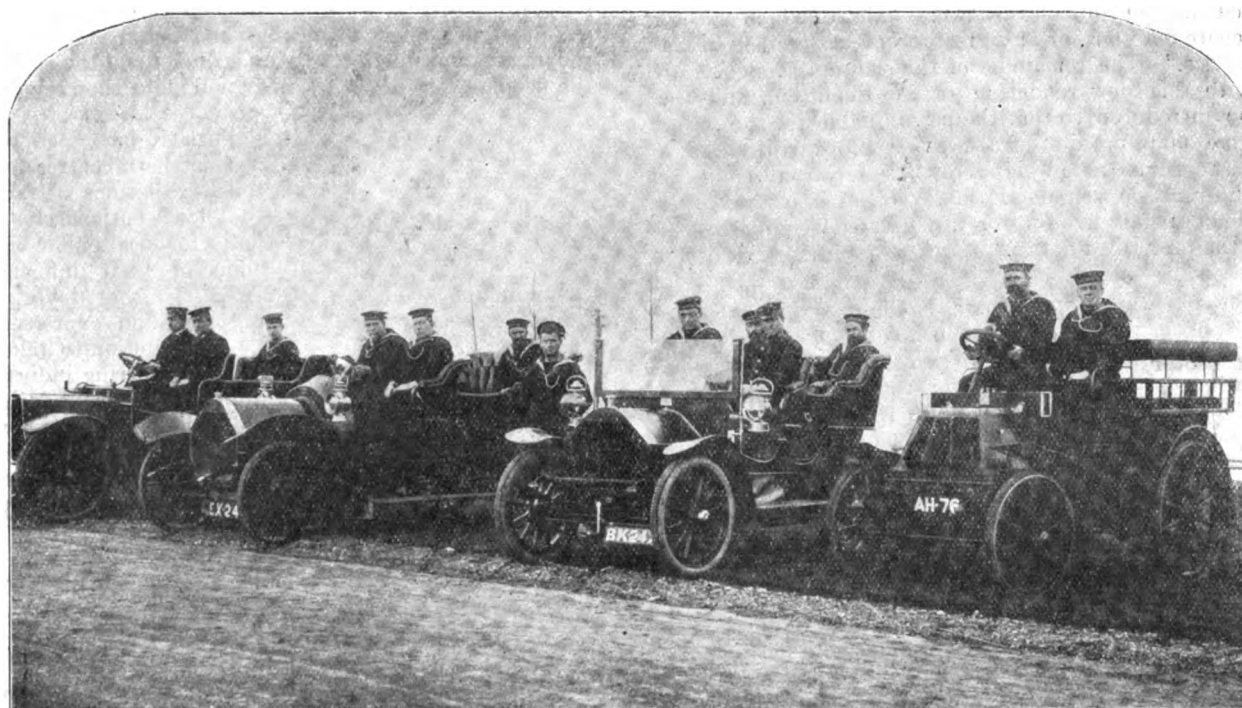
**"Reigate Welcomes Progress."**

Now that the Reigate County Bench has apparently supported the style in which Inspector Jarratt deals with motorists who pass his way, we may expect further arrogance on the part of the Surrey police. Without going into the technicalities which were involved in the case heard on Saturday and reported on another page, we must express surprise that even a Surrey bench of magistrates should hear such a confession from the police without a word of reprimand. The inspector admitted that he threatened to knock down a motorist with whom he was having an altercation. This surely is not upholding the dignity of the law nor the self-restraint of its defenders. If inspectors go cycling about the country threatening to knock down anyone who disagrees with them, we may expect constables and sergeants going a step or two further and administering a kind of rough justice without recourse to the ceremony of the courts. The incident as revealed at Reigate is certainly an unsavoury one, and although the County Bench did not publicly tell Inspector Jarratt to

rested upon the blue-jackets from the "Terrible" and the Russian soldiers. He admired the Russian soldier, was not very fond of the Japanese, and preferred the Chinese.

**The Re-treading of Tyres.**

NOT everyone has an idea of the extent of the business that has lately developed in connection with the re-treading and repair of motor tyres. Some motorists have had unpleasant experiences in this connection, but we are pleased to learn that the course of action recently taken by ourselves has done much to eradicate certain unsatisfactory aspects and has enabled those firms capable of doing work that is intended to last to secure a large share of the business that is going. It may be as well, however, to point out to motorists desirous of renewing the strength and usefulness of their tyres that they must not expect too much. No really sound re-treading can be done unless the canvas is thoroughly cleared of the old rubber—a factor in the cost as well as the efficacy of the work. Therefore unless they are prepared for some little expense they need not expect firms



Blue Jackets as Chauffeurs.—Some of the Crew of H.M.S. "Excellent," at Portsmouth.

Photo b.

(Cribb Southsea.)

hold restraint upon his tongue, we trust an intimation will be conveyed to him that such language is not calculated to uphold the authority of the police—in Surrey or anywhere else.

**A Motorist's Adventures.**

THERE is less excitement with the motor-car in a country like our own than being "with the firing line and through the jungle." Mr. Frederic Coleman can talk equally well on all such points. On Friday of last week he went to Nottingham at the invitation of the local automobile club, and gave an account of his experiences as a war correspondent in the Hispano-American war of 1898, the Philippine insurrection, and the Boxer campaign of 1900. Not everyone who knows Mr. Coleman as a faithful friend of the steam car is aware that he went to Manilla as a volunteer. Subsequently he explored portions of the South Sea Islands where no white man had been before, and the pictures he showed of the quaint inhabitants of the region and the wonderfully luxuriant vegetation were specially interesting. He then dealt in detail with the operations in China. At the time of his arrival the work of defence

of repute to undertake such work, for few things are so likely to displease the motorist as the collapse of good expectations with regard to tyres.

**Benzole as a Motor Fuel.**

MR. W. A. BOWER, who has been giving evidence before the Fuels Committee of the Motor Union, has every confidence that unwashed benzole can be made suitable for motor work, as by distilling out the lighter portions of the crude benzole the bulk of the sulphur compounds may be eliminated. As an auxiliary source of fuel to petrol it would be valuable, for it may be fairly assumed that 25,000,000 to 30,000,000 gallons of benzole may be recovered in this country from the gas produced at coke ovens or carbonising works. A larger supply of air is needed to give complete and efficient combustion of benzole in the motor than is found necessary for petrol. The approximate heat values of one gallon of benzole and one gallon of petrol are:—Benzole as 163,680 B.T.U.; petrol as 157,142 B.T.U. From this it will seem that less storage capacity will be required for benzole than petrol for any

given expenditure of power. From practical working it would appear that benzole does work satisfactorily, and that, by a suitable adaptation of carburettor, benzole, or a mixture of benzole and petrol, might be generally used. Importance must, in the view of Mr. Bower, be attached to the fact of benzole being produced in this country, thus rendering the motor industry less dependent on supplies of petrol from foreign sources, in the event of any emergency arising.

#### Heavy Motor-Car Order.

AN amending regulation to the Heavy Motor Order, 1904, was issued by the Local Government Board on Monday, by which a new Order is substituted for article XIV. of the earlier regulations.

This relates to the use and the restriction of the use of heavy motor-cars on bridges. Verbal alterations are made in some of the subsections which vary the phraseology without materially affecting the effect of the regulation. The main change is in the first clause, in which the definition of the heavy motor-car as one where "the registered axle weight of any axle of which exceeds three tons" is amplified to read "or the registered axle weights of the several axles of which exceed in the aggregate five tons, or any greater weight specified in the prescribed notice." The remainder of the clause is brought into harmony with this new rendering of the definition, and the trailer is now introduced, so that the person liable for the repair of the bridge may prohibit "a heavy motor-car drawing a trailer, if the registered axle weights of the several axles on the motor-car and the axle weights of the several axles of the trailer exceed in the aggregate five tons or any greater weight which is specified in the prescribed notice."

#### Essays on Motor Legislation.

THE Motor Union, upon the suggestion of Sir John MacDonald, has decided to award two prizes of five guineas and two guineas for the best essays on the subject of "Motor Legislation: Preparation for the forthcoming Parliamentary Struggle." The judges upon whose recommendation the awards will be made are:—Lord Montagu of Beaulieu, Sir John MacDonald, Sir Henry Norman, M.P., and Mr. C. H. Dodd. The Motor Union hope, as a result of this competition, to obtain some valuable suggestions which may assist the Union to induce Parliament to adopt practical motor legislation which will be satisfactory both to the motoring and the non-motoring public. The following are the conditions of the competition:—No essay must exceed more than 1,500 words in length. All attempts must be typewritten on one side of the paper only. The prize competitions shall become the property of the Union, and the Union reserves the right to publish any essay or part of any essay sent in. The decision of the Committee of the Motor Union, acting on the recommendation of the judges, will be final. All essays must be sent in by March 4th, 1907, addressed to the Secretary, Motor Union, 1, Albemarle Street, Piccadilly, London, W., marking the envelope in the left hand corner with the word "Essay."

#### In Search of the Beautiful.

THE contention of some æsthetic persons that the popularity of motoring, with its accompanying passion for speed, would destroy a taste for natural scenery and render men oblivious to the delights of the landscape, must be accredited to the nescience of the speakers on that particular point. Motorists do not despise the rural charms of this or any other country, while many of those artistic people who previously drank in their fill of beauty in homœopathic doses are now able to see miles of landscape that were previously beyond their reach. Professor Herkomer is both an artist and a motorist. No man combines such a devotion to both as this man of international fame and cosmopolitan sympathies. And he loves his motor because it enables him to see and to realise more of the beauty of the country. As he told the students of the Royal Academy a few

evenings ago, the loveableness of England is a quality that must outlive all passing fashions in art; and just as the painter says there is no need for English artists to go to foreign lands in search of subjects, so we would tell English motorists that there is much that is beautiful in our own land as yet unexplored. At every hand the roads of England could boast of surprise, of something lovely, said Professor Herkomer, and if motorists would sometimes leave the beaten track and journey into the bye-ways, they might become explorers in search of delights that would never pall.

#### Loss to Artists.

THIS artistic recognition of the automobile is all the more appreciable when it is remembered that the coming of the car has proved a factor in the slump that has been experienced by artists with regard to the sale of their canvases. In all the chief countries of the world a decided slackening in the demand for pictures by private buyers has been experienced, and even the booksellers have been calling out about the lessened amount of reading that has been done since people spent more time in indulging in open-air pleasures and delights. It is possibly true that motoring has had a considerable effect upon the tastes and inclinations as well as upon the social habits of the people—but all these things will right themselves in time.

#### Manchester and Newcastle.

THIS week it has been the turn of two great northern centres to have their automobile exhibitions attracting a fair number of local enthusiasts and giving opportunity for local public men to lend the weight of their influence to the automobile movement. At Newcastle, the Mayor, Councillor Oubridge, declared the display open, and expressed his view that it was appropriate for such an exhibition to take place in a town so closely identified with the engineering industry as Newcastle-on-Tyne. Mr. W. Philipson also spoke, dwelling upon the good work of the carriage-builder—now, we would add, that he has fully awakened to the necessity of catering for, instead of ignoring, the new industry. The person who regards the car from the "body" point of view, is frequently regarded as an unpractical motorist; but there is something to be said on his behalf. His training has been along those lines for generations, and he knows that faults of carriage construction are destructive of comfort.

THE New Engine Company, of the Acton Hill Works, Acton, W., send us particulars of some experiments they recently carried out to demonstrate the freedom from vibration of their cars fitted with four-cylinder horizontal engines beneath the front seats. They first ran the engine at from 1,000 to 1,200 revolutions per minute, and then placed a glass full of water on the front seats, having first removed the cushions. The seats, being directly over the engine, take the place of the usual bonnet in vehicles having vertical engines. Under these conditions not a single drop of water was spilt; there was the slightest possible shimmer on the surface of the water and it was quite possible to take an excellent photograph. They then placed the glass on the dash, which in their case is broad and flat topped, and here also no water was spilt and no vibration was noticeable. Next they throttled the engine down to about 150 to 200 revolutions, and again there was absolutely no water spilt, the company regarding this test as a more severe one than that with the engine running at a high speed. To carry the tests to a further point, they afterwards put a glass, full of water to within one inch from the top, on the flat top of the dash and drove the car from a standstill from the works at Acton to the top of Hanger Hill, a matter of 1½ miles, turned the car round and brought it back to the factory with the glass standing all the time untouched on the dash. Not more than a tablespoonful of water was spilt in this operation, and the car was driven in the usual manner, at speeds up to thirty miles per hour.



## THE LATE M. LEON SERPOLLET.

It is with great regret that we have to announce the death of M. Leon Serpollet, which took place in Paris on Monday last, at the early age of forty-eight years. Of humble birth, he gradually forced his way to the front until he became probably the leading authority in the world on the subject of steam automobiles. It was about the year 1887 that he first devoted his attention to the question, his initial production being the three-wheel machine of which we give an illustration on page 1116. In this the boiler was placed at the back of the two hind driving-wheels, the front wheel being the steerer in the usual way. The machine had no movable pedals, but in their place two fixed foot-rests were provided. This little vehicle was found of great utility for carrying a single passenger at a considerable speed, as, for example, in sending messages or delivering small packages. It could attain a pace of twenty miles an hour, its principal feature being the flash

part in most of the early races and contests in France, and his marvellous performances at Nice in the spring of 1901 and 1902—more especially the latter, for it marked the appearance of the Easter Egg—will still be remembered. The deceased was also a regular visitor to England, and rarely, if ever, missed the annual exhibitions at the Agricultural Hall. We can well remember, in the old days of the Arena, how anxious he was to give a demonstration of the speed of his vehicle, and the difficulty we had in preventing him risking disaster, owing to the fact that, although the track was about 200 ft. long, it had a sharp fall to the south, which rendered fast travelling dangerous. Motorists generally, and not merely those interested in steam, will, we feel sure, join with us in an expression of sincere regret that he should be called away just at the time when he was achieving the success for which he had so long striven.

A contributor writes:—"When I last saw the lamented M. Leon Serpollet, outside the Hotel de Luxembourg, at Nice,



*From a photo]*

The late M. Leon Serpollet at the helm of one of the early Serpollet Steam Cars.

*[Taken early in 1896.]*

generator, which he developed to a high degree of perfection. Continuing his experiments, M. Serpollet, later, constructed several superheated-steam carriages, which proved remarkably successful, with the result that works were established for their manufacture on a commercial scale. Coincident with the building of steam motor-cars, he paid considerable attention to the construction of steam tramcars and rail motors, large numbers of which were turned out. Year after year he was a constant exhibitor at the Paris Salon, and when the announcement was made about a year ago of the formation of the Darracq-Serpollet Company to build steam omnibuses, the many friends of the deceased all congratulated him on having at last overcome the great difficulties he had had to contend with. M. Serpollet, always anxious to keep steam to the front, took

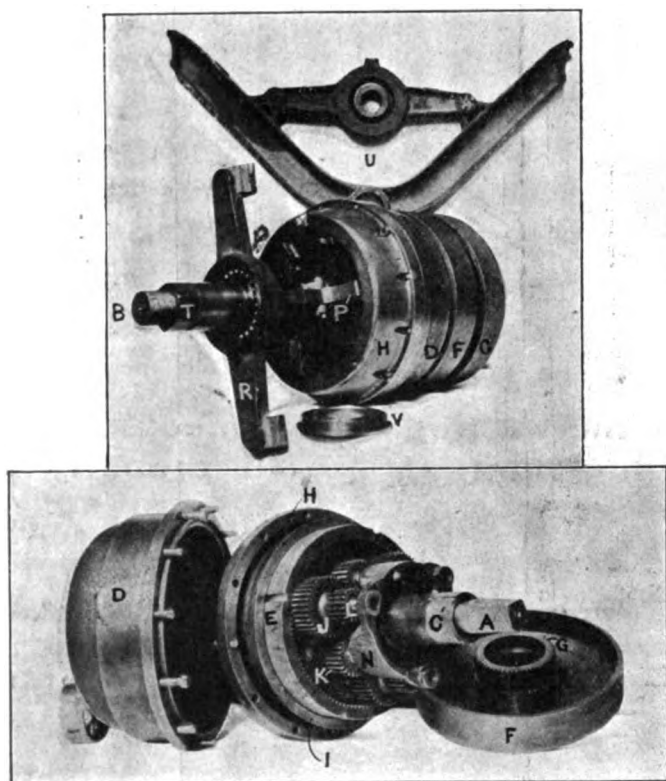
about a month ago, seated in his car with his wife and two children, I little thought that it would be the last time I should look upon my friend alive. He was in much better health, he stated, than he had been for some time past, and was looking forward to spending a holiday at his villa on the Riviera. As one who has known the deceased for something like twelve years, his sudden demise has come with a severe shock, and it seems there are others who could have been better spared than our friend, who in the meridian of his life has been suddenly called away. His was a voice that was sweet. His was a mind that was clear. His was a hand that was cunning and clever, and his name and his works will live as being one of the pioneers of the greatest movement in the modern history of the world. R.I.P."

## THE JOHNSON EPICYCLIC CHANGE SPEED GEAR.

**A**LTHOUGH the sliding type or *train-bullieur* form of gear-box is still employed on the majority of cars, an increasing interest is apparently being taken in the epicyclic or planetary type of change-speed gear, especially as this is now being adapted to give three forward speeds in addition to the reverse, as compared with only the two ratios which were available formerly. Several new designs have lately made their appearance, including the Johnston-Buddicom and that used on the New Eagle cars. The latest, however, to come under our notice is that which has been devised by Mr. Heber Johnson, of Princess Street, Manchester, and of which a description follows.

The advantages of the planetary type of gear are well known, the gear wheels giving the various ratios being always in mesh and each speed is picked up directly by means of brake straps.

The new Johnson arrangement has been designed to meet



Figs. 1 and 2.—Views of Johnson Epicyclic Gear.

the growing inquiry for a three speed and reverse epicyclic gear of few and simple elemental parts, with a view to greater efficiency and less cost of production, and so constructed that it is readily accessible, and can be instantly dissembled in the remote contingency of anything going wrong. The gear produces by compound epicyclic motion, together with a friction clutch, three forward changes of speed of such ratios as have been found in practice to be most useful, and a reverse motion, using only one internal toothed ring and six essential pinions.

Referring to the general view, Fig. 1, B is the driven shaft for direct connection to the cardan shaft, the driving shaft for direct connection to the crank shaft of the engine being at the other end of the gear. The gear is held in the underframe of chassis by the cross members as shown at U, the fittings shown being the ones proportioned to fit a standard "Gracile" chassis. The shafts run on large ball bearings held in dust-proof casings. An automatically oil-fed metal-to-metal clutch H, by means of spring arms P, gradually locks the whole mechanism together to produce the high-speed direct drive; there being no end thrust of

the clutch either in or out of engagement, and a lock nut T is provided to allow adjustment for wear. The middle or second speed is obtained by gradually tightening a brake strap on the drum C, this giving a reduction of five to three. To obtain the low or first speed, a brake on the drum D is applied, the gear reduction in this case being four to one. The reverse motion is obtained by braking the drum F.

Fig. 2 gives a view of the internal mechanism, the drum C being removed from the sleeve C for the sake of clearness. I is the cone, and H the internal cone of the high-speed clutch. The drum D is shown detached; it forms with H an oil-tight casing for the whole of the gear. The internal toothed ring E is fixed in the drum casing D and forms the outer braking element of the primary epicyclic motion, of which the pinions J are the planetary and driven element; they in turn gear with a primary driving sun-wheel solid with the driving shaft A; this primary motion produces the first or slow speed. Small interposed pinions K gear with the second half of the primary planets J and with a further central sun-wheel solid with the sleeve C, which constitutes the braking element to produce the second or intermediary speed. Small extension pinions L of the primary planets gear with a further central sun-wheel G, shown together with its drum removed from gear; these, working in conjunction with the primary planets and their sun-wheel, produce the reverse motion. The internal toothed ring only transmits power when the low gear is in use. The pins carrying the planets are bolted in the cage of the carrier formed by the parts N and I, which in turn is bolted to the shaft B; this, therefore, revolves at the various ratios of speed, or with a reverse movement, according to which drum is being held, or at the same rate as the engine when the high speed clutch is engaged, the whole mechanism then running solid and forming so much extra fly-wheel.

All wheels, bearings, sleeves, and clutch run in an oil bath, and are automatically oiled. The gear, which Mr. Johnson claims is more silent in action than the usual sliding pinion type, measures only 9 by 12 in. The gear mechanism as a whole can be taken clear out of the car without disturbing the brakes or operating connections, by simply undoing a spring clip, the driving and driven shafts being connected fore and aft by special universal joints. It can also be dissembled in or out of the car by removing the four set screws holding the internal cone H, which forms an inspection cover to the whole internal mechanism, without the use of further tools.

In addition to being applied to new machines the gear, which has been subjected to long trials, can be fitted to any existing direct drive gear-driven car, or to a chain-driven vehicle fitted with separate differential shaft, adapting the usual side levers and pedals.

MESSRS. MERRYWEATHER AND SONS, of Greenwich, have recently supplied a special combination motor fire apparatus to the Fire Department of Rosario, Argentine Republic. It comprises a tender driven by a powerful four-cylinder petrol motor placed under a bonnet in front; a treble-barrel "Hatfield" pump, arranged to be driven by the motor through simple gear and capable of delivering 450 gallons per minute; a chemical cylinder of a capacity of 90 gallons, arranged to deliver through a hydraulic reel carrying 180 feet of specially prepared rubber hose, and a fire escape of the firm's sliding carriage pattern to reach a height of 66 feet.

A REPRESENTATION of Mr. Charles Jarrott on the racing car driven by him in the Gordon Bennett Race in Ireland in 1903 has lately been presented to him by Mr. Edwards, of Glasshouse Street, London, as a souvenir of the event. As an elaborate piece of carving in meerschaum it is probably unique. The treatment of the meerschaum has been with the object of allowing the cap, arms, tyres, and hubs to colour, leaving the face, racing body, bonnet, and the rest of the road wheels perfectly white. The cigar-holder in question is 7 in. long, and the figure stands 1½ in. high off the holder, the length of the car being about 2½ in.

## CONTINENTAL NOTES.

### A French Reliability Trial.

The Autocycle Club de France has issued the rules of the Reliability Trial which is to be held from the 18th to the 21st May next. The event, which will consist of a run from Paris to Ostend and back, will comprise the following categories:—(1) motor-bicycles of a maximum cylinder capacity of 1.3rd litre; (2) ditto maximum 1.4th litre; (3) tri-cars up to 1.2 litre capacity; (4) voituresses up to 6-h.p.; and (5) ditto up to 8-h.p. On the first day the journey will be to Boulogne, on the second to Ostend, on the third to Rouen, and on the fourth Paris will again be reached. An average speed of nineteen miles per hour will be required, and marks will be deducted at the rate of one for each half-minute that the competitor is behind the time allowed.

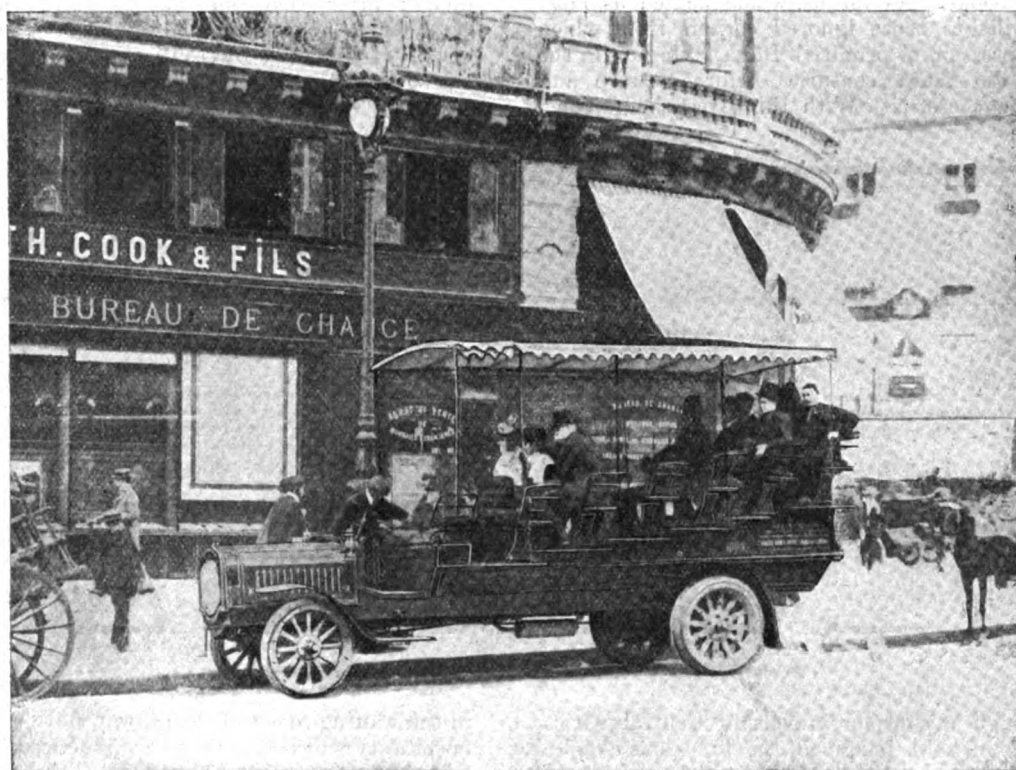
### The Grand Prix Race.

No decision was taken at the meeting of the Sporting

of early designers, the work of the many British engineers in the early part of the last century naturally coming in for a large amount of attention. Later he deals with the work of Daimler, Benz, Bollée, Serpollet, and many other pioneers of the modern movement, while the latter part of the book is a record of the rapid development during the past ten years not only in the construction of motor-cars but of their adoption and use. The principal races of the past decade are all alluded to, the interest being increased by the liberal use of illustrations.

### The Cannes Automobile Meeting.

It has been decided to hold a number of motor events at Cannes from March 6th to 16th. On the first day there will be a series of speed trials on the level and a hill-climbing competition; on the 9th a petrol consumption trial; on the 11th a brake test; on the 12th an excursion to the Col de Braus; on the 14th a flower fete; and on the 16th an automobile paper chase. The organisation of the meeting is in the hands of the Automobile Club de Cannes.



Sight Seeing by Motor-Car.—One of the two 24-h.p. De Dion Char-a-bancs employed for sight-seeing purposes in Paris by Messrs. Thomas Cook and Sons.

Committee of the A.C.F. last week with regard to the course on which the races for the Grand Prix and the Coupe de la Commission Sportive shall be held, the matter having been postponed to permit of a further inspection of the proposed Seine-Inferieure circuit, which was duly made on Sunday last. Dieppe is the principal town on the line of route, and the authorities of the district have offered a sum of £4,000 towards the organisation of the race, and guaranteed to put the roads in good condition.

### The History of the Automobile.

Under the title "Histoire de l'Automobile," Messrs. Dunod and Pinat, of Paris, have just published a work which will be of service to all interested in tracing out the development of the modern motor-car. It is from the pen of M. Pierre Souvestre, who has been at evident pains to make the book, which extends to about 800 pages, as complete as possible. Beginning as far back as the 17th century, the author briefly describes the efforts

### Miscellaneous Items.

One of the Renault motor-cabs in Paris is now being driven by a woman.—A public motor-car service was inaugurated last week between Toulon and Draguignan, France.—A monument to the late M. Levassor, the originator of the so-called Panhard type of motor-car, will be erected in Paris on June 15th next.—Mr. Van Marcke, on a Hotchkiss six-cylinder car, left Paris last week on a 7,000 kilometres tour of France.—Finding that the absence of a number on his car, which he was using in Paris, gave rise to misunderstanding and confused the authorities, King Edward, during his visit to Paris last week, ordered one to be obtained from the Prefecture of Police, and during the latter part of the visit the royal vehicle bore the number 447E5.—A motor-car exhibition is to be held in Copenhagen in September next.—The death took place last week of Madame Bob Walter, a well-known personality in the French motoring world. She was the proprietor of a garage in the Avenue de la Grande Armée, Paris, where a speciality was made of providing motor-cars for elopements.

## ACROSS INDIA BY MOTOR-CAR.

BY THEO MASUI.

(Concluded from page 1090.)

THE landscape is anything but pretty as soon as one leaves the Ghauts. At this season it is shockingly dry, giving one the impression of a desert, though the land is everywhere cultivated or showing the remains of cultivation, principally of cotton and rice. As to trees, there are acacias, tamarinds, wild date palms, while the plants include euphorbias, cacti and a dry fine grass on which the cattle browse. Even the outskirts of the villages are barren, and it is only when nearing the towns that the country becomes more pleasant. The localities themselves are often very picturesque, with their temples, their minarets, the numerous pavilions, with the regular dome supported by thin columns; when all these are built along the banks of the river they make a very pretty picture.

Some towns traversed, such as Nasik and its sacred river, with the temples studded along its banks; Mak-ee and its fine temple, Jain; Gwalior and its celebrated fort, are all mentioned in the various guide books. As for us, what pleased us most were those isolated villages, those ignored corners from which still emanates the impression of primitive India, living on in the same style as they did many centuries before, passive and immersed in its ancient creeds. With this exception, instead

serve as kitchen and lodgings for the native servants. There are bungalows of three or four rooms; some "furnished bungalows" can boast of table linen and rudimentary crockery, but bedding and towels are never to be found. It is, therefore, necessary to bring the bedding along; this consists of a thick quilt—used as a mattress—a pillow, sheets and blankets *ad hoc*. All these are closely packed in a hold-all, and this bedding can be bought complete at Bombay, or in nearly every important town. It is also advisable to carry a "tiffin basket" filled *ad libitum* with a little crockery and a miniature kitchen set. Everywhere one can find food, simple of course, but, as a precaution, it is as well to get a small assortment of preserves, and one should not forget tea, sugar, biscuits, condiments and a couple of tins of meat. With a little ingenuity and the assistance of a good native servant one can get on well anywhere. It is to be noted that the keeper of the bungalow is always obliging and of great help. At some places one can procure bread and soda water; at others one must be satisfied with tea, biscuits, or native bread, a rather indigestible article. One has the right to occupy the bungalow for twenty-four hours; after that one has to leave the place to another traveller, if he turns up; however, if one strays from the track usually frequented by tourists, this is rarely the case; besides, the bungalows are very numerous, there being about thirty between Bombay and Agra. It is also permissible to lodge



Across India by Motor Car.—Preparing to cross the Tapi River.

or again living through my former travels in Central Africa, instead of finding again, as I imagined, the luxurious tropical splendour, the country traversed reminded me rather of Arabia and Nubia, at least at that time of the year; for as soon as the monsoon appears everything will be inundated by torrents of rain, and, as if by magic, the country is refreshed and green again, and the dust of the road turned into quagmire.

On the third day of our journey we were actually cold. As soon as the Ghauts are passed the high temperature of Bombay is succeeded by a cool one, even cold in the evening, necessitating the use of cloaks and rugs. In the car we were frozen. During the middle of the day the sun stings a little, but as soon as it disappears winter sets in cold and dry, but all the more felt as it supervenes without transition. All along the road, either by the care of the English or the native Government, inspection bungalows and Dak bungalows have been erected, intended for the accommodation of officials or travellers. They consist of pretty pavilions of stone, having only a ground floor, with verandahs and terraces. These buildings are of various sizes, more or less only equipped with the most essential furniture, but perfectly arranged. The ordinary Dak bungalow has two rooms, containing a bedstead, or rather girthed stretcher, a table, chairs and armchair; each room communicates with a lavatory, containing a zinc tub. One or more small structures near by

in the waiting-rooms of the railway stations; and, considering the hospitality which is everywhere practised here, there need never be any fear of being obliged to spend the night in the open. Amongst the most beautiful bungalows of the road mention should be made of those established by Scindia, and the "Guest House" which he has erected at Gwalior may be termed sumptuous; it is in reality a sort of hotel at popular prices, but to which travellers are admitted with certain restrictions. We did not lodge, but only lunched there.

In drawing up the programme of our tour I had fixed seven halting places—Nasik (120 miles), Dhulia (100 miles), Khal Ghat (110 miles), Maksee (96 miles), Goona (123 miles), Gwalior (130 miles), Agra (73 miles). We adhered to these distances up to Maksee, and practically they were sufficiently long, considering the unforeseen occurrences and difficulties encountered. After Maksee we could proceed more freely, and my car went so gamely that I was able to pass Goona and go on to lodge at Sipri, finally arriving a day earlier than calculated in Agra, which we entered on December 27th, having accomplished an absolute non-stop run, at the end of which the car, as well as the passengers, were in perfect condition, and ready to take to the road again for Calcutta immediately after the Durbar.

THERE are now eighteen entries for the Tourist Trophy Race, and three for the Heavy Touring Car Race.



## SOME CURRENT TOPICS.

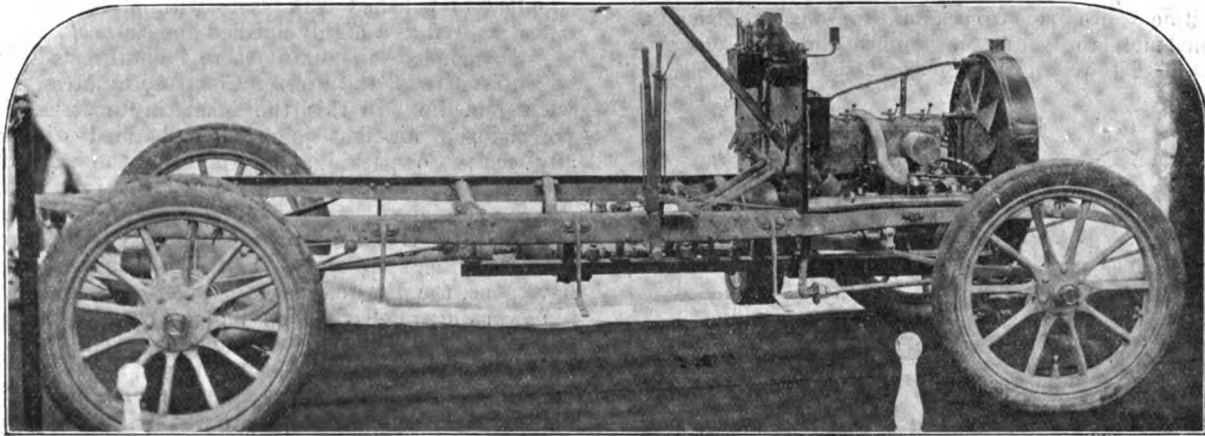
### The Argyll Cars.

One day last week we spent an afternoon with Mr. E. H. Watson, the managing director of Argylls London, Ltd., in putting one of the latest Argyll 14-16-h.p. four-cylinder cars through its paces, and were very favourably impressed not only with its silent and smooth-running qualities, but also with its hill-climbing capabilities. Leaving the Argyll depot in Newman Street, W., Mr. Watson was into his top gear within a very few yards, and the change-speed lever was not again used until Hampstead was reached, where a block in the traffic brought us to a stop right on the steep part of the rise. Our trial run included a "promenade" through busy thoroughfares as well as on the open road, affording ample scope for observing the great flexibility of the engine and the general efficiency of the multiple disc clutch and transmission mechanism, for, with the exception of the occasion mentioned, the whole outward journey was done on the high gear. After having successfully climbed the well-known gradient of Netherhall Gardens, N.W., we ourselves took charge of the steering-wheel, and it speaks much for

maximum pressure of the inflammable mixture may be reduced, the average pressure is increased, which, combined with the diminished loss of heat through the cylinder walls, gives a more regular expansion of the gases and a lower temperature to the exhaust. Our reference to the subject is occasioned by the fact that during the past week we have had submitted to us, by Mr. George Gibson, of New Street, Westminster, S.W., an ingenious and compact arrangement whereby the engine itself automatically injects into the combustion chamber, immediately after the charge has been fired, a small quantity of water, which is instantly flashed into steam. The apparatus, which is about the size of a large sparking plug, comprises a small pump, the ram of which is actuated by the pressure of the compressed gas. Mr. Gibson claims that by his arrangement not only is there no disturbance to the quality of the mixture, but that an increase of no less than 15 per cent. in the power developed by the motor is obtained. Unfortunately it is not possible for us to give full details of Mr. Gibson's device at the present time, but we are looking forward with interest to the development of the idea. There can be no question that the subject is an interesting one, and if any readers of the *M.C.J.* have carried out experiments in a similar direction we shall be glad to hear from them.

### Accessibility and Cleanliness.

In connection with Mr. F. L. Martineau's recent paper to the Institution of Electrical Engineers on the above subject,



Chassis of Empress 14-20-h.p. Car. (See page 1128).

the easy control adopted that we were at once quite at home, and safely drove back to the garage without any previous experience of the particular vehicle. The speed of the engine is controlled by means of two levers—one connected with the throttle, and the other with the ignition—working on a quadrant located above, but not rotating with, the steering wheel, and as the bulk of the driving is done on the top speed—the third in the case of the Argyll cars—the work exacted of the driver is reduced to a minimum. We were particularly struck with the positive and noiseless operation of the Govan "gate" change-speed gear. It was with some trepidation that we essayed to manoeuvre this, fearing to lose caste in the eyes of our experienced companion by making a noisy change. Our fears were, however, entirely unfounded, for the gears slipped in without the slightest hesitation or sound. Altogether the run has given us a very high opinion of the 14-16-h.p. Argyll, and we are not surprised to hear that its popularity in motoring circles is rapidly extending.

### Water Injection to Increase Power in Petrol Engines.

During the past few years many experiments have been made in the direction of increasing the efficiency of petrol motors by the introduction of water into the explosion chambers. Various opinions have been expressed as to the effect of the introduction of water, the more general one being that while the

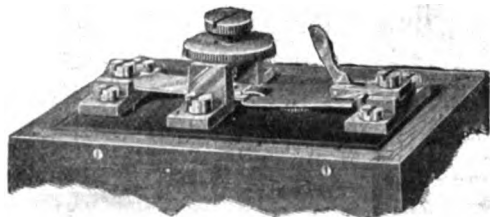
Mr. R. W. A. Brewer has since made a written contribution to the discussion, in which he elaborates his view that "too much accessibility is a dangerous thing." He thinks it extremely inadvisable to sacrifice any simplicity or rigidity in construction in order to obtain a greater accessibility to those parts which seldom—say once a year at the most—require examination. His argument is that it is advisable that every motor-car which does a good year's work should at the end of that time be completely examined by a competent person and the necessary repairs then done. If this were the case there would be no need to have greater accessibility to such things as pistons and crank shafts, which, if made of suitable material and properly assembled in the first place, should show no appreciable signs of wear at the end of one year. Cam shafts also have been made for many years perfectly accessible by removal of a side cover, but these parts, if properly made and hardened, seldom require attention, and if they do so, any alteration or trimming up of the cams can only be done by grinding with emery, and should be left to a proper repairer.

A CATALOGUE of their motor-car accessories and specialties comes from Messrs. G. Robertson and Son, Snawdon Works, Sneddon Street, Paisley. The illustrations include radiators of various designs, bonnets, dashboards, body panels, wings, mudguards, &c.

## BRITISH ELECTRICAL IGNITION APPARATUS.

IT is not so very long ago that the bulk of the ignition fittings on motor-cars—even those of British construction—were of foreign manufacture, they being deemed superior to those produced in this country. While this may have been true at the time, this objection to British made articles no longer holds good, as during the past few years quite a number of English firms have centred their attention on the production of accumulators, coils, and other ignition specialities, the result being that it is no longer necessary to go to the Continent for supplies of this kind. Among the concerns alluded to is the Prested Miners' Lamp Company, Ltd., of Holloway, N., who, as an outcome of thus specialising, have met with considerable success in this department of the motor accessory business. Some time ago Messrs. Prested submitted to us a sample set of their accumulators, sparking plug, and induction coil, and, although we have so far not been able to give the whole of these a practical test, the results we have obtained with the first two permit us to speak very highly of the Prested productions.

To deal first with the accumulators, these are the product of the firm's experiences with electric miners' lamps, in which high efficiency and capacity combined with lightness and indestructibility are great desiderata. The plates, which, as a result of some recent improvements, are capable of withstanding a large amount of careless treatment, are made from a mixture of lead, antimony, and an additional metal to give greater strength, and are afterwards filled with a special paste. They are fitted in the cells in



The Prested Coil with Cut-Out Device.

such a way that they rest on a celluloid support, while a useful feature, and one which considerably reduces the possibility of internal short circuits, is the provision between each plate of a sheet of corrugated and perforated celluloid  $\frac{1}{4}$  in. thick. Special attention is paid to the battery terminals, which are not only differently coloured to distinguish the positives from the negatives, but are securely attached to the bridge connecting the plates; insulating material is also introduced between the connection and the terminal end, by means of which any creeping of acid or oxidation of the positive terminals is prevented. The accumulators are made in a wide range of sizes extending from 12 to 100 nominal ampere-hour capacity. The number of plates in the cells varies, of course, with the capacity, the 60 amp.-hour (nominal) size containing seven, each 4 in. wide. On a continuous discharge of one ampere this accumulator will give 36 amp.-hours, sufficient to run a single-cylinder engine car about 1,800 miles on one charge. The battery we have had in use is that known as the C5 size, the nominal capacity being 40 amp.-hours and on continuous charge 24 amp.-hours. The makers inform us that it will run a single-cylinder vehicle about 1,200 miles, but although we have not been able to test this, owing to the fact that, for one reason or another, the particular car on which it has been used has not been out very much during the winter months, we have found it to hold its charge extremely well and that it shows no signs whatever of sulphating. We may add that the cells, on which the charging rate is clearly marked, are very compact for their capacity, the C5 above referred to measuring  $4\frac{1}{2}$  in. by  $3\frac{1}{2}$  in. by  $6\frac{1}{4}$  in.

Passing now to the Prested induction coils, these are made in sizes suitable for engines from one to four cylinders and in a variety of patterns, special care being taken in the manufacture to secure a maximum of efficiency for the amount of current

consumed. The different layers of the silk-covered high conductivity wire in the coil are insulated from each other by a bed of special fabric which is claimed to render internal faults practically impossible. When the desired number of layers are in place, the coil is immersed in a bath of insulating composition, in which it is allowed to remain for a considerable time. The tremblers, which are prepared by special machinery, when carefully regulated will, it is claimed, give from 20,000 to 24,000 vibrations per minute, the current consumption in the case of a single-cylinder engine being about .7 amp.-hour. Amongst the latest productions is a single trembler coil for use on multi-cylinder engines on which a high tension distributor is employed, and a four-cylinder coil made on the interchangeable unit system. In the latter the four coils are quite distinct, and any one of them can be removed for repair or replacement, should the same be necessary. Furthermore, the trembler on the new coil is provided with a special feature in the shape of a "cut-out" device. As shown in the accompanying illustration, there is a small trigger or cam, which, by a slight movement, presses on the armature and separates the platinum contacts, thus cutting off the current. Provision is thus made for testing each cylinder in turn more conveniently than by the usual method of holding three tremblers down by the fingers and leaving one in action. The trigger holds the tremblers down permanently, so that the hands are free to make any adjustments required to the engine. All the different coils are supplied in polished teak cases with plated fittings and have a neat as well as a highly-finished appearance.

To complete the outfit there is the Prested sparking plug, which is made for the Prested Company by Messrs. J. A. Prestwich and Co. In this the insulating material is of special porcelain, an air-tight joint being obtained without the use of any cement or packing. The plug, all the parts of which are produced on the interchangeable system, is substantially made and is so designed that there is no danger of shorting. Having at various times had considerable trouble with porcelain plugs, we were rather sceptical about fitting a new one, but, so far as we have gone, the Prested has given very satisfactory results, the plug working regularly even on one occasion when the engine was so considerably over-lubricated as to emit clouds of smoke. In addition to the specialities mentioned above the Prested Company makes all kinds of "motoroids," such as charging boards, including a celluloid repair outfit with the registered title "Celludine," a novel accumulator test lamp, high and low tension cable of the best insulation, hydrometers, voltmeters, &c., and an excellent indication of the popularity of their productions is the continued extensions which it has been found necessary to make to the factory.

MESSRS. CASTLE AND SONS, of the Carriage and Motor Works, Worksop, have sent us a photo of a combined char-a-banc and luggage car they recently completed for the Duke of Portland. The feature of the body, which is mounted on a Thornycroft petrol bus chassis, is that the rows of char-a-banc seats are so made that they can be quickly removed and refixed in position, enabling the vehicle to be either used to convey loaders in the shooting season or for the transport of luggage. Since its completion the car has, we understand, been given an extensive trial in Scotland.

MESSRS. H. E. HALL AND CO., of Tonbridge, are pioneers in the automobile business, and their commodious works in Kent are well adapted for repair work as well as for motor body building. Among their agencies are those of the Isotta-Fraschini and Germain as well as the Talbot, for which they are the sole Kentish agents. They have also the control of Singer cars for London and the district. Besides representing these high-grade cars, Messrs. Hall and Co. are district agents for many leading makers of accessories, motor clothing, &c., and in their new catalogue for 1907 are able to enumerate a long list of distinguished patrons. Their London offices and showrooms are at 15, Riding House Street, Langham Place, W., and the wide experience of Messrs. Hall and Co. is at the disposal of present and prospective motorists.

THE Bishop of Salisbury is now the owner of a motor-car.

THE Irish Reliability Trials will be held in May, viz., from the 22nd to the 25th inclusive.

THE draft order of the Home Secretary with regard to metropolitan hackney vehicles implicitly abolishes the four mile radius as regards motor-cabs.

AT the dinner of the General Electric Company, Ltd., in London on Saturday, Mr. Robert Hammond said that the desire to buy motor-cars was the reason people did not spend so much on electrical supplies.

MESSRS. J. PARSONS AND Co. have a motor garage at Tyn-y-coed Place, Cardiff, where they have lately extended their facilities for the repair of all classes of automobiles. They also stock accessories and petrol.

THE Sirdar Rubber Company, Ltd., have removed their Dublin depot from Moss Street to 6, Harcourt Street, where a stock of pneumatic tyres will always be ready for immediate delivery and fitting. They have also opened a depot at 249, Deansgate, Manchester.

AT a meeting of the British Aluminium Company, Ltd., the chairman, Mr. J. D. Bonner, referred to the demand for aluminium being largely in excess of the supply; but, as all the producers are enormously increasing the amount of power at their disposal, the existing famine will soon be succeeded by a plethora of the metal.

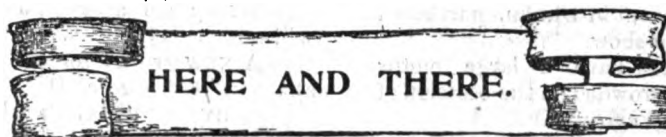
THE Motor Academy and Repair Works are providing at Boundary Road, Notting Hill, London, W., a finishing school for drivers. On certain mornings of the week one of their 20-h.p. four-cylinder cars leaves the academy for a long day's run of about 100 miles with four students and the instructor, each student taking it in turn to drive.

THE suggestion of Messrs. Lawton and Co. to put 100 motor-cabs into service at Chester has been met with a vigorous agitation on the part of the local cabmen, who have obtained between 5,000 and 6,000 signatures to a petition to the Town Council in opposition. Sir Horatius Lloyd, the Recorder, has given the weight of his influence to the anti-motor campaign.

SIR CHARLES SCOTTER, at the half-yearly meeting of the London and South Western Railway Company, attributed the falling off in the first and second class passenger returns to motor-cars, and in the metropolis to the competition of tramways and motor-buses. He recognised that motor-cars had come to stay, and what the company had to do was to see whether they could not compete with them by cultivating in the best manner possible their seaside and long distance traffic, which after all was the most profitable for the company.

VERY conveniently situated in the central part of the South Staffordshire district, on the main roads leading from Birmingham, Smethwick, Oldbury, and West Bromwich to Dudley and that part of the country, is the garage of Messrs. W. T. Skelding and Co., Ltd., of the Burnt Tree Works, Tipton, near Dudley Station. The garage is not far from Dudley Castle, and has accommodation for fifty cars, while arrangements have been made with the Station Hotel, of Dudley, for the accommodation of Messrs. Skelding and Co.'s clients spending the night in the district.

THE new catalogue of Lacre motor lamps, which we have received from the well-known motor-car company of that name in Poland Street, W., is an excellent compilation, drawing attention to some specialities of sound construction and good design. All the parts are interchangeable, and may be purchased separately, while the adoption of a code prevents delay in the despatch of goods ordered by telegraph. The Lacre dioptric lens headlight with extended front is a leading production of the concern, giving a brilliant light for seven hours on one charge of carbide. For light cars a smaller size lamp is made, fitted with a vertical generator and having provision for five hours' illumination on one charge. In addition to the headlights, side lamps and regulation tail lamps are illustrated, as well as the Lacre lamp-bracket and independent generators.

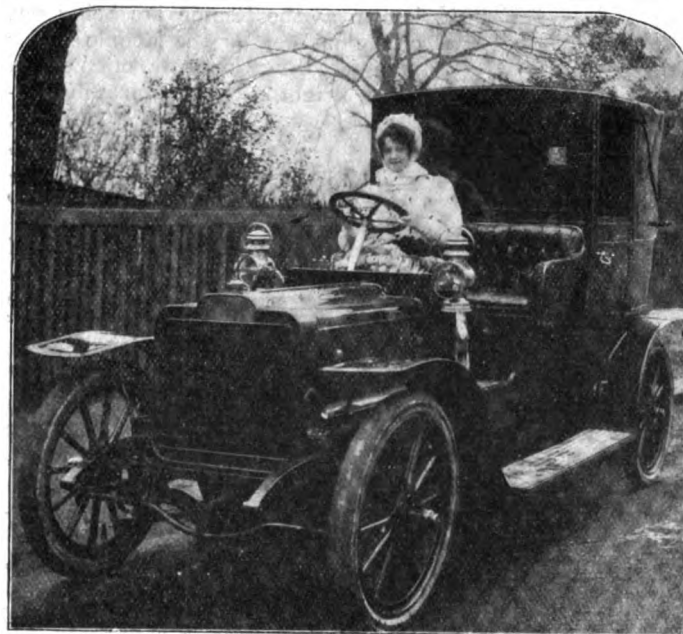


THE motor-cars—and there were several—in the procession of Women Suffragettes in London on Saturday were driven by chauffeurs, not chauffeuses.

THE Standard Motor Company, Ltd., have now removed to their new works in Foleshill Road, Coventry. The premises are eminently suitable for the construction of cars, and will give the firm facilities for a much greater output than hitherto.

MESSRS. TESTE AND LASSEN have been appointed sole agents for the Weigel cars for the county of Yorkshire. One of the members of this firm is the well-known French driver of racing cars. The Staffordshire agency for the same vehicles has been secured by Mr. H. K. Hales, of Burslem, Stafford.

IN the New Road, Wandsworth Road, S.W., the Projectile Company (1902), Ltd., has established a motor-car repair department and will make a speciality of carrying out alterations to chassis and motor-car bodies. They have also an excellent garage, and are keeping a large stock of accessories, lamps, tyres, &c. Facilities have also been provided for the repair of tyres as well as of cars.



"The Belle of Mayfair," (Miss Billie Burke) in a Mayfair Car.

FOR consistent running a well-known Yorkshire motorist seems to have established a record with his 26-30-h.p. Argyll. He drove from London to Leeds on a Saturday, with an excellent mileage average, and on returning to town the following day he covered the 180 miles in a time varying only two minutes from that recorded on the outward journey, the difference being accounted for by the fact that he had to enter London at dusk.

MESSRS. J. C. LYELL AND Co., of Victoria Street, Westminster, S.W., has just introduced a new change, over switch, known as the "Zulu," for use on cars fitted with two systems of ignition. This apparatus is designed to allow of the employment of either the magneto or coil at will for firing a motor fitted with only one plug per cylinder. The switch is arranged so as to send to each plug the secondary current from the magneto or coil, and allow at the same time to cut off the primary of the coil in the case of the magneto, and to put the primary of the latter into short circuit when the coil is being used, the two operations being simultaneous. The switch also provides a complete interrupter for both circuits. The working apparatus is confined in an insulated block, so as to prevent dust and damp from interfering with its correct working, while the complete switch is enclosed in a wooden case, arranged to be fixed to the dashboard or other convenient place.

MR. A. K. MOE, the American Consul in Dublin, purchased a 16-h.p. Reo touring car at the Dublin show.

MESSRS. SHARMAN AND LADBURY have a large motor garage at Melton Mowbray, which was crowded on the occasion of the Hunt Ball held there a few evenings ago.

MESSRS. HUMBER, LTD., have just supplied a car through their local agent, Mr. J. S. Cordingley, of Haslingden, to the Hon. W. Brooks, of Crawshaw Hall, Rawtenstall.

MESSRS. G. POLKEY, LTD., of the Hockley Lamp Works, Birmingham, have recently brought out a new side light, similar

in appearance to their well-known head lamp. The makers guarantee that it is absolutely wind-proof. When filled with paraffin it will burn for eighteen hours. The oil tank is a fixture, and cannot get lost, the reservoir being replenished from the outside. Having a glass chimney the light is very steady and decidedly good—in fact, the lights are sufficiently powerful to drive by in cases of emergency.

A NEW series of motor-cars known as the Rennie are being put on the market by the Rennie Motor Manufacturing Company, of Western Road, Brighton. Three sizes of four-cylinder cars—10-12-h.p., 12-15-h.p., and 25-30-h.p.—are being turned out, as also a 30-h.p. six-cylinder model. We understand that in addition to being moderate in price they com-

prise several special features which have only been adopted after extended trial.

THE President of the Local Government Board is to be asked to receive, at an early date, an influential deputation of motorists with reference to motor legislation in the present session of Parliament.

WHAT was formerly the central fire-station at Eastbourne is now a motor garage in the possession of the Grove Eastbourne Motor Works and Garage, Ltd. Their address is the Arcade, Grove Road, Eastbourne.

WITHIN easy distance of the sea front at Weston-super-Mare, and in a central position in the town, Mr. H. J. Blackmore has established a motor-car garage. It is located in Wadham Street, and has accommodation for nearly a score of vehicles.

CANON ATKINSON, vicar of St. Michael's, Coventry, writing to his parishioners, asks:—"Is it any use keeping Lent? Isn't it a worn-out superstition, no longer needed in a city of cycles and motor-cars, which are the outward symbols of the unrest of the age?"

THE Isle of Man Motor Company is the title of Messrs. Bonser, Bunter and Co.'s branch in Manxland. This Leeds firm has established a garage at 21, Circular Road, Douglas, and another at Baldrine—a little place between Douglas and the delightful village of Laxey.

MESSRS. CHARLES WINN AND Co., of St. Thomas's Works, Birmingham, are making a special feature of the production of motor fittings in steel, brass, gun-metal, bronze, and aluminium. They have also a patent mechanical oil distributor, which can be supplied with from one to six feeds, and makes a neat dash-board fitting of good efficiency.

THE Toope patent automatic safety lamp is a convenient and safe means of heating and lighting, which has been brought out by Messrs. C. Toope and Son, Stepney Square, Stepney, London, E., and is of general interest. The oil reservoir is placed on a higher level than the burner, and the oil is conveyed by means of a feed pipe to an automatic valve chamber where the supply to the wick is governed. As fast as the oil burns it is replenished at an equal rate, securing a steady, light, uniform heat. The device works as accurately as a clock would, and will doubtless prove of value in many garages and similar places where a steady warmth is desirable.

By special arrangement the cars of Messrs. West, Ltd., will now be styled "West-Aster."

A NEW works for the construction of motor-car bodies is about to be started at High Wycombe.

LADY MUIR has placed an order with the New Engine Company for a 30-h.p. N.E.C. limousine-landaulet.

ADDITIONAL motor-house accommodation is to be provided, with an entrance in Piccadilly, for members of the A.C.G.B.I.

PINIONS with the shallow or stub form of tooth for motor-car gears are now being made by the Brooke Tool Manufacturing Company, Ltd., of 17A, Belgrave Road, Birmingham.

MESSRS. MATTHEWS AND BROOKE, of Bradford, have issued a complete catalogue of motoring literature—quite a formidable list of volumes relating to our modern industry.

THE High Holborn Motor Agency, of 158, High Holborn, W.C., have taken over a garage in the neighbourhood of their present premises, where they will have facilities for the repair of cars, &c.

MESSRS. BUCKLER AND WEBB, LTD., of Birmingham, are issuing a guide to the garages of the West of England, which will be of service to motorists on tour in that district of England.

RENE THOMAS, the French motor-cyclist, who met with an accident at the Canning Town track last July, was able to leave the Poplar Hospital on Saturday, after lying there for eight months.

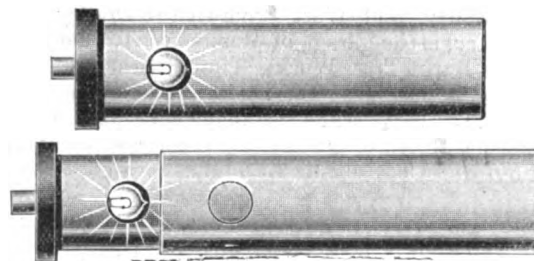
FROM Messrs. Broom and Wade, engineers, High Wycombe, come a descriptive catalogue of the motor-lorries they are now turning out with 20-h.p. horizontal engines adapted to use paraffin as fuel. They are built to carry loads of three and four tons, and are claimed to be very economical as regards cost of fuel per ton-mile.

MESSRS. ALFRED HERBERT, LTD., of Coventry, have issued a catalogue of their milling machines, both of the horizontal and vertical type, which will be of interest to all engaged in the construction of automobiles. In addition to the illustrated descriptions of the machines there are a series of notes and hints on the use of milling machinery generally, as well as examples of work. From this point of view the catalogue has considerable technical, apart from commercial, merit.

DOUGILL'S ENGINEERING, LTD., Leeds, have sent us a photograph of a Frick motor delivery van which has been successfully run for some time by Messrs. J. Tordoff and Sons, Ltd., Bradford. The vehicle, which is fitted with a 9-h.p. engine and the latest type of variable friction transmission gear, is used in the hilly Yorkshire district, and carries up to 10 cwt.

FROM Messrs. Peter Lee and Sons, High Street, Glasgow, come some useful pocket pencils, bearing a reminder of their Mobiline oils and greases for use on motor cars.

MESSRS. C. HOODYDONK, of 6, Leather Lane, Holborn, E.C., have been appointed sole agents for the Instant Test Lamp,

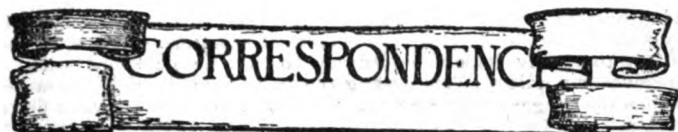


by which motorists will be able to test their accumulators without having to resort to the cumbersome method of lamp and wire.

There are no wires to worry about, and it is made in a convenient size to be carried in the waistcoat pocket. Therefore, it is always at hand ready for use. It is adjustable to any size accumulator and is instantaneously applied without removing the accumulator from the case.

ARRANGEMENTS have been concluded for an examining official to attend at Boulogne on certain days in order that members of the A.C.G.B.I. may obtain their French licences on arrival in France. This will be a great convenience, as up to the present it has always been necessary for members arriving in Boulogne to apply at Arras, some distance away, for licences.





(Letters to the Editor should be addressed to the office,  
27-33, Charing Cross Road, W.C.)

### MOTOR LUBRICATION.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to Mr. J. S. Critchley's letter in the *M.C.J.* of the 2nd inst., this gentleman does not make it clear to me what point he means by the "one point of friction reduction" which "has been almost forgotten," but he goes on to discuss the use of an oil, thin at ordinary temperatures, as compared with that of a thick one. May I repeat my remark, which was fortunate in meeting with the approval of such an expert as Mr. Veitch Wilson, i.e., "That the varying conditions controlling the selection of a heavy or light grade of motor oil all exist outside the cylinder, because at the high temperatures in the interior of the cylinder all oils approximate very closely in viscosity, even though they vary at ordinary temperatures." Taking the heavy oil and light oil which my firm supply respectively to Messrs. D. Napier and Sons and Messrs. Yarrow and Company, their viscosities at various temperatures are:—

		70° F.		140° F.		200° F.		300° F.
		sec.		sec.		sec.		sec.
Heavy	...	3,100	...	253	...	75	...	40
Light	...	1,270	...	135	...	52	...	35

and although we cannot accurately ascertain the viscosities at such high temperatures as exist in practice, we know that they still more closely approach one another as the temperature rises—so much so, that the difference can be of no importance at the temperatures in question.

But where the difference of viscosity has its effect is rather in the crank chamber, where the temperature is comparatively low. There, of course, the heavy oil may cause an unnecessary consumption of power in the overcoming of its internal friction, and no doubt the benefit of the use of the lighter oil would be felt, always supposing that there was no excessive play in any of the bearings. I make this reservation as, if there be play, a viscous oil forms a convenient cushion between the moving surfaces, and any noticeable knock may be quietened. A further justification of my disregard for viscosity in the lubrication of motor cylinders can be found in heavy gas and oil engine practice. In many large sets of several hundred horse power my firm's "light" oil is used with every satisfaction, and here, as the pressure is so much greater, especially in the horizontal cylinders, one might naturally suppose a greater viscosity would be required. What a large margin of safety we must therefore have in using the same oil on our small powered engines.

Now as to Mr. Critchley's theory of carbonisation, I agree with him that light oils are less liable to deposit carbon than the heavy, it being a condition of comparison, however, that the two oils should be of the same origin, and of the same chemical refinement and chemical purity. But with his reasoning I cannot agree. He speaks of the light oil "running off clean." This is a very convenient way of disposing of the oil, but where does it run to? And as the heavy oil has practically the same viscosity at the temperature involved, why does it not "run off clean" also to the same place, wherever Mr. Critchley may suppose that place to be? I believe that Mr. Critchley should rather consider the question as one of distillation, as it is here that the greatest divergence is found between the two oils. The light oil has a considerably lower boiling point, and if pure, as already stipulated, as soon as it has done its work on and behind the rings it reaches this hot combustion area, and, owing to its higher distillation point, cannot get away so quickly, and its higher boiling fractions have, so to speak, to stay behind and be roasted and oxidised, and so decomposed carbon being deposited; and further, suppose you take the light oil and expose it to such a temperature, say as low as 400 deg. F., that it cannot distil, but has to remain and undergo the same roasting, it oxidizes and decomposes, depositing carbon, just as does the heavy oil. But go one step further, and heat that same light oil for the same period at the same temperature of 400 deg. F. in a sealed glass tube, so excluding oxygen, you will find that the oil is practically unaltered, and certainly there is no sign of carbon being deposited. This is not theory but practice, and these tests are carried out nearly every day in our ordinary laboratory routine, so that if Mr. Critchley had spoken of "flying off clean" instead of "running off clean" I should have agreed with his views.

I am glad to be able to agree with him on one point, and that is, that when once carbon is deposited, the evil grows very rapidly, for the higher boiling fractions of the oil impregnate the porous surface so offered, and the decomposition is more rapid, owing to the greater areas of oil and gas that are brought into contact. This decomposition also, I think, explains the reason why, with a heavier oil, one frequently gets heavier smoke and greater smell. Any distilled oil vapour will not show as smoke, nor will it smell offensively, but the smoke is formed rather by the finely divided carbon which has been liberated by the decomposition, and the smell is due to a lower series of hydrocarbons and oxidized products which are formed in the same manner. There is another factor in the formation of the so-called carbon deposit, and I hope to be able

to write a word or two about this in the near future, when my theories have been further confirmed by practical tests.—Yours truly,  
A. DUCKHAM.

### THE ORGANISATION OF MOTOR-CYCLISTS.

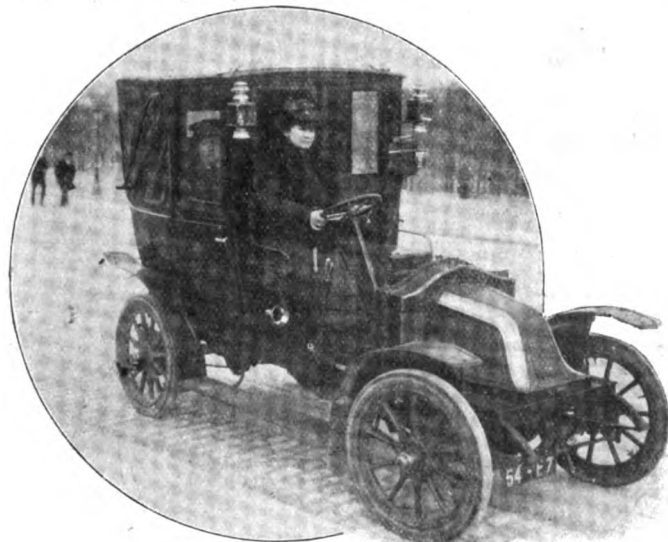
TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I am instructed by my committee to call your attention to a point which is of extreme importance to provincial clubs.

This club, and, I presume, the majority of provincial clubs, includes both motor-car and motor-cycle members. Hitherto it has been possible for a club to affiliate its car members to the Motor Union at 2s. 6d. per member, and the motor-cycle members to the Auto Cycle Club at 2s. per member. The Auto Cycle Club has advised our club that it is unable to renew its agreement with the Motor Union, so that the old 2s. per member scheme has fallen through. Various alternative schemes are now in the air, but none of these are so favourable as the old schemes.

As far as can be made out, the Motor Union, is trying to raise its affiliation fees. We find that on a subscription of £1 ls., and an entrance fee of 5s., we cannot afford a heavy affiliation fee, and that we should like to obtain satisfactory affiliation for our club members at about 2s. 6d. per head. Undoubtedly the ideal would be to pay the Automobile Club 2s. or 2s. 6d. for each car member, and the Auto Cycle Club a similar sum for each motor-cycle member, this affiliation to carry with it the legal defence which the Motor Union provides for its members.

We presume the position of affairs will affect you in a manner similar to that in which it affects us, and we think that a combination of the provincial clubs is necessary to prevent the affiliation fees being made prohibitive to clubs with small subscriptions—that is to say, any-



Madame Decouge, the first Woman Motor-Cab Driver in Paris.

thing under £2 2s. per annum. We should therefore be glad to hear if you propose taking the matter up, or, if not, how you propose dealing with it.

A point which is of some interest, and which must be settled, no matter what affiliation scheme is decided upon, is that of a "joint" member. That is to say, a member who usually rides a motor-cycle but sometimes drives a car, and is compelled to make a claim in respect of an accident, &c., incurred when driving a car. This member may pay an affiliation fee to the motor cycling authority. This authority may refuse to assist him, as he was not at the time a "motor-cyclist," whilst the car authority (the Automobile Club or Motor Union) may refuse to assist him in that he does not pay an affiliation fee to the car authority.

This club has never yet made an appeal for assistance to any of the authorities to which it is affiliated, but we can see that in certain cases difficulties such as the above may arise which we think should be gone thoroughly into, and that as soon as possible.—Yours truly,

E. W. WALFORD.  
Hon. Sec. Coventry Motor Club.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—The attention of the Motor Union and the Auto Cycle Club has been directed to a letter which has been circulated by a local motor club, dealing with the question of affiliation. It states that it has hitherto been possible for a club to affiliate its car members to the Motor Union at 2s. 6d. per member. Such is not the case. For more than a year it has not been possible for any club to affiliate with the A.C.G.B.I. and the Motor Union at an affiliation fee of less than 5s. per member.

Over fifty clubs have signed the affiliation agreement with the A.C.G.B.I. and the Motor Union, and have paid without exception an affiliation fee of 5s. per member; whether such members own motor-cars

or motor-cycles. The Motor Union has been seeking to harmonise the scheme for the affiliation of motor-cyclists with its standard scheme, and to arrive at an arrangement which will bring all motor-cyclists into touch with the Auto Cycle Club, and secure to them the benefits and privileges provided by both the Auto Cycle Club and the Motor Union.

We are glad to say that this result has now been achieved. The representatives of the Motor Union and of the Auto Cycle Club have met and have arrived at an agreement upon all points. An affiliation fee for motor-cyclists of 2s. 6d. will be proposed, which is within the means of every motor-cycle club, even on the admission of the local club whose circular is above referred to. In the case of those clubs already affiliated to the A.C.G.B.I. and the Motor Union which include motor-cyclists, the fees paid in respect of such cycling members will be reduced. Particulars of the proposed new arrangement will be sent shortly to the representatives of all the clubs. The arrangements will come before the General Committee of the Motor Union. This is the free Parliament of motorism, on which every club is and will be represented, and no other combination is necessary than is here afforded to enable the provincial clubs of this country to secure the adoption of any policy which they desire.—Yours truly,

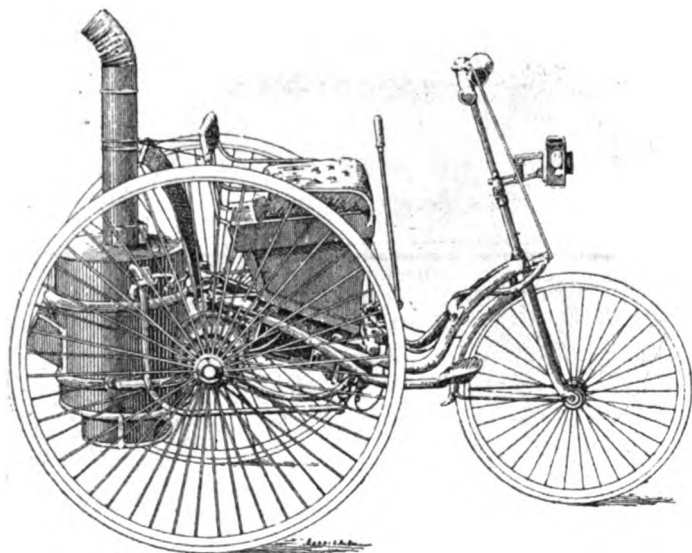
W. REES JEFFREYS,  
Secretary of the Motor Union.

F. STRAIGHT,  
Secretary of the Auto Cycle Club.

### MOTORING IN SOUTH AFRICA.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have just returned from a most awful journey. We have had very bad rains in South Africa for the last three months, worse than



The Original Serpollet Steam Car. (See page 1107.)

they have been for the last thirty years, and in consequence the roads are in a terrible state with the wagon traffic. I was strongly advised not to attempt the journey, but a friend and myself gaily started from Grahamstown on December 29th, intending to get to King Williamstown that night and sleep there, distance seventy-four miles. This sounds nothing in England, but try it in this country with the roads in the condition they are now. We did the first thirty-five miles in great style, but, owing to the overflow pipe in the radiator getting stopped up, the steam blew out at the top joint of the radiator. We found an old native who could solder, and between him and myself we patched this up, but were seriously delayed. We then proceeded and got into the most hideous of roads, simply made up of mud holes. At one time the front wheel and near side driving wheel were absolutely buried and every minute I expected the car to turn over. Going into the hole stopped my engine, and my companion, in trying to get out, fell into another hole. He managed to turn the handle, and I backed out, and had another try, and the way the car wagged her tail and slithered and slid over that road was a caution! I never thought it was possible for a car to do such a thing. I assure you my respect for my Star car has gone up 1,000 per cent. since that adventurous journey. We reached King Williamstown in such good time, in spite of our adventures, that after staying there to refill both car and inner man, and returning the springs to their normal positions (they had jumped up), and a few other minor adjustments, we again started on a further voyage of discovery. We were told the roads to East London were impassable, but after our previous experience we thought this an exaggeration. The road was vile, with fearsome mud holes and sliding greasy places, lumpy surface, and cross drains which threw you nearly out of the car. We managed to do the further forty-six miles in something under three hours. We travelled, roughly, 120 miles in eight hours, being thirteen hours on the

road altogether. This is a really good record, as anyone will tell you if they know the roads and the state of them at this time. It would have been an absolutely impossible journey to have accomplished with a gear-driven car unless it had been given an abnormally high clearance, and then the car would have probably capsized. Give me a chain drive for these bad roads.—Yours truly,

W. FITZGERALD, M.D.

### ACCESSIBILITY AND CLEANLINESS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With regard to Mr. A. E. S. Craig's letter on the above subject, I note that he speaks as if I recommended the use of a three-quarter Whitworth thread to keep on the road wheels. In this he is in error, as my statement was confined to the use of a hexagon on the nut the same as three-quarter Whitworth. In the case of the front wheel, this hexagon is used on a spindle which is .826 in diameter; the rear wheels are on a hollow sleeve, and the retaining nut is on a thread no less than 2.25 in diameter. The three-quarter nut which I mentioned holds the clutches which drive the rear wheels up to their work, the hexagon being repeated on the outside of the hub cap, so that the same spanner can be used in all cases. Trusting this will explain matters.

As there seems to be some misunderstanding with regard to the sizes of the other hexagon nuts I use, and a table of which I append, namely, that they indicate the size of the threads as well, I should like to point out that these only indicate the sizes of spanners necessary. In the case of the largest hexagon which I use— $\frac{3}{4}$  in. Whitworth—the size of the thread with this may increase as much as 2.437 in. over the top of the thread, but in cases such as this the nut in question would be an internal one, and the hexagon would be a boss on one face of it. It may be of interest to add that it has been found impossible to confine diameters of threads used to quite so small a number as the nuts.

Size.			Over Flats.	Over Corners.
No. 1 suits 1 B.A. and	0 B.A. threads		.375 ...	.433
No. 2 " $\frac{1}{4}$ Whitworth and $\frac{1}{4}$ Gas	"		.525 ...	.606
No. 3 " $\frac{3}{8}$ " " $\frac{3}{8}$ " "	"		.709 ...	.819
No. 4 " $\frac{1}{2}$ " " $\frac{1}{2}$ " "	"		.919 ...	1.06
No. 5 " $\frac{3}{4}$ " " $\frac{3}{4}$ " "	"		1.301 ...	1.5

and all larger sizes.—Yours truly,  
F. LEIGH MARTINEAU.

### CASE-HARDENING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—If Mr. Letch, who wrote last week for information on this subject, would care to pay a visit to the Talbot works, he will see, if not the best, one of the best and most complete plants for case-hardening that can be seen anywhere; both in respect of case-hardening to any depth, and giving a degree of hardness certainly harder than glass, but at the same time leaving the part unbreakable. I am sending you a little specimen which shows the combination of hardness and toughness. Another specimen shows the usual depth that small articles are hardened to.—Yours truly,

C. R. GARRARD.

### SMALL STEAM CARS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Mr. Broughton's letter *re* the above, in the last issue of the *M.C.J.*, is a sure sign of the increasing interest taken in steam as the well-tried and successful power for motor-car work. We find the much-abused Locomobile can be converted into a very fine little car at a moderate cost. By fitting a flash boiler there is no waiting for steam, as any demand can be instantly met. Paraffin fuel can be used, which is cheap and obtainable anywhere. No torch is required to start, and the burner can stand for any length of time without restarting. Hand-pumping is entirely done away with by fitting air-pump to engine, which can be regulated to any desired pressure. Bucket work is also done away with by fitting a water lift and hose, so that the water tank can be filled in a minute or two without dismantling.—Yours truly,

MORRIS BROS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In reply to Mr. C. Broughton's letter *re* small steam cars, in the last issue of the *M.C.J.*, I think I can furnish him with some particulars. Several good steam cars can be picked up at almost a taking away price, and with an additional expenditure of between £50 and £70 they can be brought up to date, including a paraffin burner. I think the best value in the way of a second-hand steamer is an old 6-h.p. Serpollet, which car burns paraffin. The running cost of cars which burn that fuel at 6d. a gallon is very small, as a 10-h.p. car will run about eighteen miles to the gallon. Oil lubrication costs little—much less than on a petrol car of similar power. Cars that do not condense their exhaust steam and return the water to the tank will run about thirty miles, according to the size of the water tank, without refilling, and that operation can be performed by a steam injector in a few minutes. To light up and have full pressure of steam requires about eight minutes, when there is no further trouble for the day. The old-fashioned torch is

obsolete in modern cars. The speed of a 10-h.p. car on the level would be about forty-five miles per hour, and on hills it would be equal to a petrol car of treble the power. I would suggest that your correspondent put himself into communication with Messrs. H. E. and F. Morris Bros., 82, Stroud Green Road, Finsbury Park, London. They are practical steam engineers and at present are building small steam cars. They do a large trade in cars of that class, and I feel confident they would be able to meet his requirements. I may mention I have no interest in the firm beyond a scientific one, but, having had practical dealings with them, I can testify to their work being thorough and of a high order.—Yours truly,

J. C. P. PERRY.  
Major, R.A.M.C.

### DIAMETERS OF INLET PIPES.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I shall be glad if you would kindly inform me the sizes of inlet pipes used for different powered petrol engines. For instance, I have a 12-16-h.p. motor which has an inlet pipe  $1\frac{1}{4}$  inch diameter; are all 12-16-h.p. engines fitted with  $1\frac{1}{4}$  in. pipes, irrespective of make? Can you give me a scale of the sizes of pipes for engines of different powers?—Yours truly,

PIPE.

[The question that governs the diameter of induction pipes is principally the bore of the cylinder. "Pipe" says he has a 12-16-h.p. engine with a  $1\frac{1}{4}$  in. pipe, but he does not tell us how many cylinders there are. Now, whilst the power he states can be got comfortably with four cylinders and a pipe of about the area he mentions, such a size would be altogether too small for the engine if it has two large cylinders. Granted that the cylinders are the same bore, the same size induction pipe approximately may be used for a one, two, three, or four cylinder motor. Our correspondent will be interested to study a catalogue of the Longuemare carburettors, in which he will find in millimetres the sizes best suitable for engines of different powers. It is impossible to give a hard and fast scale, as there are so many variable factors, but roughly we think he may take it generally at about one-third the bore.]

### THE CONSTRUCTION OF AN INSPECTION PIT.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—The arrangement of one of our metal inspection pits placed at right angles to the usual position, as described by Mr. Searth in your last issue, is a novel one, though, in view of the increased accessibility, it has much to commend it. We cannot, however, agree that 3 ft. is deep enough for all round work, as the operator's head at this depth comes unpleasantly in contact with the dirty under portions of the car. This is to a great extent avoided if the depth is 4 ft., and it is obvious that it is better to have a pit a little too deep than not deep enough, as the former can be remedied by a little packing up or by an adjustable floor that can be supplied when required. We think, therefore, that those about to construct pits would be wise not to adopt anything less than 4 ft. deep.—Yours truly,

F. W. BESANT AND CO.

### SUBSTITUTES FOR PETROL.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to Mr. Edge's remarks in the last issue of the *M.C.J.* on Borneo spirit for motor-car work, I have been using the spirit since October last to run my car. It has been out every day, and during all sorts of weather, including the heavy snowstorm, and my chauffeur reports that it is cleaner and better than the usual spirit and cheaper, and only in the very coldest weather have we required to use some small amount of heat to get it to vaporise. I am so satisfied with it that I shall continue to use it.—Yours truly,

A MEDICAL PRACTITIONER.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—The motoring Press generally have given prominence to a comparative test, by Mr. S. F. Edge, of Borneo '760 gravity spirit with Pratt's motor spirit, in which report Mr. Edge sums the test up by saying that "Borneo spirit could be used with perfect confidence by motorists, but when the engine is quite cold it is a little more difficult to vaporise." As proprietors of Pratt's motor spirit, we beg to call your attention to the fact that for over six months the Anglo-American Oil Company, Ltd., has placed upon the market a motor spirit of '760 gravity, which in our opinion is superior to any other spirit of that gravity now being offered. It is made from Eastern (Sumatra) crude—the entire production of one field of which we control. From our standpoint we should be delighted if motorists would use this heavy spirit, and as it sells at 1½d. per gallon less than "Pratt's" or other motor spirit, of lighter gravity, there should be an actual inducement to motorists beyond their desire to open up additional sources of supply.

The fact remains, however, that there are a large number of motor-cars now running in this country the carburettors of which are adapted only to spirit of light gravity, and, in view of the impossibility of a general change in existing carburettors, we shall steadily resist any move to appreciably increase the gravity of our "Pratt's" brand of

motor spirit. For those who can use the heavier grade it is now, and has been for some months available, so that it only remains for the motorist to elect which spirit he shall use in his car. Without desiring to controvert Mr. Edge's statement in any way, we regret to add that in our opinion the heavy spirit cannot "be used with perfect confidence" by all motorists, but only where the carburettors are properly adapted to it. Whichever spirit motorists may call for, "Pratt's" or "Anglo's '760," they can rely upon these brands being entirely uniform in quality.—Yours truly,

F. E. POWELL.

### A TOP GEAR DRIVE.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice in your issue of January 26th a letter from Mr. S. F. Edge, in which he enumerates certain performances of the Napier six-cylinder car. The first of these is:—That a 30-h.p. car was driven from Brighton to Edinburgh on the top gear—including running at from 5:32 to over 46 miles per hour. The second is:—That the same car ran 200 miles on an average petrol consumption of 18.78 miles per gallon.

Will Mr. Edge be good enough to state definitely whether the car was identically the same during each of these performances, or whether the ratio of gear was considerably altered? Will he also state approximately the petrol consumption during the Brighton-Edinburgh run, and the number of revolutions per minute made by the engine when the car was being driven at over forty-six miles per hour on the same journey?—Yours truly,

P. M. B. H.

### TIMING A PETROL MOTOR.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I own a 10-12-h.p. two-cylinder Tony Huber car. I have lately reset the timing. I find the exhaust lifts after about 5-6ths of



[At a French "Octroi"—Gallantry before Duty.]

the stroke, and does not close till about 1-6th of the suction stroke. The suction and exhaust valves are therefore both open at the same time for a little distance of the travel. Should I reset the timing so that the exhaust closes at the exact top dead centre or perhaps a little before? If I do so, the intake valve will of necessity open earlier (perhaps too early), it is mechanical. I will also loose the power of the gases earlier. I shall be glad if you will advise me. It might interest you to know how I corrected a fault in the trailer fibre wheel on the timing shaft, the one which carries the motion from the crank shaft spur pinton to the cam spur. The wheel was cut wrong by a certain motor garage firm, the teeth being, in my opinion, too thin, allowing of a great amount of backlash on the cam shaft. I have, therefore, cut the wheel into two complete wheels, advanced one 1-8th in. of its other part, riveted both together, and they now act as one wheel as before, only the teeth are so much thicker and all backlash has disappeared.—Yours truly,

W. J. BEECHER WARD.

[With reference to the above query, the exhaust valve should close on the top of the stroke and not in anyway overlap the opening of the inlet. If, of course, all the cams are fitted to the same shaft, it would necessitate a slight alteration of the position of the cams, but if they are on separate shafts this setting can easily be altered by simply letting the gear back a tooth.]

### HAND BRAKES—PUSH-FORWARD OR PULL-ON LEVERS.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—An examination of the cars at the recent shows reveals that in many respects the control mechanism is rapidly becoming standardised. There is one feature, however, in regard to which the cars are nearly equally divided, and that is the operation of the hand brake. In many vehicles the side lever is pulled towards the driver to put on the brakes, while in others the lever is pushed forward to accomplish the same object. These methods being directly opposed, a person accustomed to

one finds it very awkward for a while to use the other. One maker will claim that the pulling action is better, while another will say that it does not require as much time to grasp the push handle, as it is normally close to the seat. Personally I do not see much choice between the two systems, but I think that either one style or the other should become the standard.—Yours truly,

W. R. BAKER.

### A RENAULT CAR QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

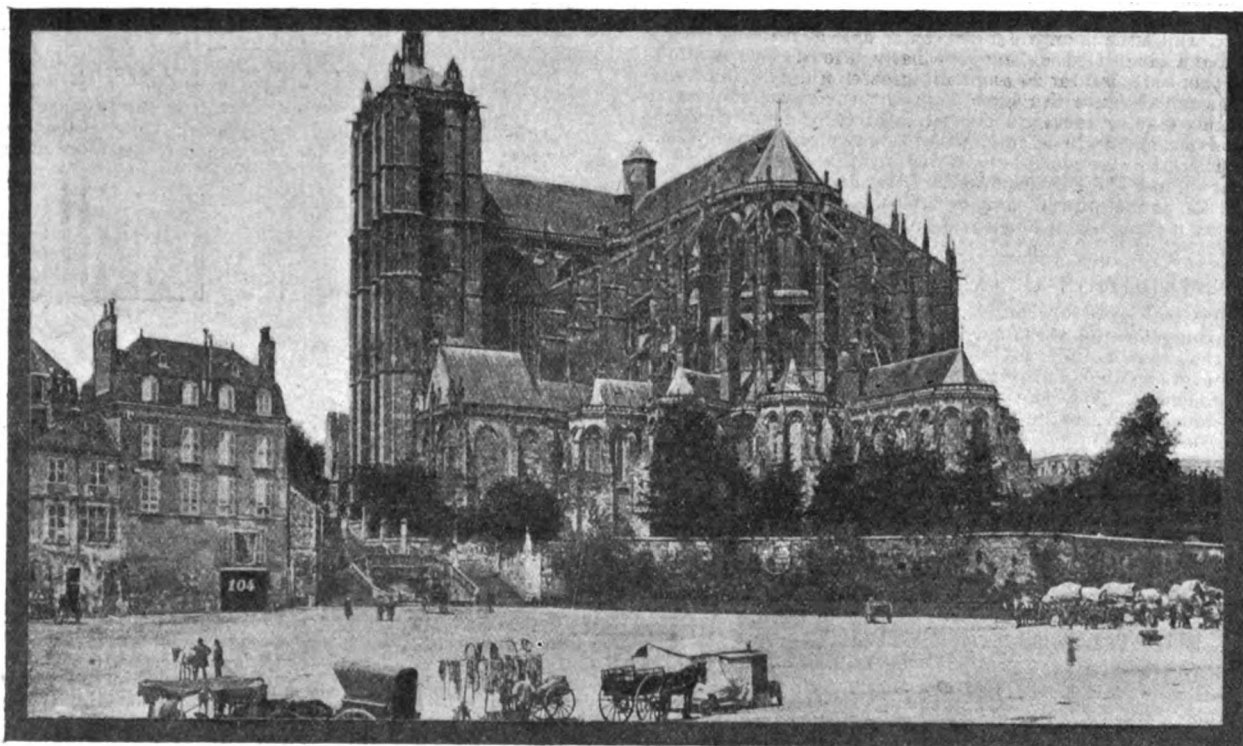
SIR,—I should feel obliged if you could give me any information respecting the following trouble with a 10-14-h.p. Renault. When the car is running I hear a popping noise, which I think is in the carburettor; the vehicle has an automatic throttle. Also should the exhaust valve come flush on to the tappet? It does not hit it when working, but leaves a gap about a quarter of an inch. The car is a four-cylinder one, 1906 pattern. When starting up the engine there does not seem to be much compression, although I have just recently well ground all the valves.—Yours truly,

B. PERCIVALL.

[The popping noise, in this instance, may be occasioned by the admission of too much air, and the supply might be somewhat adjusted to allow a little less. No doubt the loss of compression has also a deal to do with the trouble, as the mixture for a high compression can neces-

### SIX OR FOUR CYLINDERS?

THERE was a very large gathering of the trade at the Automobile Club on Thursday evening last week, when, under the chairmanship of Mr. Worby Beaumont, Mr. S. F. Edge opened a discussion on the much-talked-of topic of six or four cylinders. By way of commencement Mr. Edge pointed out that in connection with the evolution of the Napier six-cylinder engine the one idea had been to make the most suitable powerful motor for a motor-car, and they had taken as the governing factors:—First, that weight must at all costs be kept down. Secondly, that the horse-power required is over 30-h.p. Thirdly, tyres are in the upkeep the most expensive portion of a motor-car, and to reduce wear and tear on them is of primary importance. The drawback to the Otto type of engine was that three of the strokes in the cycle were practically wasted. Early engineers got over this fundamental trouble by adding to the weight of their flywheels, but as the power and the size of cylinders increased, the amount of compression to be overcome and the difficulties to keep the engine running smoothly increased also. Flywheels had other drawbacks than that of mere weight. To give a smooth drive to a four-cylinder engine necessitates a flywheel of large proportions, with the inherent defect that tyres have to be worn out and petrol expended in merely carrying it along as so much dead weight. With the view of proving that a six-cylinder engine is not as heavy as, but indeed lighter than, a four-cylinder of equal power, Mr. Edge gave the



Touring in France.—The Cathedral of Le Mans.

sarily be slightly weaker than that for a low compression. The space between the exhaust tappets might to advantage be lessened to 1/8th of an inch. The loss of compression may be caused by the piston rings working round, thereby letting all the joints be in the same line.]

### DIFFICULTY IN STARTING.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have found great difficulty in starting my two-cylinder car during the recent very cold weather. I should be glad if some of your readers would kindly assist me with any useful hints. I have high tension accumulator and low tension magneto ignitions. The cells were charged about a fortnight ago. When once the engine is warm no further difficulty is experienced.—Yours truly,

R. HARMEN.

[It is a very common occurrence in cold weather to experience difficulty in starting up, owing to insufficient carburation. If, however, a little petrol is injected into the cylinders, this trouble will soon be overcome; this can be done through the compression taps by means of a small oil-can carried for the purpose.]

PORCELAIN.—A correspondent asks for the name and address of a firm able to supply porcelain for a plug he is about to put on the market.

respective weights of the parts of one of the latest Napier 40-h.p. six and a Renault 35-45-h.p. four. In the case of the first named the aggregate weight of the engine complete with flywheel and all piping was given as 681 lb., as against 706 lb. for the four-cylinder. The weight per horse-power was given by Mr. Edge as 14.7 lb. in the case of the Napier and 15.7 lb. for the Renault, but it is not clear from the figures given how this result has been obtained. After showing that the radiator rear axle and gear-box were all lighter on a six-cylinder car than on a four, reference was made to the relative lengths of the two types of motors. Taking the two cars above referred to, Mr. Edge showed that in the four the distance from the front of the forward cylinder to the back of the dashboard was 39 in., and 40½ in. in the case of the six. Mr. Edge, in reference to the question of mechanical efficiency, remarked that if this were the only desideratum, a single cylinder of enormous dimensions would be the correct thing for a high-powered car. Incidentally, however, it would pound itself to pieces, smash its gears, and ruin the tyres of the car. Less repairs are required with cars having four cylinders than those with two, and in his view the same holds good between four and six cylinders in favour of the latter. On the question of vibration, Mr. Edge gave the results of some comparative tests that had been made for him by Messrs. O'Gorman and Cozens Hardy, the same two cars being again chosen. Diagrams were thrown on the screen illustrating the results obtained, the movements, both vertical, transverse, and longitudinal, at various engine speeds, being



greatly in favour of the six. Turning to other matters, Mr. Edge remarked that the pulsations and syncopated beats of a four-cylinder were distressing to the mechanism generally if the engine speed of a four-cylinder was allowed to drop. This was a point that is entirely absent in the six, no matter how slowly it runs, and is owing to the overlapping of the impulses. He also claimed that six-cylinder cars had been found to be economical in petrol, probably owing to the fact that they are driven almost continuously on their top speed in traffic, and for longer on the "top" going up hills.

Mr. Edge summed up the advantages of a perfect six-cylinder motor-car as follows:—Smooth and even driving. Simplicity of carburation owing to smallness of cylinders and constant suction. Power applied in small quantities and oftener. Saving of wear in tyres, gears, chains, wheels, live axles, frame, crank-shaft, connecting rods, and all bearings. Absence of vibration giving extreme luxury. Absence of jerkiness, again, reducing wear and tear. Smaller flywheel required, reducing weight to be carried. High power obtainable with very small cylinders. Upkeep lighter through decreased wear of tyres, &c. Decreased weight owing to decreased weight of flywheel, lighter gears and transmission. Pull sweetly in mounting a hill down to the very last few revolutions. The pressure on each piston of a six-cylinder engine, power for power, is only a little more than half the pressure of an equal powered four-cylinder. Pistons and connecting rod lighter in a six-cylinder, the effects of inertia therefore not so great. Economical in petrol in spite of theoretical objections, due to driving on top gear. Owing to overlapping, engine will run more slowly and "pull" more slowly. Practically no change in speed required. Practically perfect balance. All parts of mechanism subject to less strain, therefore suffer less, and require less attention. More silent than a four-cylinder of equal power, other things being equal, because each cylinder fires a smaller charge, and has, therefore, less violent exhaust. Finally, the six-cylinder will develop its power, if desired, at 25 per cent. greater number of revolutions than a four-cylinder, with the result that the transmission can be 25 per cent. weaker, or, if of the same strength as would be required for the four-cylinder of equal power, would have a 25 per cent. extra margin of strength.

After a vote of thanks had been given to Mr. Edge, Mr. Beaumont threw the subject open to discussion; but, although there were a number of four-cylinder champions present, none seemed anxious to take up the cudgels on behalf of the four. After an awkward and uncomfortable interval Mr. O'Gorman rose and explained that he was not a six-cylinder enthusiast. In comparing six and four-cylinder engines, they had got an impossible proposition—a matter impossible to decide by any one individual opinion. In order to make a comparison they had to add together, as it were, apples and ideas, and they could not get a sum of six out of four apples and seven ideas. The difficulty was that they had to compare the value of eliminating vibration and getting a fairly constant torque with other values such as a certain economy of fuel, a certain shortness of wheel base, &c. The difficulty of giving an actual value to these things was so great that he personally had no definite opinion on the point whatever. There was a splendid case to be made out for either side, and the only real determining body—the judge of the whole matter—was the buying public. He thought that Mr. Edge's picturesque statement about the striking of blows was just picturesque and no more. There was no explosion in an explosion engine, but only an inflammation of mixture, which was a comparatively slow process. One of the matters which came out very strongly in the course of making calculations with regard to six four-cylinder engines was the very remarkable effect of the moment of inertia of the reciprocating parts. Curves could be plotted which would show that, by comparing two curves of the six and four cylinders of the same power, the six-cylinder car would apparently have a better ratio of maximum to mean turning moment. Taking cars over all the early speeds, beginning with the slowest speed, and going forward to a certain point, and then taking the weights which he had of actual cars, they would get a spell of speeds during which the four-cylinder car actually had the advantage as regards uniformity of turning moment. Then they resumed superiority for the six-cylinder car, and the latter continued to give a better turning moment. As to about 300 revolutions being the lowest speed for four-cylinder cars Mr. Edge was not quite fair. He (Mr. O'Gorman) knew a car which could run at 120 revolutions a minute. He also knew of a two-cylinder car with which they had got 80 revolutions.

Mr. J. E. Hutton thought there was a great deal to be said for both sides. If people came to him and said which car did he recommend he asked them what they wanted it to do. If they wanted a car to go slow with a maximum of luxury, he suggested the six-cylinder, because for the purposes of what the French call "promenade" he thought the six-cylinder was the best. If a man wanted to get a maximum speed and efficiency from his car he preferred the four-cylinder. As regards weight, he had been in hill-climbing and other competitions in which the cars have had to be weighed, and he had always noticed that the six-cylinder car approximated two tons while the four-cylinder cars were nearer one ton than two. If, as Mr. Edge had stated, the petrol consumption of the six-cylinder car was in advance of the four-cylinder car, why did not he build a six for the Tourist Trophy Race? It certainly seemed to him that to get the same power there have to be two more cylinders, fifty per cent. more crank shaft, and the engine must weigh nearly fifty per cent. more than in the four cylinder. Everything must be longer in the six than in the four cylinder, and having regard to the fact that they must have a lengthened wheel base it was difficult to see how the car could be anything as light as a four-cylinder.

After Mr. C. Johnson had read a communication from Mr. Royce, Mr. Frederic Coleman asked whether Mr. Edge had ever had time enough to count the parts in the six-cylinder engine, and if so, what were the actual number of parts, including the fly-wheel, as compared with those in a four-cylinder engine. He thought the question was rather important, because people did not put parts in an engine except for the reason that they were necessary, because they had to consider the weight. If the number of parts was distinctly different, the advantage would surely go to the one that had the least number.

Mr. C. Jarrott, in commencing his remarks, referred to the fact that the advocates of the four-cylinder had had so many figures given them that he personally was almost bewildered. They had been told that the six-cylinder car used less petrol than a four-cylinder. As against that they had a very cordial letter from Mr. Royce, in which he asked for a larger petrol allowance for six-cylinder cars. Mr. Jarrott was very sceptical as to the vibration tests, remarking that he wished he had selected the four-cylinder car, because then perhaps they might probably have had a little better record on the other side. He thought the figures would have been much more valuable, with all deference to Mr. Edge's statistics, if they had been conducted by an entirely disinterested person. A six-cylinder car had taken part in the Town Carriage competition held by the A.C.G.B.I., and the only point in which the six-cylinder had scored over the four-cylinder was under the head "accessibility in regard to repairs." He could mention a number of cars which would be more suitable than the Renault which Mr. Edge had taken for the purpose of drawing a comparison in regard to weight. The six-cylinder was a nice car to go slow on, and when one got beyond that point the difference between the two types became appreciably less as the speed increased. Summing the whole question up, they had to look on the construction of motor-cars as being articles of utility. The trend of design had got to evolve to the point at which they could obtain a vehicle which was the best for all round purposes. Take the cost of the manufacture, the accessibility of parts, the ease of driving, the expense in upkeep, and other various points, and they might have one or two particular advantages by having six cylinders, but having regard to general requirements they were as near perfection with the four-cylinders as they could get. The six-cylinder car was built with one or two advantages for a particular class, but the great future of the petrol engine unquestionably lay in the evolution of the four-cylinder.

Mr. J. S. Critchley, in respect to Mr. Edge's statement that a six-cylinder engine weighed less than a four-cylinder of the same power, asked, if that was so, why not increase the number of cylinders and have eight, and get less weight still. Increasing the number of cylinders did not get over the difficulty of the Otto cycle, and he thought a great number of developments were taking place that would possibly reduce the number of cylinders.

Mr. J. D. Siddeley remarked that to his mind the whole question resolved itself into one of expense in original cost, in running, and, he believed, in maintenance. Should anybody desire a car of moderate power he would be well advised to purchase a four-cylinder car. Should that person, however, desire to purchase that which had the most kudos to start with from an expense point of view, and at the same time obtain perhaps a more perfect looking machine when standing still, and also wish to have the most powerful car with the least disadvantages, he would be well advised to purchase a six-cylinder. When dealing with high powers it was largely a question of certain disadvantages arising from their use. In the one case they had four very big cylinders; in the other case, six moderate sized ones, and certainly in his opinion it was better to have six moderate sized cylinders than four big ones. When they were dealing with normal powers four cylinders were, however, quite sufficient. Much stress has been placed upon the question of economy of running and tyre upkeep. He ventured to assert that the question of tyre upkeep was altogether one, first, of weight of car, and, secondly, of the speed at which it was run. Under such circumstances they would find that the tyre bill would be the same in both cases. He ventured to assert most positively that with an equally-powered engine and similar gear, a four-cylinder car of equal power would hold its gear on a hill as long as a six. He was quite sure that a good many experienced persons would bear him out in that.

Others who took part in the discussion included Professor Sharp, Mr. Oscar Thompson, Mr. Egerton, and Mr. Knowles. As the hour was late, it was at first proposed to postpone the discussion, but eventually Professor Hele-Shaw undertook to deal with the matter from a scientific aspect at a later date. The Chairman thereupon called upon Mr. Edge to reply, in the course of which he mentioned that there were sixty-four more parts in a six-cylinder than in a four.

THE Coventry Chain Company, Ltd., remind agents that their attractive showcard may still be had for the asking.

AT 63, Walm Lane, Willesden Green, N.W., the Middlesex Motor Carriage Company, Ltd., have opened a garage capable of housing more than thirty cars.

FOLLOWING the exhibition, the first motor auction sale ever held at the Crystal Palace was successfully carried out on the 11th and 12th inst. by Messrs. Friswell (1906) Ltd. Some of the cars exhibited had a reserve placed on them, and our readers, who were not able to get to the Crystal Palace Exhibition, will find some of them on view at the auctioneers' show rooms at Albany Street, Regent's Park, N.W.

## CLUBS AND ASSOCIATIONS.

### AUTOMOBILE ASSOCIATION.

THE annual dinner of the Automobile Association was held on Tuesday at the Hotel Cecil, London, under the chairmanship of Col. W. J. Bosworth. More than 450 gentlemen were present, including the Marquis of Ailsa, Earl Russell, Lord Montagu, Lord Denman, the Hon. L. M. St. Clair, the Hon. Lionel Walrond, M.P., Mr. Percy Barlow, M.P., Mr. Herbert Raphael, M.P., Mr. Sidney Straker, Sir W. G. D. Goff, Bart., Count Ward, G.C.V.V., Mr. J. Schlentheim, hon. treasurer, Colonel Montague Day, Dr. Stilwell, Mr. S. Hope Morley, Capt. F. Attenborough, R.N., and Mr. Otto Shaw, J.P. The following members of the Committee of the A.A. also attended:—Messrs. Chas. Jarrott, S. F. Edge, Chas. Temperley, Alfred Harris, Amery-Parkes, H. S. A. Smith, D'Arcy Baker, Chas. Cordingley, and Capt. Bennett-Stanford, J.P., with Mr. Stenson Cooke, secretary.

After the loyal toasts had been honoured.

Mr. Mostyn Piggott proposed the toast of "The Automobile Association." He said he was glad to note that a motor-car was accompanying an expedition to the South Pole. There were others, he was aware who would like all other automobiles to go to the same place. Some police restrictions were put upon motorists, but the fashion might change and it would not surprise him if, during the throes of versification, a policeman, with a rhyming dictionary in his hand, interrupted



"United We Stand, Divided We Fall."

The sketch by Mr. Tom Browne, R.I., for the menu of the Automobile Association's Dinner on Tuesday last.

him with the remark that there were more feet in a certain line than authorised by statute. He counselled patience. A certain gentleman at Olympia insisted on being ridden over twice a day by an automobile. British common-sense might learn a lesson in patience and fortitude from this excellent example, and the thing would soon become a pleasant pastime.

Colonel W. J. Bosworth responded to the toast, and said that when last they met the membership was 300, now it was as many thousands, including a hundred peers of the realm and many hundreds of other distinguished motorists. It was Mr. C. Jarrott who placed the first body of patrols on the Brighton road, and the success of their Association had justified that initial effort. Their successful existence had been due to the fact that their services were needed, and that their committee had worked harmoniously and vigorously in the interests of the motoring community. With regard to the police, he referred to the transformation that had taken place in their comportment, mainly owing to the work done by the Association. The authorities had begun to recognize that so far from encouraging the Hooligan driver the Association did everything possible to put him down. During the past year the number of patrols had been enormously increased, and the roads to Liverpool, Blackpool, and Edinburgh had also received attention. England had become honeycombed with agents of the Association, and at no distant date they hoped to see every village supplied with a distinctive name-plate. The prosecution of carmen and others who obstructed motorists had been undertaken, and arrangements made whereby, on payment of a small sum, their

members were provided with legal assistance. Negotiations with Lloyd's had been made to ensure the issue of a very favourable motor-car policy to members of the Association, securing not only low rates of premium, but a rebate should no claim be made during the year. A scheme for the organisation of a body of guides in all large towns in England was being formulated, and in conclusion the Colonel enumerated the following advantages obtainable for the two guineas subscription of members, namely, the service of patrols, agents and guides, legal defence on reasonable lines, exceedingly favourable, insurance assistance when touring on the Continent, and the provision of danger signals and village signs throughout the country. Cordial relations were being continued with existing associations, and he trusted that this friendly state of affairs might long continue.

The toast of "The Press" was proposed by Mr. Charles Jarrott, who eulogised the service rendered to the Association by the newspapers associated with the industry. Responses were made by Messrs. H. Massao Buist and H. W. Staner.

Sir Archibald Macdonald, Bart., J.P., vice-president of the Association, proposed the toast of "The Visitors," on whose behalf Mr. Barry O'Callaghan, replied congratulating all responsible for its progress.

Following the speeches was an entertainment, which was well maintained till a late hour.

### THE AUTOMOBILE MUTUAL PROTECTION ASSOCIATION.

A FIRM, which is a member of the Automobile Mutual Protection Association, and which imports cars to all parts of Europe, has introduced into its 1907 pattern an improved engine base, in which a continuous web is cast between the lower half of the engine base and the side members of the chassis frame. This forms a protecting plate to prevent the access of dirt and mud from under the car to the valves, stems, and engine generally, as well as affording convenient means of securing the magneto, carburettor, and similar accessories. This is an obvious improvement in the gradual evolution of the motor-car engine, and several makes of cars were fitted with it at the last Olympia Show, and many other makers are talking of its adoption.

The firm in question received notice, through their German agents, that they were infringing a patent dated 1904, and threatening them with the usual dire penalties. They accordingly communicated with the Association, and asked them to go into the matter and advise them what to do. The Association has had a very careful search made of the patent records, and they have found that the particular patent in question was only taken out in Germany, and was not taken out in this country or in France, but a very similar patent was taken out at a later date, which it is possible the patentees might try to use as a master patent in this country. In order to assist the member, the Association went very carefully through all patent specifications that had been filed, dealing with engine design, and they have discovered a patent dating from 1901 which fully anticipates all the later patents, claiming the use of a web casting extending from the base chamber to the frame. This patent goes so far back that the drawings only illustrate its application to tubular frames, and the patentee makes no claim for the principle of the web, but his drawings so clearly indicate that was his method of construction, that they are sure to be ruled as completely anticipating these later patents.

### AUTO CYCLE CLUB.

THE Auto Cycle Club's Silencer Competition will take place on Tuesday, the 26th inst., at the Clement-Talbot works, Ladbroke Grove, Notting Hill. The club is to be commended upon taking this matter up, for undoubtedly a great deal of the prejudice which exists against these machines is caused through the excessive noise which they make. Entries for this competition close on Tuesday next, and full particulars can be obtained from the secretary, Mr. F. Straight.

The club is also offering a prize of five guineas for the best design suitable for their certificate which is awarded in the various trials and competitions promoted by them. Designs should be emblematical of a motor-cycle as far as possible, but not representative of any particular make. All designs submitted to become the property of the club. Further particulars can be obtained from the secretary, Auto-Cycle Club, 18, Down Street, London, W.

### INSTITUTION OF AUTOMOBILE ENGINEERS.

THE following is an extract of the contribution to the discussion on the paper on "Accessibility and Cleanliness" read by Mr. F. L. Martineau, made by Mr. R. W. Buttemer. Much inaccessibility is due to the division between chassis construction and body building. A car should be a perfectly designed unit, and the union of a chassis stiff enough to stand alone to a body with similar qualifications is a shocking waste of good material, apart from the partial incompatibility of the two as regards accessibility. The detachable body is hardly more than a way of making the best of a bad job, while, as there is a striking and successful application of the above proposition among our own makers and another interesting effort shown at the Paris Salon in the Sanchis chassis, example of the direction that design should take is not lacking. The actual, if not the proportionate, number of owners who attend to their own minor repairs is increasing, and it is not, from some-

points of view, desirable to discourage the owner who wishes to dissect his car. Even if, like the Irish cycle repairer, when he puts it together he has "parts enough left to make another," the educational value of the process is considerable. I am inclined to take exception to the use of spring washers for the castle nuts of what one may call "permanent" joints. A castle nut in such a position should be carefully fitted till its pin reaches its hole, and a spring washer tempts the unconscientious repairer to leave it a sloppy fit. It is very desirable that the carburation, ignition, and cooling systems should be open to inspection and adjustment without disturbing passengers, and I would add to this the taking up of the brakes, or, at least, of one of them.

Perhaps a few actual instances of inaccessibility may fitly conclude these remarks.

Car A.—Tightening big end involved removing bolts holding fly-wheel, and also making a special cramp to draw a dished pinion of timing gear, before crank case could be divided.

Car B.—Re-leathering clutch involved detaching gear-box and brake-work.

Car C.—Refitting big ends involved detaching radiator and breaking a soldered joint.

Car D.—Tightening a loose nut in bracket at base of steering column involved the removal of about three dozen nuts, holding undershield and other parts, and each of these required a spanner at each end to detach. All bolts should have a key or pin to prevent rotation, those in the links of spring hangers particularly. And why do so few makers fit lubricators to these latter?

### THE MOTOR UNION.

By the courtesy of Mr. Charles Cordingley, says the last issue of the "Club Journal and Motor Union Gazette," members of the Motor Union will be admitted free to the Exhibition at the Agricultural Hall, London, on Saturday, April 6th (the opening day), and Thursday, April 11th, on production of their membership cards. A comfortable room will also be placed at the disposal of the members. The thanks of the Union have been conveyed to Mr. Cordingley for his kindness in the matter.

The car badge is now ready for members and applications for the same should be sent to the secretary.

### BLACKHEATH.

THE annual dance of the club was held on Friday of last week at the Concert Hall, Blackheath, nearly two hundred members and guests being present. Mr. Leonard Beadle (captain) acted as M.C.

The annual general meeting and dinner is now being arranged to take place on or about the 28th inst. at the Art Club, Blackheath.

The committee has voted the sum of two guineas towards the cost of the competition now being organised by the Roads Improvement Association at the request of the A.C.G.B.I. and the Motor Union for a tar-spreading machine.

### MOTOR YACHT CLUB.

At a meeting of the Racing Committee of the Motor Yacht Club last week the date for the British International Cup race was fixed for Saturday, August 3rd, and the eliminating race for the previous Saturday, July 27th.

The Reliability Trials for 1907 were fixed for Tuesday and Wednesday, July 30th and 31st. The boats will thus have to be in the dock on Monday (by midday) for the judges' preliminary inspection, and will be released on Thursday, August 1st.

### DUSTLESS ROADS COMMITTEE.

At the first formal meeting of the National Dustless Roads Committee, held at the Automobile Club, the following officers have been elected:—President, the Hon. Arthur Stanley, M.P.; chairman, Mr. Robert Todd; vice-chairmen, Mr. C. D. Rose, M.P., Major Coates, M.P., Sir William Hulton, Dr H. S. Hele-Shaw, and Colonel R. E. B. Crompton; treasurer, Lord Montagu of Beaulieu; secretary, Mr. Douglas Mackenzie.

### LADIES'.

THE report of the committee read at the fourth annual general meeting last week referred to a very satisfactory position both as regards the financial and social position of the club. The surplus of income over expenditure for the year 1906 was £594 10s. 8d., and in addition to this sum £1,200 is invested in Consols. Two illustrated lectures were given at the club during 1906, one by Mrs. Manville, entitled "A Try for the Herkomer Trophy," and one, "Hints on Motor-car Driving," by Lord Montagu. Several meets were held, the members having met by invitation at the homes of the Countess of Amherst, Mrs. R. C. Turnor, Mrs. Walter and Lady Salomons.

Mr. and Mrs. Cordingley entertained the club, on the 28th of March, at the Eleventh Annual Automobile Exhibition at the Agricultural Hall, and in November the Society of Motor Manufacturers and Traders invited the club to visit their Fifth International Motor Exhibition at Olympia.

The report is signed by Millicent Sutherland, president, Cecil Montagu of Beaulieu, Beatrice Rawson, Augusta Spencer Churchill, Marion L. Leigh, vice-presidents, and K. D'Esterre Hughes, secretary.

THE Lewisham A.C. climb on River Hill has been postponed to the 2nd prox.

THE annual dinner of the South Wales and Monmouthshire A.C. will be held at Cardiff on the 23rd inst.

MR. J. DAWBER, 9, Mariebone Place, Wigan, is the hon. sec. of the motor section of the Wigan Cycling Club.

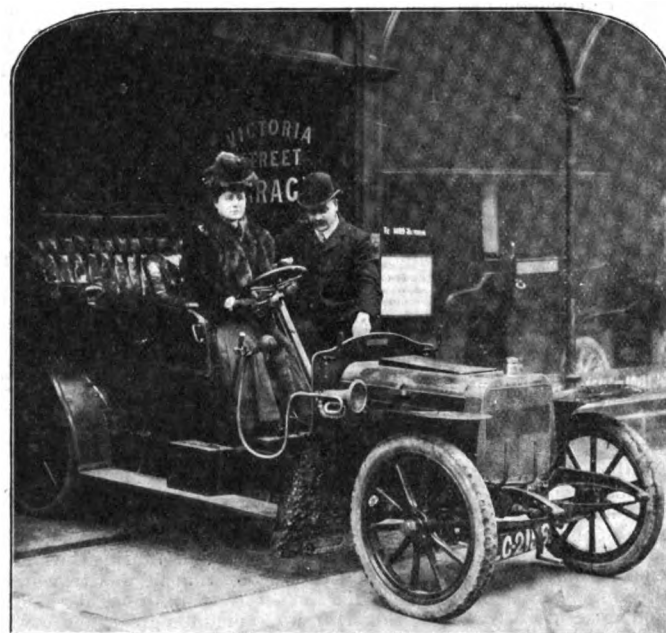
MR. R. K. HUBBARD, 24, Sarum Hill, Basingstoke, is the hon. sec. of the Basingstoke and District Motor Club.

AT the inaugural meeting of the Dundee and District Motor Cycling Club Mr. G. D. MacDougald was elected president, with Mr. J. D. Cruickshank, 27, Albert Street, Dundee, as hon. secretary.

SEEING that there are more than one hundred motor-cycles registered in West Hartlepool, the local motor-cycle club now being formed, with Mr. W. T. Walton, jun., 71, Grange Road, as hon. sec., should soon become a successful institution.

### INSPECTOR JARRATT AS DEFENDANT.

AT the Reigate County Bench, on Saturday, Police Inspector Jarratt was summoned by Mr. W. G. Roberts, of the Westminster Bridge Motor Garage, Westminster Bridge Road, S.W., for assaulting him on October 7th, when he was stopped on the Brighton road for exceeding the speed limit. Mr. Staplee Firth, for Mr. Roberts, said the proceedings arose out of a case which had already been before the Bench, Mr. Roberts being summoned by Inspector Jarratt for driving his motor-car at a speed stated by the inspector to be 37½ miles an hour. Mr. Roberts said he was driving a motor-car containing Mr. and Mrs. MacConnell



Mrs. Adney Payne, who is seen at the wheel of the car in the above illustration, has recently undergone a course of motor-car instruction at the Institute of Chauffeurs, Westminster, and is now an accomplished driver.

and Mr. MacConnell, jun., from Brighton to London. On reaching Charlwood, near Reigate, he was stopped by a police-constable. Inspector Jarratt coming up shortly afterwards in plain clothes, witness asked him what he was stopped for, whereupon the inspector, turning to the constable, said: "Tell this man what he is stopped for," and the constable told him he was stopped for exceeding the speed limit. Witness was standing listening when Inspector Jarratt, who was cycling, wheeled his bicycle up behind him. Witness tripped and his foot came in contact with the wheel, whereupon Inspector Jarratt raised his clenched fist in a threatening attitude, and said: "If you do that again I will knock you down." After other witnesses had been called the defendant went into the box and gave his version. When Mr. Roberts's car was stopped he rode up on his bicycle and told him he had exceeded the legal limit. Mr. MacConnell immediately jumped up in the car and said: "How do you know? Who are you?" He told the constable to tell him who he was, whereupon Mr. MacConnell said: "Oh! You are the Jarratt, are you, that we have heard so much about—the well-known liar!" Witness took no notice of the remark, however, and went to speak to a cyclist who had stopped, and who complained of the way in which Mr. Roberts's car had been driven. He told Mr. Roberts about the cyclist, when Mr. Roberts deliberately kicked the front wheel of his (witness's) cycle. Witness said to him: "I shall protect my property, and if you kick it again I will knock you down." Asked by Mr. Firth to give his definition of "threatening attitude," the inspector, leaning across the witness-box with fist raised, said: "If I put

my fiat in your face like that I should call that threatening." The Chairman announced that the magistrates were unanimously of opinion that the case must be dismissed. An application by the defendant for costs was not allowed.

## CASES UNDER THE MOTOR-CAR ACT.

### NO LICENCE.

George Shaw, of Cheyne-walk, Chelsea, was summoned at the Acton Petty Sessions for driving a motor-car at Uxbridge Road, without being licensed. A police-constable deposed that a boy was knocked down by the defendant's motor-car, and witness was taking particulars. He asked for the licence, and when defendant produced it he discovered that it expired several days previously. Defendant's attention was called to the fact, and he remarked, "Yes, I didn't notice until the other day that it had run out, and I am going now to renew it." Alderman Wright imposed a fine of 40s. and costs, remarking that the defendant was liable to a penalty of £20.

### EXCEEDING LEGAL LIMIT.

Nicholas Wood, giving the address of Carlton Hotel, London, was summoned at the Brighton Borough Bench recently, for having unlawfully driven a motor-car at a speed dangerous to the public on the King's Road. Mr. E. E. Humphrys appeared for the defence, and asked that the summons should be altered to make the offence one of exceeding the speed limit provided by the Act, twenty miles an hour. To this the Chief Constable (Mr. W. B. Gentle) offered no objection. Outlining the circumstances of the case, Mr. Gentle said he had three independent witnesses prepared to state that the speed was twenty-five miles an hour. When the defendant had been spoken to by the police he had asked to see their stop-watches; but the Brighton police did not carry stop-watches; they did not lay traps for motorists. He did not suggest that any life was in danger through the driving of this car, but there would have been if, as might have happened, a number of people had crossed the road at that moment. His only object was to protect the public, and to let motorists understand that they could not drive at such a speed along crowded thoroughfares in Brighton. Mr. Humphrys then tendered a plea of guilty, and defendant was fined 40s. and costs, or fourteen days' imprisonment.

At Mortlake, Humphrey Beresford Fitzherbert was summoned for driving a motor-car at an excessive speed. Defendant did not attend, but sent a telegram in which he pleaded guilty to thirty miles an hour, and requested that the amount of the fine might be wired to him. The evidence of two constables showed that on the morning of the 23rd ult. they timed defendant's car with stop-watches over a measured furlong on Barnes Common, which it covered in 15 sec. A list of four previous convictions was handed to the Bench—two under the Parks Regulation Act, one for driving to the danger of the public, and one of a similar offence to that for which he was now summoned. The bench imposed a fine of £10 and costs.

### RECKLESS DRIVING.

William Other, of Blandford Street, Marylebone, was summoned at Westminster for driving a motor-car to the danger of the public at Buckingham Palace Road. Evidence was forthcoming to show that the defendant, in order to avoid a van, drove right across to the off side and collided with a four-wheeled cab, breaking a shaft and injuring the horse. Defendant himself admitted to a police inspector that he was travelling at fifteen miles an hour. Mr. Curtis Bennett said he thought that in London a pace of fifteen miles an hour was much too great, and it was much too fast even in small towns. He was satisfied defendant was driving in a manner dangerous to the public, and they must be protected. He imposed a fine of £5 and 20s. costs.

### IDENTIFICATION MARKS.

Under the Motor Car Act, Mr. T. Graham Sharp, secretary of a motor-car company, has been summoned at Westminster for aiding and abetting a chauffeur named James McGregor in using a car without the usual identification number, and further with failing to keep a proper record of the driver as required. Defendant pleaded guilty, and had nothing to say beyond admitting that he knew the book was not very well kept. The magistrate inflicted a penalty which, with costs, totalled £6 4s.

### NO LIGHT AT REAR.

At the County Hall, Derby, Harry Ford, of Brookside, Uttoxeter, was summoned for driving a motor-car without a red light at the rear, at Etwell, at 12.45 a.m. on January 25th. Mr. H. M. Clifford appeared for the defendant. Police-constable Ordish said defendant had no rear light on the car. Witness blew his whistle, but instead of pulling up defendant increased the speed of the car. Mr. Clifford submitted he had no case to answer. It was necessary, in the first place, to produce and prove the regulations of the Local Government Board. This had not been done by the prosecution.—This objection was upheld by the Bench, and the case dismissed.

## MODERN MOTOR VEHICLES.

At a meeting of the Institution of Civil Engineers on Tuesday last week a paper on "Modern Motor Vehicles" was read by Lieut.-Colonel R. E. B. Crompton, M.Inst.C.E. After referring to the rapid spread and growth of the automobile industry, to the historical side of the question and the development which has followed the invention of the petrol

engine of Daimler, the author gave a general description of the arrangement of the mechanism of the various classes of vehicles in use, dealing first with the motor-car employed for pleasure, a development of which is used for public service vehicles, and then with the heavier vehicles used for commercial purposes, such as traction engines, steam wagons, and parcel vans. These were discussed in three groups, namely, those using petroleum spirit, steam, and electricity. Lieut.-Colonel Crompton afterwards proceeded to discuss the general engineering questions involved, by comparing the road locomotive with the railway locomotive and went somewhat fully into the question of road construction and maintenance. Finally, he came to the important question of the cost of working motor vehicles in town and country, and summarised the statistical matter to which the second part of his paper was devoted. This gave running costs of traction engines, steam and petrol driven wagons, motor-omnibuses, and private petrol, steam and electrically-driven cars.

## COMPANY NEWS.

### NEW COMPANIES REGISTERED.

EXPLOSIVE TURBINE SYNDICATE.—£1,500. To acquire the British and foreign patents granted to E. Uhlenbuth in respect of a turbine worked by explosions of gas, and to adopt an agreement with the said E. Uhlenbuth and J. E. Lyndall. First directors: J. E. Lyndall and G. B. Barboni, both of Paris.

GRANADA MOTOR COMPANY.—£5,000. To acquire the business carried on by Helen G. Allen, at 20, Granada Road, Southsea, as the Granada Motor Company. First directors: Major A. H. Cox, Messrs. B. S. Millard, and A. W. B. Bromley. 20, Granada Road, Southsea.

CARBURATION.—£20,000. To adopt an agreement with Messrs. W. Gillett and M. D. Lehmann to carry on the business of motor and motor vehicle manufacturers, &c. First directors: Messrs. F. Gillett, W. Gillett, and M. D. Lehmann, two last-named being managing directors. 1, Acacia Grove, West Dulwich.

FOUR MOTOR WHEEL DRIVE COMPANY.—£1,000. 17, Cockspur Street, S.W.

ERNEST H. HILL.—£12,000. To take over the business of brass founders and manufacturers of motor accessories carried on by Messrs. E. H. Hill and H. Hill at Broomhall Street, Sheffield, as Ernest H. Hill. First directors: Messrs. E. H. Hill and H. Hill.

RENAUD SYNDICATE.—£11,000. To adopt an agreement with Seymour and Gordon, Ltd., and to manufacture and deal in motor-cars, carriages, &c.

THE ACADEMY OF MOTORING (1907), LTD.—£50,000. To acquire the business of the Academy of Motoring, Ltd. First directors: Messrs. L. C. Bartholomew, P. B. Adams, W. P. Adams, E. T. Wright, and L. R. F. Strangways.

DUSTABATERS.—£10,000. To acquire and work the Provisional Dustabo patents now worked by Messrs. T. Woolf and T. Murphy at 118-122, Holborn, E.C., as the Dustabato Company, to carry on the business of manufacturers of a mixture for laying dust. First directors: Messrs. T. Woolf, W. Bond, and J. C. Keeney. 118-122, Holborn, E.C.

THE INTERNATIONAL MOTOR-BUS SYNDICATE has been registered with a capital of £1,000.

W. T. CLIFFORD-EARP.—Capital, £6,000. To act as agents for the sale of motor-cars and vehicles manufactured by the Thames Ironworks, Shipbuilding and Engineering Company, Limited. First directors: Messrs. W. T. Clifford-Earp, D. Urquhart, W. B. Leach, A. F. Hills, R. Warriner, and H. C. Lafone. 16 Philpot Lane, E.C.

PARIS MOTORS.—Capital, £5,000. 18, Eldon Street, E.C.

METROPOLITAN STEAM OMNIBUS COMPANY.—Capital, £40,000.

MOTOR MANUFACTURING COMPANY.—£40,000. To acquire the business of the Motor Manufacturing Company, Limited (in liquidation).

At a meeting of directors of Friswell (1906) Ltd., an interim dividend has been declared for the half-year ended December 31st, 1906, at the rate of 6 per cent. per annum on the preference and 10 per cent. per annum on the ordinary shares.

## THE TYRE TRIALS.

FROM the references that have been made in some contemporaries with regard to the Tyre Trials it is possible that an erroneous impression may have arisen as to the reasons for their postponement. An account of what actually happened at the meeting between the Technical Committee of the Club and the representatives of the British Empire Motor Trades Alliance will make the position clearer. The B.E.M.T.A. delegates informed the Committee that the Alliance formally withdrew its offer to provide cars for the trials in view of the fact that the trials could not now be held in February or March of the present year, and the Alliance was quite unable to obtain cars during any other part of the year. The question of holding the trials in the spring of 1908 was discussed, and it was finally agreed that the Club should consider the following suggestions and communicate them formally to the Alliance in the event of a postponement being approved:—(a) That the Alliance should be asked if it would be willing to supply cars for Tyre Trials in the spring of 1908, and, if so, how many cars; (b) that the Alliance should also be asked if tyres would be supplied with the cars, and, if so, how many different makes, the Club to choose them from stock. The offer of the Alliance has been renewed for 1908.



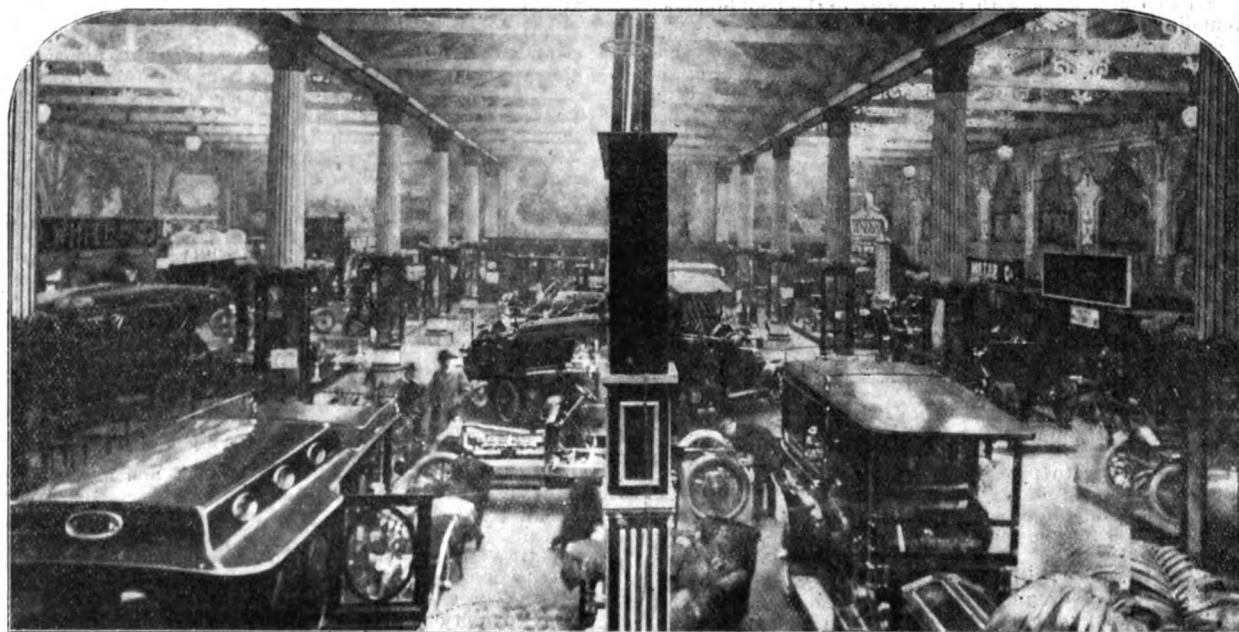
### THE MANCHESTER MOTOR SHOW.

THE third motor-car show organised by the Manchester and District Motor and Cycle Trades Association was opened in the Zoological Gardens, Belle Vue, Manchester, on Friday last week. The venue is a novel one, as, in addition to the buildings in which the cars are displayed, opportunities are available for making trial runs in the grounds and for testing motor-boats on the lake. One of the largest stands is that of Mr. Henry Garner, of Nantwich, who is exhibiting examples of both the Beeston and Coventry Humber vehicles, as well as of the 14-16-h.p. and 16-20-h.p. Argylla. Messrs. Huntley Walker and Co., Ltd., have a large stand, the exhibit including a 40-h.p. Weigel, a 40-h.p. six-cylinder Darracq, a 20-28-h.p. Darracq landaulet and an 80-h.p. racer. Several examples of the well-known 14-h.p. Germain chainless cars, including one with a landaulet body, are displayed by Mr. Theo Masui. Mr. A. H. Meldrum, Timperley, shows two standard Swift 9-10-h.p. cars, each fitted with the "Swift" twin-cylinder engine, which did so well in the Scottish Reliability Trials last year. On the same stand is a smart 9-11-h.p. Swift three-cylinder doctor's landaulet. This is a new design, the steering wheel, levers &c., being worked from the inside. Mr. F. Zorrilla, Manchester, in addition to a J.P. car, has on view the chassis of a new local-built vehicle known as the "Empress." The vehicle, of which we give an illustration on page 1111, is of 14-20-h.p., and is fitted with a four-cylinder engine having high tension magneto ignition. The transmission is by a cardan shaft to a live axle. A new two-seated car known as the New Pick is shown by Messrs. L. F. Harvey and Co., Salford. It has been designed to meet the demand for

by the Meldrum Safety Starter Syndicate, of Hale, Altrincham. Mr. M. Rimmer, Liverpool, is present with a range of the Premier accumulators, motor lamps, and the Darius and Maxim non-skids; included in the miscellaneous exhibit of Mr. F. D. Na well, Manchester, we notice the Avery autovoice and box spanners, and the Kyl-Fyre fire extinguishers. The tyre exhibits comprise the Moseley, Harburg-Wien, Clincher, Dook-Swain, the Shrewsbury and Challiner, the Sirdar, Continental, Dunlop, Peter Union and Midland, and the Pegasus non-skid. The Show closes to-day (Saturday).

### THE NEWCASTLE-ON-TYNE MOTOR SHOW.

THE second annual motor-car show was opened in the Exhibition Hall, St. Mary's Place, Newcastle-on-Tyne, by Councillor J. Matthew Oubridge, J.P., the Lord Mayor, on Friday last week. There are altogether about one hundred stands, and, although there are no striking novelties, some of the cars on view have not previously been seen in the great ship-building centre. The North Eastern Garages, Ltd., occupy no less than six stands, their exhibit comprising examples of the Humber, Arrol-Johnston, Fiat, De Dion, Austin, and Renault vehicles. Messrs. Frank Little and Co. have a varied exhibit, the cars on view comprising a 9-10-h.p. Adams-Hewitt, a 16-h.p. Albion, a 14-h.p. Vulcan, and examples of the 20-h.p. and 30-h.p. Belsize cars. Hodgson's Motor Garage, Newcastle-on-Tyne, show the Cadillac, Swift, Talbot, Sunbeam, Darracq, Minerva, and De la Buire vehicles. A range of Humber, Enfield, Darracq and Clement cars is staged by Messrs. Turvey and Co., Sunderland, and Messrs. George and Jobling,



[General View of the Manchester Motor-Car Show.]

a four cylinder vehicle at a moderate price, and is fitted with an engine of 12-14-h.p. Examples of the 18-h.p. and 10-h.p. Star cars, including a polished chassis of the latter, are displayed by Mr. J. Garlick Looker, Heaton Chapel. The British Motor Company, Manchester, also show the Star, Stuart, and Starling cars; the Wolseley-Siddeley vehicles are exhibited by Mr. E. Whitehurst, and the Laurin-Klement and New Leader by Messrs. G. P. Cookson and Bros., while two examples of the Speedwell cars—25-30-h.p. and 10-12-h.p.—are staged by the Addison Motor Company, Liverpool. Other pleasure cars on view include the Rolls-Royce, Orleans, the 30-h.p. White steamer, the Globe, the Quadrant, with special cross-roller change-speed gear, the Rothwell, the Riley, the Gregoire, and the Airex.

A leading feature of the show is the representative collection of industrial vehicles which has been got together. The Lancashire Steam Motor Company, Ltd., display a 5-ton steam wagon, and also a 30 cwt. petrol van built for the Kodak Company. Steam motor wagons are also shown by Messrs. Fodens, Ltd., Sandbach, the St. Pancras Ironwork Company, Ltd., London, Messrs. Alley and Maclellan, Ltd., Glasgow, the Yorkshire Steam Wagon Company, Ltd., Leeds, and Mann's Patent Steam Cart and Wagon Company, Ltd., Leeds.

In the accessory section the exhibitors include the General Petroleum Company (Shell motor spirit), Messrs. W. Battye and Son, Wigan (motor clothing), Pratt's Patent Manufacturing Company, Dukinfield (silencers), and Messrs. John S. Morris and Son, Salford (oils and greases). A new safety starting handle for use in connection with petrol engines, and intended to prevent the operator receiving any injury in case of a "back kick," forms one of the novelties in this portion of the show; it is exhibited

Newcastle-on-Tyne, show the Argyll and Wolseley-Siddeley machines. Messrs. Henry Angus, Sanderson and Co., Newcastle-on-Tyne, are present with several of the latest Daimler cars, as well as a 12-15-h.p. Arrol-Johnston touring vehicle. A 40-h.p. six-cylinder Napier is on view at the stand of the New Rossleigh Cycle and Motor Company, Ltd., Edinburgh, as also a 10-12-h.p. Peugeot, and a 22-h.p. Berliet. Messrs. Chas. Grimshaw and Sons, Sunderland, also exhibit a 40-h.p. six-cylinder Napier fitted with a special touring body of their own construction. The display of the Cleveland Car Company, Darlington, comprises examples of the Rover, Gladiator, Rolls-Royce and Itala cars, a 40-55-h.p. of the latter make fitted with a double landaulet body by Messrs. Thorn, of London, being specially worthy of note. One of the largest exhibits is that of Messrs. Young and Co., including as it does Gregoire, Ridley, Ford, and Isotta-Fraschini vehicles. Special attention may be drawn to the luxurious bodies fitted to the 30-40-h.p. and 14-16-h.p. Fiat chassis shown by Messrs. Atkinson and Philipson. Two sizes of the Stanley steam cars—10-h.p. and 20-h.p.—are staged by Messrs. W. Galloway and Co., Gateshead, who also exhibit the "Stitch-in-Time" vulcaniser. Other pleasure cars on view include the Armstrong and Whitworth, Alldays, Mercedes, Panhard, Rapid, Singer and Pope-Tribune. As regards commercial vehicles, Messrs. R. A. Young and Co. are showing a 14-h.p. Frick 20 cwt. van, a 28-30-h.p. Durham-Churchill 3-ton lorry, and a 5-ton Stewart-Thornycroft steam wagon, Messrs. Frank Little and Co. display a Halley 20-h.p. petrol lorry and a useful van designed for loads up to 15 cwt., while one of the exhibits of Messrs. Henry Angus, Sanderson and Co. is an Arrol-Johnston 2-ton lorry.

The tyre exhibits include the Continental, Elastes, Gaulois, Le

Persan, Palmer, Michelin, De Nevers, Goodrich, and Radax, and among the non-skids are the Parsons and the Pullman. In the accessory section we note the Rushmore headlights, the Stepney spare wheel, Smith's speed indicators, and the Southall tyre gauge. A varied display of electric ignition apparatus is made by the Motor Ignitionisms Company, Newcastle-on-Tyne, which includes the Faraday accumulators and induction coils, and a new radiator made in accordance with Brewtall's patent is one of the novelties at the stand of Messrs. Frank Little and Co. The Show closes to-day (Saturday).

## ROAD REPORTS.

**FOLKESTONE**.—As an experiment the Folkestone Corporation is allowing Messrs. W. and E. Earl, of Aldington, Kent, to lay a complete street in the borough (Cheriton Place) to test their specially made tar macadam.

**HAYES (MIDDLESEX)**.—The operations in connection with the sewerage works in this district were a considerable source of annoyance to users of the road at the latter end of last year. They are now completed, and there is nothing likely to happen during the next few months to interfere with the comfort of motorists, so far as the roads are concerned.

**MILL HILL**.—Mr. M. K. North, Local Government Board Inspector, has held an inquiry at Hendon respecting the application of the district council for sanction to borrow £2,082 for improvement works in Birkbeck Road, Mill Hill.

**EAST SUSSEX**.—An important road improvement has been carried out by the East Sussex County Council and the Cuckfield Rural District Council in conjunction with the owners of the land involved. This is the rounding off of corners at several important cross-roads which had become dangerous owing to the traffic on the main London and Brighton road. The widening out of the road space at the Warninglid cross-roads has made a great improvement, a much clearer view being now obtained of any approaching traffic on either the main or the branch roads.

**WEST SUSSEX**.—Several roads in this area are being steam rolled, delays having previously occurred owing to the frost. Repairs are in progress in the villages of Poynings, Ashington, Westhampnett and also on the main road for Chichester to Midhurst.

**SCOTLAND**.—Mr. William Beardmore, of Glasgow, considers that the best roads in his district for motoring are those between Glasgow, Stirling, Perth and Inverness, and between Glasgow and Carlisle.

**FINCHLEY**.—The Finchley District Council are borrowing £2,000 to carry out improvements in Hendon Lane. The thoroughfare will be widened to a distance of 50 feet.

## PUBLIC MOTOR SERVICES.

THE Kilburn Tradesmen's Association are requesting the London General Omnibus Company to put on a service of motor-omnibuses between Willesden Green and Maida Vale station.

A MOVEMENT is being projected by some residents in Torquay to secure a capital of £1,500 for the purpose of continuing the running of the motor-buses in the borough.

A MOTOR-OMNIBUS, filled with young men learners, was running through Finchley the other evening on its way to London. When in Bullaris Lane the steering gear snapped, causing the vehicle to swerve on to the kerb. The omnibus brought down an electric lamp column, plunging the whole road into darkness. The front part of the omnibus was wrecked, and several of the occupants were injured.

LICENCES for ten motor vehicles to ply for hire in the city of Leeds have been granted by the Watch Committee.

MR. JOHN SHARLAND, a London omnibus proprietor, is about to sell 210 horses and twenty omnibuses, having decided to place motor-omnibuses on the routes from the Elephant to the Angel at Islington, and Earl's Court, S.W.; hitherto served by the horsed vehicles.

## MOTOR-CAR ACCIDENTS.

THE coroner for South Bucks held an inquest at Slough on Thursday of last week concerning the death of William Hawkins, of Slough, who was fatally injured by a motor-car on the Great Bath Road. The evidence showed that Edward Harrison, an American chauffeur, was driving Mr. Barron Redfern Russell from Oxford to London. Hawkins, who was slightly deaf and near-sighted, was crossing High Street, Slough, and was knocked down by the car. He died from his injuries three hours later. The driver said he sounded the horn twice and steered the car to avoid the deceased man, but the majority of the jury returned a verdict of manslaughter against him.

AN inquest has been held at Croydon on Archie Grant, aged thirteen, of Lingwood Cottage, Kenley, who was knocked down and fatally injured by a motor-car belonging to Mr. Henry Mackusick, of Nutfield, Surrey. The evidence showed that the boy suddenly ran in front of the car, which was proceeding at the rate of from seven to ten miles an hour. A verdict of accidental death was recorded, and the chauffeur was fully exonerated. Mr. Mackusick promised to give a substantial solatium to the parents and pay the funeral expenses.

## POLICE TRAPS.

THE police have re-commenced timing motor-cars over Barnes Common, along which motorists should be careful. LAST year's trap in the Loampit Vale, Lewisham, is again in working order.

## BUSINESS NEWS.

THE number of motorists who have adopted a petrol strainer to intercept any sediment that may flow from the tank towards the carburettor is so considerable as to provide a convincing proof of the need of some such fitment. Hitherto there has been found some difficulty in avoiding a slight leakage at this point, petrol being notoriously persistent in finding a way out if one exists. To remedy this defect the E. M. Bowden's Patents Syndicate, Ltd., have thoroughly remodelled their well-known petrol strainer and now fit a petrol-proof washer which completely obviates any possibility of leakage.

THE Daimler Motor Company, Ltd., have sent us a photo of six of their cars which they have just shipped to the United States.

MR. ANDRÉ A. GODIN has secured the British agency for the Boland motor pneumatic tyres, which have been on the market for some time in France.

MESSRS. ARGYLLS IRELAND, LTD., of 102, Grafton Street, Dublin, have been appointed agents in Ireland for the Spyker cars.

IN addition to their premises in Burlington Street, Bradford, the Jowett Motor Manufacturing Company have opened a garage in Grosvenor Road, Manningham Lane, in the same town.

MR. JAMES HALL has a commodious garage at 228, Stretford Road, Manchester.

WE have received from S. F. Edge, Ltd., a copy of the Napier instruction book which they have recently issued. It consists of ninety-four pages, and contains many useful hints on the care and driving of Napier cars. The book is freely illustrated, one of the diagrammatic sketches giving a plan view of the Napier six-cylinder chain-driven chassis with the name of every part against it. The instructions concerning various matters to be borne in mind by the chauffeur are written in plain, simple language, and where there is a possibility of more than one meaning being given to the instruction, it is helped out by an illustration. The concluding pages contain a set of very useful rules for motor drivers to follow, and an article on the correct way to turn corners.

ACTING for the Northern Automobile Company, Ltd., Mr. Alberi House held an auction sale of motor-cars at the Oak Lane Garage, Bradford, last week. About a score of vehicles were offered and good sales resulted.

MESSRS. FRISWELLS, LTD., have a large number of cars on sale at their Emporium in Albany Street, N.W., including a Spyker and a Germain car, each fitted with limousine bodies, and a 25-h.p. Peugeot identical with the winning car in the recent Reliability Trials in India.

MR. GORDON SMITH, of Messrs. A. Smith and Son, Ltd., has returned from the United States, where he succeeded in obtaining many contracts for speedometers, in spite of the forty-five per cent. duty that prevails.

HEWER'S CAR BODIES, LTD., have commenced operations in the new extension of the Lotus Works at Coventry, where they will be located for a few weeks. The new building now being equipped for the company's factory will be fitted with a complete installation of machinery and the concern will specialise on landaulets, as well as on standard types of vehicles for car manufacturers.

THE Rt. Hon. James Bryce, our new Ambassador to the United States, is taking a Daimler car with him.

THE Royal Agricultural Society's Show will this year be held at Lincoln from June 25th to the 29th.

MESSRS. LOWTHER AND SONS have removed from Fisherton Street to more central and convenient premises in Butcher Row, Salisbury, where all motorists' wants will be promptly attended to.

## TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.

The Editors cannot undertake to return MSS. or drawings, although every effort will be made to do so in the case of rejected communications. Where such are regarded as of value, correspondents are requested to retain copies.

The Editors do not hold themselves responsible for the opinions expressed by their correspondents, or for statements and facts which do not appear in the editorial columns.

To insure insertion communications and contributions must be in the Editors' hands by Tuesday forenoon of the week in which the same are intended to appear. Disappointment may be caused by non-compliance with this rule, and to avoid this earlier receipt, if possible, is necessary.

# THE Motor-Car Journal.

VOL. VIII.]

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## COMMENTS.



WHILE ordinary persons were sleeping soundly on Friday last, Mr. Bianchi and a companion were "toiling upward in the night" towards the northern boundary of England. Mounted on a famous little car—the 9-h.p. Sizaire that won the Coupe des Voiturette in France last November—they left London at 8 p.m., and having bade farewell to Mr. C. Jarrott at the

foot of Barnet Hill, went on their way, but lost it, however, soon after—reaching Cambridge, many miles off their road. From thence they journeyed over a road resembling a ploughed track, and *via* Huntingdon struck the Great North Road at Norman Cross. A good spin took them to Stamford, and thence to Grantham, a straight run of 22 miles, was the worst bit of going all the way, owing to the camber of the road and the inches of mud that had to be encountered. Doncaster was reached at 7 a.m. and six gallons of petrol taken aboard; the engine running meanwhile. At Newcastle fresh supplies were taken aboard and an inner tube replaced. Leaving the northern city, excellent progress was made, and there was no hill that the car could not take on top gear. Nearing Berwick another car from London was found by the roadside, the town itself being entered at 7.30 p.m. Starting on Sunday again, Edinburgh was reached in the afternoon. During the journey of 470 miles, 18 gallons of petrol were used, the actual running time being 23 hours—a good performance when the condition of the roads is considered, and one that should arouse considerable interest in the tests which will shortly be given the car under official auspices.

### Compulsory Lighting of Vehicles.

At the end of last week thirty-six private members' bills were read the first time in the House of Commons. So far as the great majority is concerned nothing more will be heard during the present Parliament, and their sponsors may rove at will in other legislative endeavours. It will be interesting to watch what happens to the measure piloted by Major Leslie Renton, the Member for the Gainsborough division of Lincolnshire, the object of which is to render compulsory the carrying of lights by all vehicles travelling on the roads at night. This was in the first dozen places and may be discussed without the usual party cleavage being made the occasion for delay. Its provisions are so reasonable that there should be no difficulty in hastening its progress to the Upper House, but for the fact that many Scotch members and others representing purely agricultural constituencies have been approached by farmers and those engaged in similar pursuits, urging that such a measure will involve much expense, and, owing to the carelessness of carters and drivers, render them liable to fines galore. Motor-cars have to carry lights and so warn drivers of horse-drawn vehicles of their coming; why should not the great lumbering carts conveying produce, &c., to early morning markets make other drivers aware of their proximity? Innovations are always irksome, but M.P.'s should remember the changing conditions of our times and be prepared to insist on all classes of the community adapting themselves to the new order

of things. Hence the hope that the universal lighting of vehicles travelling in the darker hours of the day will be made obligatory and that public opinion will support local authorities in ensuring a proper regard of the law in the matter. The Bill has been set down for second reading on Friday, March 15th, and, although it applies only to England and Wales, its extension to other parts of the United Kingdom should not be a difficult matter.

### A Census of Accidents.

Or the making of papers on automobilism there is really no end, and all the learned and engineering societies seem to have been surfeited with discussions on motor traction during the last few days. At a meeting of the Automobile Club, Sir J. H. A. Macdonald has been showing how destructive is the horse when engaged in his ordinary work on the streets. Sir John has compiled a census of the accidents which came under his own observation as a reader of the newspapers between May and November last, discovering that 656 were concerned with animal drawn vehicles, 313 with bicycles, 242 with power vehicles, 152 with tramcars, and 13 with motor-bicycles. Probably the greatest surprise will be expressed with the large proportion credited to the tramcar—the vehicle that runs along its own track, and should never wander from the path set down for it by its designers.

### The Forthcoming Road Competitions.

Few competitions have aroused so much interest among public and local authorities as these trials, which have been organised by the Roads Improvement Association, to determine the best and least expensive method of treating roads with tar so as to render them dustless. The Roads Improvement Association have been officially informed that the Local Government Board will appoint one of their engineering inspectors to attend the trials of the tar spreading machines. H.M. Office of Works have also deputed an officer to watch the experiments, and report to the Board. The Chief Engineering Inspector of the Irish Local Government Board, Mr. P. C. Cowan, B.Sc., M.Inst.C.E., has been appointed one of the judges in the competitions, with the approval of his Board. There are two competitions, which are quite distinct. One is for the best machine for spreading tar over existing road surfaces, which will be judged entirely by the results of the operation, and the other is for the best preparation of tar for road purposes. Full particulars with regard to both competitions can be obtained upon application to the Hon. Secretary of the Association, at 1, Albemarle Street, Piccadilly, W.

### The Traffic of Cities.

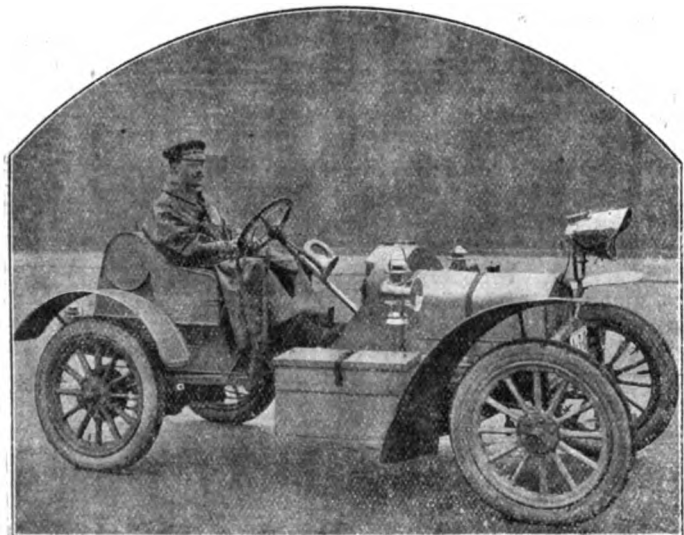
THE transit of carriages and carriage horses over the Great Eastern Railway Company's line is on the decrease owing to the use of motor-cars. This is not suggested by the experience of one half-year, but Lord Claud Hamilton recognises it as a permanent trend of things that must be endured by those responsible for the conduct of the line. He complains, too, of the competition of trams and motor-buses in the suburbs, but rightly recognises that no attitude of hostility must be adopted.

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In fact, the main hope for some of the railway companies that run into London will be to link themselves with the tubes and underground lines and so prevent the leakage that takes place into motor-buses from all the great termini. Altogether, however, the traffic problems of London are in a mutable state and none can quite foresee the appearance of our streets at the end of the next quarter of a century.

### The Scottish Trial.

THE reversal of the order of going over some portions of the familiar route of the Scottish Reliability Trial, which was humorously suggested by officials last year, is apparently likely to take place in June. This alteration will involve some deviations from the customary route, and lengthen the whole run by nearly a hundred miles, necessitating another day being spent on the journey. The roads south of Glasgow will be avoided, Edinburgh and Dundee will be omitted from the itinerary, and a run north will include Elgin, Forres and Inverness in the trip. Altogether the route will probably be one of 754 miles, with Perth, Aberdeen, Inverness, and Pitlochry as the resting places.



Bianchi on the 9-h.p. Sizaire Car, on which he has just made a run from London to Edinburgh.

### Organisation in the North-East.

WE would commend to the emulation of all automobile organisations the excellent work which has been done during the past year by the North-Eastern Automobile Association, which has 504 members, and concluded 1906 with a credit balance of £181. An energetic campaign was conducted amongst Parliamentary candidates during the General Election, and of the twenty-four members who represent the counties of Northumberland and Durham thirteen are honorary members of the association. The society was able to secure the withdrawal of an application for the closing of Quaker Lane, Richmond, against motor traffic, and has little complaint to urge against the police traps that have been in operation in the locality. At the suggestion of the association warning triangles have been erected at a large number of dangerous corners and hills in the district, there having been no fewer than seventy set up in the county of Durham alone. Other matters concerned with the road are having the attention of the association, which has apparently solved the problem of trade members to its own satisfaction, by declaring that it is "essentially a members' association, and members whose principal occupation consists in the manufacture or sale of motor vehicles or their accessories shall not be eligible for office."

### Motor-Buses.

LORD MONTAGU OF BEAULIEU has been lecturing before the Society of Arts on the subject of Motor Omnibuses. Last year, he said, such vehicles carried 184,000,000 passengers in London, as compared with 180,000,000 conveyed by the trams of the L.C.C. The average travel of the motor-buses in town varied from 90 to 120 miles a day. There was no evidence as yet that a suitable accumulator was approaching the commercial stage, but apart from the ordinary internal combustion and the steam types of vehicle there was a third, of which he could speak hopefully, namely, the "auto-mixte" system, in which electric power transmission was employed. One of the drawbacks of motor-bus traction had been running cost, which, however, could now stand comparison with that of any other mode of public traction. Altogether Lord Montagu was hopeful as to the future of the motor-bus. Meanwhile many of the ordinary daily travellers on such routes as those which run along the Strand are wondering what has become of the vehicles that were in service there only a few weeks ago. There has been a decided decrease in their numbers, with the result that the number of horse-vehicles still running seems wholly disproportionate when considered alongside of the progress made elsewhere in the Metropolis.

### Club Garages.

AT Derby the members of the County Automobile Club have been discussing the provision of a garage, such being recognised as a good way of interesting country members in the organisation which operates with the town of Derby as a centre. Some discussion took place at the annual meeting last week in regard to the question, to consider which a sub-committee had been appointed. Reporting on the matter, the chairman said there was a strong feeling among many members, also outside the committee, that they should not have a garage from any person in the trade gratis, as members would feel under an obligation to that member. The committee had visited several sites, and they most favoured the acceptance of the tender of one motorist to provide garage, with electric lighting and heating when necessary, and a man to look after it, at £45 per annum, the lease to be for five years. The sub-committee's recommendation was duly proposed for adoption, but eventually an amendment proposed by Mr. Mell, that the matter should be deferred for a year, was carried by a small majority. Elsewhere the matter has been broached, but, outside London, little has been done to establish such garages.

### Railway Level Crossings.

THE Motor Union has resolved to take decided action to prevent the construction, so far as possible, of any more railway level crossings upon main roads. The manner in which some of our principal roads have been spoiled by railway level crossings is a scandal of considerable magnitude. To cite one illustration out of many—the main road from London to Southampton, *via* Basingstoke, is crossed at two points in Surrey by railway level crossings. The first is at Sunningdale and the second at Camberley and York Town Station. In both these cases not only have these permanent obstructions to traffic been badly laid across the main road, but the width of the road has been reduced in both cases, for the railway companies have built part of their stations and signal cabins on part of the highway. Further, in both cases, and particularly in the case of Camberley and York Town, the stations, which adjoin the level crossings, are of insufficient length, so that trains are brought to a stand partly on the highway, which causes considerable delay to traffic while a train is in the station. All travellers on the Great North Road will know how the main road traffic through Nottinghamshire is obstructed by the railway level crossings on the Great Northern main line, while further north the level crossing at Doncaster should have been abolished long ago. The Union are considering what powers exist in order to have these level crossings removed, and tunnels or bridges substituted. In



the meantime they are examining all Parliamentary Bills in order to see that powers are not given to build any more level crossings.

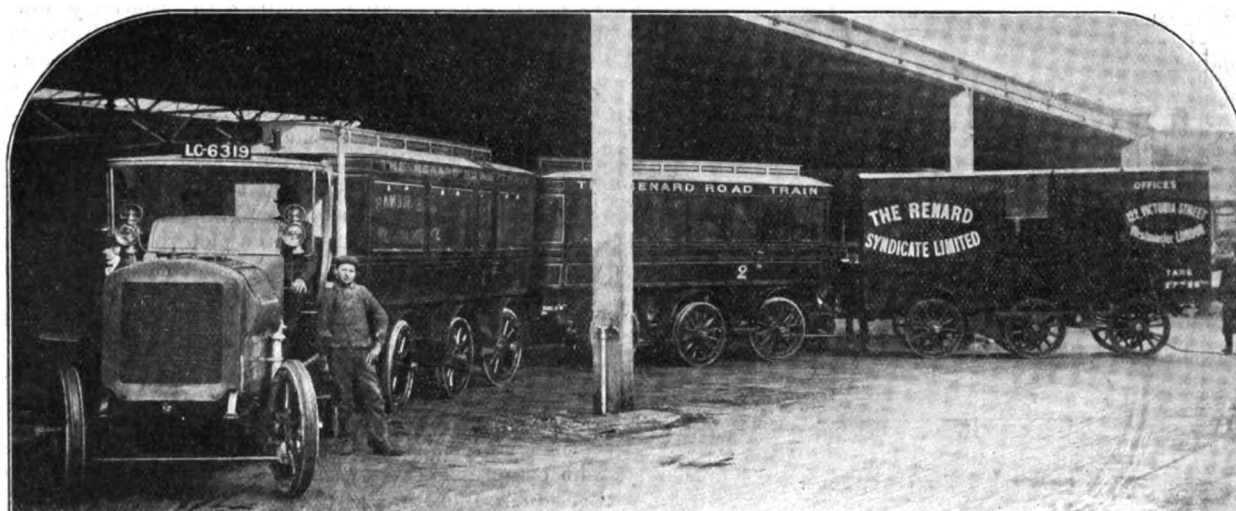
### Road Trains.

THE idea of developing the prosperity of the countryside by the employment of a train running on the ordinary road without the use of metal tracks, has formed the subject of several inventions since the possibilities of the automobile became apparent. Rather more than a decade ago M. Scotte, who ten years before had invented a steam car, constructed a goods train for common roads, consisting of a motor-car and trailing carriage, which was put into service at Cherbourg. In 1896 the Liquid Fuel Company constructed at their works at East Cowes, Isle of Wight, a road train for a passenger service between Cirencester and Fairford. The motor-van, which carried 2½ tons of goods or parcels, towed an omnibus seating twenty-six passengers, the total length of the train being 33 ft. Circumstances combined to prevent the full development of the idea until the ingenuity of Colonel Renard was displayed in a railless train shown at the Paris Salon in 1903. This was a distinct advance on its French and English prototypes, for, instead of the wheels of the second and other vehicles trailing

linked system, the first car distributing the motive power generated on it through a universal shaft and gearing to each vehicle in the train. It may therefore be said that each car propels itself, and the friction of all the wheels upon the road is claimed to be utilised instead of being a useless resistance which the wheels must overcome. The steering gear of each car being controlled from the leading vehicle enables the train to negotiate practically any curve—evidence of which was supplied in the way it was manoeuvred about the garage.

### The Future.

WE understand that the Daimler Co. will take up the construction of the road train in this country, and at the demonstration Mr. E. Manville spoke hopefully of its prospects. He predicted it would oust the traction engine. It was really a mechanical reproduction of the multiple unit system which had proved so successful in electric traction, and it would, probably, have similar success. Later, Mr. Harry S. Foster, Consul-General for Persia, mentioned that the French Government regarded the Renard road train as of such extreme value that they had voted subsidies for its introduction into rural districts. The initial expenses, the cost of acquiring land and laying tracks, had stood in the way of a larger



The Renard Road Train.

over the roadway, each car, as it were, propelled itself. As we then said (in the *M.C.J.*, December 26th, 1903), the development of the system would be watched with interest; and now, after a lapse of three years, the Renard train comes to England with the added experience of the inventor and a reputation gained in practical service since July, 1905, when the first Renard goods train began to work in France.

### The Renard Principle.

DURING this week a series of trials with the Renard road train have been undertaken by the military authorities, prior to which was an inspection of the invention in the "Arrow" motor-bus garage at Walham Green. There we have had opportunity of observing its ease of direction and the ready way with which each component car of the train answered the steering. The train was composed as follows:—

	Tons.	cwt.	lb.
Locomotor with a 70-h.p. motor	3	2	0
First class carriage	2	14	0
Second class carriage	2	13	0
Luggage van	2	7	28

Each of the carriages and vans is connected up to and propelled by the motor on the leading car, the steering gear being devised on the same principle. That is to say, the train is not drawn in the wake of the locomotor, but this commands the steering gear provided on each car. Thus the train forms a completely

adoption of the Light Railways Act; but the establishment of such a service in this country, which could be removed, practically without cost, from one route to another, would open up agricultural districts and supply the needs that the Light Railways Act was intended to supply.

### A Motor Tour in Scotland.

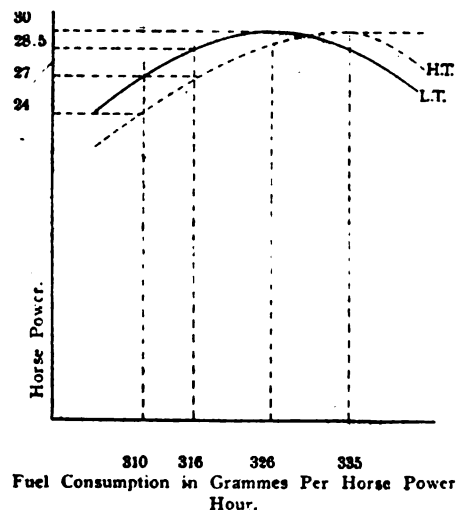
ON another page we publish an article by a Presbyterian clergyman well known in Ireland—the Rev. Joseph Corkey, of Armagh, who is a practical motorist as well as a minister. He has had some interesting holiday trips in Scotland, and that of which he furnishes an account for our columns covered some of the interesting highways traversed in the course of the last Scottish Reliability Trial; hence he is acquainted with some roads that must have tried his skill and tested his car. His article is also interesting as controverting the assertion so frequently made that motorists tour for speed, and speed alone. The comfortable and leisurely fashion in which the Rev. James Corkey took his motor-car holiday proves once again that motorists do enjoy the scenery of their country, regarding the car as a means of added rational enjoyment, and not merely an accessory to the murder of their fellows.

SNOW is lying all over Westmorland, and two Birmingham motorists were embedded in a snow-drift on Shap Fell on Monday night.

## SOME EXPERIMENTS WITH LOW AND HIGH TENSION MAGNETO-IGNITION.

SOME interesting experiments on low and high tension ignition, spark point position, effect on ignition of change in compression, &c., are described by M. P. Bourdon in a recent issue of "La France Automobile." The tests were all made on a Hotchkiss four-cylinder motor of 112 mm. bore by 120 mm. stroke. Trials were made with the sparking plugs over the exhaust valves, over the inlet valves and in the centre of the cylinder heads. It was found that with the plugs in the last mentioned position the advance necessary for a given output was less than with the plugs in the other positions. However, in order to secure the greatest possible certainty of ignition, the plugs are actually placed over the inlet valves. Over the exhaust valves they become overheated.

The following experiment was made to demonstrate that the advance required by the ignition depends upon the strength of the source of primary current. With a two cell, four-volt accumulator it required an advance of 35 mm. to cause the motor to develop 29-h.p. With a three-cell six-volt battery an advance of only 30 mm. gave the same power. This reduction in the advance required with increased voltage is due to two causes. After the circuit is closed at the contact maker the magnetic



core of the induction coil becomes magnetised and attracts the trembler spring, thereby separating the contact points and producing the spark. Setting the spring in motion requires time, and this time is reduced by increasing the strength of the current, which is done by adding one more cell. Besides this, a hotter spark is naturally produced with six volts, which insures more rapid inflammation.

A series of comparative tests on the same motor were also made with a Simms-Bosch low tension and an Eisemann high tension magneto. The same carburettor was used with both magnetos, but was adjusted specially in each case to give maximum power. Tests were also made with different compressions and different angular positions of the cams. The carburettor was first adjusted for the make and break ignition, then the low tension Simms-Bosch magneto was replaced by an Eisemann high tension magneto of the 1905 model, without means for advancing the armature. Brake tests were then made while causing the primary circuit to open, at 9, 14, 16, 18, 20 and 25 mm. respectively in advance of the piston dead centre. In each case the opening of the primary circuit was made to coincide with the moment of maximum flux through the armature, in order to insure the best possible utilisation of the current. In this way it was found that the best angular relation of the magneto to the motor, the normal speed of which was 1,250 revolutions per minute, was between 14 and 16 mm. (.560—.640 inch) ahead of the end of the stroke. For the make and break device the best

advance has been found to be 1.2 inch. That a greater advance is necessary for the make and break is due to the fact that the action of this device depends upon a spring, and in consequence, although the spring is set to produce the break at 30 mm. ahead of the stroke when the engine is turned over slowly by hand, at a speed of 1,200 revolutions per minute, the rupture actually occurs later, at only 15 mm. advance.

With the Eisemann high tension magneto, on the other hand, the spark occurs at the moment the primary circuit is broken and does not depend on the action of a spring. That the actual advance of the spark with the make-and-break system in the above case is only 15 mm. is shown by diagrams taken on the motor. The curves have the same general form, which proves that ignition takes place under the same conditions. In the first series of tests the power obtained with the high tension magneto was 8 per cent. less than was obtained with make-and-break ignition, at the same motor speed. This result is in full accord with the relative speeds on the road obtained with the two systems of ignition and the same carburettor. Next a carburettor was specially adjusted for the Eisemann magneto, and the same power was obtained as with low tension ignition, after the size of the hole through the spray nozzle had been increased from 1.1 to 1.2 mm. This resulted in an increase in fuel consumption of 15 grammes per horse-power hour. As a carburettor adjusted on a motor running on make-and-break ignition, giving 27-h.p. with relatively low fuel consumption, gave absolutely no power (on the same motor), and with ignition by the Eisemann high-tension magneto, a series of tests were made to determine the variation of fuel consumption with power developed for each of the systems of ignition. From the results of these tests curves were plotted—which are reproduced herewith—which showed that for equal power more petrol is consumed with high-tension than with low-tension ignition. If a carburettor is adjusted for minimum fuel consumption with make-and-break ignition, and the motor develops 27-h.p., it will develop only 24-h.p. if high-tension ignition is substituted while the same carburettor is retained. Under certain conditions, however (in this particular case when the fuel consumption is between 328 and 330 grammes per horse-power per hour), the horse-power and consumption are the same for both systems of ignition.

The last series of tests made had reference to the relative efficiency of the two systems of ignition at various compressions. The compression was varied step by step from 50 to 64 pounds per square inch, and for each step the timing of the motor was varied. It was found that any change in the timing of the inlet valve had the same effect with both systems of ignition. The timing of the inlet was therefore kept constant and the exhaust varied. From the results thus obtained a series of curves were drawn showing the efficiency of each system in each case. For low compression the make and break system was found to be superior and to allow of a relatively large advance. If the compression is increased the high tension system of ignition becomes superior, but only at speeds above 1,000 revolutions per minute. Finally it is to be observed that between 950 and 1,000 revolutions the two ignition systems are substantially equal for all compressions and all manners of timing. A poor charge is more sensitive to an advance of the ignition than a rich charge. When the mixture is slightly poor in petrol, advancing the ignition increases the power of the motor, while if it is a little too rich advancing the ignition has little effect on the power, but causes the motor to knock.

SIR BERKELEY SHEFFIELD has recently placed an order with the Daimler Company for another 28-h.p. car.

LICENCES and badges will be issued after March 31st next by the Commissioners of Works and Public Buildings for the admission of electric carriages to Hyde Park between the hours of 4.0 p.m. and 7.0 p.m. in the months of May, June, and July. Forms of application may be obtained, by letter only, from The Secretary, His Majesty's Office of Works, &c., Storey's Gate, Westminster, S.W.

## A MOTOR TOUR IN SCOTLAND.

BY THE REV. JOSEPH CORKEY.

ONE day last autumn my wife and I boarded our two-seated Beeston Humber car, and set out to enjoy a motor tour in "Bonnie Scotland." We crossed the Channel by the Larne and Stranraer route, and from the latter place steered eastwards through the rich country around Glenluce and Newtonstewart. Beyond Newtonstewart we took the New Galloway road for Dumfries. On this bare moorland highway we encountered a fearful thunderstorm. Rain had been falling most of the day, but now the grey sky changed to inky blackness, and the storm broke in all its fury. There was neither tree, house, nor shelter of any kind to be seen; nothing but moor, mountain and river. New Galloway was six or eight miles distant. The lightning flashed, the thunder rolled and echoed through the hills, and the rain fell in torrents. Putting the engine to its best, we wished along roads that were fast becoming rivers. The water formed into cascades on either side of the car, and sometimes enveloped us in a cloud of spray. Getting into deeper water, the engine began to misfire. There were a few fitful explosions and then silence. The car continued to travel with the momentum gathered, and I kept the gears engaged. It was a moment of intense suspense. But just as the car was on the point of coming to a stand-still the engine started up again with that steady pulsation which seems to say, "All's well," and excelled itself in the next six miles into New Galloway. Here we arrived in a drenched condition, and were glad of hotel comforts. The storm raged till midnight, and next day the papers told of great destruction to life and property by lightning and floods.

Next morning was bright, so we were soon climbing the long ascent on the road to Dumfries. The same afternoon we reached Moffat, a favourite health resort among the hills of Upper Annandale. Here we spent a happy evening, and put up for the night. Early next day we were off again, climbing the eleven miles to the top of the Selkirk hills. Our little engine carried us right up without any labouring, and we gave it a well-earned rest as we coasted down the other side. The scenery at this point baffles description. The winding road is shut in on either side by lofty hills. Down their steep sides cataracts were falling like streaks of feathery foam. Before us was marshalled a range of hills guarding the pass through which we were travelling. One hill rose beyond another, each wearing its own particular shade of dress, and each growing more and more dim, until the furthest summit was faintly outlined in the softest of nature's mountain shades. Then St. Mary's Loch, in all its beauty, came into view. We skirted its shores and entered the valley of Yarrow. The roads were excellent and the weather ideal for motoring. We hastened on through Selkirk, past Abbotsford, and into Melrose. Having been over the Scott country before, we did not linger long amid its many attractions. On we sped along the Border. We enjoyed the valley of the Tweed in the neighbourhood of Kelso. Crossing the Border at Coldstream we had a fine run into Berwick-on-Tweed. At Eyemouth, a little seaside town seven miles north of Berwick, we spent two weeks, strengthening our lungs with the pure air off the North Sea.

Leaving Eyemouth, we took the great main East Coast road for the North. It was the beginning of the grouse season, and we were sometimes well nigh smothered with grit, dust, and

smoke, as some reckless driver snorted past us at forty or fifty miles per hour. I am glad to say this style of driver was the exception, not the rule. After a few days in Edinburgh we crossed the Forth at Granton, and, passing through Kinross and lovely Glenfarg, we skirted Perth and went on to Blairgowrie. Here among the hills we sojourned for some days. The district was literally alive with motors, and the sound of the hooter was as common-place as a sparrow's chirrup.

One of the most delightful runs we had from Blairgowrie was a circular tour through the lovely hill district to the north-west of the town. The first ten miles took us past a series of lochs, whose waters, like sheets of polished glass, mirrored the wooded hills along their shores. Away up on the steep slopes the Scotch firs seemed to be clinging to the bare rocks. Near Dunkeld we descended a very long and nasty hill and dropped into the charming valley of the Tay. As we glided along the shady road, we had mile after mile of ever-changing scenes of beauty, for Nature laid before us countless combinations of river, wood, and mountain. After twelve miles of this we reached Pitlochry and turned east for the mountain pass to Kirkmichael. We were told our little car would never get to the top, but we reached it without a stop, after a stiff, steady climb of three miles. The view as we ascended was magnificent.

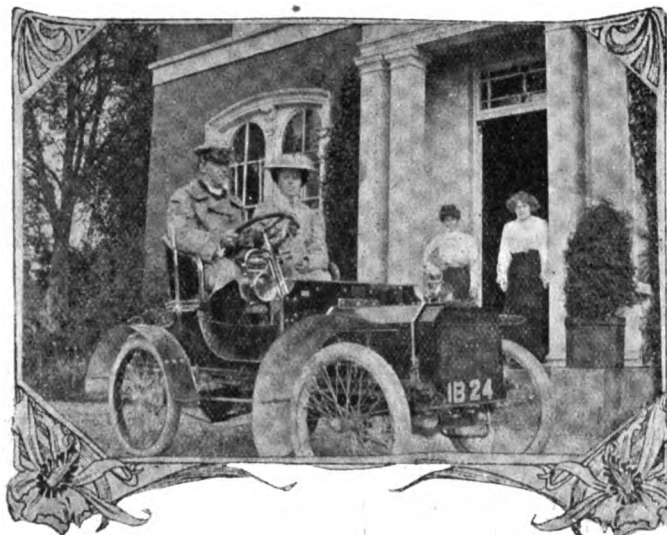
Far down in the valley we could see Pitlochry in its setting of mountain and wood, and the river appearing here and there among the trees like a band of silver on the landscape. After a rest on the heather-clad hills we made our way to Blairgowrie again, via Kirkmichael and the valleys of the Ardlie and the Erich, having made a fine tour of fifty miles.

Since our thunderstorm experience we had been favoured with good weather, and this continued until we reached Armagh again. We came south through Stirling, Bridge of Allan, Dunblane, and over the coal fields of Denny and Cumbernauld. A day at Coatbridge and we were off again through the smoke and traffic of Glasgow, on past Kilmarnock, Ayr, and Maybole, until

we espied Ailsa Craig and struck the coast road to Stranraer. We reached the port before dark, embarked for Ireland, and reached home next day.

We had motored 724 miles without a puncture, and without a mechanical break down or trouble of any kind. Only once did a loose screw put the ignition out of order for a few minutes. I have proved by two such tours as that I have just outlined that a man need not be debarred from the pleasures of motor touring because he cannot afford a big touring car. There is real, genuine pleasure in this mode of holidaying, and, if you can avoid high-class hotels, not much expense. Petrol, oils, grease, and ignition for the tour cost me no more than 31s. 6d. Scotch roads are good, fellow-motorists most obliging, and the police not over-officious.

THE enthusiastic motorist who purposes making an early start this season should now set to work without delay to put his car in trim for the road. A spell of fine mild weather with firm dry roads may be expected at any moment, and nothing is more exasperating than to find, under such circumstances, that the day must be spent in putting in order a car which might have been attended to weeks before. Now is the time, too, to introduce any improvements required, such as steering wheel control—the Bowden controls being specially adapted for bringing an old car abreast of the times in this respect.



The Author on his Humber Car.

## THE SPIVEY FRICTION-DRIVEN CAR.

A SOMEWHAT novel form of friction-driven car is about to be put on the market by the Spivey Motor Company, of Heckmondwike, Yorkshire. A general view of a light chassis fitted with the new gear, which gives three speeds and reverse, is given in Fig. 1, while a diagram of the arrangement is shown in Fig. 2. From the latter it will be seen that the gearing consists of a three-stepped cone pulley B, which forms the

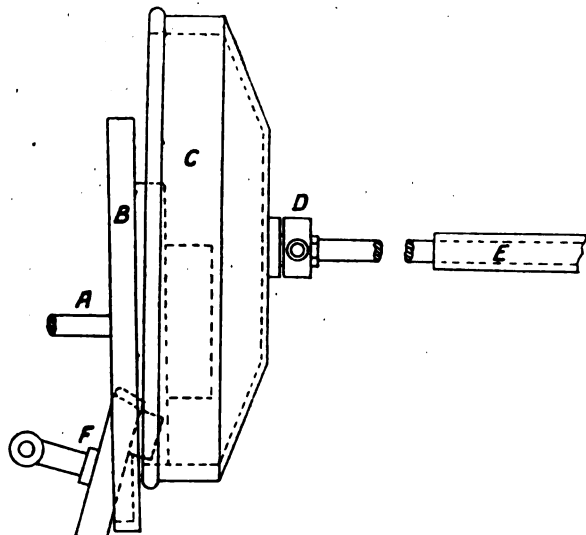


Fig. 1.—Diagram of Spivey Friction Drive.

flywheel of the motor. The driving faces of the pulley are leather covered and running in contact therewith is a large hollow drum C lined on its inner face with leather, with a rubber band behind. The drum is so arranged that it can, in conjunction with a telescopic cardan shaft E, which conveys the power to the rear axle, be advanced or drawn to the rear, and at the same time raised or lowered into contact with the pulley giving the desired speed. The movement of the cone is controlled in a simple manner by a hand wheel on the steering column, and the car is stopped and started in the usual way by means of a foot lever. The reverse is obtained by means of a separate pulley F which can be brought into contact both with the flywheel and the friction drum. Mr. F. Spivey informs us that the drive is the result of

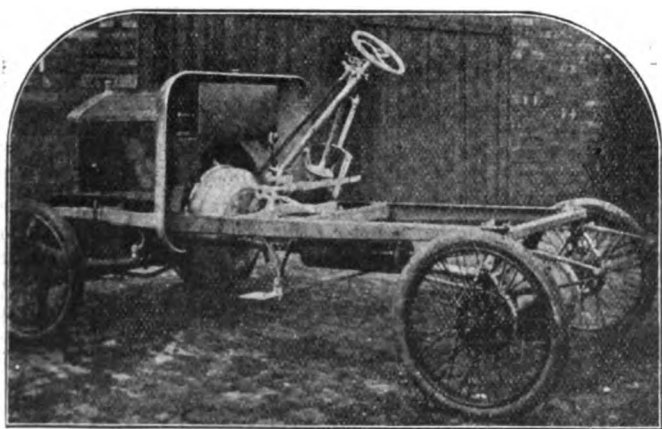


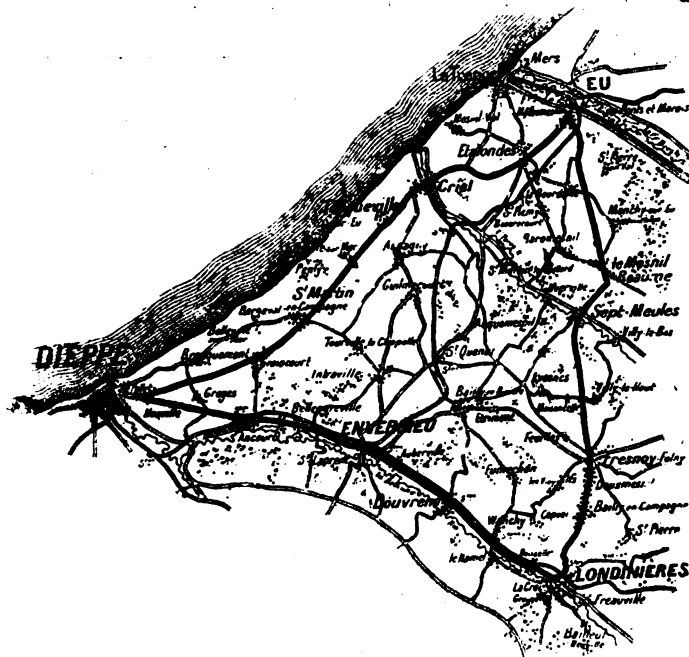
Fig. 2.—Chassis of Light Car fitted with the Spivey Friction Drive.

long experiments and trials, and that a company is being formed to manufacture light vans for trade purposes in which the gear will be employed. Among the advantages claimed for it are that there are no gears liable to damage in changing speeds. No undue strains are placed on the crank shaft of the motor. The driving faces of the cone pulley run within the hollow drum, affording a large area of friction surface, which is further increased by the rubber band "giving" slightly, the result of which is a drive approximating that of a belt.

## CONTINENTAL NOTES.

### The Grand Prix Race.

After much deliberation the Committee of the French Automobile Club has selected the Seine Inferieure circuit for the forthcoming races for the A.C.F. Grand Prix and the Coupe de la Commission Sportive. As will be seen from the accompanying map, the course, which measures 81 kilometres, or 50 miles, takes roughly the form of a triangle. From Dieppe, which is the chief town passed through, the road leads to the village of Envermeu (12 kilometres), thence to Londinières (12 kilometres), Eu (28 kilometres), Criel-sur-Mer, and back to Dieppe. On the whole the roads are good and fairly wide, and the local authorities have undertaken to put them in good repair before the date of the contests. It is expected that the starting point, where the grand stand will be erected, will be at Le Pollet, quite close to Dieppe. The entry list for the contest for the Coupe de la Commission Sportive closed last week end, and some disappointment is expressed at the fewness of cars which have been entered. They number only nine, viz., a Gillet-Forest, two Darracqs, three La Buire, a Porthos, and two H.I.S.A. For the Grand Prix race, on the other hand, as has already been



Map of the Seine Inferieure Course on which the race for the A.C.F. Grand Prix is to be held.

mentioned in the *M.C.J.*, there are thirty-four competitors. The dates of the races have been fixed for July 2nd and 3rd, but it has not yet been decided whether the Grand Prix will be run off on the first or second day of the meeting. It is even suggested that the two events, owing to the paucity of entries for the Coupe race, may be run concurrently.

### The Targa Florio Race.

Preparations are well in hand in Palermo, Sicily, for the annual Targa Florio race, which is this year to be held on April 21st. The contest is open for cars having (1) engines of a bore of from 120 mm. to 130 mm. in the case of four-cylinder motors, and from 85 mm. to 90 mm. for six-cylinders. The weight of the car is to be in proportion to the cylinder bore, on the basis of 1,000 kilogs. for 120 mm., plus 20 kilogs. for each additional millimetre of bore in the case of the first category, and in the second class 1,000 kilogs. for 85 mm. bore, with 40 kilogs. more per millimetre bore in excess. The race will be held on a circuit, which takes in Cerda, Cultavultura, Petralia, and Castelbuono, a distance of 150 kilometres, this having to be covered three times, the total distance being 450 kilometres. So far twenty-five entries have been received for the event, these



comprising two Lucia, four Fiat, two De Dietrich, four Itala, three Benz, two Darracq, a Bayard-Clement, three Isotta-Fraschini, and three De Luca-Daimler. In addition to the Targa the winner will carry off a money prize of £600, the second man will take £320, the third £160, the fourth £80, and the fifth £40.

#### Motoring Events in Belgium.

A revision has been made by the Belgian Automobile Club in the dates on which this year's Circuit des Ardennes and Coupe de Liedekerke contests are to be held; as now fixed, the former will take place on July 22nd and the latter on July 23rd.

#### A French Hill-climbing Contest.

Under the auspices of the Automobile Club du Rhone the "Lyon-Sport" is organising a hill-climbing competition from Cheres to Limonest, a distance of 4 kilometres, for April 21st next. Categories will be provided for racers, touring cars, and

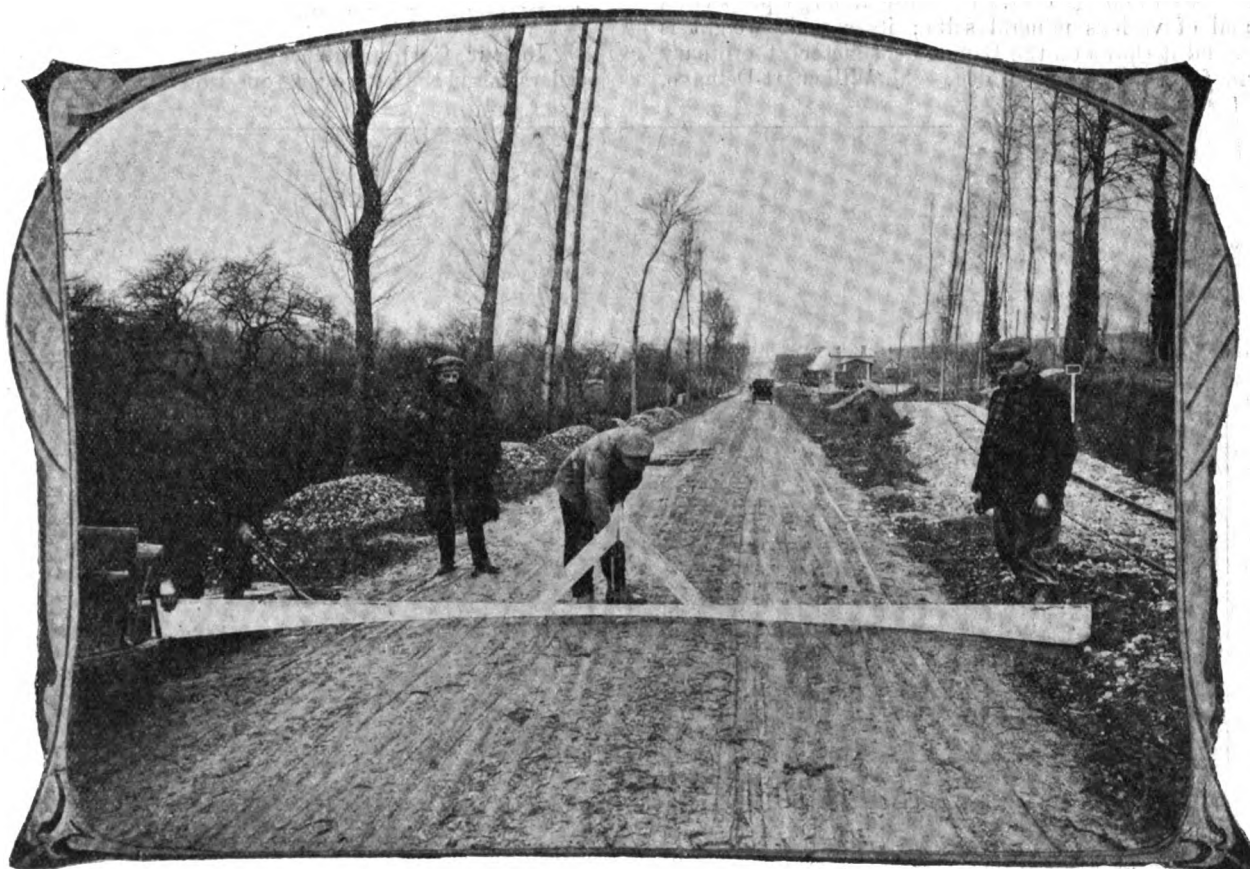
1905, has now over a hundred members, Prince Bibescu being the president. With the view of encouraging the movement, the club has appointed official delegates throughout the country, whose duty it is to inform tourists of the best roads, petrol depots, hotels, &c.

#### Public Services in Spain.

A company has recently been formed in Toledo, with the title of La Sociedad Automoviles de Toledara, to run a public service of motor vehicles in the district. Four 24-h.p. Brillie vehicles, having accommodation for twenty passengers, have been ordered by the new concern.

#### Public Services in Germany.

A public motor-car service is about to be started between Eutin and Lensahn. It is intended to at first employ two 15-seated Daimler vehicles. Arrangements are also in hand for the establishment of a service between Berchtesgaden and



A View on the Seine Inferieure Circuit on which the race for the Grand Prix de l'A.C.F. is to be run. As will be seen from the photograph reproduced above, workmen are already engaged in repairing the roads.

industrial vehicles, and, in addition to a classification by time, an efficiency test will also be carried out.

#### A Hotchkiss Six-Cylinder Car on Tour.

As we briefly recorded in our last issue, one of the latest Hotchkiss six-cylinder cars is at present being submitted to a very exhaustive road trial—a 10,000 kilometre tour of France. Considerable interest is being shown in the undertaking, as it is the first French six-cylinder vehicle to undergo such a long trial. The first part of the journey was to Marseilles, Cannes, Nice, and Monte Carlo, and as we go to press we learn that M. van Marcke, who is driving the car, had safely reached the Riviera.

#### Motoring in Roumania.

That automobilism is making steady progress in Roumania is shown by the fact that no less than 350 cars have been imported into the country during the past three years. The Automobile Club of Roumania, which was formed in December,

Königssee for the transport of passengers and the mails. The Allgemeine Berliner Omnibus Gesellschaft, of Berlin, has just placed an order for twenty-four Bussing motor-buses.

#### Miscellaneous Items.

A public motor-car service is shortly to be started between Moutiers and Bourg-Sainte-Maurice, Savoy.—A motor volunteer corps is being formed in Spain. The Royal Automobile Club of Spain is interested in the movement.—The "Auto," of Paris, is organising a subscription for the purpose of erecting a monument to the memory of the late M. Leon Serpollet.—A motor-car exhibition was opened in Amsterdam on the 15th inst. Among the British-cars on view are the Humber, Stuart, and Starling.—The fourth annual motor-car exhibition in Turin, which will continue until March 3rd, was opened on the 16th inst.—The Technical Committee of the A.C.F. is considering the question of organising a trial of two-cycle motors for use on automobiles.

## SOME CURRENT TOPICS.

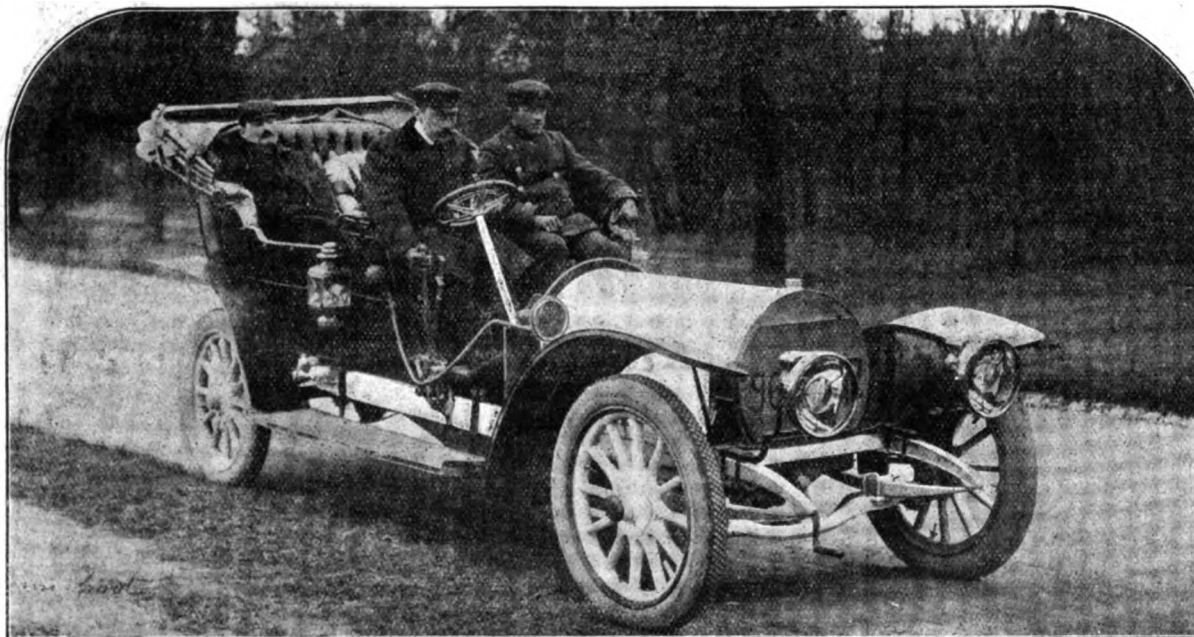
### Non-freezing Engine-cooling Solutions.

It is not only in this country that interest is being taken in the question of non-freezing engine-cooling solutions, and in connection with the correspondence on the subject which is at present taking place in our columns a reference to the experiments of a French motorist may be of service. Writing to *L'Omnia*, he states that he has for some years made a practice of using, in very cold weather, a solution consisting of 50 per cent. water and 50 per cent. *molasse de sucrerie*, or sugarhouse molasses—a dark brown, viscid, uncrystallisable syrup, which drains from sugar in the process of manufacture. The residue contains from 40 to 60 per cent. saccharose, a large proportion of potash and of various mineral salts; its specific weight is about 1.450, and it shows on the Baume densimeter at ordinary temperatures from 40° deg. to 45° deg. M. Willemart-Delhayé,

than the wooden wheel, or, put in another way, a wire wheel for a given car can be made lighter than a wooden one. He shows that for a 35 in. pneumatic tyre the wood wheel weighs 39 lb., whereas a wire one only weighs 28 lb., and even then is considerably stronger. Furthermore, the wire pattern is unaffected by climate, repairs can be rapidly effected and broken spokes quickly replaced. Not only so, but all the material used in a wire wheel can be made equally good, whereas with a wooden one it frequently varies considerably. The only disadvantages that Mr. Edge can see in regard to the wire wheel is that at present the motoring public consider it does not look so nice, and, secondly, that it is a little more difficult to keep clean and smart looking. No doubt many of our readers have their own views on the respective merits of the two types of wheels, and we shall be glad to give publicity to any communications on the subject they may care to send us.

### The Diameter of Inlet Pipes.

In our Correspondence columns last week one of our readers raised the interesting question as to the correct diameters



M. Van Marcke at the wheel of the Hotchkiss Six-cylinder Car which is at present making a 10,000 kilometre tour of France.

the motorist in question, states that the solution is quite uncorrosive, and that, owing to the potash present, it has a detartarising effect on the cylinder jackets and water-circulating pipes, rendering its use advantageous in more ways than one. He adds that the molasses can be obtained very cheaply, and that they can be safely kept in a cask. It would be interesting to learn if any English motorist has carried out experiments with the same by-product.

### Wire or Wooden Wheels.

Much has been written in the past anent the respective merits of wire or wooden wheels for motor cars, but, although the former have been shown to possess many advantages, the tendency during the past few years has been mainly towards the heavier artillery type. With a view of ascertaining whether this, as he believes, is mainly due to questions of appearance, Mr. S. F. Edge has just issued a letter to motorists asking for an expression of opinion on the subject. In the communication in question, Mr. Edge advances many reasons in favour of a larger use of the wire or suspension type of wheel. For instance, he points out that, weight for weight, it is considerably stronger

of the inlet pipes that should be used for petrol engines of different powers. The point is one which we do not remember having seen raised before, and we have, consequently, made some enquiries regarding it. There are so many variable factors which have all to be considered in fixing the diameter that no hard and fast scale can be given, although for a rough approximation one-third the cylinder bore may be taken as a suitable size for the diameter of the requisite inlet pipe. Messrs. Longue-mare, of Paris, are the only firm which has to our knowledge published any information on the point, and we give below a table showing the sizes of inlet pipes they not only recommend, but provide for in connection with their well-known carburettors:—

For Engines.	No. of Cylinders.	Dia. of Inlet Pipe. mm.	For Engines.	No. of Cylinders.	Dia. of Inlet Pipe. mm.
1-h.p. to 2½-h.p. ...	1	19	8-h.p. ...	1	30
2½-h.p. to 3½-h.p. ...	1	22	12-h.p. ...	2	34
5-h.p. to 6-h.p. ...	2	24	12-h.p. to 16-h.p. ...	4	41
4-h.p. to 5-h.p. ...	1	24	12-h.p. ...	2	48
6-h.p. to 8-h.p. ...	2	26	16-h.p. to 20-h.p. ...	4	56
6-h.p. ...	1		20-h.p. to 30-h.p. ...	4	
10-h.p. ...	2		30-h.p. to 45-h.p. ...	4	
12-h.p. ...	4		45-h.p. to 60-h.p. ...	4	

H.M. KING EDWARD VII. has been graciously pleased to accept a copy of Mr. Charles Jarrott's book on "Ten Years of Motors and Motor Racing."

MESSRS. ALFRED KEAR AND Co. are preparing a welcome for the Siddeley car, now on its long trial, when it reaches their new central garage and motor works in the Commercial Street, Hereford.

MR. R. L. JEFFERSON, who, it will be remembered, started on a motor tour through India in November last on an 8-h.p. Rover car, has now reached Madras. He is at present exploring the districts round Bangalore, Mysore, Ootacamund and Trichinopoly.

It was reported at Tuesday's meeting of the Surrey County Council that during last year the receipts from the registration of motor-cars and cycles and the issuing of drivers' licences totalled £1,574 10s. The number of cars registered was 381, and 4,089 drivers' licences were issued.

MR. HERBERT SAMUEL, M.P., Parliamentary Secretary at the Home Office, has met two deputations from cab-owners and cab-drivers with reference to the proposed order regarding motor-cabs in the Metropolis. On the question of wages he said the only duty of his department was to see that the fares were such that a reasonable wage could be paid.

THE speed of motor-cars between Chesterfield and Hasland was the subject of a long discussion at the meeting of the Chesterfield Town Council last week, when the Chairman of the Watch Committee declared that the law was not transgressed, and, so far as the drivers of the public service vehicles were concerned, they did not drive furiously.

A NEW motor garage has been erected in Law's Yard, London Road, Thornton Heath, for Messrs. S. de Saumarez Brock and Co. Its dimensions are 45 ft. by 35 ft., and the opening for business has been celebrated by a supper attended by many of the firm's customers and friends. Here repairs will be undertaken and all classes of motor accessories will be stocked.

THERE are now twenty entries for the International Tourist Trophy Race and five for the International Heavy Touring Car Race. Several Continental firms have written asking for information, from which it may be gathered that energetic foreign rivals are alive to the fact that the British manufacturer is becoming a more potent factor in the situation with each succeeding year.

AMONG enthusiastic lady motorists is the Baroness de Reuter. Since July last she has driven a 12-14-h.p. Argyll nearly 4,000 miles without trouble of any kind. She is able to drive thirty miles to the gallon of spirit in ordinary country driving. This Argyll, which the Baroness has driven with such satisfaction, was the same vehicle that ran in the 1905 Tourist Trophy race.

THE "A.C. system of handicapping for hill-climbing competitions" has now been circulated to the affiliated clubs and to others interested in the evolution of scientific formulæ in connection with the question of handicapping. The Technical Department is busy preparing charts of the various hills throughout the country, to be used in connection with this booklet, which has just been published by the A.C.G.B.I.

MR. H. M. NAPIER is using naphtha as a motor fuel, this being distilled in the production of paraffin from shale found in the neighbourhood of Bathgate, N.B. Its specific gravity is .720 to .750, but when over .730 a few drops of petrol have to be injected into the inlet pipe to start the motor. It can be bought in forty gallon barrels at 4½d. per gallon; but the high cost of carriage would be against its use in England.

THE regulations for the Commercial Vehicle Trials are now receiving the consideration of a joint committee composed of representatives of the A.C.G.B.I., the Society of Motor Manufacturers and Traders, and the Motor Van, Wagon and Omnibus Users' Association. It is proposed that the trials should begin in September next and continue for about a month, touching at all the chief commercial centres of England and perhaps reaching Scotland.

## HERE AND THERE.

THE Crystal Palace Automobile Club has nearly completed arrangements for a series of trials for small motor-cars.

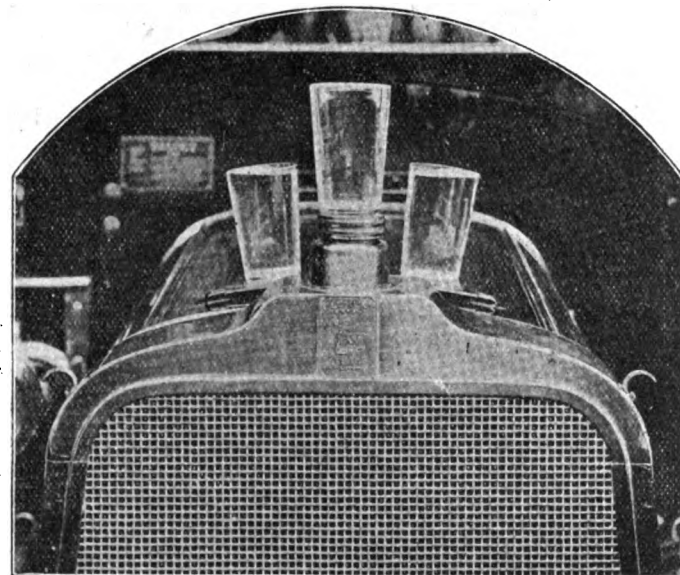
MESSRS. L. RUSSELL AND Co., of 7, Station Road, Bexhill-on-Sea, are hiring motor-cars to

visitors, and have every facility for the repair of vehicles which meet with breakdowns in their district.

ACCORDING to the Chief Constable of East Sussex, "fines amounting to £784 were paid by 124 motorists for exceeding the speed-limit in his district during four calendar months of last year."

At a conference of delegates from Poor Law authorities on existing ambulance services, held in London, the President of the Metropolitan Street Ambulance Association said that there are only four rapid transit ambulances in London, three belonging to the Metropolitan police, and the new automobile ambulance of the City of London.

DEMONSTRATING the absence of vibration in modern petrol engines is becoming quite the order of the day. The latest to fall into line is the Clement Talbot Company, Mr. T. H. Woollen having sent us a photograph, reproduced herewith, of a test he made last week in connection with one of their London-made 20-24-h.p. four-cylinder Talbot cars. The glasses were filled to



the brim with water. Previous to starting up the engine the starting handle was removed, and a speed indicator attached in its place. The photographic plate was exposed five minutes, the speed of the engine during the test being between 1,000 and 1,100 revolutions per minute. The clearness of the photo, in addition to the position of the water in the glasses, is an excellent testimony to the small amount of vibration set up.

A STAFF tour under the directorship of Major-General W. E. Franklyn, C.B., commanding 4th Division, took place recently, the operations being carried out over the country between Frome and Yeovil. The following officers of the Army Reserve Corps were employed on duty:—Captains O. H. Bayldon, H. Welch-Thornton, H. M. McAllister, and Lieutenants J. Peto Shrubbs and H. G. Nalder.

By the courtesy of the architects, Messrs. Harrison and Hattrell, we have had an opportunity of inspecting the site—twenty-eight acres—of the Humber Company's new works at Coventry. The factory will be of the single storey type, and so designed that the work of constructing cars will be progressively carried on in such a way that the raw material will be taken in at one end and completed vehicles turned out at the other. We understand that a portion of the new works will be ready for occupation in about three months.

SIR HUME GORDON, BART., has placed an order with the Daimler Co. for a 28-h.p. 9½ ft. wheelbase chassis.

THE Corporation of Leeds has decided to purchase two new motor-cars for the service of its Tramway Committee.

THE Earl of Ellesmere is introducing motor-cars to take the place of horses for the use of certain of his pay-clerks and other officials connected with his colliery and other undertakings in the Manchester and Bolton districts.

THE accompanying illustration affords demonstration of the reliability of the "Fastnut," that has met with so much favour

from motor-car makers since its introduction a few years ago. This shows a bolt taken from a stone crusher. It will be seen that the constant friction of the stones has worn away half the nut and washer, but without moving them in the least degree. The Fastnut is now being used by many Government departments as well as by leading engineering firms. It is put upon the market by Messrs. Fastnut, Ltd., 60, Aldermanbury, London, E.C.

ON Thursday, Col. Dobson, J.P., opened a display of motor-cars organised in the Drill Hall, Burslem, by

Mr. H. K. Hales, of Market Place, Burslem. This will be continued till the 2nd prox., and among the vehicles on view will be examples of the Napier, Daimler, Argyll, Humber, Brown, Lancaster, Clement-Talbot and other well-known cars.

MATLOCK BATH has now its motor garage, this being provided by Messrs. E. Williams and Co., who have equipped the premises with all that is necessary for the convenience of motorists temporarily delayed or residing in that pleasant town. In addition to facilities for repairs, Messrs. Williams and Co. have a large stock of accessories, &c.

AN application is being made by the Portsdown and Horn-dean Light Railway to the Light Railway Commissioners for powers to extend the railway through the village of Horndean. The latter is on the main London-Guildford-Portsmouth road, and the Motor Union is taking steps to ensure that the safety of the public and the convenience of traffic will not be further interfered with.

THE Wolseley Tool and Motor Car Company, Ltd., have completed arrangements with the Automobile Club to send a 40-h.p. Siddeley car on a long distance reliability trial. It commenced last week from the Club's garage in Down Street, W., and will be run throughout Great Britain, making tours from various important centres, over roads which are well known for their severity. Among the places to be visited are Plymouth, Bristol, Birmingham, Liverpool, Glasgow, Dundee, Edinburgh, Newcastle, Leeds, Lincoln, Norwich, and Cambridge.

CONSIDERABLE development is taking place in the motor auction business, and the coming season will undoubtedly be an advantageous one all round. The first automobile auctioneers in this country were Messrs. Friwell's, of Albany Street, Regent's Park, N.W., and they announce that in future they intend to only charge a commission of 5 per cent. for selling cars. Should no sale result, no charge will be made. The additions to Messrs. Friwell's premises provide for the storage of over 800 cars, and the trade are sending selections of vehicles to this auction mart.

MESSRS. SNOWDON, SONS AND CO., LTD., Millwall, London, E., have sent us a copy of the latest price list of their motor oils and greases. The firm have devoted special attention to the production of high-class lubricants for air and water-cooled petrol engines and are manufacturing half a dozen different grades, each adapted for a certain class of motor. The oils are claimed to perform their functions without any tendency to gum or carbonise when exposed to excessive heat, while extreme care is taken in keeping the quality uniform, a point to which no doubt their growing popularity in motoring circles may be attributed. Messrs. Snowdon also make two qualities of gear-box lubricant—light and dark—as well as the "Snowdene" motor grease.

NEW members of the A.C.G.B.I. include the Earl of Crewe, Lord Hylton, and Mr. G. Courthope, M.P.

—LADY STANLEY has just acquired a 20-30-h.p. landaulet from the Maudslay Motor Company, Ltd., Coventry.

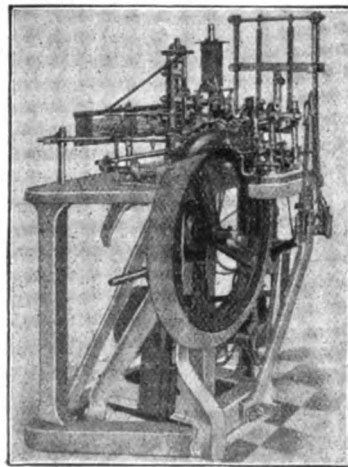
FROM Mr. S. F. Edge comes a photograph of a shipment of six 6-cylinder Napier cars and one smaller one to a Colonial agent, another small sign of the fact that British manufacturers are steadily establishing an export trade.

MESSRS. MANN, EGERTON AND CO., LTD., of the Prince of Wales Road, Norwich, have sent their new catalogue for 1907, in which they give some particulars showing the increase of the automobile business in that part of East Anglia. In 1902 they sold fifteen motor-cars; last year more than 200 were disposed of, while their large garage, with its well-equipped repair shops, was kept busy throughout the twelve months. The firm hold several important agencies, and their list indicates the enterprise with which they have looked after the interests of their clients in Norfolk.

WHEN going through the works of the Singer Company in Coventry the other day we noticed a couple of special three-wheel vehicles in course of completion. Inquiries revealed the fact that they were being specially built to the order of the Egyptian Government for use in Eastern Egypt in connection with the work of the Department of Mines. The machines have a striking appearance, for, while built on the lines of a tri-car, the construction is similar to that of a motor-car, the motive power being supplied by a 12-h.p. two-cylinder V type engine. As regards the standard Singer cars, of which a description was given in a recent issue of the *M.C.J.*, we found a large number in course of manufacture, both of the 7-h.p. two-cylinder and 12-14-h.p. four-cylinder models.

MR. G. H. WAIT, of Leicester, sends his catalogue of "Clyde" motor-cars and cycles for the coming season. Recently we referred to the extensive works and garage possessed by Mr. Wait at Green Lane Road, Leicester; the list now before us sets forth the essential features of some of the leading productions of that establishment. It is claimed for the Clyde car that simplicity, accessibility, ease of control, absence of side-slip, reliability and economical running are points that have been incorporated in the construction of this vehicle, which is made with engines of 8-10-h.p., 12-14-h.p., while the four-cylinder car is fitted with motors of 16-20-h.p., 20-24-h.p. or 20-30-h.p. Motor-cycles are also included in the price list, which will be of considerable interest to motorists on the look-out for automobiles of reasonable price.

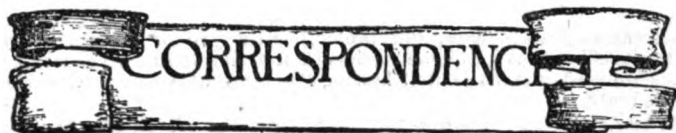
ONE interesting feature of the Edinburgh Motor Show is the practical demonstration of the new method of "cord" tyre making at the stand of the Palmer Tyre, Ltd. The company have gone to considerable expense in laying down working plant in order to show the motorist how much better a cord tyre can now be made by the substitution of machinery for hand labour. The cording machine illustrated was designed and constructed at the works, and it is credited with cording a tyre in twenty minutes with absolute regularity and equality of tension, the same operation by hand taking an experienced worker about eight hours. This invention



reduces the cost of manufacture, of course, and accounts for the great reduction in prices of Palmer Cord Tyres this year.

THE exports of motor-cars and parts last year from the United States attained a value of £881,837 as compared with only £539,131 in 1905. The largest shipments were to the United Kingdom, which was responsible for £227,652 of the total, Canada being second on the list with £175,777.





[Letters to the Editor should be addressed to the office, 27-33, Charing Cross Road, W.C.]

### THE SIDESLIP PREVENTION COMPETITION.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—I was a spectator of the trials held by the Automobile Club on the 6th inst., and was more than surprised to find that the conditions imposed by the Club in their printed rules had been departed from to such an extent as to render, in my opinion, the trials somewhat farcical, and, as a competition, absolutely useless.

In Part 2, Preliminary Test, Section 7, the rules of the Club state "the devices must be fitted to a motor-omnibus which will be supplied by the Club," and Section 8 goes on to state "the vehicle or vehicles will be driven by the same driver throughout the test," and "the driver will be supplied by the Club." The departure from Section 7 does not appear to be very serious, but the same cannot be said in connection with the alterations in the conditions of Section 8. It is

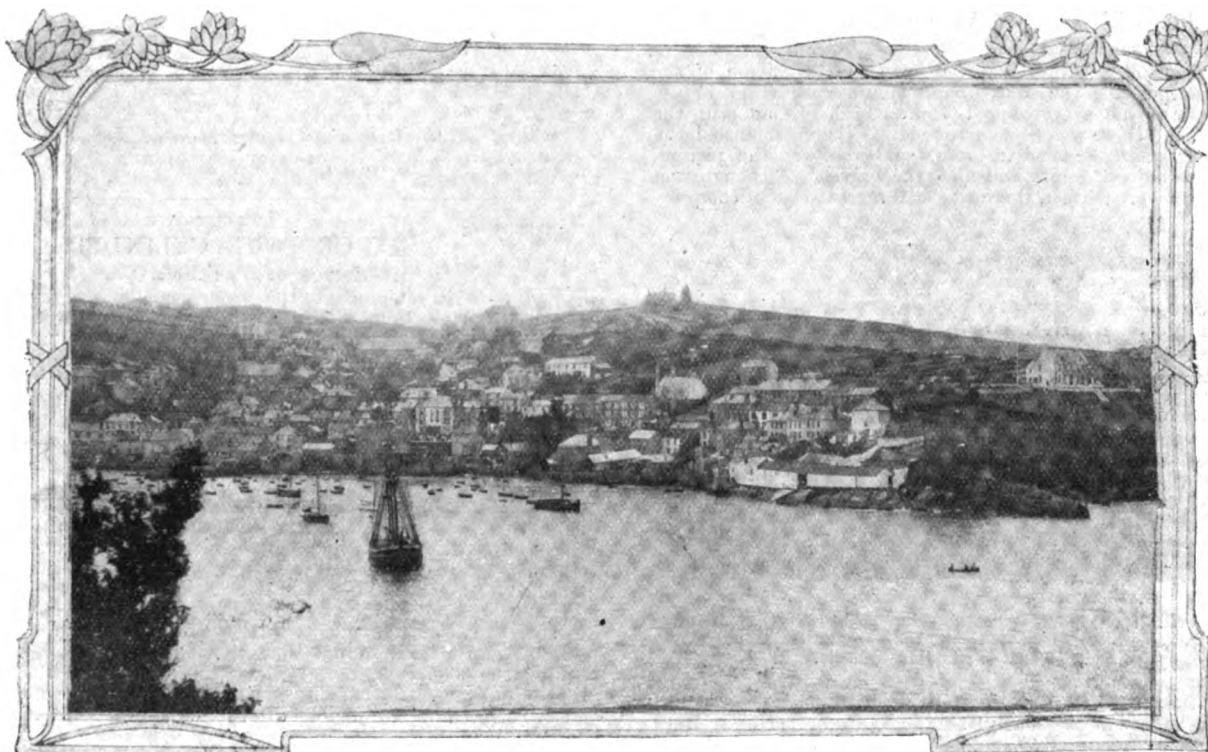
repeat the preliminary test, viz., part 2, after the 1,000 miles have been run under ordinary road conditions. It would be interesting to see how far the wear and tear had affected the devices as non-skids.—Yours truly,

FAIR PLAY.

### MOTOR-CYCLING.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—Mr. Arthur Candler's article in your issue of the 9th inst. interests me considerably. My opinion, however, differs rather from both Mr. Jarrott's and Mr. Candler's. Briefly, the former advocates a light, low-powered, easily managed and handy machine, whilst the latter advocates the full-powered touring machine. Is it necessary that we strive to perfect one type of motor-bicycle suitable for all classes of riders, or is it not very much more desirable that we should supply each type of rider with the machine which suits him? Mr. Jarrott voices the opinion of a large number of would-be motor-cyclists; Mr. Candler, the opinion of a large number of genuine touring motor-bicyclists. Assuming I represented the speed merchant, police trap dodger, and racing man, would it be reasonable to ask Mr. Jarrott's men to ride Mr. Candler's men's machine, or my men Mr. Jarrott's men's machine, and vice versa? Then, instead of wasting time groping after an ideal any-rider-machine, let us perfect the light runabout, the go anywhere tourist,



Touring in Cornwall—A View of Fowey.

the contention of the writer and of many of his fellow spectators that had the same driver been employed throughout, quite different results would have been achieved. The officials themselves evidently felt the same about the matter, as they compelled several of the drivers to repeat their performances, their first and second efforts being unsatisfactory. It is surely a question for argument how far the Club are at liberty to alter the conditions of trials without proper notice to competitors, and whether such a serious departure from the rules does not render the whole competition null and void, and point the way to further trials, where the rules laid down shall be strictly adhered to.

There is still another matter of interest in connection with the trials. In the opening sentence of the printed rules issued by the Club, and under the heading "Object," it is stated that the devices must comply with the regulations of the Local Government Board. Now these regulations are most emphatic, and clearly state that motor vehicles of the 'bus type shall have their wheels fitted with a "soft or elastic material." It would be interesting to know whether, for the purposes of these trials, the club have obtained any relaxation of this order, otherwise I fail to see why certain metal devices in direct contact with the road were passed for trial. It was the knowledge of this order of the L.G.B. that has kept back a number of devices from entry. If the club have received the sanction of the L.G.B. or of the police for such relaxation of the orders, why was it not publicly stated? The competition could then have been made a genuine trial and not resulted in the farce it has. As a suggestion to the Club in connection with their present efforts to prevent the discovery of a really efficient non-skid I would

and the mile a minute racing machine separately, and I think we should perhaps increase our brotherhood, as Mr. Jarrott suggests, and prevent our existing 40,000 trying to become car owners, as Mr. Candler hints.—Yours truly,

R. K. HUBBARD.

General Hon. Sec.,  
Basingstoke and District Motor Club.

### A NOVEL CAR.

To THE EDITOR OF *The Motor-Car Journal*.

SIR,—For four years I have been in "mortal combat" with the chief motor problems of the day, and as only one remains to be "slain," viz., marketing the inventions, a summary of some of the results may interest your readers. These statements are backed up by first-class experts, and, as I have them embodied in a pleasure car and a commercial vehicle, can be borne out. The questions were (1) speed gear; (2) want of flexibility, resulting in multiplication of cylinders; (3) shocks, resulting in strains and wear of mechanisms and tyres, necessitating unnecessary strength and weight; (4) vibration; (5) noise; (6) dust; (7) pit abolishment; (8) simplicity; (9) accessibility; (10) long life; (11) to be fool-proof; (12) freedom from repairs; (13) control; (14) finality.

I have found the key-note to be a flexible transmission. 1. My actual change-speed consists of two parts only, absolutely silent, shockless, and

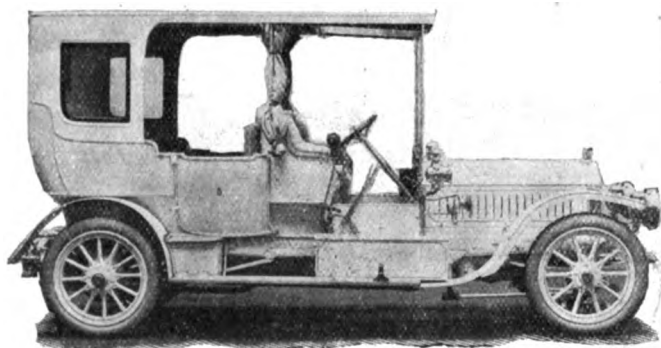
almost unwearable, changes like an electric switch, imperceptibly, and with drive on, no gear-wheels or other modern weaknesses. 2. A single-cylinder as sweet as a six. 3. No shocks or strains. Proofs: 10,000 miles on unprotected tyres with scarcely a scratch, a fierce clutch can be let in with a bang without harm. 4. 1, 2, and 3 cover this; in addition, my mechanism being cross-ways and running *en bloc* all speeds, the gyroscopic action resulting gives luxurious running and springing. 5. Transmission absolutely the most silent. 6. A straight, smooth run underneath and all mechanism in closed cabinet, serving the double purpose of a frame and dustless in or out. 7. All in sight from above, no pit needed. 8. The chassis is so bald and simple that a novice can grasp it in a few minutes; an irreducible minimum. 9. See Nos. 7 and 8. 10. Impossible to produce a more lasting transmission, change-speed as silent after years of use as when new. 11. Almost impossible to damage the transmission by fooling. 12. Repairs therefore exceptional. 13. In addition to the finger touch change-speed, I have now arranged to use one pedal only for forward free engine or reverse on all speeds, and brake in either direction. Applied instantaneously in any order at will with one foot without damage. 14. Expert opinions are that with slight modifications I have produced a final type. I hope shortly to exhibit the system in London.—Yours truly,

C. H. DENT.

## A RENAULT CAR QUERY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Referring to Mr. B. Percival's letter in the last issue of the *M.C.J.* and to your reply to the same, I had a similar case with a 15-h.p. four-cylinder car. I did everything I could think of, but still the popping occurred and there was no compression. I then dismantled the cylinders, but everything seemed in order, so I removed the pistons, carefully adjusted the ring joints and also the valves. Although the inlets and exhausts were perfect, there was still a great loss of compression.



The 40-h.p. six-cylinder Napier Car recently supplied to His Excellency the Viceroy of India. It will be noted that the vehicle has a specially designed body to suit the Indian climate.

sion and a rush of air from the induction pipe. There was no blow past the rings, and the valves, as previously mentioned, were perfect. Here was a puzzle indeed! Eventually the trouble turned out to be due to the holding-down bolts on the seat portion of the inlet valve springing that part sufficiently to cause the inlet valve to sit on two small arcs. I should never have thought it possible, but it resulted in popping, fire at carburettor, and loss of compression.—Yours truly,

HERBERT J. CHAPMAN.

## THE STANDARDISATION OF NUTS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice a letter in the *M.C.J.* of the 9th inst. which raises the question of standard nuts and screws for automobile construction. You will see, from the circulars I send you separately, that what is adopted by the Clement-Talbot Company has reduced this to extreme simplicity. You will notice, in the matter of pitches, that there are only five pitches of threads in all. I believe our friends, the Beeston Humber Company, have eliminated even the 1.25 pitch and reduced the number to one less. On page 51 of "Shop Notes" (enclosed), it is explained that we use the 60 degree thread as employed in the "Système Internationale," but all the pitches on a well-designed automobile should be between 1½ mm. and 2 mm. pitch. Any coarser thread than that is certainly unnecessary, and cannot be as safe as a finer thread, and of course the finer the thread the less liability to shake loose.

By reference to the appended table giving the standard sizes of nuts and spanners used on the Talbot cars, you will see that although the width across the flats of the nuts is given in civilised units, viz., millimetres, they are exactly equivalent to many of the well-known Whitworth sizes. This was done as there are large stocks of hexagon steel available for the manufacture of screw work. The Whitworth sizes quoted are to be found also on most first-class Continental cars, but many of the makers do not know of this fact! As regards the list of

sizes of screw threads, caps, and tapping drills, you will note a footnote to the effect that for diameters less than 4 mm. British Association threads are used, and, as is well known, these are also metric threads.—Yours truly,

C. R. GARRARD.

CLEMENT-TALBOT, LTD.

STANDARD SIZES OF NUTS AND SPANNERS (1907).

DIAMETER OF BOLT.	WIDTH OF NUT ACROSS FLATS.	WIDTH ACROSS CORNERS (MAX.)	WIDTH OF SPANNER GAPE.	WHITWORTH EQUIVALENT.
4 mm.	6.9 to 7.0	8.05 mm.	7.05 to 7.1	—
5 mm.	8.9 to 9.0	10.5 mm.	9.05 to 9.1	—
6 and 7 mm.	11.3 to 11.4	13.2 mm.	11.5 to 11.55	½"
8 mm.	13.2 to 13.3	15.5 mm.	13.4 to 13.45	¾"
9 mm.	15.1 to 15.2	17.5 mm.	15.3 to 15.35	1"
10 mm.	17.9 to 18.0	20.8 mm.	18.1 to 18.15	1 ¼"
12 mm.	20.7 to 20.8	24.1 mm.	20.9 to 20.95	1 ½"
14 mm.	23.2 to 23.3	28.9 mm.	23.4 to 23.45	1 ¾"
15, 16, and 18 mm.	27.7 to 27.8	32.2 mm.	27.9 to 27.95	2"
20-22 mm.	35.1 to 35.3	40.8 mm.	35.4 to 35.45	1 3/8"
24-26 mm.	42.2 to 42.4	49.0 mm.	42.5 to 42.6	1 7/8"
	51.8 to 52.1	60.2 mm.	52.2 to 52.3	2 ¼"
48 mm.	56.1 to 56.4	65.0 mm.	56.5 to 56.6	2 ½"

## SIX OR FOUR CYLINDERS.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—With reference to the paper read by Mr. S. F. Edge before the Automobile Club, I think he was hardly fair in forgetting to mention the relative sizes between the 40-h.p. Napier and the 35-h.p. Renault which he tested. Those sizes are as follows:—Napier 300 C.I.C., Renault 468 C.I.C.

It will readily, therefore, be seen that the four-cylinder Renault, contrary to what Mr. Edge suggested, is considerably lighter than the six-cylinder Napier, proportionately to their size. Accepting Mr. Edge's own scales as being correct, it appears that the Renault engine, developing something over half as much power again, is only 25 lbs. heavier; or again, that with a four-cylinder engine it is possible to get the same power as in a six for two-thirds the weight. I feel sure Mr. Edge will accept my correction and acknowledge the omission in his paper in justice to other manufacturers, and particularly to Messrs. Renault.

With reference to the weight of the radiator, Mr. Edge has omitted to state that the Renault radiator is one peculiar to that firm, and I think again he will admit that he should have weighed his radiator against the honeycomb radiator of an ordinary car, and not a special type of radiator. But, having omitted to do so, I feel sure he will permit me to correct him, in justice to other manufacturers, and I herewith do so:—

Radiator for Napier, 300 C.I.C. ...	lbs. 50
Radiator for Fiat, Itala, Weigel or Mercedes, for engines, roughly speaking, half as big again ...	50

or it appears once more as if the four-cylinder engine only required two-thirds the radiation.

In the various lengths and measurements that Mr. Edge gives he omits the only one of any real interest, and that is the length of the crankshaft. Taking the crankshaft of the four-cylinder type, and not in any way reducing its diameter, although it is one of the claims of Mr. Edge that you can so reduce it, yet I will favour him by not doing so, it will be found that the torsional strain becomes something like seven times weaker by the extra length. It is regrettable that Mr. Edge, in fairness to other manufacturers, left out the only measurement of any utility for them to know.

With the remainder of his remarks I will not deal, inasmuch as they are mere assertions. Trusting that, in fairness to the large number of manufacturers who assert that six cylinders are incorrect, you will publish this letter of correction.—Yours truly,

D. M. WEIGEL.

## THE CONSTRUCTION OF AN INSPECTION PIT.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—In the *M.C.J.* of the 9th inst. we notice a letter from Mr. Scarth in reference to motor pits. We see that he advocates 3 ft. as a suitable depth. We have had considerable experience in this matter, as we have several garages and repair shops, and in every case find that 4 feet is the most suitable depth, as a man can certainly work much better standing up than sitting down. If we make any exception to the rule, we always go deeper, as a short man can always put something in the pit to stand

on, whereas a shallow pit would make work almost impossible to a tall man. We might mention that we use, and have supplied to our customers, several corrugated iron pits, and find they are most satisfactory.—Yours truly,

BOTWOOD AND EGERTON.

### SUBSTITUTES FOR PETROL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I have read with much interest Mr. Edge's report regarding the trial of Borneo spirit. I have been using it on a Baby Peugeot, and can confirm what he states.

During the recent cold weather I found it difficult to start up from the cold, but I soaked a cloth in hot water, put the cloth on the carburettor and inlet pipe, after which I placed a portion of the hot cloth over the air inlet and the engine started almost directly.

I had occasion to turn the engine off after running about a mile, and found a difficulty in re-starting. Necessity is the mother of invention: I took off my glove, put the inside of it over the air inlet, and off she went. I have repeatedly started the engine in this manner. It shows that the spirit in cold weather requires a little warmth to make it vapourize. I find I can get more power, and my car goes very much better than ever she did, and that she picks up remarkably well.

I am glad to hear Mr. Edge say the Borneo spirit will be cheaper than the other classes. I can only say that a great mistake is being made by the spirit people, as they are throttling the motor-car industry by dear spirit. I now use my car for business purposes only, and have had to forego any pleasure trips owing to the dearth of spirit.

It would not answer to pay 1s. 7d. a gallon for spirit, at least poor folk cannot afford it, and they would inevitably give up their little cars. There seems, however, some hope that this contingency will now be averted. I think this question of cheap spirit is much more important to the motor industry than racing trophies.—Yours truly,

BORNEO.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—This letter, giving the results of certain chemical tests which I have made on Borneo spirit, may be of interest, following as it does the publication by Mr. S. F. Edge of certain practical tests which he made on the same spirit. When I first came across this spirit I was struck by its smell, which is exactly that of benzol (or coal tar spirit), and then, in view of its high specific gravity, and of the fact that it required more than the usual allowance of air for its combustion, I wondered whether Borneo spirit could possibly only be an admixture of ordinary mineral spirit (i.e., petrol) with tar spirit. But I know that such admixture could not be commercially possible, owing to the price of the tar product, and so dismissed the idea as absurd. However, I made the usual chemical tests, and my suspicions were confirmed by finding that the spirit contained about 25 per cent. of a liquid which was for all intents and purposes tar benzol.

Similar tests were very kindly carried out by Mr. Wilton, of the Gas Light and Coke Company's Tar Works, and his report confirmed my figures. I was much puzzled to know how, when, and where this proportion of tar benzol had come into the spirit, but happily one day Mr. Hunter, of Messrs. Thompson and Hunter, the well-known oil-well experts, asked my opinion on a remarkable set of tests which they had made of a new grade of crude oil from Russia, and for the source of which they could absolutely vouch, being direct from the earth, without any admixture. This sample showed the presence of "tar" spirit or benzol in the same way as did the Borneo spirit. So evidently in some wells we have a new source of so-called "tar" benzol in quantity; but at the present high prices of petrol it is very unlikely that the industries using such benzol will find its extraction from mineral oil remunerative.—Yours truly,

A. DUCKHAM.

### PETROL IN WALSHALL.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—It is somewhat peculiar that, within a week from the date that I have found out a peculiarity of the town of Walsall, I should read in your columns that this town is anxious to attract the motor industry to its area.

Are your readers aware that it is impossible to obtain a drop of petrol in Walsall between the hours of sunset and sunrise, without the permission of the chief constable? That is to say, that if any motorist is unlucky enough to be stranded in Walsall for want of petrol between these hours, he cannot get a drop of this most necessary fluid without the permission of the chief constable. It is scarcely creditable that in the year 1907 one should be so reminded of the curfew days, but it is nevertheless a fact, and one to which my attention was forcibly drawn when I was delayed in Walsall for over half an hour because the chief constable happened to be out when the request was sent him, and the official in charge in his place refused the permission. It was only by a bit of luck that we happened to chance on someone who was good enough to give us the requisite permission, which I personally doubt if we should have got had we not been backed up by a most obliging Walsall automobilist, and were able to return to Birmingham.—Yours truly,

ALAN A. L. HICKMAN.

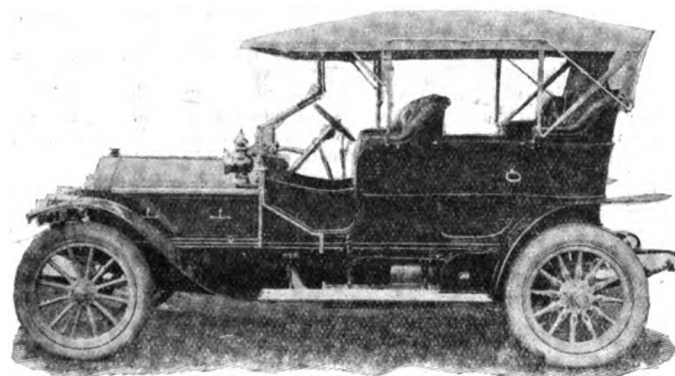
### SUBSTITUTES FOR THE HORN.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I notice in the *M.C.J.* of the 9th inst. a letter signed by S. J. Watson respecting the electric horn, and endeavouring to prove that what I said on this matter was not quite fair. He assumes, amongst other things, that I have only tried one class of electric horn, and that one a cheap variety. Herein he makes a big mistake, for the one I have used was a Wagner. I suppose these are set ready for use. At any rate it was fixed up complete, and so far as sound goes there was nothing to complain about, but when it had been in use about a week it would not work. The sound box was opened and it revealed the fact that the platinum points were burnt or worn away. I endeavoured to take out the two portions of the thing which contained or held the platinum points so as to get them renewed, but found this very difficult, and it had to be sent to the firm who supplied it. They supplied new points. I had it in use again for a few days, when I again had to look at the platinum points, and was surprised to see there was very little left. After this I advertised the horn and sold it for very little.

The above is my experience with the horn which S. J. Watson considers so very good. I have naturally taken an interest in other makes, and can include in my circle of motoring friends some who have tried the cheaper makes. I have not yet found anyone who is satisfied with any make. I notice your correspondent says he is interested in platinum points; well, I am not, neither in bulb horns nor foot bells. I am a motorist, nothing more, and gave my experience and opinion, and S. J. Watson is entitled to do the same, but not to tell others, whose experiences are not like his, that they are exaggerating.

There appears to be one blank space in S. J. Watson's letter; he does not tell us what amount of motoring he does. Is he one of the many week-enders, or does he use his motor for business or pleasure, or both? Because it must make a vast difference to an electric horn, especially if a good amount of motoring is through towns or villages where it is necessary to give alarm every minute or so. The latter is my position,



The 40-h.p. Siddeley Car which is now engaged on a long-distance Trial.

and I shall probably be told that I have used it unnecessarily, but I have not, for, after my first repair bill of 9s. 4d., I calculated that it cost a farthing every time I touched the thing. It amounts to this, with a bulb horn you may give as much alarm as you like, but with an electric you must be careful or it will cost you ever so much.—Yours truly,

J. H. H.

### IGNITION TROUBLES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—I should be obliged if you or any reader of the *M.C.J.* could assist me in arriving at a solution of the ignition difficulty I am experiencing. The engine of my car has two cylinders, the ignition being by trembler coil. In turning the starting handle round slowly the trembler connected to the first cylinder "buzzes" at the correct position, i.e., when the connection is made at the contact maker. As the handle is still revolved, the same trembler ceases to buzz for a moment, but begins again and continues to do so until the trembler is on contact; trembler No. 2 now begins to buzz, and on still turning the handle slowly both stop all right.—Yours truly,

R. J. FENWICK.

[There is probably a shunt circuit in the contact breaker, produced by a shaving of metal becoming embedded in the insulation between the two contacts. This is making a connection to the first contact, and it is probably a slight distance from it, as the false contact does not make the trembler buzz until after it has left the first contact. The contact breaker should first be carefully examined, and especially inspect the edges of the insulation near the outer metallic case, also clean the inside circumference with a piece of glass paper and clean the back of the contact breaker, removing all oil and grease, dust, &c. It can be ascertained if this is the possible cause by inserting a piece of paper for the contact breaker roller to pass over when turning it between the two contacts; that is to say, let it make contact on the first point, and, as it

leaves it to pass round to the second point of contact, let the roller pass over a paper insulation, and note if the coil still buzzes. If it does, the fault will lie in the outside wiring.]

### ACCESSIBILITY.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—A correspondent, "Motorist," called attention to the need for the accessibility of details in motor-cars in a recent issue. There is, however, another phase of this question which is also of great import, as upon it depends not only the pleasure but also the comfort of the private user. This is the importance of being able to receive satisfaction from a manufacturer when repairs or renewals are in question. It is remarkable how supremely indifferent to the owner's interests and desires some of these gentlemen become when once the sale has been effected. A case in point is the attitude of the English branch of a well-known French firm, which forms an apt illustration of the difficulty of obtaining accessibility to a maker when occasion arises:—

Time.—Olympia Show, 1906.

Intention.—Purchase of a new car containing a special and well-known engine.

Discussion on defect of same engine in present car.

Result.—Invitation to send engine to works to be overhauled, maker expressing his desire to satisfy customers.

December 5.—Specification and estimate received for £8 17s. 6d.

Verbal acceptance by telephone confirmed by letter same day.

December 7th, 1906.—Alleged error in estimate and refusal to proceed with the work unless £15 2s. 6d. is paid.

December 10th, 1906.—Details of alleged error requisitioned and intimation given same might be recognised.

December 11th, 1906.—Denial of contract by maker and suggesting removal of engine, but no details of alleged error furnished.

December 12th, 1906.—A firm of engineers instructed to get specification carried out, with a suggestion that the maker should do the work, to avoid delay and for the sake of economy.

December 13th, 1906.—Refusal of maker to undertake work, who again desires removal of engine.

December 14th, 1906.—Verbal refusal on same day to do work for the engineers which involved serious question of principle, resulting in an intimation that application to the Court would be made for an order for specific performance of contract.

December 15th, 1906.—Acknowledgment of this intimation.

December 18th, 1906.—Engineers receive estimate for £15 2s. 6d.

January 24th, 1907.—Refusal to allow engineers to attend works to test engine, suggesting ocular examination is sufficient.

January 27th, 1907.—Guarantee as to perfect condition of engine given to avoid actual demonstration.

February 1st, 1907.—Delivery of engine (a small part missing).

It should be mentioned that the person responsible for the above conduct is a M.I.Mech.E. The above discloses the adoption of a very autocratic and unreasonable attitude. The inaccessibility of the maker to the user was presumably on the ground that the user was in the maker's power, the engine in question, as stated, being a speciality. Similar high-handed conduct by the same house has recently come to my knowledge in regard to another motorist, resulting in the discarding of that type of engine and the circulation, only natural, of a bad impression among the large coterie of influential motorists. The chairman of the recent meeting of automobile engineers already referred to by "Motorist" will no doubt agree with the above conduct as being quite consistent with his view that everything should be inaccessible to the private user. Surely the time is opportune for makers to recognise that motorists have some common sense, and should be treated with reasonable consideration and courtesy.—Yours truly,

MOTORIST No. 2.

### THE CARE OF DISC CLUTCHES.

TO THE EDITOR OF *The Motor-Car Journal*.

SIR,—Hitherto my experience has been confined to clutches of the leather-faced cone type, but the new car I have on order is to have a multiple disc clutch of the Hele-Shaw pattern. I should be much obliged, therefore, if any motorist who has had experience with the Hele-Shaw would give a few hints as to the care and attention they require to keep them in good working order. The information will, I am sure, prove useful to many besides.—Yours truly,

E. R. FOUNTAIN.

SPYKER CARS.—Mr. Albert House, of Bradford, writes:—"I have been associated with the Spyker cars from the time I brought the first one into England. As, at the request, and with the help of some of the leading dealers in, and users of, these cars, I am compiling a history relating to them, I shall be pleased if some of your readers will send me any photos, or information, that I can use."

SMALL STEAM CARS.—The letter on this subject in our last issue was from Messrs. Norris Bros., Bridge Street, Middlesbrough, who are devoting much attention to the conversion of Locomobile steam cars.

## CLUBS AND ASSOCIATIONS.

### THE AERO CLUB.

THE annual general meeting of the members of the Aero Club of the United Kingdom will be held at 166, Piccadilly, London, W., on Wednesday, the 20th prox., at 5 p.m.

Members are reminded that a ballot paper for the election of eighteen candidates to serve on the committee of the club for the ensuing year will be forwarded to them at least seven days before the date of the annual general meeting. Any two members of the club can nominate a member to serve on the committee, having previously obtained such member's consent. The name of such member so nominated, with the names of his or her proposer and seconder, must be sent to the secretary in writing not less than fourteen days before the annual general meeting. March 6th is the last day for the receipt of nominations. In accordance with the rules, the committee shall consist of eighteen members, who shall retire annually. Retiring members shall be eligible for re-election.

The following retiring members have so far been nominated and have signified their willingness to serve:—Messrs. Griffith Brewer, Ernest Bucknall, Frank H. Butler, Vice-Admiral Sir Charles Campbell, K.C.M.G., C.B., D.S.O., Col. J. E. Capper, C.B., R.E., Capt. Corbet, Martin Dale, Prof. A. K. Huntington, Dr. F. W. H. Hutchinson, M.A., J. T. C. Moore-Brabazon, Hon. C. S. Rolls, J. Lyons Sampson, G. F. Sharp, Stanley Spooner, F. Harold Sully, and Roger W. Wallace, K.C. New candidates for the committee are Messrs. A. Leslie Bucknall, C. F. Pollock, P. Paddon, C. C. Phillips, and Viscount Royston.

### THE INSTITUTION OF AUTOMOBILE ENGINEERS.

A COUNCIL meeting of the Institution of Automobile Engineers was held at the Institution of Mechanical Engineers on Wednesday of last week, when the Chairman (Col. R. E. Crompton) announced the loss the Council had sustained by the decease of Mr. O. P. Clements, who had been connected with the institution from its inception. On the proposition of Mr. Dugald Clerk, seconded by Mr. A. E. Tucker, it was resolved that the following be and are hereby entered in the Articles of Association as the first members of the Council:—Messrs. Herbert Austin, E. E. Baguley, W. Worby Beaumont, T. B. Browne, Dugald Clerk, F. C. A. Coventry, Alex. Craig, J. S. Critchley, R. H. Fowler, Alec Govan, C. R. Garrard, Dr. H. S. Hele-Shaw, A. S. Hill, Henry Lea, Douglas Leechman, E. W. Lewis, F. W. Lanchester, Charles Marston, Percy Martin, F. L. Martineau, Douglas Mackenzie, John S. Napier, M. O'Gorman, T. C. Pullinger, Victor Riley, Archibald Sharp, D. J. Smith, A. E. Tucker, Charles Wheeler, and T. H. Woollen.

It was reported that Professor H. L. Callendar had promised to read a paper before the Institution on "The Effect of Size on Economy of Motors" on Wednesday, May 15th, 1907.

Mr. Ernest Latham's report on nuts, bolt-heads, and accessories was considered, and it was resolved to form a Standardisation Committee, consisting of Colonel R. E. Crompton, Messrs. H. Austin, J. S. Critchley, C. R. Garrard, Henry Lea, F. L. Martineau, T. C. Pullinger, A. Sharp, and Chas. Wheeler, to consider and report.

LAST week's meeting of the Institution of Automobile Engineers was devoted to a study of the strength and structure of alloys, under the direction of Mr. Walter Rosenhain, of the National Physical Laboratory, who urged the close connection between metallurgy and the motor industry as being well emphasised by the fact that a leading French metallurgist, Dr. Guillet, has been long associated with a leading motor-car firm. The point of view from which the engineer is chiefly interested in the structure of metals was that of their strength, the factors concerning which were then dealt with in a thoroughly scientific manner.

### THE MOTOR VAN, WAGON AND OMNIBUS USERS' ASSOCIATION.

A MEETING of the Executive Committee of the association was held at 1, Albemarle Street, Piccadilly, W., on Wednesday of last week.

The memorandum of the scheme for the probationary inspection of members' vehicles was considered and approved with slight modifications. The question of the fee for preliminary advice was considered, and it was resolved that this should be reduced. It was reported that a circular had been sent to those members resident in the Glasgow district, stating that one of the association's authorised engineers would make a circular inspection tour during the week commencing March 4th, 1907, and it was resolved that, whatever the response, the engineer was to make the inspection.

A letter was read from the Town Clerk of Kensington, with regard to a resolution passed at the conference of the representatives of the



Metropolitan Borough Councils, that owners of motor-wagons were urged on the desirability of their using india-rubber or other noiseless material on the tyres of the wheels of motor vehicles, and it was resolved that a reply be sent stating that the association agree with this resolution, and prominence to the matter would be given in the journals recognised by the association.

The terms of the new Draft Cab Order were considered, and it was resolved that this should be referred to Mr. W. Hodges, of the City and Suburban Motor Cab Company, Ltd., and he be asked whether he has any suggestions to make with regard thereto through the association.

Executive Committee.—The following candidates were nominated for election upon the Executive Committee for 1907:—Messrs. G. Arnold (Tunbridge), L. H. Baxendale (London), Capt. W. Bagnall-Wild (London), E. R. Calthrop (London), F. C. A. Coventry (Slough), J. L. Farmiloe (London), H. Howard Humphreys (London), W. G. Lobjoit (Hounslow), Douglas Mackenzie (London), D. H. Simpson (Manchester), James Scott (London), W. H. Wilcox (London), and Charles Wheeler (London).

The members of the existing committee who remain in office for another year are:—Messrs. Arthur J. Clay (Burton-on-Trent), W. Dalziel (Glasgow), S. D. Gilbert (London), Dr. H. S. Hele-Shaw (London), H. Thomson Lyon (London), J. C. Mitchell (London), L. G. Oldfield (London), A. Patterson (London), R. R. Robbins (Viewsley), and A. A. Campbell Swinton (London).

### AUTO-CYCLE CLUB.

A COMPETITION for motor-bicycles is to be held by the Auto-Cycle Club in the Isle of Man about the same time and over the same course as the race for the Tourist Trophy cars. A petrol allowance of a gallon for every ninety miles will be given, and the capacity of any one cylinder must not exceed 500 cubic centimetres volume swept out by the piston per stroke. Unless twenty entries are received by May 20th the event will not be run. Mr. S. F. Edge has offered a prize for the best performance by a British subject on a British machine in this contest.

### LINCOLNSHIRE MOTOR-CYCLE CLUB.

At last week's meeting of the committee eleven new members were elected, giving this new club a membership of over 200. The season is to be opened by a meeting at The Shades, Spilsby, on Good Friday, dinner at 1 o'clock, after which a general meeting of members will be held, followed by a meeting of the committee. On Easter Monday a hill-climb will be held at North Carlton. On Whit-Monday there will be a reliability trial, and on July 4th a meet with the L.A.C., at which there will be a hill-climbing competition, for prizes offered by the L.A.C. Mr. Morley's invitation to the club at Leadenham was accepted, and a hill-climb will be held. Meets will probably be held at Cleethorpes and Skegness, among other places. The affiliation question was discussed, and a number of letters were read. The feeling was against any material increase in the fees, and in favour of the Auto-Cycle Club being on a better basis.

### LINCOLNSHIRE A.C.

MAJOR J. A. COLE has been re-elected chairman of the club, and Mr. A. A. Padley vice-chairman. A grant of £5 has been made towards the tar-spreading competitions. It has been decided to have a hill-climbing competition in the Wolds on June 15th, with one class for private members of the club and another for all members. On June 22nd, the Saturday before the Royal Show, Dr. Husband will entertain the members at Crowland. On July 4th there is to be a joint gathering with the Lincolnshire Motor Cycle Club and hill-climb for motor-cyclists, the prizes being given by the Lincolnshire A.C. In July Dr. Gilpin's motor assembly at Grimsthorpe is to be held, and in August the Syston hill-climb will take place, as well as Mr. Godson's party at Asgarby. Grimsby is also to be officially visited during the season.

### NORTH-EASTERN AUTOMOBILE ASSOCIATION.

THE annual meeting of this association took place at the County Hotel, Newcastle-on-Tyne, on Friday of last week, when about forty members were present. In the absence of the President, Sir Lindsey Wood, Bart., through illness, Mr. W. E. Rogerson, of Darlington, occupied the chair.

The annual report was taken as read, and the recommendations of the committee contained in it were discussed in detail. With regard to the affiliation of cycle clubs, it was decided that the principle of reduced fee should be agreed to, and the fixing of the actual amount was left in the hands of a small committee, who were to correspond with the Motor Union. A further alteration in the rules which was agreed to provided for the collection of subscriptions from individual members by the hon. secretary, the old plan having been to leave this matter in the hands of the district secretaries, which involved some confusion and unnecessary expense.

The question of allowing gentlemen interested in the motor trade to hold office in the Association was considered at length, and it was finally decided to alter the rule No. 4 to read that "members whose livelihood principally depends upon the sale of motor vehicles or their accessories shall not be eligible for office."

The retiring president and vice-presidents were re-elected, also Captain Streatfeild, chairman, Mr. J. E. Hodgkin, hon. secretary,

Mr. J. C. Squance, hon. auditor, Mr. J. A. Williamson, hon. solicitor. The following gentlemen were elected representatives to the Motor Union Committee for the current year:—Captain Streatfeild, Captain C. Morison-Bell, Messrs. R. B. Hoare, J. E. Hodgkin, J. Nettrass, J. H. Pease, C. E. Smith, R. Hodge, A. N. L. Wood, and F. C. Wilson.

On the motion of the Chairman, a grant of fifteen guineas was voted to the Road Tarring Competition which is being organised by the Motor Union and the Automobile Club.

The Hon. Secretary proposed a vote of thanks to those officials of the County Council and other public bodies who had assisted the Association during the past year. As an instance, Mr. Hodgkin quoted the recent action of the Durham County Council in agreeing to the erection of over seventy warning triangles at dangerous corners and hills, these having been recommended by the committee. This was carried with acclamation.

### BRITISH MOTOR BOAT CLUB.

THE annual general meeting of the club will be held at the Craven Hotel, London, on Thursday next.

The fixture list for the forthcoming season has not yet been definitely settled, but the following may be mentioned:—Whit Tuesday (21 May) on Oulton Broad, races and gymkhana, a long distance race in July, races at Cowes on August Bank Holiday (Monday, Aug. 5), and on Tuesday (Aug. 6); other fixtures will also be made, of which further details will be given later.

### THE JUNIOR AUTOMOBILE CLUB.

UNDER the above title a new club has been registered. The membership will be limited to 500, and the annual subscription has been fixed at one guinea. This new organization will arrange endurance tests, hill climbs, tours and club runs for its members. The hon. sec. is Mr. S. C. Darrington, Oakthorpe, Brownlow Road, New Southgate, N.



Caricatures of some well-known French motor traders by "Mich," in "l'Auto." Leading from left to right they are M. Gobron, M. A. Clement, and M. Michelin.

### HEREFORDSHIRE.

THE Frome's Hill Climbing Competitions of the Herefordshire A.C. will be held on May 3rd, followed by a dinner and concert at the Mitre Hotel, Hereford. Mr. J. T. Hereford will be the judge, Mr. J. W. Orde the marshal, and Mr. Wilfred Groom the secretary of the meeting.

The contests are open to touring cars with internal combustion engines whose cylinder diameter in inches, squared and multiplied by the number of cylinders, does not exceed 125. The entrance fee for each car shall be £2 2s., which must accompany the form of entry and reach the hon. sec., Mr. Groom, Wroxeter, Hereford, on or before April 18th, 1907. Post entries will be received up to April 22nd at a double fee.

#### CLASSES.

- |    |  |
|----|--|
| 1. | Cars whose cylinders D <sup>2</sup> N is under 35. |
| 2. | do. do. is 35 and under 50.                        |
| 3. | do. do. do. is 50 do. 65.                          |
| 4. | do. do. do. is 65 do. 90.                          |
| 5. | do. do. do. is 90 to 125 inclusive.                |

D<sup>2</sup>N=diameter of cylinders squared and multiplied by number of cylinders.

Cars in class 1 may compete as two-seaters, but in classes 2, 3, 4, and 5 all cars must be fitted with four-seated bodies, and must carry their full complement of passengers, seated in a fair manner.

The distance to be covered (from the upper gate-post of gate on right side of Frome's Hill, starting from Ledbury and Bromyard main road, to cyclist's danger board at top) is 3,867 feet, and will be timed from a standing start to a flying finish. The total rise is 344.61 feet, the average gradient 1 in 11.22, at the steepest part it is 1 in 6.37.

THE suggestion of the Northamptonshire A.C. with regard to the classification of repairers is to be further considered at the next meeting of the Touring Committee of the A.C.G.B.I.

MR. S. J. SEWELL, 27, Chancery Lane, London, W.C., has had a satisfactory response to his suggestion with regard to a new motor-

car club, and will shortly convene a meeting of those interested in the project.

£400 has been offered to the Institution of Mechanical Engineers for awards for papers on Cycling and Road Locomotion.

The statutory general meeting of the shareholders of the Motor Union Insurance Company, Ltd., will be held on Monday next.

The Stratford-on-Avon Motor-Cycling Club has been formed, with Mr. G. S. Ashfield, of the Unicorn Hotel, Stratford-on-Avon, as hon. sec.

THE address of the newly-formed Dustless Roads Committee, of which Mr. Douglas Mackenzie is the secretary, is 109, Victoria Street S.W.

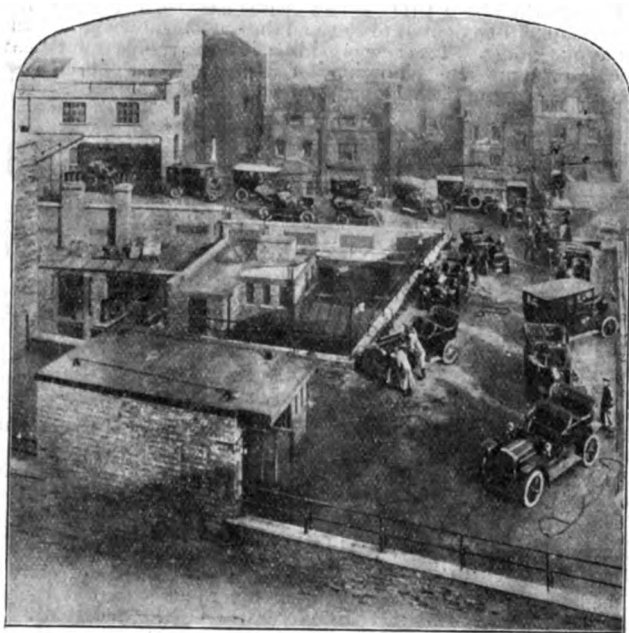
THE Marquis de St. Mars has been invited to become President of the Ulster centre of the Motor-Cycle Union of Ireland, which has arranged an attractive programme of events for the season.

MR. A. G. RENNIE is the secretary and treasurer of the newly-formed Glasgow and West of Scotland Motor Traders' Association, of which Mr. James Gibbon, of the Glasgow Motor-Car Company, is the president.

## CASES UNDER THE MOTOR-CAR ACT.

### EXCEEDING LEGAL LIMIT.

In the Northern Police Court at Dublin, Michael Travers has been charged with having on Sunday, January 27th, driven a motor-car on the main road, Phoenix Park, at a rate exceeding the statutory limit of twenty miles an hour. Mr. Tobias, who prosecuted, pointed out that the



"Washing Day" at the depot of Argylls London, Ltd., in Newman Street, W. A view of the busy scene on the roof, showing the new premises at the rear—garage, schoolrooms, and fitting shops.

main road in the park came within the definition of a public highway, and no one could legally exceed the twenty miles an hour pace on it. Constable Smith (44 D) deposed that on the date named he saw the car, which was numbered IU 2, travelling towards the city along the park main road at the rate of about thirty miles an hour. He saw it run over and kill a dog without slowing down. After hearing the evidence, the magistrate, Mr. Mahony, was of opinion that the car was going at an excessive speed, that it was going more than twenty miles an hour. He imposed a fine of £5. None of the gentlemen in the car had thought it worth while, when they ran over the little dog, to stop and apologise to the owner. It was conduct like that which caused hostility to motor-cars and motor-drivers.

### RECKLESS DRIVING.

The sequel to a serious accident caused by a motor-car has just been furnished at the Spelthorne Sessions, when Clarence Albert de Vaudrey Glentworth, of London, was summoned for driving a racing car at Haleham in a manner dangerous to the public. The prosecution was undertaken by the police, although there were no police witnesses. The Bench convicted, and fined the defendant £15 and costs.

At Shoreham Petty Sessions, on Monday, Leslie Adlard, a London motorist, denied driving a car at a speed dangerous to the public and not stopping when requested by a police constable, at Southwick, on October 30th last. P.C. Brett stated that about 4 p.m. on the day in question he was standing at the bottom of Rock Road, Albion Street, Southwick, when he observed a motor-car approaching from the direction

of Brighton at a high rate of speed. Considering the speed very dangerous, he went into the middle of the road and put up both hands. The driver then appeared to do something to the car, which came towards him at a faster rate than ever. Witness jumped out of the way very quickly and shouted, but the car dashed past him, smothering him with mud from head to foot, at a speed nothing less than thirty-five miles an hour, in his opinion. It continued at that speed until it got out of sight. A gentleman, whom he believed to be the defendant, was driving, and there were others in the car. The front plate was quite covered with mud, but he saw two "ones" at the rear. He identified the car as one he had previously seen pass on October 14th, 1906. He was present at an interview with the defendant on February 4th, when he (defendant) admitted having been driving on that day. Summonses had been taken out against defendant, but they had not been able to find him for a long time. After the evidence for the defence the magistrate said defendant would have to pay £10 and 16s. costs, also £1 17s. 7d. witnesses' expenses and £1 1s. advocate's fee, or two months for the first offence, and £5 and 10s. costs, or one month, for the second offence.

### A QUESTION OF DEPOSIT.

BEFORE Mr. Justice Kennedy and a common jury, Captain John Newman, who contested the South-East Essex Division at the General Election, brought an action to recover from Messrs. Straker and MacConnell (Limited), motor-car dealers, £258 6s. 8d. paid as a deposit for a motor-car, or damages for breach of contract. Defendants alleged that they were entitled to the deposit under the terms of sale, and denied that they were guilty of breach of contract.

Captain Newman stated that being a candidate for Parliament in 1905, and anticipating that a larger motor-car than the Mercedes he then possessed would be useful during the following session, he ordered, on November 29th, a 40-h.p. Bianchi landaulet car from the defendants, at the price of £775, stipulating that it should be ready by the middle of February. He paid the amount now claimed as deposit, and the remainder of the purchase money was due on delivery. The car was not ready by the time fixed, and he then agreed that it should be delivered about the end of March. Again he was disappointed, the reason given being that there was a strike in Milan, where the chassis was being made, but a promise was made of delivery on April 30th. On May 21st he called at the defendants' place, and was again told that the chassis had not arrived. As it would take a month to complete the car after the arrival of the chassis, and the season would then be half over, and as the car would not be suitable for use in Ireland, he decided not to wait any longer, and cancelled the order. On July 7th the defendants wrote saying the chassis had arrived, and asking for the balance of the account, but he refused either to pay or to accept the car, and asked for the return of the deposit. This was refused and action commenced.

Mr. Rawlinson, in defence, stated that the original arrangement, agreed to by the plaintiff, was that the car should be delivered by the middle of March, not the middle of February. When the car was not ready the plaintiff came and said he had altered his plans, and the defendants might let any other customer have the car and he would take delivery later of another car. He was then aware that he was liable to lose his deposit. As a matter of fact, the chassis was at the works on March 1st. According to his wish, this particular car was then sold to another customer, but in May, having failed to sell his Mercedes car, he asked to be relieved of his promise to take later delivery and wanted to cancel the order, to which the defendants objected.

Ultimately the jury gave a verdict for the plaintiff for the amount claimed.

### ROAD REPORTS.

**WORTHING.**—Several main roads have just been under repair, including Tarring Road, which leads from West Tarring to the railway station at Worthing.

**CUCKFIELD.**—The lowering of Ambrose Hill, on Twineham Green road, is now completed, but the new formation will not for some time bear heavy rolling. The surface will, in consequence, be somewhat rough for a little while, as motorists will soon discover.

**WILTSHIRE.**—Mr. Dryland, the county surveyor of Wiltshire, regards the fast, light motor traffic as a great factor in the cost of the maintenance of the roads. He believes that the life of roads would be largely increased if the macadam were impregnated with bituminous binding. Apparently the condition of the roads in Wiltshire is to be a matter of controversy in the county council election there, Mr. Maurice Hewlett, the novelist, who is opposing Lord Pembroke, at Wilton having described them as "quagmires in winter and rookeries in summer."

**CAMBRIDGE.**—Mr. Harry, the borough engineer and surveyor of Cambridge, estimates that motor traffic has reduced the life of macadam roads by 30 to 40 per cent., wood paving being equally affected.

### POLICE TRAPS.

POLICE traps have lately been observed on the Brighton road near Lewes.

## THE EDINBURGH MOTOR-CAR SHOW.

THE tenth annual motor and cycle exhibition was opened in the Waverley Market, Edinburgh, on Friday last week, and the organisers are to be congratulated on having got together a representative collection of cars. Scottish manufacturers are of course well represented, the Argyll, Albion, and Arrol-Johnston each having a large stand. The display of the Albion Motor-Car Company comprises a 24-h.p. four-cylinder chassis, a landaulet of similar power, the bodywork being by Messrs. J. Henderson and Co., Glasgow; a 16-h.p. chassis, and a 16-h.p. fifteen seated char-a-banc, with fixed roof. A number of Albion cars are also staged by Messrs. A. Donaldson and Co., Edinburgh. The Caledonian Motor-Car Company, Ltd., Aberdeen, in addition to the Paterson detachable flange rim, recently illustrated in the M.C.J., have on view several Peugeot cars, and a 6½-h.p. Friswell two-seated vehicle. Messrs. Humber, Ltd., show examples of the 15-h.p. and 20-30-h.p. Humber cars, including a six-seated landaulet. The Scottish Automobile Co., Ltd., have a full range of the Daimler cars, while a 16-24-h.p. Vinot chassis, with high-tension magneto and Krebs automatic carburettor, is displayed by Mr. David Drover, of Leith. One of the largest stands is that of Messrs. John Croall and Sons, Edinburgh, who are exhibiting De Dietrich, Mercedes, Berliet, De Dion cars, and one of the 9-h.p. Sizaire-Naudin vehicles, the British agency for which Messrs. Jarrott and Letts have just secured. Love's Automobile Co., Kirkcaldy, stage a number of the Dennis worm-drive cars as well as examples of the latest types of Swift and Argyll vehicles. The Rossleigh Motor Company, Ltd., have on view quite a large number of cars, including Napier, Siddeley, Argylls, and Alldays. Examples of the latest types of Argyll and Delaunay-Belleville cars are to be seen at the stand of the Western Motor Company, Glasgow. Messrs. Thomas

Hutchinson, Dunlop, Gaulois, and Bates and Palmer. The exhibit of the Palmer Company is an interesting one, comprising as it does a couple of machines in operation showing how the Palmer Cord tyres are manufactured. The show closes to-day (Saturday).

## COMPANY NEWS.

## NEW COMPANIES REGISTERED.

**UNITED MOTOR CAB COMPANY.**—The prospectus of this company has been issued. The company will take over the Unic cabs now running, and will place on the streets an additional number of Unic and Darracq cabs, working in conjunction with the General Motor-Cab Company.

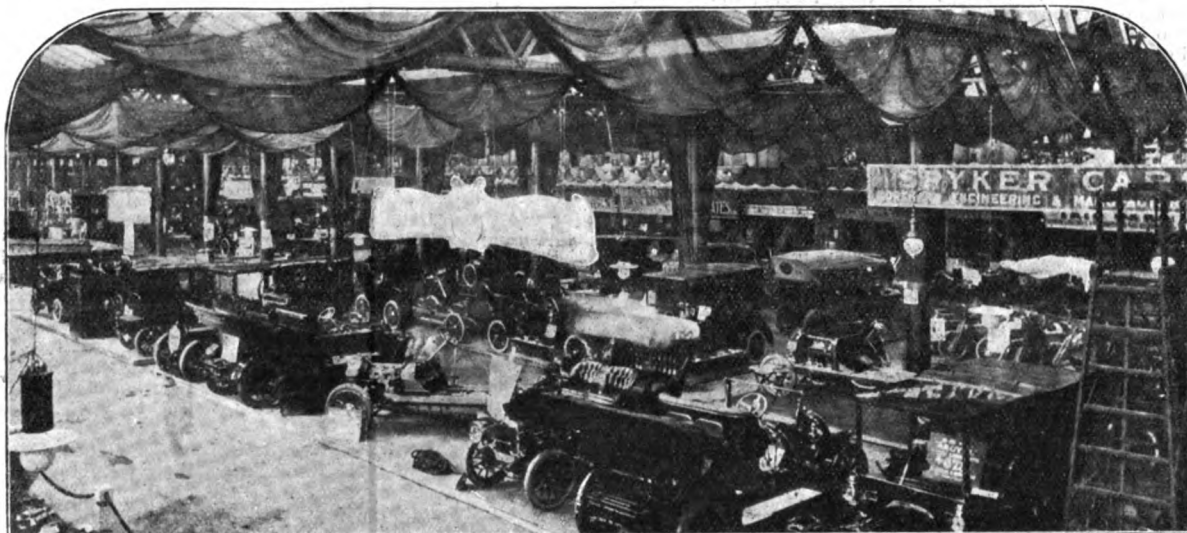
**COLES MOTOR SPIRIT SYNDICATE.**—£1,000. To acquire from S. O. Cowper-Coles the benefit of an application for patents relating to improvements in the production of petroleum compounds with low-flashing points. 61 and 62, Gracechurch Street, E.C.

**JUNIOR AUTOMOBILE CLUB.**—Limited by guarantee. 500 members. Liability 5s. As title. Managed by executive committee.

**CHARLES WICKSTED AND CO.**—£30,000. To acquire the business carried on at Kettering by Mr. C. Wicksteed, and to carry on the business of ironfounders, mechanical engineers, &c.

**UNIVERSAL MOTOR AND GENERAL INSURANCE CORPORATION.**—£100,000. To carry on motor and general insurance business (life assurance excepted). First directors: Messrs. S. Harden (managing director), W. A. Hartley, J. Crooks, J. B. Glenn, A. Beattie, J.P., D.L., and A. C. MacLaren. Moorgate Station Chambers, E.C.

**TRANSPORTS AUTOMOBILES DES CEVENNES.**—£20,000. To acquire all or part of the business carried on by the Societe Transports Auto-



General View of the Edinburgh Motor Show.

Shaw, Dundee, Ltd., have a varied exhibit, comprising as it does Ariel, Wolseley-Siddeley, De Dion, Swift, Napier, and Humber vehicles. Wolseley-Siddeley, Panhard, and Mercedes cars comprise the display of Messrs. Rennie and Prosser, Ltd., Glasgow. Mr. William Flint, Edinburgh, displays Talbot, Argyll, and Swift cars. A 14-16-h.p. North British double phaeton is included in the exhibit of Mr. A. C. Penman, Dumfries. Other pleasure cars on view include the Alldays, Spyker, Airex, Hotchkiss, Vulcan, Sunbeam, Reo, Chenard-Walcker, Arrol-Johnston, Deasy, Adams-Hewitt, Clement, Rover, Cadillac, Iris, Maudslay, Renault, Austin, and Gladiator. As regards industrial vehicles, the Scottish Motor Engineering Co., Ltd., Granton, display a 30-35-h.p. double-deck motor-bus. The engine comprises four separate cylinders, and the transmission is through a three-speed gear-box and side chains. Halley's Industrial Motors, Ltd., Glasgow, are present with a chassis of a 20-h.p. 2-ton petrol motor lorry. Messrs. D. Stewart and Company, Ltd., Glasgow, exhibit one of the latest Stewart-Thornycroft 5-ton steam wagons.

The accessory exhibitors include Messrs. Alfred Dunhill, Ltd., who have their usual varied display of "motorities," Messrs. Moebius and Son, Stoke Newington (oils and greases), the County Chemical Company, Ltd., Birmingham (vulcanisers, sparking plugs, &c.) Price's Patent Candle Company, Ltd. (oils and greases), Messrs. W. Anderson and Sons, Edinburgh (motor clothing), Messrs. W. Barton and Sons, Edinburgh (accumulators), Messrs. James Thomson and Sons (Bleriot lamps, Smith's speed indicators, Parsons non-skids, Harvey Frost vulcanisers, &c.), Messrs. Jones Bros., Ltd. (Selvyt), Messrs. Croall and Croall (autoclipse lamps), Messrs. Middleton and Townsend, Edinburgh, who display a new magnetic clutch and also a magnetic change-speed gear. The tyre exhibits comprise the Continental, Clincher, Elastes,

mobiles Des Cevennes, of Alais, France, relating to automobiles. First directors: Messrs. P. Marchais, P. Legall, and R. Starke. 20 shares. 195, Upper Thames Street, E.C.

**LLANDUDNO AND TREFRIW MOTOR BOAT COMPANY.**—£5,000. To acquire from the Llandudno and Trefriw Steamship Company, Ltd., certain of its property and rights, and to build a motor-boat for traffic between Llandudno and Trefriw. First directors: Messrs. R. Conway, R. Dunphy, A. Hewitt, H. Hughes, W. E. Jones, T. C. Lewis, and F. Nunn. £50. 26, Mostyn Street, Llandudno.

**F. HOPPER AND CO.**—£50,000. To acquire the business of Messrs. F. Hopper and Co., and to carry on the business of manufacturers of and dealers in motor-cycles, motor-cars, &c. First directors: Messrs. F. Hopper (permanent managing director), H. Wilson (permanent), W. Tomlinson, and G. H. Nowell. Brigg Road, Barton-on-Humber, Lincolnshire.

**MOTOR AUCTIONS.**—£100,000. To adopt an agreement with Mr. C. H. Newman relating to the acquisition of underleases of certain premises in London and to the erection of buildings thereon, to establish and maintain garages for the auction, storage, and repair of vehicles, &c. First directors: Messrs. H. A. Arkwright, J. W. Davy, U. Stratton, J. E. Hutton, S. F. Edge, J. B. Martin, and P. W. Northley. 123, Pall Mall, S.W.

**LORRAINE DE DIETRICH.**—£100,000. To carry on the business of motor-car, landaulet, cab, omnibus, and van proprietors and manufacturers. 45, Great Marlborough Street, London.

**STAINES MOTOR COMPANY.**—£5,000. First directors, Messrs. H. H. Clark, P. E. Hubbard, and A. F. Oliver. 1, London Road, Staines.

**VALVELESS.**—£16,000. To take over the business of a motor garage keeper carried on by Mr. R. Lucas at 191, Westcombe Hill, Blackheath,

S.E., and to acquire the benefit of certain existing inventions. No initial public issue. First directors: Messrs. R. Lucas, H. Juler, and K. Lucas.

### COMPANY MEETING.

THE STEPNEY SPARE MOTOR WHEEL, LTD., held its statutory meeting on Monday, at Salisbury House, London, E.C., with Mr. W. B. Jessopp presiding. He said the total number of shares allotted was 40,050. The company took over the profits as from September 23rd last, and up to December 31st they amounted to £4,855. The directors had arranged with Messrs. Davies Brothers that they were to retain the French and Belgian rights for £20,000, thus reducing the purchase-money from £95,000 to £75,000, as to £2,500 in cash and as to £17,500 in shares of this company, reducing the vendors' shares to be allotted from 65,000 to 47,500. The capital of the company under the amended agreement would stand at £87,550, out of which there would be paid to the vendor £75,000, less the £4,855 profits from September 23, leaving, after deducting the underwriters' commission and preliminary expenses, £15,755 for working capital. In the supplementary agreement an important advantage had been gained for the company. The original agreement did not provide for the company acquiring improvements or additions to the patents that might be brought out by Messrs. Davies. Since the original agreement was entered into, Messrs. Davies Brothers had patented improvements, and it had now been arranged by the supplementary agreement that the company would have the benefit of all those improvements. To put it shortly, the amended agreement had enabled the directors to dispose of these foreign rights for £20,000, and at the same time they had taken the opportunity of acquiring for the company all Messrs. Davies' present and future improvements of the patents. He thought 1907 would be a great year for the Stepney spare wheel, of which 1,020 had been sold in January. The motion for the adoption of the directors' report having been proposed by the chairman, Major J. A. Cole, J.P., seconded the resolution, expressing his high opinion of the speciality of the company. The resolution was carried and a vote of thanks passed to the chairman and directors.

### THE POSITION OF THE AUTOMOBILE "AS YET."

LAUDABLE efforts on the part of foreigners to translate trade catalogues into other languages are not uniformly successful; sometimes they are even amusing, and the following preface from the English catalogue of a foreign firm now seeking business in this country may occasion a smile:—

A glance at the number of motor-cars, at all events not very long acquainted to our sight, will readily suggest the opinion that the manufacture of motor-cars has developed in an extremely quick and even surprising manner. Upon a closer view, however, this opinion will not prove right on account of the high rank of our machinery-manufacture, on the contrary we might wonder at the motor-car not having far more worked the wagon drawn by horses out of its place, in spite of its enormous advantages. This is sure to happen within a measurable space of time. But it seems almost inexplicable that not already in the present time the vehicles of war are driven by motors, that not already now an extension of rail-tracks, in street traffic at least, are considered improper. It is a striking fact that the cabs are not decreasing in number and the motor-cabs increasing too slowly. If the manufacture of automobiles really had reached a degree of development corresponding with our other machinery-manufacture, a great number of business and private people would have replaced their spans of horses by an automobile without mentioning that it only needs a small space, while the chauffeur can be employed for other purposes. The simplicity of handling a motor-car, as well as its absolute reliability and the easiness of its being kept in good order even by a non-professional, have to render a special chauffeur superfluous. If this is not the case it is really not the fault of a natural caution of the party concerned or want of capital, but the up-to-date motor-car not being of a satisfactory quality yet. Of its working parts the motor only is constructed, though not with thorough perfection, but at least to meet satisfaction as yet.

### MOTOR INSTRUCTION IN ROYAL PARKS.

At the Kingston-on-Thames County Police Court on the 14th inst., Herbert Peach, of Arlington Mansions, Turnham Green, was summoned for giving instruction in the driving of a motor-car in Richmond Park on February 1st, and Frederick Coombs, of Norfolk Crescent, Hyde Park, was summoned for using a motor-car for such instruction, contrary to the provisions of the Parks Regulation Act. Defendants admitted the offence, but pleaded ignorance of the regulations. The Chairman (Mr. W. Y. Cockburn): According to the regulations you are not allowed to receive instruction in motoring in Richmond Park. Park-Sergeant Gattrell added that the regulations laid down that it was illegal to either instruct or receive such instruction in Richmond Park, which is one of the Royal parks. The Chairman said that as that was the first case of the kind heard at that court the summonses would be dismissed on payment of the costs.

### PUBLIC MOTOR SERVICES.

A NEW motor-car, belonging to the Harrogate Road Car Company, is now running between Station Square and Bilton.

THE Watch Committee of the Chester Town Council have inspected two of the vehicles which are to form part of the fleet of motor-cabs it is proposed to place on the streets of the city.

A FEW days ago twenty-eight motor-buses in service in London were declared by the officials of New Scotland Yard to be noisy beyond the ordinary allowance for traffic, and taken from the streets. Naturally the owners have expressed surprise, and it is understood that a second test has been made, this taking place on Wimbledon Common.

### BUSINESS NEWS.

THE Ranger Moor Company, Victoria Street, Christchurch, have been appointed New Zealand agents for the Dennis cars.

IN the London Road, Redhill, and also in the Croydon Road, Reigate, Messrs. Wilker Bros. have facilities for the repair of motor-cars, the charging of accumulators, and the vulcanising of motor tyres.

MESSRS. J. B. HARGUSON AND CO. will shortly establish motor-car show rooms in Chichester Street, Belfast.

MR. A. E. MADR, of Reading, has taken up an agency for the Weigel chassis.

MESSRS. JARROT AND LETTS have received an order from His Grace the Duke of Sutherland, K.G., President of the Automobile Club, for a 30-40-h.p. Crossley, fitted with a single limousine body. The car will be arranged for the Duke to drive himself, while at the same time full protection is given from the weather in the same way as is afforded in an ordinary covered-in limousine.

AMONG many others, the following notabilities have recently purchased Humber cars for their personal use:—Hon. Mrs. Luborly, of Gayner Hall, St. Neots; Count de Serra Largo, Hon. C. Selater Booth, and Sir M. Chomeley Bart., of Norton Place, Lincs.

MESSRS. S. F. LODGE, LTD., inform us that eight completed six-cylinder Napier cars were dispatched to customers on the 13th inst., their total value being £9,359. The destinations of some of these were very far apart, as shown by the following list:—A 40-h.p. landaulet for Messrs. Marks and Co., of Bombay; a 40-h.p. touring car for Messrs. Saker and Co., Johannesburg; a 40-h.p. touring car for Mr. R. B. Beddingfield, of Roehampton; a 40-h.p. chassis for Messrs. Ashworth, Taylor and Co., Calcutta; a 60-h.p. car for Mr. J. Fitter, of Birmingham; a 40-h.p. chassis for Messrs. Thomas Shaw, Ltd., Dundee; a 40-h.p. chassis for Messrs. Gimshaw and Sons, of Sunderland; and a 40-h.p. landaulet for Mr. J. H. Love, of Bowls, Essex.

THE Sirdar Robber Co., Ltd., have addressed a letter to their customers calling attention to the Prevention of Corruption Act, and hoping to secure their co-operation with a view to the carrying out of the spirit of the new legislation.

MESSRS. BROWN BROS., LTD., have appointed Messrs. Morrison and Sons, of Jane Street, Leith, as their Edinburgh agents for the "Brown" motor-car.

MESSRS. KELL AND BEARD would be glad to show cards of motor-cars, tyres, and accessories for their new garage at 38, East Street, Farnham, Surrey.

AMONG the preparations which are finding favour among motorists for cleaning the metalwork of their cars that known as "One Minute" polish, introduced by Messrs. H. Fleming and Co., Ltd., 361-3, City Road, E.C., is having a wide vogue. It secures conspicuous brilliancy with little labour, while the durability of the polish when secured is another merit of importance.

MR. W. WILKS has joined the Waterloo Motor Works, of Chicheley Street, York Road, London, S.E.

THE Henry Wells Oil Company, of the Imperial Oil Works, Manchester, have removed to larger works at Salford. These have an area of about ten times that of the premises lately vacated.

THE Directorate of the Rover Company, Ltd., Coventry, will in future consist of Sir Frederick Dixon Dixon-Hartland, Bart., M.P., Mr. A. H. Griffiths, Col. E. F. Hyley, and Mr. J. K. Starley, in addition to the managing director, Mr. Harry Smith.

MESSRS. H. WILKINSON AND SON, automobile engineers and agents, of 186, High Street, Uxbridge, have purchased the business and stock in trade of Messrs. Dayrell and Groombridge recently carried on at 54, St. Andrew's and known as the "Uxbridge Garage." They will be able to execute motor engineering repairs, accumulator charging, tyre repairing, vulcanising, &c. These premises will be used as a garage, and all work entrusted to the firm will have personal supervision.

### TO CORRESPONDENTS.

All communications intended for insertion in this Journal or relating to Editorial matters should be addressed to THE EDITORIAL DEPARTMENT, MOTOR-CAR JOURNAL, 27-33, Charing Cross Road, London, W.C., and must be written on one side of the paper only. Letters must in all cases be accompanied by the name and address of the writer, as no notice will be taken of anonymous communications.













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